

FINAL ENVIRONMENTAL IMPACT REPORT
FOR GENERAL WASTE DISCHARGE REQUIREMENTS
FOR COMMERCIAL LILY BULB OPERATIONS IN THE SMITH RIVER PLAIN

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I. Executive Summary

The California Regional Water Quality Control Board, North Coast Region (North Coast Water Board) is responsible for the protection of water quality in the North Coast Hydrologic Region, which includes the Smith River Plain Hydrologic Subarea. As of the 2024–2025 growing season, approximately 1,000 acres of agricultural land in the Smith River Plain and coastal terraces between Pyramid Point and the Oregon border are commercially farmed for easter lily bulbs in a three- to five-year rotation. Approximately 160 acres are planted in any given year. The watershed is ecologically sensitive, providing habitat for threatened and endangered species such as coho salmon, tidewater goby, and eulachon, with tributaries and estuarine areas critical for juvenile salmonid rearing and recovery.

The North Coast Water Board does not currently regulate all commodities under a singular Irrigated Lands Regulatory Program (ILRP) and intends to regulate non-point source discharges from Commercial Lily Bulb Operations through commodity-specific general waste discharge requirements (WDRs), hereafter referred to as the proposed Lily Bulb Order (or the Proposed Project) and included as Attachment A.

The North Coast Water Board prepared this Final Environmental Impact Report (FEIR) to provide a transparent and comprehensive evaluation of the environmental effects that could occur from implementing the Proposed Project. The FEIR has been prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended) and the CEQA Guidelines (Title 14, California Code of Regulations Section 15000 et seq.).

For the purpose of this FEIR and the Proposed Lily Bulb Order:

- The term “Commercial Lily Bulb Operations” includes all fields cultivated for lily bulbs or similar bulb crops anytime within a sequential five-year period, and appurtenant field roads, greenhouses, and pesticide mixing areas.
- A commercial lily bulb operation is regulated if it meets one or more of the following criteria: (1) the landowner or operator holds a current Operator Identification Number/Permit Number for pesticide use reporting; (2) the crop and/or its product is sold, including but not limited to an industry cooperative, harvest crew/company, or a direct marketing location such as Certified Farmers Markets; or (3) the federal Department of Treasury Internal Revenue Service form 1040 Schedule F Profit or Loss from Farming is used to file federal taxes.
- “Enrollee” is defined as a landowner and/or operator of a Commercial Lily Bulb Operation who has enrolled under the Lily Bulb Order.

The Proposed Lily Bulb Order would regulate discharges of waste from Commercial Lily Bulb Operations. The Proposed Lily Bulb Order would establish a regulatory mechanism, in the form of General WDRs with requirements, prohibitions, and provisions that would require: (1) enrollment and payment of fees; (2) implementation

and adaptation of Management Practices; and (3) monitoring and reporting.

The Proposed Lily Bulb Order is consistent with the State Water Resources Control Board (State Water Board) 2004 Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program (NPS Policy), which requires that all sources of nonpoint source (NPS) pollution that could affect water quality be regulated through waste discharge requirements (WDRs), waivers of WDRs, and/or prohibitions. The Lily Bulb Order will regulate discharges from Commercial Lily Bulb Operations in order to implement the plans, policies, and requirements set forth in the Water Quality Control Plan for the North Coast Basin (Basin Plan), the State Water Board Irrigated Lands Regulatory Program (ILRP) objectives and precedents, and the Total Maximum Daily Load Implementation (TMDL) Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region and the Policy for the Implementation of the Water Quality Objectives for Temperature in the North Coast Region (Temperature Policy), adopted by the North Coast Water Board on November 29, 2004, and November 20, 2012, respectively.

A. Project Objectives

Objective #1 – Protect and restore beneficial uses and achieve water quality objectives specified in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations by:

- Minimizing or preventing pesticide, nutrient, and sediment discharges to surface water.
- Minimizing or preventing nitrate and pesticide discharges to groundwater.
- Minimizing or preventing temperature impacts to surface water from loss of riparian shade.

Objective #2 – Effectively track and quantify achievement of the stated objectives over a specific, defined time schedule.

Objective #3 – Comply with the NPS Policy, the State Antidegradation Policy, the precedential language in the State Water Resources Control Board's Eastern San Joaquin Agricultural Order, the North Coast Basin Plan, and other relevant statutes and water quality plans and policies, including the Temperature Implementation Policy, the Sediment TMDL Implementation Policy, and TMDLs in the North Coast Hydrologic Region.

B. Summary of Impacts and Mitigation Measures

The analysis provided within the DEIR considers reasonably foreseeable Management Practices as examples of how the Proposed Lily Bulb Order could be implemented and the associated potential impacts to the environment. However, the analysis does not constitute an absolute outcome or certainty in the determinations made. Some impacts

may not be identified or mitigated through the Proposed Lily Bulb Order, because it is not possible to exactly predict who will take action in response to the Proposed Lily Bulb Order, or what action(s) they will take. Therefore, this analysis is set at a programmatic level and is more general in nature to consider impacts from implementing reasonably foreseeable Management Practices. The types of actions that would be undertaken by Commercial Lily Bulb Operations subject to the Proposed Lily Bulb Order would be consistent with Management Practices commonly employed on current commercial lily bulb operations in the Smith River Plain. In some cases, implementation of Management Practices might be subject to another regulatory process which would entail identification and mitigation of any significant environmental effects. Therefore, other regulatory mechanisms can be expected to provide additional opportunities for minimizing and avoiding significant environmental effects. In some cases, it may not be possible to mitigate impacts of the proposed Lily Bulb Order to a less-than-significant level.

The adoption of the Proposed Lily Bulb Order may result in adverse effects on the environment from the potential conversion of Prime Farmland to a non-agricultural use and may result in conflicts with existing zoning for agricultural use. These two impacts may occur as a result of Streamside Management Area setbacks (riparian buffers) which implement the Policy for Implementation of the Water Quality Objectives for Temperature. Through adoption of Resolution R1-2014-0006, the North Coast Water Board found the potential conversion of Prime Farmland to a non-agricultural use and the potential conflict with existing zoning for agricultural use from implementing riparian buffers as significant and unavoidable. The Proposed Project has the potential to significantly impact Agricultural Resources with no feasible mitigation. Impacts of the Proposed Project on Biological Resources, Cultural Resources, and Tribal Cultural Resources are less than significant with mitigation incorporated. No Impact or Less than Significant Impacts from the Proposed Project to Aesthetics, Air Quality, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation, Utilities and Service Systems, and Wildfire were determined. This FEIR describes changes in the design of the Proposed Project and additional analysis which reduced some impacts to Less than Significant with Mitigation or to No Impact.

II. Main Body

The California Regional Water Quality Control Board, North Coast Region (North Coast Water Board) has prepared this Final Environmental Impact Report (FEIR) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the proposed General Waste Discharge Requirements for Discharges from Commercial Lily Bulb Operations in the Smith River Plain (Proposed Project or Proposed Lily Bulb Order).

The Proposed Lily Bulb Order would regulate non-point source discharges from Commercial Lily Bulb Operations. For the purposes of this document, Commercial Lily Bulb Operations includes all fields cultivated for lily bulbs or similar bulb crops anytime within a sequential five-year period, and appurtenant field roads, greenhouses, and pesticide mixing areas. The Proposed Lily Bulb Order would establish a regulatory mechanism, in the form of General WDRs with requirements, prohibitions, and provisions that would require: (1) enrollment and payment of fees; (2) implementation and adaptation of Management Practices; and (3) monitoring and reporting.

The Proposed Project involves adoption of an order governing the discharge of waste (to surface waters and groundwaters) from Commercial Lily Bulb Operations in the Smith River Plain. In accordance with North Coast Water Board authority and mandates under the California Water Code, the purpose of the Proposed Project is to improve water quality conditions and protect and restore beneficial uses in the region by preventing or minimizing discharges of waste from Commercial Lily Bulb Operations.

The Proposed Project does not address site development activities associated with the establishment of new Commercial Lily Bulb Operations. Impacts associated with the development of new commercial lily bulb operations would be subject to project-specific CEQA analysis, conclusions, and development of mitigation measures by local land use authorities and other public agencies. New Commercial Lily Bulb Operations are expected to comply with conditions of the Lily Bulb Order upon enrollment, and the FEIR examines impacts that may occur related to operations in compliance with the Order.

This FEIR has been prepared in compliance with the California Environmental Quality Act of 1970 (CEQA; as amended; California Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (Cal. Code Regs. tit. 14, section 15000 et seq.). The primary purpose of this FEIR is to provide comprehensive and transparent discussion and analysis of the Proposed Project's environmental impacts.

A. General Overview

California Water Code Section 13260 requires a person discharging waste or proposing to discharge waste that could affect the quality of waters of the state to file a report of waste discharge with the North Coast Water Board. Based on review of the report of waste discharge, the North Coast Water Board prescribes waste discharge

requirements (WDRs) for the protection of water quality (California Water Code Section 13263) that implement applicable water quality control plans (e.g., Basin Plans) and take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose, and the need to prevent nuisance. In certain circumstances, a North Coast Water Board may waive the requirement to file a report of waste discharge or waive the prescription of WDRs. The State or North Coast Water Boards may issue WDRs or a waiver of WDRs to individual dischargers in an individual order.

The State or North Coast Water Boards may also adopt general orders to authorize certain types of similar discharges from many dischargers, based on the proposed discharge meeting certain criteria and conditions. The issuance of WDRs or a waiver of WDRs through either an individual or general order is considered a permit action.

The Proposed Project is necessary to protect high-quality waters and restore impaired and degraded waters in the Smith River Plain from non-point source discharges of waste from Commercial Lily Bulb Operations. Commercial lily bulb farming in the Smith River Plain involves soil disturbance and use of agricultural chemicals, both of which can generate discharges of waste (e.g., sediment, nutrients, pesticides, and temperature). Surface water monitoring conducted by the North Coast Water Board's Surface Water Ambient Monitoring Program (SWAMP) between 2013 and 2024 documented the presence of synthetic pesticides and dissolved copper in tributaries and sloughs downstream of cultivated fields, with periodic exceedances of U.S. EPA aquatic life benchmarks. In 2018, Tillas Slough and Delilah Creek were added to the Section 303(d) list of impaired water bodies for copper. These threats and impairments not only threaten human health, but also adversely affect aquatic life and achievement of beneficial uses for threatened and endangered species including coho salmon, tidewater goby, and eulachon.

B. Overview of Activities

The Proposed Project is adoption of the proposed Lily Bulb Order, which would initiate the regulatory program and establish general WDRs for Commercial Lily Bulb Operations in the Smith River Plain. Refer to Attachment A for the proposed Lily Bulb Order. Key elements of the proposed Lily Bulb Order include the following:

1. Pesticide, Sediment and Erosion Management for Surface Water Protection
2. Streamside Area Requirements for Surface Water Protection
3. Irrigation and Nutrient Management for Groundwater Protection
4. Monitoring and Reporting Requirements
5. Adaptive Management

The Proposed Project would not require specific Management Practices to protect and restore surface water and groundwater quality, but rather would allow Enrollees flexibility to implement practices that are appropriate for their specific situation to comply with requirements in accordance with the time schedules therein. For the purposes of this document, “Management Practices” refers to any number of actions, facilities, or practices that Commercial Lily Bulb Operations may undertake, construct/install, or implement to reduce their discharges. Examples include vegetated riparian buffers, filter strips, contour farming, vegetated treatment areas, grassed swales, and retention/detention basins. Refer to the Project Description Chapter for discussion of the reasonably foreseeable Management Practices that may be implemented in compliance with the Lily Bulb Order. A list of reasonably foreseeable Management Practices is part of Attachment B of the Proposed Lily Bulb Order (incorporated as Attachment A of the Final EIR).

C. Overview of CEQA Requirements

The basic purposes of CEQA is to:

1) Inform governmental decision-makers and the public about the potential significant environmental effects of proposed activities.

2) Identify the ways that environmental damage can be avoided or substantially reduced.

3) Prevent significant, avoidable damage to the environment by requiring the implementation of feasible mitigation measures or alternatives that would substantially lessen any significant effects that a project would have on the environment.

4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

As described in the CEQA Guidelines (Cal. Code Regs., tit. 14, section 15121 (a])), an environmental impact report (EIR) is an informational document that assesses potential environmental effects of a proposed project and identifies mitigation measures and alternatives to the project that could reduce or avoid potentially significant environmental impacts. Other key CEQA requirements include developing a plan for implementing and monitoring the success of the identified mitigation measures and carrying out specific public notice and distribution steps to facilitate public involvement in the environmental review process. As an informational document, an EIR is not intended to recommend either approval or denial of a project. An EIR does not expand or otherwise provide independent authority for the lead agency to impose mitigation measures or avoid project-related significant environmental impacts beyond the authority already within the lead agency’s jurisdiction. The North Coast Water Board is the lead agency under CEQA for preparation of the FEIR for adopting the Lily Bulb Order that regulates discharges of waste from Commercial Lily Bulb Operations.

D. Scope and Intent of this Document

Adoption of an order constitutes a "project" subject to CEQA (see Cal. Code Regs., tit. 14, section 15378 (a)(3)). The North Coast Water Board will use the analysis presented in this FEIR, public and regulatory agency comments received on the DEIR, and the entire administrative record to evaluate the Proposed Project's environmental impacts, as well as to inform and support North Coast Water Board modifications, approval, or denial of the Proposed Project.

E. Public Involvement Process

CEQA mandates two periods during the EIR process when public and agency comments on the environmental analysis of a proposed project are to be solicited: during the scoping comment period and during the review period for the DEIR. CEQA and the CEQA Guidelines also allow for lead agencies to hold public outreach meetings or hearings to obtain scoping comments and review both the draft and final versions of an EIR. Brief descriptions of these milestones, and other opportunities for public involvement/input afforded by the North Coast Water Board, are provided below, as they apply to this document.

The North Coast Water Board's efforts to address potential impacts of lily bulb agricultural discharges in the Smith River Plain began in 2011 with stakeholder meetings. In 2013, the Board shifted to a commodity- and subregion-specific regulatory approach and directed staff to conduct water quality monitoring in the Smith River Plain. A Surface Water Ambient Monitoring Program (SWAMP) study conducted from 2013–2015 found pesticide concentrations, including copper fungicides, in surface waters that exceeded EPA aquatic life benchmarks.

The Smith River Plain Water Quality Management Plan (2021 Management Plan) was finalized in 2021 by a Watershed Stewardship Team composed of lily bulb growers, regulatory agencies (NOAA Fisheries, CDFW, CDPR), local stakeholders (Del Norte RCD, Agricultural Commissioner), academic partners, the Smith River Alliance, and the Tolowa Dee-ni' Nation. The 2021 Management Plan established voluntary grower participation in annual management practice reporting, North Coast Water Board inspections, and ongoing surface water quality monitoring.

Development of the Lily Bulb Order was formally initiated in 2023 with the formation of a Technical Advisory Group (TAG). Between July 2024 and November 2025, the TAG met every other month in Del Norte County to review provisional regulatory language and provide feedback. TAG meetings were open to the public and included agendized time for public input at every meeting. TAG membership includes all Management Plan Watershed Stewardship Team members with additional environmental nonprofit groups, partnering agencies, community organizations, and interested members of the public. In addition to seven public TAG meetings, staff held three additional public meetings in Del Norte County to inform the community on the Lily Bulb Order and hear community concerns.

Staff also coordinated with NOAA Fisheries, the California Department of Fish and Wildlife, the California Coastal Commission, and the U.S. Fish and Wildlife Service through a natural resource agency workgroup to address technical questions related to Order development. Staff also worked with the California Department of Pesticide Regulation through a Management Agency Agreement established in 2019.

1. Notice of Preparation, Initial Study, and Initial Scoping Notice & Meetings

On October 10, 2024, the North Coast Water Board sent a Notice of Preparation (NOP), which included an attached Initial Study, to public agencies and persons with potential interest in the project. Copies of the NOP and Initial Study were available for review at the North Coast Water Board Santa Rosa office. Additionally, the NOP and attached Initial Study were posted at the North Coast Water Board's webpage (https://www.waterboards.ca.gov/northcoast/ and an announcement of its availability was sent to individuals that subscribed to electronic mailing lists relevant to the proposed Lily Bulb Order. The NOP and the attached Initial Study are available online at: https://ceqanet.lci.ca.gov/2024100484.

On October 22, 2024, the North Coast Water Board held a hybrid (in-person and virtual) scoping meeting to solicit input from agencies and interested parties on issues to be addressed in the EIR. The scoping meeting included a description of the meeting purpose, proposed requirements, an overview of the environmental review process and preparation of the EIR, and included a public comment period.

During the scoping period, eleven timely written comment letters were received from the Northcoast Environmental Center, California Farm Bureau, California Department of Fish and Wildlife, California Coastal Commission, Save California Salmon, individual lily bulb growers, community members, the Native American Heritage Commission, and other interested parties. Oral comments were received from residents of Smith River, environmental organizations, tribal representatives, and agency staff. Comments addressed topics including pesticide discharges, riparian buffer requirements, community health, tribal cultural resources, and the need for independent monitoring.

2. DEIR Public Review and Comment Period

The North Coast Water Board circulated the DEIR for public review and comment on January 30, 2026. The North Coast Water Board issued a notice of availability of an EIR to provide agencies and the public with formal notification that the DEIR was available for review. The notice of availability was sent to all trustee agencies, any person or organization requesting a copy, and to the county clerk office in Del Norte County for posting. A legal notice was also published in a number of general-circulation newspapers. The North Coast Water Board also submitted the notice of availability and a notice of completion (NOC) to the State Clearinghouse.

Publication of the notice of availability initiated a 45-day public review and comment period for the DEIR. During the public review period, the North Coast Water Board received and collated public and agency comments on the Proposed Project and the

DEIR. During the public review period, North Coast Water Board staff hosted a public workshop in Crescent City, Del Norte County. The purpose of the DEIR circulation and the public outreach meetings was to provide public agencies, other stakeholders, and interested individuals with opportunities to comment on the content of the DEIR.

At the public workshop, the North Coast Water Board directed staff to extend the public comment period for the Draft Order and DEIR to a 60-day comment period closing on March 30, 2026.

3. Response to Comments on the DEIR

During the 60-day public comment period that closed March 30, 2026, the North Coast Water Board received approximately 180 written comment letters (41 distinct comment letters and 135 customized submissions of 2 different form letters) on the Draft Lily Bulb Order and Draft EIR. Additionally, the Board Chair admitted four late comment letters on the Draft Order submitted by April 1, 2026.

A list of persons, organizations, and public agencies that commented on the Draft Order and Draft EIR as well as all written comments and staff's response are included in FEIR Attachment B: Summary of Revisions and Response to Comments. Comment letters are available upon request by contacting the North Coast Water Board.

4. Outreach Post-DEIR Public Review and Comment Period

Following the close of the DEIR public comment period , North Coast Water Board staff conducted additional public outreach in response to comments received on the Draft Lily Bulb Order and DEIR. This outreach included meetings with industry representatives, tribal representatives, and agency partners such as the California Department of Pesticide Regulations.

The public hearing to consider adoption of the Proposed Lily Bulb Order and certification of this Final Environmental Impact Report was held on August 6, 2026 at a regular meeting of the North Coast Water Board.

5. Preparation of the Final Environmental Impact Report

CEQA requires the lead agency to prepare a final environmental impact report (FEIR), which addresses all substantive comments received on the DEIR, before approving a project. This FEIR includes a list of all individuals, organizations, and agencies that provided comments on the DEIR and contain copies of all comments received during the public review period along with the lead agency's responses.

This FEIR includes a responses-to-comments document for all comments received in response to the DEIR (Attachment B). This FEIR also includes a summary of staff-initiated changes to the Proposed Project as well as changes to the Proposed Project made in response to comments received (Attachment B). These changes do not result in any new significant impacts to the environment.

If the North Coast Water Board chooses to approve the Proposed Project with the significant impacts identified in the FEIR that cannot be mitigated, a statement of overriding considerations will be included in the record of project approval and mentioned in the notice of determination (NOD). The statement of overriding considerations describes the North Coast Water Board's reasons for approving the Proposed Project despite its significant impacts. If the Proposed Project is approved, the NOD will be filed with the California Governor's Office of Planning and Research and at the offices of the relevant county clerks (Cal. Code Regs., tit. 14, section 15093 (c)).



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
ORDER NO. R1-2026-0035

GENERAL WASTE DISCHARGE REQUIREMENTS FOR COMMERCIAL LILY BULB OPERATIONS IN THE SMITH RIVER PLAIN

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

Order R1-2026-0035

General Waste Discharge Requirements for Commercial Lily Bulb Operations in the Smith River Plain

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NORTH COAST
REGIONAL WATER QUALITY CONTROL BOARD
ORDER NO. R1-2026-0035
GENERAL WASTE DISCHARGE REQUIREMENTS FOR COMMERCIAL LILY BULB OPERATIONS IN THE SMITH RIVER PLAIN

The California Regional Water Quality Control Board, North Coast Region finds:

I. Findings

A. Background and Purpose

1) The purpose of Order R1-2026-0035 General Waste Discharge Requirements (WDRs) for Commercial Lily Bulb Operations in the Smith River Plain, (hereinafter Order or General Order), is to provide a water quality regulatory structure to minimize discharges of waste and to prevent adverse impacts to water resources from agricultural activities associated with lily bulbs and other similar bulb crops (hereinafter Commercial Lily Bulb Operations) on private lands within the Smith River Plain Hydrologic Subarea[1] and coastal terraces between Pyramid Point and the Oregon border (hereinafter Smith River Plain). The Smith River Plain is a low gradient coastal plain of about 63 square miles located in far northwest California and is drained by the lower Smith River corridor, tributaries, estuarine sloughs, and estuary (see Figure 1 in Appendix II).

2) As of the 2024-2025 growing season, there are approximately 1,000 acres of land in rotation for lily bulb farming in the Smith River Plain (as shown in Figure 1) with the potential to discharge wastes to surface waters and groundwater and to affect related controllable water quality factors such as riparian shade. Cultivation of lily bulbs is typically part of a three to five-year rotation[2] with grass-clover, which is used as grazing forage and for hay crops. The fields are used as forage for livestock for two to four years and for lily bulbs for one year. Some field preparations are done in the year prior to planting bulbs. Accounting for this crop rotation, about 160 acres are planted to lilies each year, with another 160 acres in a given year are being prepared to receive the following year's plantings.

3) Commercial lily bulb farming in the Smith River Plain involves soil disturbance and use of agricultural chemicals, both of which can generate discharges of waste (e.g., sediment, nutrients, pesticides[3], and temperature). If not properly managed, these discharges can degrade water quality, cause or contribute to pollution and nuisance conditions, and adversely affect beneficial uses of waters of the state. These effects can occur through the loss of riparian shade (a controllable factor) and discharges from stormwater runoff flowing from agricultural lands, percolation, and runoff resulting from operational spills.

4) The Smith River Plain provides habitat to numerous threatened and endangered aquatic species and serves as crucial environmental trust resources for cultural, ceremonial, and subsistence beneficial uses for the Tolowa Dee-ni' Nation. A more

thorough discussion of beneficial uses of the Smith River Plain is located in Section G.1 of these Findings.

5) The State Water Resources Control Board (State Water Board) and nine regional water quality control boards (regional water boards) are the principal state agencies (collectively the Water Boards) with primary responsibility for the coordination and control of water quality for the health, safety, and welfare of the people of the state pursuant to the Porter-Cologne Water Quality Control Act (Porter-Cologne Act, codified in Water Code Division 7). The legislature, in the Porter-Cologne Act, directed the state, through the Water Boards, to exercise its full power and jurisdiction to protect the quality of the waters in the state from degradation and to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible, and considering precipitation, topography, population, recreation, agriculture, industry, and economic development (Wat. Code §13000).

6) Section 303(d) of the federal Clean Water Act requires that states identify water bodies that do not meet water quality standards and the pollutants that impair them. In 2018, Tillas Slough and Delilah Creek (tributaries to the Smith River estuary) were added to the 303(d) list as impaired for copper. In 2026, Delilah Creek was added as impaired for diuron, one of the herbicides used in lily bulb cultivation.

7) On August 18, 2010, North Coast Water Board staff, in coordination with the California Department of Fish and Wildlife (CDFW), conducted a one-time surface water and sediment sampling event at Rowdy Creek and Delilah Creek in response to a complaint. Samples were collected upstream and downstream of lily bulb cultivation areas and analyzed for dissolved and total copper. Sediment toxicity tests and aquatic toxicity tests were performed at the CDFW Aquatic Toxicity Laboratory. No acute toxicity to freshwater organisms was observed in any samples collected above, below, or outside the cultivation drainage areas. While there was no chronic toxicity observed in three of the four samples, the sample from the downstream Delilah Creek site showed evidence of chronic reproductive toxicity. However, this test result may have been influenced by low water hardness. The sample contained 3.99 µg/L of dissolved copper, which exceeds both the acute and chronic California Toxics Rule (CTR) criteria. Sediment samples from all sites showed no statistically significant toxicity relative to control samples.

8) The North Coast Regional Water Quality Control Board's (North Coast Water Board's) efforts to address potential impacts of lily bulb agricultural discharges in the Smith River Plain began in 2011 with a series of stakeholder meetings to inform the development of a region-wide Agricultural Lands Discharge Program. In 2013, the Board shifted to a commodity- and subregion-specific regulatory approach and directed staff to conduct water quality monitoring in the Smith River Plain to guide the next steps for regulating lily bulb agricultural discharges. A Surface Water

Ambient Monitoring Program (SWAMP) study conducted from 2013-2015 found pesticide concentrations – including copper fungicides – in surface waters that exceeded US EPA aquatic life benchmarks and other applicable water quality criteria. (Smith River Plain Surface Water and Sediment Monitoring Report 2013-2015, issued January 2018 (2018 SWAMP Report))[4].

9) In response, the North Coast Water Board directed staff to develop a targeted, collaborative water quality management strategy. The Smith River Plain Water Quality Management Plan (2021 Management Plan)[5] was developed and finalized in 2021 by a Watershed Stewardship Team composed of the lily bulb growers, regulatory agencies (e.g., NOAA Fisheries, CA Department of Fish and Wildlife, CA Department of Pesticide Regulation), local stakeholders (e.g., Del Norte Resource Conservation District, Agricultural Commissioner, the Smith River Alliance), academic partners, and the Tolowa Dee-ni' Nation. The 2021 Management Plan outlines voluntary grower participation in annual management practice reporting, North Coast Water Board inspections, ongoing surface water quality monitoring, and an adaptive management framework to guide iterative improvement based on monitoring results. The tracking and monitoring of the broad range of BMPs identified in the 2021 Management Plan has provided invaluable information in the development of this Order.

10) As part of the Adaptive Management Monitoring Program outlined in the 2021 Management Plan, a new Smith River Plain Water Quality Study was initiated in 2021 to better understand surface water quality conditions and to help inform development of the Lily Bulb Order. The Smith River Plain Surface Water Monitoring Report 2021-2024, issued September 2025 (2025 SWAMP Report)[6] and subsequently amended by a 2025 SWAMP Report Updates Memo released in July 2026 (Updates Memo)[7] found that diuron and imidacloprid were frequently detected downstream of lily bulb fields, usually below water quality criteria but sometimes exceeding them at Lower Delilah Creek and Tillas Slough during storms. That pattern was not observed in sampling locations upstream of lily bulb agriculture. Dissolved copper levels were consistently higher downstream and during the storm season, periodically reached potentially toxic levels using instantaneous water quality criteria generated from the Biotic Ligand Model (BLM). Findings from the 2025 SWAMP Report and Updates Memo supported a series of recommendations for the Lily Bulb Order. A more detailed discussion of the 2025 SWAMP Report findings and recommendations can be found in Section I.E of these Findings.

11) In 2019, the State Water Resources Control Board received a petition from the Environmental Law Foundation, the Pacific Coast Federation of Fishermen's Associations, and the Institute for Fisheries Resources to develop a regulatory mechanism for discharges associated with lily bulb farming operations in the Smith River Plain. The petitioners agreed to hold the petition in abeyance pending the adoption of an Order to regulate discharges from lily bulb farming operations. Since

2019, North Coast Water Board staff have convened regular meetings with the petitioner group to keep them apprised of activities associated with the 2021 Management Plan and Lily Bulb Order development.

B. Public Participation

12) Development of the Lily Bulb Order was initiated in 2023 with the formation of a Technical Advisory Group (TAG). Between July 2024 and November 2025, the TAG met every other month in Del Norte County to review provisional regulatory language and provide feedback. TAG meetings were open to the public and included agendized time for public input at every meeting. TAG membership includes all 2021 Management Plan Watershed Stewardship Team members (lily bulb growers, regulatory agencies, local stakeholders, academic partners, and the Tolowa Dee-ni' Nation), with additional environmental nonprofit groups, partnering agencies, community organizations, and interested members of the public.

13) In addition to 7 public TAG meetings, staff presented information at three additional public meetings in Del Norte County to inform the community about the Lily Bulb Order and hear community concerns. On October 21, 2024, staff presented an Order development update and heard public input at a community meeting in Smith River, California, which was attended by over 80 people. On October 22, 2024, staff presented similar information to the Del Norte County Board of Supervisors at a regular Board of Supervisors meeting. Staff also presented similar information at the CEQA Scoping Meeting in Crescent City on October 22, 2024.

14) Many community concerns raised during 10 public meetings held between July 2024 and October 2025 extended beyond the regulatory authority of the North Coast Water Board. Accordingly, staff referred those concerns—such as pesticide application practices and air quality—to the appropriate CalEPA agencies, including the Office of Environmental Health Hazard Assessment and the California Department of Pesticide Regulation. Through a Management Agency Agreement established in 2019, the North Coast Water Board has also drawn on the CA Department of Pesticide Regulation's expertise to help develop science-based recommendations for the Lily Bulb Order. In parallel, staff have coordinated with NOAA Fisheries, the CA Department of Fish and Wildlife, the CA Coastal Commission, and the US Fish and Wildlife Service through a natural resource agency workgroup to address technical questions related to Order development.

15) On October 10, 2024, the North Coast Water Board published a Notice of Preparation and an Initial Study to begin soliciting input related to environmental review for the California Environmental Quality Act (CEQA), in preparation for developing a draft Environmental Impact Report (EIR). A 30-day public comment period was held for the Notice of Preparation and Initial Study. On October 22, 2024**,** North Coast Water Board staff held a public CEQA scoping meeting in

person and virtually. Input received during the public comment period and public scoping meetings has been considered in the development of the draft EIR.

16) On October 8, 2025, the North Coast Water Board held an information item in Crescent City to present findings from the 2025 SWAMP Report[8] (Smith River Plain Surface Water Monitoring Study 2021-2024) and provide an update on development of the Lily Bulb Order. Following the staff presentation, the Board heard public comment. Flyers for this meeting were developed in English, Spanish, and Hmong and distributed throughout the community. Live interpretation in Spanish was available.

17) On January 30, 2026, the North Coast Water Board published the draft Order and draft EIR and began a 45-day public comment period. A public workshop with the North Coast Water Board was held on February 18, 2026 in Crescent City. At the public workshop, the North Coast Water Board heard oral comments from the public on the draft Order and draft EIR and directed staff to extend the public comment period from 45 days to 60 days. The public comment period closed on March 30, 2026.

18) The North Coast Water Board, in a public hearing held on August 6, 2026, has heard and considered all comments pertaining to the discharge and proposed Order. After considering all comments pertaining to this General Order during the August public hearing, this Order was found consistent with the Findings in Section I of this Order.

19) Any person aggrieved by this action of the North Coast Water Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and title 23 California Code of Regulations sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except if the thirtieth day following the date of adoption falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100
Or by email at waterqualitypetitions@waterboards.ca.gov

For instructions on how to file a petition, see (http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml)

1. **Assembly Bill 2108**

20) Assembly Bill 2108 (Statutes of 2022, Chapter 347) requires State and North Coast Water Boards to address issues of environmental justice and social equity as early as possible in North Coast Water Board permit and policy planning processes. AB 2108 specifies that North Coast Water Boards engage in equitable, culturally relevant community outreach to meaningfully involve disadvantaged and tribal communities that may be disproportionately impacted by proposed discharges of waste and ensure that outreach and engagement shall continue throughout the review and permitting processes. (Wat. Code, § 189.7, subd. (a).)

21) AB 2108 further requires the Water Boards when, among other actions, adopting general waste discharge requirements to make findings on anticipated water quality impacts in disadvantaged or tribal communities as a result of a permitted activity or facility, any environmental justice concerns within the Water Boards' authority that are raised regarding those water quality impacts, and available measures within the Boards' authority to address those water quality impacts. (Wat. Code, § 13149.2.)

22) This Order regulates commercial cultivation of lily bulbs, discharges from which may impact disadvantaged and tribal communities, including the Tolowa Dee-ni' Nation and Smith River Rancheria.

23) The North Coast Water Board publicly noticed the Order and provided opportunities for public comment. Public notice was provided to interested persons and public agencies in the Smith River Plain. The North Coast Water Board conducted outreach in potentially affected disadvantaged and tribal communities in the form of distributed flyers in English, Spanish, and Hmong, meetings with community organizing groups such as True North Organizing, regular meetings with the natural resources staff of the Tolowa Dee-Ni' Nation, tribal consultations, and public meetings regarding order development and the Draft Order.

24) The North Coast Water Board has satisfied the outreach requirements set forth in Water Code section 189.7 by conducting outreach in affected disadvantaged and tribal communities.

25) Pursuant to Water Code section 13149.2, the North Coast Water Board reviewed readily available information and information raised to the Board by interested persons concerning anticipated water quality impacts in disadvantaged or tribal communities resulting from adoption of this Order. The Board also considered environmental justice concerns within the Board's authority and raised by interested persons regarding those impacts.

26) This Board anticipates that discharges regulated under this Order may result in water quality impacts within the scope of the Board's authority. Commercial lily bulb farming in the Smith River Plain has the potential to affect water quality through soil

disturbance and use of agricultural chemicals. The Smith River Plain provides habitat to numerous threatened and endangered aquatic species and serves as crucial environmental trust resources for cultural, ceremonial, and subsistence beneficial uses for the Tolowa Dee-ni' Nation and Smith River Rancheria. In particular, pesticide discharges may adversely impact sensitive aquatic species and tribal and fishing communities connected thereto, and discharges of pesticides and nitrates to drinking water may pose a human health risk. While commenters noted additional potential health concerns associated with exposure to pesticide application, such as through spray drift, these impacts are outside the North Coast Water Board's authority to regulate. This Order addresses potential adverse impacts to water quality by, among other things, requiring Enrollees to implement management practices related to sediment and erosion control to prevent, minimize, or eliminate discharges; implement streamside area setbacks; comply with applicable discharge prohibitions and receiving water limitations, within a time schedule; monitor surface and groundwater quality to evaluate the effectiveness of management practices; and, where appropriate, engage in an adaptive management process to comply with water quality objectives (WQOs).

2. Assembly Bill 52

27) Assembly Bill 52 (Statutes of 2014, Chapter 532), which went into effect on July 1, 2015, requires that lead agencies under CEQA, prior to release of a negative declaration, mitigated negative declaration, or environmental impact report, consult with California Native American tribes that have requested in writing to be notified of a proposed project, that are traditionally and culturally affiliated with the geographic area of a proposed project, and have requested consultation. Under the same bill, Public Resources Code section 21084.2 specifies that a project with an effect that may cause a substantial adverse change in the significance of a Tribal Cultural Resource is a project that may have a significant effect on the environment.

28) In April 2024, North Coast Water Board staff contacted six Tribes that were identified by the California Native American Heritage Commission as having current or historic lands in or near the Project Area that had requested notification of this project under AB 52. The North Coast Water Board staff identified two additional Tribes that had not requested AB 52 notification but could be affected by the Order to solicit consultation if desired.

29) Of the eight Tribes notified by the North Coast Water Board, three separate tribes responded to the notice. One tribe updated their contact information and a separate Tribe deferred to the Tolowa Dee-Ni' Nation. The Tolowa Dee-Ni' Nation requested formal consultation in May 2024.

30) The North Coast Water Board and the Tolowa Dee-Ni’ Nation initiated formal consultation in July 2024. The North Coast Water Board and the Tolowa Dee-ni’ Nation continued consultation in 2025 and through mid-2026.

3. North Coast Water Board Racial Equity Resolution

31) On November 16, 2021, the State Water Board adopted Resolution No. 2021-0050, Condemning Racism, Xenophobia, Bigotry, and Racial Injustice and Strengthening Commitment to Racial Equity, Diversity, Inclusion, Access, and Anti-Racism. On February 2, 2023, the North Coast Water Board adopted Resolution No. R1-2023-0001, Condemning Racism, Xenophobia, Bigotry, and Racial Injustice and Strengthening Commitment to Racial Equity, Diversity, Inclusion, Access, and Anti-Racism in the North Coast Region (Racial Equity Resolution). The Racial Equity Resolution committed the North Coast Water Board to develop a Racial Equity Action Plan to identify and address systems that perpetuate racial inequities and to advance equitable outcomes in the Board's programs and decision-making. Staff presented the North Coast Region's Racial Equity Action Plan to the Board on April 1, 2025.

32) The requirements of this Order are consistent with the commitments in these resolutions. The Order is designed to protect and restore water quality and beneficial uses in the Smith River Plain, including the cultural, ceremonial, and subsistence uses of the Tolowa Dee-ni' Nation and the drinking water and other uses relied upon by disadvantaged community members in the Project Area. The development of the Order has emphasized equitable, culturally relevant, and accessible community engagement consistent with the resolutions' commitments.

33) North Coast Water Board staff conducted extensive outreach during development of the Order, including two Board workshops; seven staff-led Technical Advisory Group meetings, whose members include tribal representatives, local stakeholders, members of the public, and community organizations; a community meeting in Smith River; a presentation at a regular meeting of the Del Norte County Board of Supervisors; and a CEQA scoping meeting. Outreach materials, including meeting flyers, were developed in English, Spanish, and Hmong, and live Spanish interpretation was provided at public meetings. Staff also broadly circulated the Draft Order and Draft EIR for written public comment. Consistent with the Board's commitment to meaningful engagement with California Native American tribes, staff has engaged in formal tribal consultation with the Tolowa Dee-ni' Nation pursuant to AB 52, and the Tolowa Dee-ni' Nation participated directly in the environmental review, including through a subcontract with Montrose Environmental, under which the Tolowa Dee-ni’ Nation developed the tribal cultural resources analysis for the EIR (the Tolowa Dee-ni’ Nation's submittal is included as Attachment F to the EIR). This direct participation by the affected tribe in the analysis of impacts to its own cultural resources reflects the engagement and equity commitments of the racial equity resolutions.

C. Scope of Order

34) This Order regulates discharges of waste from farming activities associated with Commercial Lily Bulb Operations within the Smith River Plain Hydrologic Subarea coastal terraces between Pyramid Point and the Oregon border (Smith River Plain).

35) Definitions and endnotes are included in this Order to clarify terms, provide references, and supply supplemental information relevant to the requirements. Appendix I contains all acronyms, definitions, and endnotes.

36) For the purposes of this Order, a Commercial Lily Bulb Operation refers to land used for planting lily bulbs during any portion of the previous 5 years together with associated farm roads and agricultural structures, where at least one of the following conditions applies: (1) the landowner or operator holds a current Operator Identification Number/Permit Number for pesticide use reporting; (2) the crop and/or its product is sold; or (3) the federal Department of Treasury Internal Revenue Service form 1040 Schedule F Profit or Loss from Farming is used to file federal taxes.

37) Discharges from Commercial Lily Bulb Operations regulated by this Order include discharges to surface water and groundwater, through mechanisms such as stormwater runoff flowing from agricultural lands and farm roads, irrigation return flows, tailwater, and runoff resulting from operational spills. These discharges can contain wastes that could affect the quality of waters of the state and impair beneficial uses. This Order also regulates the removal or degradation of riparian vegetation resulting in the potential loss or degradation of instream beneficial uses.

38) This Order does not limit North Coast Water Board authority to inspect, and/or evaluate regulatory status, water quality impacts, or regulatory requirements of Commercial Lily Bulb Operations. If the North Coast Water Board determines that due to site-specific conditions a Commercial Lily Bulb Operation is not eligible for coverage under this General Order, or enrollment will not be protective of water quality, the North Coast Water Board may issue site-specific, individual WDRs.

39) This Order applies to landowners and operators of Commercial Lily Bulb Operations from which there could be discharges of waste or activities that could affect the quality of any surface water or groundwater or result in the impairment of beneficial uses. Either the owner or operator may enroll a Commercial Lily Bulb Operation under this Order. The owners or operators that enroll the respective Commercial Lily Bulb Operation are considered Enrollees under this Order and are responsible for complying with the conditions of this Order.

40) The Enrollee is required to provide written notice to the non-Enrollee owner or operator (if applicable) that the farm has been enrolled under the Order.

41) The North Coast Water Board will hold both landowners and operators of Commercial Lily Bulb Operations liable for noncompliance with this Order, regardless of whether the landowner or the operator is the party enrolled under this Order. Enforcement action by the North Coast Water Board for non-compliance related to an enrolled Commercial Lily Bulb Operation may be taken against both the owner and operator.

42) This Order does not preclude the need for additional permits that may be required by other governmental agencies, nor does it supersede any requirements, ordinances, or regulations of any other regulatory agency. This Order does not authorize violation of any federal, state, or local law or regulation.

43) This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code §§2050 to 2097) or the Federal Endangered Species Act (16 US Code §§1531 to 1544). If a "take"[9] will result from any action authorized under this Order, the Grower shall obtain authorization for an incidental take prior to construction or operation of the project. The Enrollee shall be responsible for meeting all requirements of the applicable Endangered Species Act.

44) This Order does not exempt Enrollees from complying with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges to storm drain systems or other infrastructure under their jurisdiction.

45) Enrollees may be required to seek additional permitting from the State Water Resources Control Board or North Coast Water Board for activities not explicitly covered under this Order. Those could include, but are not limited to:

    a) State Water Board Construction General Permit for Discharges of Storm Water Associated with Construction Activities (Construction General Permit, 2009-0009-DWQ) for construction activities associated with new land development.

    b) Order No. R1-2019-0001, General WDRs for Dairies

    c) State Water Board Order No. WQ 2020-0012-DWQ, General WDRs for Commercial Composting Operations.

    d) Clean Water Act section 401 water quality certification or alternative WDRs for dredge and fill activities occurring within surface waters.

    e) A valid water right from the State Water Board Division of Water Rights for a surface water diversion.

46) The North Coast Water Board acknowledges that it will take time to: (1) approve a Third-Party Grower Coalition (Coalition) as defined in Attachment C: Coalition Requirements that facilitates compliance with this Order; (2) develop online reporting tools and templates, and (3) conduct compliance education to help Enrollees become familiar with Order requirements. The Order considers this by deferring the enrollment deadline to **March 1, 2027**.

D. Agricultural Practices and Pesticide Use

47) The California Department of Pesticide Regulation (CDPR) maintains pesticide applicator data that is submitted by Enrollees through the Del Norte County Department of Agriculture. The North Coast Water Board analyzed CDPR Pesticide Use Report (PUR) data collected between 2012-2021 for trends in pesticide use associated with lily bulb production in the Smith River Plain. The PUR data showed a decrease from an average of 14,126 lbs. of applied copper[10] per year between 2012-2017 to an average of 5,842 lbs. per year between 2018-2021. The PUR data also indicated a phase out of copper sulfate in favor of copper hydroxide from 2015-2018. Because these figures represent elemental copper rather than the weight of the copper-containing product applied, and because copper hydroxide contains a substantially higher proportion of elemental copper per pound than copper sulfate pentahydrate, the total weight of product applied likely declined even more sharply than the elemental copper figures indicate. From 2018 through 2021, the amount of total copper applied per year has been relatively stable, if slightly increasing. See Table I.1 for pesticide use data for lily bulbs in the Smith River Plain.

Table I.1: Top Ten Agricultural Chemicals by Pounds Applied on Lily Bulbs 2012-2021

Chemical (excluding Copper)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Grand Total
1,3-DICHLOROPROPENE	114,325	122,499	75,474	79,929	106,794	98,497	86,742	105,117	184,217	133,087	1,106,679
METAM-SODIUM	129,373	120,283	117,649	102,882	35,719	95,393	75,993	86,461	66,357	55,719	885,829
CHLOROTHALONIL	3,424	5,318	2,454	4,654	3,997	2,845	3,650	3,174	3,061	1,970	34,547
PHORATE	1,964	1,787	1,992	1,876	2,003	1,874	1,702	1,442	1,340	1,185	17,166
ETHOPROP	1,531	1,141	2,160	1,047	1,298	1,309	1,226	1,264	1,007	905	12,887
DIURON	1,172	1,534	744	1,135	803	1,002	1,252	1,494	1,359	1,268	11,765
GLYPHOSPHATE, SUM	584	1,093	397	1,038	474	698	886	676	410	860	7,116
NAPROPAMIDE	2,412	439	436	445	190	504	314	763	387	400	6,289
IPRODIONE	214	57	23	28	828	481	326	376	563	214	3,110
Copper-Based Chemicals	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**Grand Total**
COPPER HYDROXIDE	27,711	24,251	12,953	20,163	10,610	9,904	5,973	9,233	10,090	7,129	138,016
COPPER SULFATE	5,029	23,030	11,992	7,287	30	2,297	-	-	36	-	49,701
COPPER OXYCHLORIDE	-	-	-	-	276	198	288	604	414	298	2,077
COPPER DDC	852	832	369	1,705	5,075	1,569	1,502	617	2,129	117	14,767

48) Copper is the active ingredient in fungicides applied to control fungal diseases (e.g., Botrytis) on newly emergent and growing lily bulb plants. Lily bulb plants emerge from the ground during the early winter and are sprayed with copper-based fungicides during both the wet and dry seasons as new growth appears on plants. The discharge of copper-based products applied on lily bulbs is of particular concern because low levels of dissolved copper can cause toxicity to aquatic life.

49) In 2024, Dr. Matthew Hurst, Logan Wolfe, and Preston Selby from California State Polytechnic University, Humboldt released findings from a study[11] which investigated the effectiveness of vegetative barriers in reducing copper and sediment in stormwater runoff from lily bulb fields in the Smith River Plain. The research aimed to support lily bulb growers in implementing best management practices to protect water quality, particularly to safeguard the federally threatened Coho salmon inhabiting the Smith River watershed. Over two years, the study

sampled stormwater runoff from lily bulb fields with vegetative filter strips installed between the field and an agricultural ditch where the samples were taken. The study compared fields with filters strip to fields without a filter strip with all other management methods kept the same among the fields. The study found that grass filter strips reduced total suspended solids and total copper in runoff by about 20%, on average with a standard deviation of +/-20%. The filter strips were ineffective at reducing dissolved copper in field runoff, which is the more toxic form to aquatic life. The effectiveness of filter strips in the study diminished during December and January when soils were saturated. The study also found that copper primarily leaves fields bound to sediment particles (particulate copper), and that dissolved organic carbon (DOC) in runoff can decrease the bioavailability of copper and the associated risk of toxicity to aquatic life. The study found that conversion of lily bulb fields to pasture significantly reduced copper transport to waterways. The results of the study, in general, highlight the need for further research on effective mitigation strategies to improve water quality runoff, such as inter-row seeding, grassed waterways, or more robust filter strips.

50) The scientific literature consistently identifies vegetated buffer width between watercourses and agriculture as a key determinant of pollutant reduction, with wider vegetated buffers providing greater and more reliable water-quality benefits. Reviews commonly cite effective buffer widths in the range of 10–30 m (approximately 33–100 ft)[12], particularly because wider buffers enhance removal of dissolved pollutants while also trapping sediment-bound contaminants. Cole et al. (2020)[13] report that narrower buffers of approximately 7.5 m (~25 ft) are effective at reducing sediment and sediment-associated pollutants, whereas wider buffers of 15 m (~50 ft) or greater are more effective for reducing soluble pollutants, with performance influenced by soils, slope, and hydrology.

51) Under the 2021 Management Plan, all lily bulb growers agreed to voluntarily implement a suite of water quality management practices designed to reduce pesticide and nutrient runoff, erosion, and direct discharge of pollutants to surface waters. These practices fall into three general categories: source reduction, source control, and pollutant interception. Source reduction includes Integrated Pest Management (IPM) plans, selection of low-risk pesticides, pesticide sampling and analysis, pesticide mixing/loading setbacks, and timing applications considering weather forecasts to minimize runoff potential. Source control practices include soil amendments to bind pesticides, use of cover crops, contour farming, precision land forming to improve drainage, and maintenance of vegetated filter strips and riparian buffers. Pollutant interception involves practices such as field isolation and installation of flow dissipaters and grade stabilization structures to reduce erosion.

52) Under the 2021 Management Plan, growers self-monitor and report on the implementation and effectiveness of these practices through an annual reporting program. North Coast Water Board staff conduct periodic on-farm inspections and review grower documentation to verify compliance and provide feedback.

E. Monitoring and Reporting

53) This Order requires the implementation of a Monitoring and Reporting Program (MRP) pursuant to Water Code section 13267 that is intended to determine the effects of waste discharges on water quality; to verify the adequacy and effectiveness of the Order's conditions; to evaluate Enrollee compliance with the terms and conditions of the Order; to initiate adaptive management as needed; and to support an assessment of the long-term effectiveness of the Order.

54) This Monitoring and Reporting Program conforms to the goals of the Nonpoint Source (NPS) Policy as outlined in The Plan for California's Nonpoint Source Pollution Program by: (1) tracking, monitoring, assessing, and reporting program activities; (2) ensuring consistent and accurate reporting of monitoring activities; (3) targeting NPS Program activities at the tributary watershed level; (4) coordinating with public and private partners; and (5) tracking implementation of management practices to improve water quality and protect beneficial uses.

55) An Enrollee covered under this Order must comply with Attachment A: Monitoring and Reporting Program. For Individual Enrollees, water quality monitoring under this Order assesses the individual's compliance with this Order's requirements. For Enrollees in a Coalition, water quality monitoring assesses compliance at a larger scale. However, adaptive management in response to exceedances of Water Quality Benchmarks[14] is required individually by each Enrollee.

56) The monitoring and evaluation required in this Order is not intended to determine the individual sources of pollutants causing an exceedance of a Water Quality Benchmark. When an exceedance occurs, this Order requires Enrollees to implement adaptive management to establish individual compliance with the Order as described in Section II.H. As necessary, the Executive Officer may issue site-specific monitoring and reporting requirements pursuant to Water Code section 13267 to better identify the source(s) of a Water Quality Benchmark exceedance. Additionally, Enrollees may elect to perform site-specific edge-of-field monitoring to demonstrate individual compliance. If monitoring results show there are no exceedances of a Water Quality Benchmark, the applicable fields are not required to implement adaptive management requirements to establish individual compliance.

Pesticides in Surface Water

57) Between August 2013 and June 2015, the North Coast Water Board's Surface Water Ambient Monitoring Program (SWAMP) sampled surface water and sediment in the Smith River Plain for standard water quality parameters, nutrients, pesticides, dissolved copper and zinc, and toxicity to assess impacts from Commercial Lily Bulb Operations[15]. Sampling stations were located upstream and downstream of agricultural operations. A total of 17 pesticides (including isomers

and degradants) were detected in downstream monitoring stations in the Smith River Plain. Pesticide concentrations from the surface water samples from this study exceeded water quality thresholds at two of the five downstream monitoring sites. In March 2015, diuron exceeded USEPA Office of Pesticide Programs (OPP) Freshwater Aquatic Life Benchmarks for Pesticide Registration in Delilah Creek[16]. Imidacloprid and permethrin were also detected in concentrations exceeding the USEPA's Office of Pesticide Programs Aquatic Life Benchmarks[17] in a sample that had a positive toxicity test result[18]. Additionally, dissolved copper was detected in every surface water sample with 6 of 27 sample results exceeding the California Toxics Rule (CTR) Freshwater Aquatic Life Criteria for dissolved copper concentrations[19]. The results of this study demonstrate that agricultural pesticide active ingredients are present in surface waters of the Smith River Plain.

Toxicity testing documenting the survival (acute toxicity) and reproductive capacity (chronic toxicity) of the test species *Ceriodaphnia dubia* in surface water samples was performed on samples collected from six locations in the Smith River Plain from 2013-2015. In 10 of 25 samples, these tests demonstrated statistically significant reductions in reproductivity (positive for chronic toxicity), including three tests in which the "control" location upstream of lily bulb agriculture (Upper Rowdy Creek) was positive for chronic toxicity. In another 2 samples, a positive acute toxic response was documented, with 1 of the samples demonstrating no test species survival.

To determine the cause of the 2015 observed acute toxic response, three samples that exhibited chronic or acute toxicity were further tested utilizing a toxic identification evaluation (TIE). The TIEs uncovered a confounding result in the toxicity test results. The prevalence of positive chronic toxicity results (10 of 25) in samples collected throughout the study area (except Tillas Slough, which has higher conductivity) including the control site, suggests that the extremely low water hardness and conductivity in the tributaries are interfering with the ability of the test species to reproduce, producing false positives, or toxic responses when toxic conditions do not exist. For example, TIE evaluations of the reduced reproduction observed in upper Rowdy Creek and lower Delilah Creek on June 23, 2015, pointed to low conductivity and low hardness as a contributor of toxicity with no suggestion of other toxicants.

Low conductivity and low hardness water such as that in the tributaries of the Smith River Plain can negatively affect the reproduction rates of *C. dubia* in the testing environment. When the test species are reared in water with conductivity and hardness levels that are greater than the sample water, their reproductive rates can be adversely affected. Toxicity testing procedures for evaluating the toxicity of surface water must take into consideration the conductivity and hardness of the source water and its effect on the test species.

A TIE was conducted as a follow up to positive acute toxicity results in the

March 11, 2015 sample from lower Delilah Creek. The TIE identified the presence of both a metal and a non-polar organic compound (pesticide) as the drivers behind the acute toxic response in which there was no test species survival. Chemical analysis of the surface water sample associated with the acute toxic response in 2015 documented that two current use pesticides, imidacloprid and permethrin, were detected in concentrations exceeding the USEPA's Office of Pesticide Programs Aquatic Life Benchmarks and that dissolved copper concentrations exceeded the CTR Freshwater Aquatic Life Criteria for acute toxicity.

58) In 2018, the National Marine Fisheries Service and the California Department of Fish and Wildlife prepared the Smith River Plain Dissolved Copper Monitoring Report 2017–2018[20], which documented dissolved copper concentrations in tributaries downstream of lily bulb cultivation areas in the Smith River Plain. The study sampled dissolved copper above and below lily bulb fields during a fall first-flush event and a spring storm event. Downstream concentrations were consistently higher than upstream, with hot spots at Delilah Creek, the Morrison Creek backwater (peaking at 15 µg/L), and Tillas Slough. Every downstream detection exceeded the levels known to cause olfactory and lateral-line damage in juvenile coho salmon, and of the 14 downstream samples tested against the California Toxics Rule, 50% exceeded the chronic criterion and 43% the acute criterion, while none of the upstream controls exceeded either criterion. Based on these findings, the report confirmed the Board's 2013–2015 conclusion that lily bulb farming is a significant source of dissolved copper in the tributaries, while also noting that low-level copper detected at some upstream sites indicated a secondary background source. The report recommended continued monitoring of copper and other pesticides together with collaborative development and implementation of best management practices for lily bulb production involving the National Marine Fisheries Service, the lily bulb producers, the Tolowa Dee-ni' Nation, the Natural Resources Conservation Service, the California Department of Fish and Wildlife, the North Coast Water Board, the California Department of Pesticide Regulation, and the Del Norte Resource Conservation District.

59) In 2022, Dr. Matthew Hurst and colleagues from the Chemistry and Geology Departments at Cal Poly Humboldt released findings from a study[21] that investigated the bioavailability and speciation of copper in the Smith River Plain. The research aimed to assess copper levels in waterways affected by agricultural runoff from the Easter lily bulb industry and their potential impact on juvenile Coho salmon, a federally threatened species reliant on these habitats. The study found that copper concentrations were elevated downstream of agricultural fields compared to upstream and background levels in the Smith River, indicating that current lily bulb cultivation practices increase copper in tributaries. Physical speciation revealed a significant portion of copper in particulate form, especially in Delilah Creek, likely due to sediment runoff. Importantly, bioavailability measurements showed that the toxic form of copper (Cu^{2+}) remained well below

thresholds known to impair salmon olfactory function and behavior, primarily because dissolved organic carbon (DOC) and other ligands in the water bind copper and reduce its bioavailability. The study also found high dissolved copper concentrations were usually accompanied with high DOC concentrations, which would work to reduce the bioavailability of copper and reduce its toxicity. However, low DOC levels during dry seasons may reduce this buffering capacity, potentially increasing copper toxicity risk.

60) Dissolved copper can have an acutely toxic effect on fish through exposure of the gill. Even at low levels, dissolved copper can inhibit or destroy neuron (nerve) cells and impair two important sensory and behavioral response systems: olfaction (sense of smell)[22] and the lateral line[23]. Fish use their sense of smell to identify predators and prey, assess potential mates, avoid pollutants, detect migratory cues, and navigate to their natal streams from the ocean. The lateral line is the visible line along the side of a fish consisting of a series of sense organs, which fish use to detect movement, pressure, and vibration in the surrounding water. When these senses are impaired, fish growth suffers and may lead to mortality. Water chemistry can affect the toxicity of copper when metal ions (e.g., Ca2+) compete with copper for binding sites on gills and other cells, or when other inorganic and organic constituents bind to copper ions reducing their bioavailability. The toxicity of copper is closely related to water hardness, alkalinity, pH and dissolved organic carbon (DOC) in the water. Water hardness refers to the presence of dissolved metal ions such as calcium and magnesium. Hardness in the Smith River is generally quite low, based on samples taken by the North Coast Water Board. Low hardness increases the bioavailability of copper and copper toxicity to aquatic life because there are fewer calcium and magnesium ions to compete with copper for binding sites on the gills and other biological surfaces, allowing more free copper ions to be absorbed by aquatic organisms.

61) As part of the Smith River Plain Water Quality Management Plan, North Coast Water Board staff in the Surface Water Ambient Monitoring Program (SWAMP) sampled surface waters between 2021–2024. Analytes were selected based on their known use in lily bulb production, toxicity profiles, prior study results[24], and input data needs for the US EPA endorsed Biotic Ligand Model (BLM) – a metal bioavailability model that uses receiving water body characteristics and monitoring data to develop site-specific water quality criteria. This report, the Smith River Plain Surface Water Monitoring Study 2021–2024 (2025 SWAMP Report)[25] was released in September 2025.

62) After the release of the 2025 SWAMP Report, staff conducted targeted follow-up investigations that resulted in updates to portions of the data, modeling results, and analyses. On July 21, 2026, staff memorialized those updates in a 2025 SWAMP Report Updates Memo (Updates Memo.)[26] The Updates Memo summarized revisions to the data tables and Biotic Ligand Model (BLM) results presented in Attachment A to the 2025 SWAMP Report and re-analyzed the water quality data

using constituent-specific, planting-cycle-based accounting periods, which staff used to determine the placement of fields in this Order's Adaptive Management Program. The exceedance statistics and BLM results relied upon in this Order reflect the 2025 SWAMP Report as revised in part by the Updates Memo.

63) The 2025 SWAMP Report as revised by the Updates Memo found that dissolved copper concentrations at the six downstream monitoring stations ranged from 0.17 to 14.8 µg/L across all samples collected between 2021 and 2024. The BLM predicted potential copper toxicity (toxicity unit greater than 1.0) at every downstream station at least once, with chronic exceedances in 24 of 79 qualifying samples (30 percent) and acute exceedances in 12 of 79 qualifying samples (15 percent) — predicted chronic toxicity thus occurring approximately twice as frequently as predicted acute toxicity. Predicted toxicity was most frequent at Lower Delilah Creek (10 chronic exceedances, 56 percent of 18 samples; and 6 acute exceedances, 33 percent of 18 samples) and Tillas Slough (4 chronic, 44 percent of 9 freshwater samples; and 2 acute, 22 percent of 9 freshwater samples), followed by Lower Ritmer Creek (6 chronic, 33 percent of 18 samples; and 3 acute, 17 percent of 18 samples). Lower Mello Creek recorded exceedances in both of its two qualifying samples (2 chronic, 100 percent; 1 acute, 50 percent), and Lower Morrison Creek and Lower Rowdy Creek each recorded one chronic exceedance and no acute exceedances (7 percent of 14 samples and 6 percent of 18 samples, respectively). Copper exceedances were concentrated in the 2022–23 planting cycle, which accounted for 14 of the 24 chronic and 8 of the 12 acute exceedances region-wide. The model results were driven by elevated dissolved copper and depressed pH, and the highest risk of toxicity predicted by the BLM was in samples collected during the storm season. Predicted chronic toxicity closely tracked normalized copper application rates[27], with Delilah Creek exhibiting both the highest copper use and the most frequent toxicity predictions.

64) For synthetic pesticides, the 2025 SWAMP Report and Updates Memo found that exceedances occurred only at Lower Delilah Creek (13 total: 10 chronic imidacloprid, 2 chronic diuron, and 1 chronic ethoprop) and Tillas Slough (4 total: 3 chronic imidacloprid and 1 chronic diuron) monitoring stations; no synthetic pesticide exceedances were recorded at Lower Ritmer, Lower Rowdy, Lower Morrison, or Lower Mello Creek. Of the 17 synthetic pesticide exceedances over the study period, 13 were imidacloprid. The pattern of synthetic pesticide concentrations found in the dataset seem to align with typical environmental fate and transport expectations for these pesticides. Diuron and imidacloprid concentrations downstream of lily bulb fields rise sharply during major storm events (typically October–May), peaking early in overland flow before diluting as streamflow increases. Following storms, moderate levels likely persist due to continued shallow groundwater discharge, with low detections year-round indicating ongoing baseflow transport. Imidacloprid exceedances align with

imidacloprid application rates, and both pesticides show strong correlations with large storm events.

65) The Updates Memo revised the accounting period used by staff to evaluate exceedances of water quality benchmarks. The 2025 SWAMP Report defined a benchmark exceedance as one (acute or chronic) that occurs within a Water Year (October 1 – September 30). While a Water Year is loosely aligned with the crop production cycle from planting through harvest, it does not align with the pattern of pesticide applications, essentially splitting a single crop year's pesticide application history across two accounting periods. This Water Year accounting partially obscured the relationship between an exceedance and the fields most likely responsible for it, particularly for copper and imidacloprid, which are not typically applied until spring. For example, under the Water Year accounting method, a copper exceedance detected in December would implicate fields newly planted to lily bulbs the previous fall, even though those fields had not yet received any copper. The fields most likely responsible would instead be the most recently harvested fields, which last received copper the preceding summer. Accordingly, the Updates Memo aligned the accounting period with each constituent's pesticide application cycle: February–January for copper and imidacloprid, November–October for diuron, and September–August for ethoprop. This Order utilizes those accounting periods, and attributes exceedances to the fields whose planting status and application history correspond to the constituent detected and the timing of the detection. Furthermore, this Order defines a benchmark exceedance as any one acute or two chronic exceedances that occur within an accounting period. Staff re-analyzed the 2021–2024 monitoring data set on this basis, as presented in Updates Memo Tables 2 through 5, to determine the fields that the existing monitoring record demonstrates recently contributed to a benchmark exceedance. Those fields, identified in Table II.2 in Section II.H of this Order, are required to implement the Adaptive Management Program upon enrollment.

66) On September 26, 2024, as part of the 2021-2024 SWAMP study, North Coast Water Board staff sampled two locations north of the Smith River Plain on the coastal terrace near Highway 101 at locations that receive runoff from lily bulb fields. One set of samples was collected in Gilbert Creek at Highway 101, and another set was collected in a small coastal drainage that runs to the ocean at Clifford Kamph Memorial Park. While these locations are outside of the Smith River Plain proper, they are both within the Smith River Plain hydrologic subarea and therefore within the scope of this Order. Gilbert Creek runs east to west to the north of this small lily bulb growing area, while the other drainage is to the south and receives most of the surface runoff. There are about six fields that are used for lily bulb cultivation in this area and at the time of the sampling event in September 2024, four of those fields were planted to lilies.

67) Both sets of samples were analyzed for the same set of parameters as the rest of the samples collected as part of the SWAMP study. The analysis included a suite

of current use pesticides, general field parameters, dissolved copper, and a complete set of BLM input parameters. At the time of sampling, flow in Gilbert Creek was estimated between 1-5 cubic feet per second (cfs) and flow in the coastal drainage at Clifford Kamph Memorial Park was estimated between 0.1-1 cfs. There was no precipitation in the preceding 24 hours. Only one pesticide, diuron, was detected out of all the pesticide sample results at a concentration of 0.054 ug/L at the Clifford Kamph Memorial Park site. This concentration is well below the chronic Water Quality Benchmark of 0.83 ug/L for diuron. Dissolved copper was measured at 0.44 ug/L at the Gilbert Creek location and at 1.47 ug/L at the Clifford Kamph Memorial Park location. The results for dissolved copper and the BLM parameters were input into the BLM model to generate acute and chronic instantaneous water quality criteria to compare to the dissolved copper results. Both sample results for dissolved copper were below the BLM generated chronic criteria of 1.94 ug/L (Gilbert Creek) and 5.14 ug/L (Clifford Kamph Memorial Park).

68) Staff's analysis of water quality data from the 2025 SWAMP Report and Updates Memo suggests a strong association between both rate of pesticide application and occurrence of major storm events with predicted bioavailability of dissolved copper and synthetic pesticide exceedances of water quality criteria.

69) Based on these findings from the 2025 SWAMP Report and Updates Memo, North Coast Water Board staff recommends reducing diuron, imidacloprid, and copper application rates in watersheds with exceedances of water quality criteria and predicted copper toxicity; identifying and implementing management practices that reduce synthetic pesticide and copper transport (e.g., increasing soil organic carbon content); and investigating mechanisms that contribute to depressed pH in receiving waters near lily bulb cultivation areas. Staff recommended that surface water monitoring should remain focused on storm-season sampling, with emphasis on capturing both initial overland flow and post-storm baseflow periods, particularly in tributaries with elevated application rates and exceedances of relevant water quality criteria. These recommendations were incorporated into the Surface Water Monitoring Program in the Monitoring and Reporting Program.

70) This Order requires surface water monitoring for diuron, imidacloprid, ethoprop, and dissolved copper, as specified in Attachment A: Monitoring and Reporting Program (MRP). Except for diuron and imidacloprid, the Water Quality Benchmarks used to drive adaptive management and measure compliance with surface water Receiving Water Limitations in this Order are consistent with the values applied in analyzing the dataset presented in the 2025 SWAMP Report[28]. A detailed discussion of these Water Quality Benchmarks, including the use of the Biotic Ligand Model (BLM) for dissolved copper, is provided in Section G.1 of these Findings.

Nutrients in Surface Water

71) The North Coast Water Board's SWAMP Program implemented monitoring in the Smith River Plain in 2013 and 2015 to evaluate water and sediment quality conditions, which included analysis of samples for nutrients. The results for nutrients were compared to USEPA guidance criteria. The nutrient criteria guidance is grouped by 'ecoregions' for the entire country that states may use as a starting point for the criteria for their water quality standards. The criteria are called Ecoregional Nutrient Criteria for Rivers and Streams. Ecoregion II includes most of the great mountain ranges that are located west of the Great Plains. This large, disjunct region is characterized by forests, high relief terrain, steep slopes, perennial streams, and a general lack of cropland agriculture. While the Smith River Plain is included in this ecoregion, it does not match the characteristics of the ecoregion in general. However, water quality results from 2013-2015 were compared to these guidance criteria as a benchmark to provide some context. The comparison showed that nitrogen levels exceeded the ecoregional nutrient criteria in every sample collected in Delilah and Morrison Creeks and Tillas Slough. Phosphorus exceeded the criteria in one instance in Delilah Creek and in three of six samples in Tillas Slough.

72) According to a response to a 2018 Water Code Section 13267 Order, lily bulb growers indicated that nitrogen is applied at planting, during the spring, and through the manure of grazing cattle. This Order monitors the potential for discharge of nitrogen to surface water primarily through irrigation and nutrient management reporting and certified Irrigation and Nutrient Management Plans, as part of adaptive management, which requires Enrollees to (1) report nitrogen application; (2) sample soil and irrigation water for nitrate concentrations; and (3) identify management practices to minimize or prevent discharge of excess nitrogen to surface or groundwater. This Order requires certification of the INMP for Enrollees who have an increasing trend of nitrate concentration over three years in a Groundwater Trend Monitoring Well or Drinking Water Supply Well[29] on their enrolled parcel.

73) Phosphorus is used as a fertilizer in Commercial Lily Bulb Operations. Phosphates sorb to positively charged surfaces in soil so controlling and monitoring for the discharge of phosphorus in this Order is achieved through sediment and erosion management practices.

Pesticides in Groundwater

74) CDPR maintains a Groundwater Protection List in sections 13144, 13145, and 13149 of the California Food and Agricultural Code. Pesticides labeled for agricultural, outdoor institutional or outdoor industrial use that are designated as having the potential to pollute groundwater and have been detected in groundwater

or soil pursuant to section 13149 of the Food and Agricultural Code are on the CDPR 6800(a) list.

75) The CDPR Human Health Assessment Branch (HHAB) has developed Human Health Reference Levels (HHRLs) for pesticides on the 6800(a) list. Residues measured in groundwater exceeding these reference levels indicate a health concern and should be sent to HHA for further evaluation.

76) The CDPR Groundwater Protection Program (GWPP) obtains groundwater monitoring data for pesticides and their degradates through its own sampling program and from sampling conducted by other public agencies. Between 2012 and 2021, the GWPP has reported one unconfirmed detection of a 6800(a) listed pesticide (Simazine) on the Smith River Plain. However, Simazine use was not reported in CDPRs Pesticide Use Report data in the previous five years.

77) The North Coast Water Board released a report in 2015 for the Smith River Plain which included groundwater monitoring results from seven sites to evaluate the extent and concentration of contaminants in shallow groundwater that may be attributed to agricultural applications. These samples were analyzed for dissolved copper, and 328 pesticides and pesticide residues. Among the 328 pesticides analyzed are those that were previously detected in groundwater (e.g., 1,2-Dichloropropene), those identified as pesticides of concern (e.g., Methyl Isothiocyanate, which is a break down product of metam sodium), and those commonly used in high quantities in Del Norte County between 2010 and 2013 (e.g., 1,3-Dichloropropene). The analysis of dissolved copper resulted in one detection of dissolved copper (5.7 ug/L) which was well below the US Environmental Protection Agency's and California Department of Public Health's drinking water standard (1,300/1,000 µg/L, respectively). Analysis for the 328 pesticides and pesticide residues only documented two detections of 1,2-Dichloropropane (1,2-D) which was below the US Environmental Protection Agency's and California Department of Public Health's drinking water standard of 5 µg/L. See page 10 of the Smith River Plain 2015 Groundwater Interim Monitoring Report for tabulated results[30].

78) In April 2025, North Coast Water Board staff sampled 9 private domestic wells within the current and historic lily bulb cultivation area in the Smith River Plain. In October 2025, North Coast Water Board staff sampled two public water supply wells serving the Smith River Community Services District, well samples were analyzed for 94 pesticide residues utilizing a well sampling program offered by the CA Department of Pesticide Regulation. North Coast Water Board staff worked with the lily bulb growers, the Technical Advisory Group for the Lily Bulb Order development, and local community groups to identify volunteers for well sampling. Within the private domestic wells, pesticides were detected at trace levels in 6 of the 9 wells sampled. Of the eight pesticides detected, all but one – used in forestry and highway rights-of-way – had been applied on lily bulbs between 2012 and

2023. The pesticides detected include diuron, imidacloprid, mefenoxam, napropamide, thiamethoxam, ACET, simazine, and tebuthiuron. Four pesticides (diuron, imidacloprid, napropamide, and mefenoxam) were reported as being used on lily bulbs in the most recent Pesticide Use Reports from 2023. Within the public supply wells, two herbicides (prometon and tebuthiuron) were detected at trace levels and are associated with use in highway rights-of-way and not lily bulbs. Three quarters of all pesticide detections (75%) were reported at trace concentrations[31] and none exceeded established human health levels[32].

79) This Order requires monitoring of pesticides in groundwater through: (1) Groundwater Trend Monitoring to evaluate agricultural impacts on groundwater; (2) adaptive management in response to exceedances of pesticide Water Quality Benchmarks in groundwater; and (3) Drinking Water Well sampling to notify well users of exceedances of a human health level with respect to pesticides. Pesticides included in groundwater monitoring in this Order were all current-use lily bulb pesticides that were detected during the April 2025 domestic well sampling effort (diuron, imidacloprid, napropamide, and mefenoxam). These requirements are located within Attachment A: Monitoring and Reporting Program.

Nitrate in Groundwater

80) Elevated levels of nitrate in drinking water can have significant negative health effects on sensitive individuals. The nitrate water quality objective for groundwater is the maximum contaminant level (MCL) of 10 mg/L (milligrams per liter) for nitrate plus nitrite as nitrogen (or 45 mg/L of nitrate as nitrate) established by the California Department of Public Health (Cal. Code Regs. tit. 22, § 64431). The MCL was set to protect the most at-risk groups – infants under six months old and pregnant women. Sources of nitrate in groundwater can include leaching of excess fertilizer, confined animal feeding operations, septic systems, and wastewater discharge to land (e.g., domestic, commercial, and industrial). Besides infiltration, pathways of nitrate to groundwater may also include unprotected well heads, improperly abandoned wells, and lack of backflow prevention on wells.

81) The North Coast Water Board released a 2015 Groundwater Monitoring Report for the Smith River Plain which included monitoring results from seven sites within the lily bulb growing area to evaluate the extent and concentration of contaminants in shallow groundwater that may be attributed to agricultural applications. Samples collected in a one-time sampling event from the seven wells were analyzed for nitrate (as nitrogen). Nitrate concentrations in the groundwater ranged from 4.8 mg/L to 12.7 mg/L across all wells tested. Three irrigation wells exceeded the California Department of Public Health MCL of 10 mg/L for nitrate. Nitrate concentrations in the three Drinking Water Supply Wells ranged from 4.7 mg/L to 6.72 mg/L. See page 9 of the Smith River Plain 2015 Groundwater Monitoring Interim Report for tabulated results[33.]

82) In April 2025, North Coast Water Board staff sampled nine (9) private domestic wells within the current and historic lily bulb cultivation area in the Smith River Plain using a domestic well sampling program offered through the California Department of Pesticide Regulation. Nitrate concentrations in these wells ranged from 1.8 mg/L – 5.9 mg/L.

83) This Order requires monitoring of nitrate in groundwater through: (1) individual groundwater trend monitoring to evaluate agricultural impacts on groundwater and (2) drinking water well sampling to notify well users of exceedances of the nitrate MCL of 10 mg/L. These requirements are located within Attachment A: Monitoring and Reporting Program.

F. Coalitions

84) The North Coast Water Board encourages Enrollees to participate in Coalitions or programs (e.g., certification program, watershed group, water quality coalition, monitoring coalition, or other third-party effort) to facilitate and document compliance with this Order. Third-party programs (hereinafter Coalitions) can be used to manage fee payments to the State Water Board, implement compliance education, monitoring and reporting, management practices and/or water quality improvement projects. This Order authorizes the use of grower Coalitions for the above efforts. Specific Coalition requirements can be found in Attachment C: Coalition Requirements.

85) This Order requires Enrollees to provide the Coalition with contact information of the person(s) authorized to provide access to the enrolled property for inspections. This requirement provides a procedure to enable North Coast Water Board staff to contact Enrollee representatives so that it may more efficiently monitor compliance with the provisions of this Order.

G. Regulatory Framework

86) This Order requires Enrollees to comply with all applicable state and federal water quality standards, plans, and policies, and to prevent nuisance conditions. These standards are established through state and federal regulations, including the North Coast Water Board Basin Plan, which identifies the specific Water Quality Objectives (WQOs), beneficial uses, and implementation plans applicable to discharges of waste and the waterbodies that receive such discharges. The State Water Board has also adopted additional plans and policies that may apply to discharges of waste to surface waters or groundwater from Commercial Lily Bulb Operations.

1. North Coast Water Board Plans and Policies

Basin Plan

87) The Basin Plan is the North Coast Water Board's water quality control planning document. It designates beneficial uses and WQOs for waters of the state, including surface waters and groundwater. The Basin Plan was duly adopted by the North Coast Water Board and approved by the State Water Board, the Office of Administrative Law, and the USEPA, as necessary. The Basin Plan includes plans and policies, including TMDLs . The latest version of the Basin Plan can be found on the North Coast Water Board's website (https://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/).

Beneficial Uses

88) Pursuant to the Basin Plan, Board plans and policies (including State Water Board Resolution No. 88-63 Sources of Drinking Water Policy), and consistent with the Clean Water Act, Table I.2 shows the existing and potential beneficial uses of surface waters in the Smith River Plain:

Table I.2: Existing and Potential Beneficial Uses in the Smith River Plain

Beneficial Use	Abbreviation	Project Area Except Rowdy Creek	Rowdy Creek Watershed
Agricultural Supply	AGR	Existing	Existing
Aquaculture	AQUA	Potential	Potential
Commercial and Sport Fishing	COMM	Existing	Existing
Cold Freshwater Habitat	COLD	Existing	Existing
Native American Culture	CUL	Existing	Existing
Estuarine Habitat	EST	Existing	-
Subsistence Fishing	FISH	Existing	Existing
Freshwater Replenishment	FRSH	Existing	Existing
Industrial Service Supply	IND	Existing	Existing
Marine Habitat	MAR	Existing	-
Migration of Aquatic Organisms	MIGR	Existing	Existing
Municipal and Domestic Supply	MUN	Existing	Existing
Navigation	NAV	Existing	Existing
Hydropower Generation	POW	-	Potential
Industrial Process Supply	PRO	Potential	Potential
Rare, Threatened, End. Species	RARE	Existing	Existing
Non-Contact Water Recreation	REC-2	Existing	Existing
Water Contact Recreation	REC-1	Existing	Existing
Spawning, Reproduction, and/or Early Development	SPWN	Existing	Existing
Wildlife Habitat	WILD	Existing	Existing

89) The beneficial use most sensitive to groundwater degradation in the Smith River Plain is Municipal and Domestic Supply, while the beneficial uses most sensitive to surface water degradation are Cold Freshwater Habitat and Native American Culture. This Order uses Water Quality Benchmarks that are protective of these most sensitive beneficial uses and, therefore, protective of all beneficial uses of water within the Smith River Plain. A more thorough discussion of Water Quality Benchmarks is located in Section G.1 of these Findings.

90) The tributaries of the Smith River Plain contain much of the Smith River watershed's habitat with high intrinsic potential for coho salmon, supporting both natal and non-natal rearing. Tributaries and sloughs near the estuary provide critical refuge for juveniles and fry displaced during high-flow events, increasing survival, productivity, and life-history diversity. Because the middle and upper Smith River watershed is dominated by steep gradients and high flows, the low-gradient tributaries near the estuary and within the lily bulb cultivation area play a disproportionate role in supporting coho salmon resilience and recovery. Although estuarine and coastal-plain habitats represent a small portion of the overall watershed area, they are vital to the productivity of anadromous fish populations, as all salmonids utilize estuarine environments prior to ocean entry.

91) At least 26 species of fish have been observed in the Smith River Plain and estuary. The Smith River Plain provides habitat to threatened and endangered species including coho salmon, eulachon, tidewater goby, and longfin smelt[34]. Spring- and fall-run Chinook Salmon, Coho Salmon, and Coastal Cutthroat Trout utilize the lower Smith River, its coastal tributaries, sloughs, and estuary throughout the year. One or more of these species is typically present in areas potentially affected under this Order at any given time. Low-gradient freshwater and brackish habitats such as sloughs, backwaters, off-channel ponds, and tidal wetlands are among the most productive rearing areas for juvenile salmonids in the Pacific Northwest, including within the Smith River Plain.

92) The 2014 Coho Salmon Final Recovery Plan from NOAA identified Rowdy Creek, Ritmer Creek, Delilah Creek, Yontocket Slough, and Morrison Creek in the Smith River Plain as some of the highest intrinsic potential habitat for coho salmon in the 762 square mile Smith River watershed[35]. These tributaries are designated essential fish habitat (EFH) under the Magnuson-Steven Fishery Conservation and Management Act (MSFCMA) for Pacific salmon (Chinook and coho), and the estuary is designated EFH for Pacific salmon and Pacific groundfish. EFH is designated for species managed in Fishery Management Plans and is defined as the habitat necessary for managed fish to complete their life cycles. Estuaries, including the Smith River Estuary, are considered Habitat Areas of Particular Concern and are high priorities for EFH conservation[36]. Preserving high-quality water and improving degraded water quality in the Smith River Plain is essential to the support and recovery of threatened and endangered species.

93) The National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NOAA-NMFS) has classified the Smith River population of coho salmon as a core, functionally independent population, which is considered at a high risk of extinction and likely below the depensation threshold.

94) On December 17, 2018, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA NMFS) issued a letter to the four lily bulb growers remaining at that time that addressed pesticide impacts on Southern Oregon Northern California Coast (SONCC) coho salmon related to lily bulb agricultural operations in the Smith River Plain. The letter communicated concerns regarding elevated concentrations of dissolved copper and other pesticides detected in streams below lily bulb fields, which exceed U.S. Environmental Protection Agency (EPA) Aquatic Life Benchmarks. The letter referenced the Endangered Species Act (ESA) (16 U.S.C. § 1531 et seq.) and NMFS regulations at 50 CFR 223.203 under section 4(d) of the ESA, which prohibit the unlawful "take" of threatened species, including harm defined as acts that significantly impair essential behavioral patterns of listed fish. NOAA NMFS directed the lily bulb growers to implement best management practices such as increasing no-spray buffers and restoring riparian zones to reduce pesticide runoff into tributaries critical for coho salmon habitat. The letter further encouraged cooperative development of a Smith River Plain Water Quality Management Plan and Safe Harbor Agreements to facilitate regulatory compliance and contribute to species recovery.

95) The U.S. Fish and Wildlife Service (USFWS) adopted the Tidewater Goby Recovery Plan[37] (Recovery Plan) in 2005, outlining key actions for improving the species' status sufficiently to warrant downlisting from endangered to threatened, and ultimately delisting. The Recovery Plan includes the Smith River estuary in its North Coast Recovery Unit, noting that the Smith River estuary contains roughly 500 acres of potentially suitable habitat with historical and recent observations of tidewater goby presence, particularly in Tillas Slough. The Recovery Plan recommended, in part, regular monitoring of tidewater goby populations and habitat conditions to track status and hydrologic changes, management of estuarine and lagoon hydrology to preserve brackish conditions essential for goby breeding and survival, and the re-establishment of Tillas Slough populations from Lake Earl.

96) The Smith River and its estuary serve as crucial environmental trust resources for cultural, ceremonial, and subsistence beneficial uses for the Tolowa Dee-ni' Nation. These uses include, but are not limited to, fishing, boating, river access, training, swimming and diving, prayer and meditation, religious ceremony and medicinal doctoring, plant gathering, basketry, eeling, shellfish gathering, and food preparation.

Water Quality Objectives

97) Water Code section 13241 provides that the North Coast Water Board is

responsible for establishing water quality objectives which, in the North Coast Water Board's judgment, are necessary for the reasonable protection of the beneficial uses and for the prevention of nuisance. Establishing water quality objectives involves first, designating beneficial uses; and second, selecting the water quality constituents or characteristics and limits or levels on those constituents and/or characteristics necessary to protect the beneficial uses. These objectives can be expressed in numeric (measurable limits or concentrations of a pollutant) or narrative (the desired condition of the waterbody in qualitative terms) form.

When it is necessary to derive numeric values in order to develop discharge limitations that implement narrative water quality objectives or to evaluate compliance with narrative water quality objectives, the Board may consider "all relevant and scientifically valid evidence", including site-specific data, scientific peer-reviewed literature, and numeric values established in other state or federal laws, regulations, plans, policies, or guidelines, or developed and published by other governmental or non-governmental agencies and organizations. (Basin Plan, Section 3.5.1.) "When water quality objectives are established in a basin plan in narrative form, it is appropriate for a regional water board to exercise its professional judgment, relying on scientific studies, to establish numeric limits." (State Water Board, Order WQ 2023-0081, p. 28.)

98) Section 3 of the North Coast Water Board's Basin Plan contains water quality objectives for groundwater and surface waters. These include objectives for chemical constituents, which incorporate promulgated maximum contaminant levels (MCL); pH; sediment; turbidity; and, in relevant part, the following narrative water quality objectives for pesticide and toxicity:

*"**Pesticides**. Waters shall not contain any individual pesticide or combination of pesticides in concentrations that cause nuisance or adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations in bottom sediments or aquatic life that cause nuisance or adversely affect beneficial uses. In no case shall waters designated for use as domestic or municipal supply (MUN) contain concentrations of pesticides in excess of the numeric limits established in title 22 and as prospectively incorporated in 3.3.3 Chemical Constituents."*

*"**Toxicity**[38]**.** Waters shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances."*

99) The USEPA has adopted the National Toxics Rule and the California Toxics Rule (CTR), which, when combined with the Basin's Plans beneficial use designations, constitute water quality standards that apply to certain inland surface waters or enclosed bays and estuaries within the state. The CTR contains federal water

quality criteria for priority pollutants, including for copper. The CTR aquatic life criteria for copper varies based on hardness and are expressed as dissolved concentrations.

100) The Biotic Ligand Model (BLM) is the current EPA recommended method for determining copper concentrations protective of aquatic life on a site-specific basis and has been adopted by the State of Idaho Department of Environmental Quality and the State of Oregon Department of Environmental Quality to develop state-wide, site-specific water quality criteria for copper. The BLM predicts metal toxicity to aquatic life by estimating how much of a dissolved metal actually binds to sensitive biological sites (biotic ligands) such as fish gills or invertebrate membranes. The model calculates the concentration of a metal at the biotic ligands by simulating how site-specific water chemistry factors influence the chemical form and bioavailability of the metal. The BLM represents a refinement of the hardness-based CTR criteria.

In California, the State Water Board is developing a proposed water quality control policy to establish methods, protocols, and procedures for Regional Water Quality Control Boards to develop, adopt, and implement site-specific water quality objectives for copper and zinc based on the BLM. The BLM uses a set of ten parameters to account for complex chemical reactions associated with copper in the environment: pH, Dissolved Organic Carbon (DOC), Calcium (Ca), Magnesium (Mg), Sodium (Na), Sulfate (SO4), Potassium (K), Chlorine (Cl), Alkalinity, and Temperature.

Using these ten parameters, the BLM generates an Instantaneous Water Quality Criterion (IWQC). The IWQC is used as a water quality threshold for dissolved copper for that specific site and sampling event only. The model's output also includes a Toxicity Unit (numerical value) to represent the relative risk of copper toxicity in the waterbody at the time of sample collection. Exceedances of the IWQC mean that dissolved copper bioavailability was predicted to occur at a potentially toxic level for the sample in question. Due to the unique water chemistry of the Smith River Plain, risk of toxicity is predicted to occur at a lower dissolved copper concentration by the BLM compared to the hardness-based CTR at the monitoring stations downstream of lily bulb agriculture. Use of this scientifically-valid and more sensitive method is appropriate in this Order to drive the Adaptive Management Program and evaluate compliance with Receiving Water Limitations, given the particular beneficial uses to be protected in the Smith River Plain, the water quality objectives reasonably required for that purpose; the need to prevent nuisance; and the provisions of Section 13241, including environmental characteristics in the Smith River Plain, and economic considerations, discussed in further detail in Section I.H of the Findings. (Wat. Code, § 13263, subd. (a).)

101) This Order establishes Water Quality Benchmarks for both surface water and groundwater, which are based on water quality objectives. Water Quality

Benchmarks for surface water are established for both acute and chronic exposure conditions. Exceedance of a Water Quality Benchmark for surface water is determined by considering both concentration and frequency within a calendar year. An acute Water Quality Benchmark is exceeded when the acute concentration is exceeded once within a calendar year, and a chronic Water Quality Benchmark is exceeded when the chronic concentration is exceeded twice within a calendar year.

102) Water Quality Benchmarks for groundwater are also established for both acute and chronic exposure, where water quality values are available.

103) The Water Quality Benchmarks are either equivalent to the applicable Basin Plan numeric water quality objective or a numeric interpretation of the pesticide and toxicity narrative water quality objectives for surface water and the toxicity narrative quality objective for groundwater. Non-exceedance of a Water Quality Benchmark demonstrates attainment of the corresponding water quality objective and compliance with Receiving Water Limitations in Section II.C of this Order. Conversely, exceedance of a Water Quality Benchmark indicates that discharges may be causing or contributing to an exceedance of a water quality objective. As discussed in Section II.H of this Order, exceedance of a Water Quality Benchmark triggers the Adaptive Management Program; following the time schedule under the Adaptive Management Program, further exceedances may indicate that discharges are causing or contributing to an exceedance of a water quality objective in violation of the Receiving Water Limitations, which may result in further investigative action and/or progressive enforcement.

104) Water Quality Benchmarks for surface water and groundwater monitoring pesticide parameters were determined by reviewing all available pesticide water quality values, including U.S. EPA aquatic life benchmarks, and, exercising best professional judgment consistent with scientific evidence, selecting the most protective (i.e., lowest) values for relevant beneficial uses. In general, the most sensitive beneficial uses for surface waters were Cold Freshwater Habitat and Native American Culture and for groundwater was drinking water. The Water Quality Benchmarks that staff determined were appropriate to drive adaptive management are generally consistent with the State Water Board's numeric guidelines for listing impaired waters under Section 303(d) of the Clean Water Act used to assess data where only narrative water quality objectives have been adopted. Tables I.3 and I.4 present relevant Water Quality Benchmarks for required water quality monitoring constituents for this Order as well as conditions for determining whether an exceedance of an acute or chronic Water Quality Benchmark has occurred.

Table I.3 Water Quality Benchmarks for Surface Water, Benchmark Exceedances, Beneficial Uses Protected, and Sources

Parameter	Water Quality Benchmark (ug/L)	Water Quality Benchmark Exceedance	Use Protected	Source or Reference[39]
Diuron (salinity < 1 ppt)	Acute: 87.5 Chronic: 0.83	Two exceedances of the chronic Benchmark in a calendar year -OR- a single exceedance of the acute Benchmark.	Cold Freshwater Habitat	USEPA Aquatic Life Benchmarks
Diuron (salinity ≥ 1 ppt)	Acute: 600 Chronic: 3.08	Two exceedances of the chronic Benchmark in a calendar year -OR- a single exceedance of the acute Benchmark.	Estuarine Habitat	USEPA Aquatic Life Benchmarks
Ethoprop (salinity < 1 ppt)	Acute: 22.0 Chronic: 0.37	Two exceedances of the chronic Benchmark in a calendar year -OR- a single exceedance of the acute Benchmark.	Cold Freshwater Habitat	Acute: USEPA Aquatic Life Benchmarks Chronic: USEPA Chronic Non-cancer HHBs for Pesticides
Ethoprop (salinity ≥ 1 ppt)	Acute: 3.15 Chronic: 2.0	Two exceedances of the chronic Benchmark in a calendar year -OR- a single exceedance of the acute Benchmark.	Estuarine Habitat	USEPA Aquatic Life Benchmarks
Imidacloprid (salinity < 1 ppt)	Acute: 0.385 Chronic: 0.01	Two exceedances of the chronic Benchmark in a calendar year -OR- a single exceedance of the acute Benchmark.	Cold Freshwater Habitat	USEPA Aquatic Life Benchmarks
Imidacloprid (salinity ≥ 1 ppt)	Acute: 16.5	A single exceedance of the acute Benchmark.	Estuarine Habitat	USEPA Aquatic Life Benchmarks
Dissolved Copper	Toxicity Unit<1 (acute and chronic)	Two exceedances of the chronic BLM-IWQC in a calendar year -OR- a single exceedance of the acute BLM-IWQC.	Cold Freshwater and Estuarine Habitats	Biotic Ligand Model

Table I.4 Water Quality Benchmarks for Groundwater, Beneficial Uses Protected, and Sources

Parameter	Benchmark (ug/L)	Use Protected	Source or Reference[40]
Diuron	Acute: 1,028 Chronic: 2.0	Municipal Drinking Water	Chronic: USGS Health Based Screening Level (HBSL) for one-in-a-million cancer risk estimate Acute: CDPR Human Health Reference Level (HHRL)
Imidacloprid	Acute: 283	Municipal Drinking Water	DPR Human Health HHRL[41]
Mefenoxam	Acute: 3,000 Chronic: N/A	Municipal Drinking Water	USEPA One-Day or Acute HHBP
Napropamide	Chronic: 710	Municipal Drinking Water	USEPA Chronic or Lifetime HHBP
Nitrate	10 (mg/L)	Municipal Drinking Water	USEPA Maximum Contaminant Level (MCL)

Assessment of Cumulative and Synergistic Effects of Pesticide Mixtures

105) The Basin Plan's narrative toxicity objective requires that waters "shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life" and specifies that "[t]his objective applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances." The narrative pesticide objective similarly addresses "any individual pesticide or combination of pesticides in concentrations that cause nuisance or adversely affect beneficial uses." These objectives require the Order to consider the cumulative and synergistic effects of pesticide mixtures. Cumulative effects can be quantitatively evaluated using established scientific methods, while no validated scientific method currently exists to directly quantify potential synergistic effects of pesticide mixtures. Accordingly, this section evaluates cumulative effects using the best available science and explains how this Order addresses potential synergistic effects through its conservative benchmark framework and adaptive management provisions.

106) In 2026, North Coast Water Board staff prepared an internal technical memorandum entitled “Review of the USGS Pesticide Toxicity Index Tool for Assessing Potential Toxicity of Pesticide Mixtures to Freshwater Aquatic

Organisms" (Zabinsky, 2026)[42] to evaluate the cumulative toxicity of pesticide mixtures in the Smith River Plain. The memorandum reviews the USGS Pesticide Toxicity Index (PTI), a peer-reviewed screening tool developed by Nowell et al. (2014)[43] that assesses potential aquatic toxicity of pesticide mixtures using a Concentration Addition (CA) model. The PTI uses the CA model to estimate the combined toxicity of all detected pesticides in a sample**.** The CA model sums toxic units (TUs) for all pesticides detected in a sample, where each TU is the ratio of the measured concentration to a toxicity concentration derived from compiled laboratory studies, to produce a cumulative index of potential acute toxicity risk. The memorandum and the underlying USGS study are incorporated into the administrative record for this Order.

107) Staff applied the Sensitive PTI, which uses the 5th percentile of compiled toxicity values (the Sensitive Toxicity Concentration, or STC) for the benthic invertebrate taxonomic group, to the 2021–2024 SWAMP monitoring dataset (as revised by the 2025 SWAMP Report Updates Memo described in Findings #62-65). The STC values for the three primary synthetic pesticides are: diuron (160 µg/L), ethoprop (43.9 µg/L), and imidacloprid (0.65 µg/L). A Sensitive PTI of 1.0 or greater indicates significant risk of over 50% mortality for the 5th percentile most sensitive benthic invertebrate species.

108) The CA model assumes toxicity is strictly additive and does not model synergistic or antagonistic interactions. For pesticides with different modes of action, the CA model tends to overestimate combined risk. Diuron (photosynthesis inhibitor), ethoprop (acetylcholinesterase inhibitor), and imidacloprid (nicotinic acetylcholine receptor agonist) all have different modes of action. The USGS study found that even for pesticides with different modes of action, the CA model is usually within 2-to-3 times observed toxicity. Because the CA model assumes additive toxicity even when pesticides act through different biological mechanisms, it generally provides a conservative estimate of cumulative toxicity for the pesticide mixtures observed. For the Smith River Plain, this additive assumption provides a built-in margin of safety that addresses the concern for potential synergistic interactions.

109) The highest cumulative Sensitive PTI in the entire 2021–2024 dataset was 0.12 (12% of the 1.0 threshold), recorded at Lower Delilah Creek on March 5, 2023, during the largest documented storm-driven pesticide pulse. At Tillas Slough, the highest value was 0.105 (10.5%) on the same date. No sample at any station approached the 1.0 threshold, indicating that even the highest observed cumulative pesticide mixture remained well below the level associated with significant acute toxicity risk. The only sample where all three pesticides were co-detected at meaningful concentrations, November 5, 2023 at Lower Delilah Creek (diuron 0.094 µg/L, ethoprop 2.0 µg/L, imidacloprid 0.028 µg/L), produced a cumulative PTI of 0.089, with ethoprop and imidacloprid each contributing approximately half the total. This demonstrates the PTI's cumulative assessment capability: no pesticide exceeded its benchmark, but the combined mixture's additive risk is captured.

110) A comparison of the freshwater USEPA acute benchmarks and the Sensitive PTI confirms that the USEPA acute benchmarks are structurally more conservative for each individual pesticide. The USEPA acute benchmarks apply a 2× safety factor to the lowest available acute toxicity test result, producing thresholds approximately half the STC values: diuron at 87.5 µg/L versus 160 µg/L, ethoprop at 22.0 µg/L versus 43.9 µg/L, and imidacloprid at 0.385 µg/L versus 0.65 µg/L. The USEPA acute benchmarks produced a higher percent-of-threshold than the cumulative Sensitive PTI in 100% of samples at Lower Delilah Creek and 94% at Tillas Slough. The PTI's cumulative addition partially narrows this gap but does not overcome the structural difference at observed concentration levels. Accordingly, compliance with this Order's individual USEPA acute benchmarks is generally more protective than compliance with the cumulative Sensitive PTI, even after accounting for additive mixture toxicity.

111) The PTI assesses acute toxicity risk only and does not directly evaluate chronic effects. While no validated quantitative tool exists to assess chronic synergistic effects of pesticide mixtures, the Order's chronic benchmark framework and other features provide substantial margins of safety that address potential chronic mixture effects:

a) The chronic benchmarks are derived using intentionally conservative methods. The imidacloprid benchmark (0.01 µg/L) is based on a (No-Observed-Adverse-Effect Concentration) NOAEC that is an artifact of the test concentrations chosen — 0.03 µg/L was the EC10 and 0.01 µg/L was simply the next concentration tested below it. The diuron benchmark (0.83 µg/L) applies an Acute-to-Chronic Ratio of 210 borrowed from a different taxonomic group, when the median ACR for pesticides is only 10. Both methods produce values well below demonstrated chronic effect concentrations.

b) These chronic benchmarks are applied to instantaneous grab samples, including storm samples capturing peak concentrations on the rising limb, rather than the multi-day averages the 7-to-21-day chronic tests were designed to evaluate. This temporal mismatch creates additional margin for potential synergistic interactions.

c) The Order requires two chronic exceedances within a planting cycle to trigger adaptive management, ensuring the system responds to a pattern rather than a single result.

112) At observed concentrations where cumulative acute risk reached only 12 percent of the protective threshold, the magnitude of potential synergistic chronic effects is expected to be small relative to the compounding margins of safety in the chronic benchmarks. The adaptive management framework is iterative: if chronic effects occur despite individual benchmark compliance, monitoring data will identify

concentration trends that inform whether additional action is warranted.

113) The Order addresses copper and pesticides through separate but complementary frameworks. Dissolved copper is assessed using the Biotic Ligand Model (BLM), which generates site-specific criteria accounting for water chemistry parameters that influence copper bioavailability. Both copper and pesticide toxicity risk are assessed independently for each sampling event, and adaptive management responds to exceedances of either. This reflects the different toxicological mechanisms and regulatory criteria applicable to metals and pesticides. While the Order does not model copper-pesticide interactions, the use of conservative benchmarks for both provides a protective approach for co-occurring contaminants.

114) These waters are necessarily high quality for synthetic pesticides under State Water Board Resolution No. 68-16 because these compounds were not present prior to their agricultural introduction. The Proposed Order's use of USEPA chronic benchmarks, which are structurally more conservative than the Sensitive PTI, as adaptive management triggers within an iterative framework is consistent with the Board's obligation to maintain the highest water quality consistent with maximum benefit to the people of the State. The cumulative effects of pesticide mixtures have been quantitatively evaluated using the best available scientific methodology, which demonstrates that observed pesticide mixtures remained well below levels associated with acute toxicity. Although no validated scientific method currently exists to directly quantify potential synergistic effects of pesticide mixtures, this Order addresses those potential effects through the layered approach of individual pesticide benchmarks, the cumulative PTI assessment, BLM-derived copper criteria, the two-exceedance adaptive management trigger for chronic exposures, and ongoing monitoring that informs whether additional action is warranted. Accordingly, this Order adequately addresses the Basin Plan's narrative toxicity and pesticide objectives, including their application to the synergistic effect of multiple substances.

Temperature Policy

115) The Basin Plan includes the Policy for the Implementation of the Water Quality Objectives for Temperature in the North Coast Region (Temperature Policy), which specifies that activities resulting in water temperature increases shall be addressed on a case-by-case basis to reduce impairments and prevent further impairment. The Temperature Policy directs staff to examine and address temperature when developing regulatory orders or permits. At a minimum, any program or permit shall take actions to achieve temperature objectives and implement temperature TMDLs, including EPA-established TMDLs. To attain and maintain the water quality objectives for temperature, The North Coast Water Board and its staff implement programs and collaborate with others in such a manner as to prevent, minimize, and mitigate temperature alterations associated with sediment discharges and controllable water quality factors. Controllable water quality factors affecting water

temperature include any anthropogenic activity which results in the removal of riparian vegetation, sediment discharges, impoundments and other channel alterations, reduction of instream summer flows, and the reduction of cold-water sources. The Temperature Policy directs the North Coast Water Board to implement actions to achieve Water Quality Objectives using all available tools, including WDRs.

116) This Order implements the Temperature Policy through requirements and prohibitions within Streamside Areas which: (1) allow the natural establishment and abundance of native riparian vegetation; (2) allow sufficient native riparian vegetation to minimize and control discharge of sediment, nutrients, and pesticides to surface waters; (3) install and/or maintain a minimum width of riparian vegetation and vegetated buffers to achieve site-specific potential effective shade and prevent discharges of sediment, nutrients and pesticides to surface waters; and (4) allow essential functions supporting beneficial uses (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

Groundwater Protection

117) The Policy Statement for Groundwater Protection in the North Coast Region, Resolution No. R1-2022-0040, acknowledges the North Coast Water Board is committed to the protection of high-quality groundwater and the restoration of degraded groundwater to support all beneficial uses now and in the future, especially given increasing reliance on groundwater in the North Coast Region. Groundwater supplies in the Smith River Plain are currently beneficially used for: (1) drinking water, sanitation, and hygiene consistent with the Human Right to Water described in North Coast Water Board Resolution No. R1-2019-0024; (2) agriculture and industry which are major economic drivers in the region, (3) Native American ceremonies and traditions; (4) aquaculture operations; and (5) replenishment of flows to streams (e.g., contribution to instream flows) to maintain beneficial uses of surface water, especially cold freshwater habitat, migration of aquatic specifics, wildlife habitat, and spawning, reproduction, and early development of fish.

118) This Order is consistent with the Policy Statement for Groundwater Protection in the North Coast Region by requiring compliance with Receiving Water Limitations, implementation of groundwater protection management practices, groundwater monitoring, and adaptive management where current practices are not adequate to control, minimize, or eliminate agricultural discharges to groundwater.

Other North Coast Water Board Policies

119) This Order is consistent with the approach and best practices identified in Basin Plan policies for the control of excess sediment discharge and delivery by requiring

Enrollees to inventory sediment discharge sites on the Commercial Lily Bulb Operation, implement sediment and erosion control management practices, monitor management practice effectiveness, and implement adaptive management where current practices are not adequate to control, minimize, or eliminate excessive sediment discharge.

2. Water Code Considerations

120) The California Water Code (Water Code) grants authority to the State Water Board with respect to state drinking water, water rights and water quality regulations and policy, and establishes nine North Coast Water Boards with authority to regulate discharges of waste that could affect the quality of waters of the state and to adopt water quality regulations and policy.

121) Water Code section 13260(a) requires that any person, citizen, or domiciliary discharging waste or proposing to discharge waste, other than into a community sewer system, that could affect the quality of the waters of the state, file a report of waste discharge (ROWD) to obtain coverage under WDRs or a waiver of WDRs. Waste, person, citizen, and domiciliary are defined in Water Code section 13050. For purposes of this Order, the eNOI is considered a ROWD.

122) Water Code section 13263(a) requires waste discharge requirements to implement any relevant water quality control plans that have been adopted and to take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241. Relevant plans and policies are discussed throughout. See Section G.1 of these Findings for a discussion of beneficial uses and water quality objectives.

123) Water Code section 13241 requires North Coast Water Boards to consider several factors, including “economic considerations” when establishing water quality objectives to ensure the reasonable protection of beneficial uses and prevent nuisance. Economic Considerations Findings are included below.

124) Pursuant to Water Code section 13263(g), no discharge of waste into the waters of the state, whether or not the discharge is made pursuant to WDRs, shall create a vested right to continue to discharge. All discharges of waste into waters of the state are privileges, not rights.

125) Pursuant to Water Code section 13263(i), the North Coast Water Board may prescribe general WDRs for a category of discharges if the discharges are produced by the same or similar operations, involve the same or similar types of waste, require the same or similar treatment standards, and are more appropriately regulated under general WDRs than individual WDRs. Discharges from Farming have certain common characteristics, such as similar land disturbing activities, use

of nutrients and pesticides, agricultural practices, and agricultural road networks that require similar best management practices to control, minimize, and/or prevent discharges of waste. These types of discharges are more appropriately regulated under general WDRs.

126) This Order is consistent with Water Code section 13267 through the Monitoring and Reporting Program and through provisions of the Order that allow access via inspections. Water Code section 13267 states in relevant part:

"(b)(1) In conducting an investigation…, the North Coast Water Board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region… shall furnish, under penalty of perjury, technical or monitoring reports which the North Coast Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the North Coast Water Board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports.

(b)(2) when requested by the person furnishing a report, the portions of a report that might disclose trade secrets or secret processes may not be made available for inspection by the public but shall be made available to governmental agencies…However, these portions of a report shall be available for use by the state or any state agency in judicial review or enforcement proceedings involving the person furnishing the report.

(c) In conducting an investigation…, the North Coast Water Board may inspect the facilities of any person to ascertain whether…waste discharge requirements are being complied with. The inspection shall be made with the consent of the owner or possessor of the facilities or, if consent is withheld, with a warrant issued pursuant to…Title 13 (commencing with §1822.50) of Part 3 of the Code of Civil Procedure."

127) Water Code section 13268 provides that any person who fails to furnish a technical or monitoring program or who falsifies any information provided in a technical or monitoring report, pursuant to Water Code section 13267, may be subject to administrative civil liability in an amount not to exceed $1,000 per day of violation. If the matter is referred to the Attorney General for judicial enforcement, a higher liability of $5,000 per day of violation may be imposed. Higher penalties may also be imposed for any person that knowingly commits any violation in section 13268 of the Water Code.

128) Water Code section 13350 provides that any person who discharges waste in violation of WDRs may be (1) subject to administrative civil liability imposed by the

North Coast Water Board or State Water Board in an amount of up to $5,000 per day of violation, or up to $10 per gallon of waste discharged; or (2) subject to civil liability imposed by a court in an amount of up to $15,000 per day of violation, or up to $20 per gallon of waste discharged. The actual calculation and determination of administrative civil penalties must be consistent with the State Water Board Water Quality Enforcement Policy (Enforcement Policy) and the Porter-Cologne Act.

3. Nonpoint Source Policy

129) The State Water Board's Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program adopted on May 20, 2004 (NPS Policy) requires regulation of nonpoint source pollution[44] in California through WDRs, waivers of WDRs, or discharge prohibitions (Water Code §13146; Gov. Code §11353).

130) The federal Clean Water Act (CWA) requires states to develop a program to protect the quality of water resources from the adverse effects of nonpoint source (NPS) water pollution. The NPS Policy is the State Water Board framework for addressing NPS pollution and requires each of the nine North Coast Water Boards to regulate NPS pollution, including agricultural discharges, via WDRs, Waivers of WDRs, or a prohibition. The NPS Policy states that North Coast Water Board implementation programs for NPS pollution control must include five key elements, as follows:

Key Element 1: An NPS control implementation program's ultimate purpose shall be explicitly stated. Implementation programs must, at a minimum, address NPS pollution in a manner that achieves and maintains water quality objectives and beneficial uses, including any applicable antidegradation requirements.

Key Element 2: An NPS control implementation program shall include a description of the management practices and other program elements that are expected to be implemented to ensure attainment of the implementation program's stated purpose(s), the process to be used to select or develop management practices, and the process to be used to ensure and verify proper management practices implementation. The North Coast Water Board must be able to determine that there is a high likelihood that the program will attain water quality requirements. This will include consideration of the management practices to be used and the process for ensuring their proper implementation.

Key Element 3: Where the North Coast Water Board determines it is necessary to allow time to achieve water quality requirements the NPS control implementation program shall include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching the specified requirements.

Key Element 4: An NPS control implementation program shall include sufficient feedback mechanisms so that the North Coast Water Board, Enrollees, and the public can determine whether the program is achieving its stated purpose(s) or whether additional or different management practices or other actions are required.

Key Element 5: Each North Coast Water Board shall make clear, in advance, the potential consequences for failure to achieve an NPS control implementation program's stated purpose.

131) This Order constitutes an NPS Implementation Program for discharges regulated by this Order. This Order is consistent with all key elements of the NPS Policy as described below:

a) The ultimate purpose of this Order is explicitly stated in Section I: Background and Purpose. This Order includes requirements to meet applicable water quality objectives and beneficial uses, including any applicable State Water Board Resolution 68-16 (Antidegradation Policy) requirements. Further, discussion of this Order's implementation of antidegradation requirements is given below. This Order is consistent with Key Element 1.

b) The North Coast Water Board is generally restricted by Water Code section 13360 from prescribing the particular manner of compliance with an order requirement. However, it may set forth receiving water limitations and performance standards and require Enrollees to report on what practices they have or will implement to meet those receiving water limitations and performance standards. Examples of the types of practices that Commercial Lily Bulb Operations may implement to meet program goals and objectives have been described and evaluated in the Environmental Impact Report. This Order requires each individual operation to develop a Farm Evaluation that will describe its management practices in place to protect surface water and groundwater quality. This Order also requires Enrollees to comply with an Adaptive Management Program in response to: (1) exceedances of a Water Quality Benchmark or Receiving Water Limitation, (2) where management practices are not properly implemented, or (3) as directed by the Executive Officer. The Adaptive Management Program includes iterative adaptive management for improved management practices to address Water Quality Benchmark or Receiving Water Limitation exceedances. The requirements of this Order are consistent with Key Element 2.

c) The North Coast Water Board acknowledges that, given existing water quality conditions and the time needed to develop and implement actions to address discharges, it may be necessary to allow time to achieve Receiving Water Limitations in this Order. The Adaptive Management Program

required by this Order includes a time schedule and specific quantifiable milestones for implementing required management practices and meeting Receiving Water Limitations as soon as practicable. The Adaptive Management time schedule requirements in this Order are consistent with Key Element 3.

d) To provide feedback on whether program goals are being achieved, this Order requires surface and groundwater quality monitoring to evaluate the effectiveness of implemented management practices. This feedback will allow iterative implementation of practices to ensure that program goals are achieved. The North Coast Water Board finds the level of surface and groundwater quality monitoring required by this Order will result in sufficient data collection and reporting to allow for meaningful feedback on the effectiveness of management practices, while also avoiding unwarranted or excessive time and costs on Enrollees. The feedback mechanisms required by this Order are consistent with Key Element 4.

e) This Order establishes the following consequences where requirements are not met: (1) Enrollees will be required, in an iterative process, to conduct additional monitoring and/or implement management practices where water quality objectives are not being met; (2) Enrollees will be required, where the Coalition fails to meet the requirements of this Order, to enroll in the Order individually, and (3) the North Coast Water Board will initiate progressive enforcement action through its Enforcement Policy where the iterative management practices process is unsuccessful, program requirements are not met, or time schedules are not met. Section II of this Order describes the consequences for failure to meet requirements through the North Coast Water Board's Enforcement Policy and is consistent with Key Element 5.

4. Statement of Policy with Respect to Maintaining High Quality Waters in California (Antidegradation Policy)

132) Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. In 1968, the State Water Board adopted the Statement of Policy with Respect to Maintaining High Quality of Waters in California, Resolution No. 68-16 (Antidegradation Policy).[45] The State Antidegradation Policy is deemed to incorporate the Federal Antidegradation Policy where the federal policy applies under federal law.[46] The State Antidegradation Policy establishes a state policy to regulate the granting of permits and licenses for the disposal of wastes into the waters of the state so as to achieve the highest water quality consistent with maximum benefit to the people of the State.[47] The federal and state policies generally require that the existing quality of water bodies be maintained, unless degradation is justified through specific findings.[48]

133) The Antidegradation Policy, by its terms, applies only to high-quality waters of the state. High quality waters are those surface waters or areas of groundwater that have a baseline water quality better than required by water quality control plans and policies. The baseline water quality considered in making the appropriate findings is generally the best quality of the water since 1968, the year of the adoption of the Antidegradation Policy.[49] This determination is made on a waterbody-by-waterbody and constituent-by-constituent basis. In the context of diffuse discharges regulated by a general order, the State Water Board provided the following guidance on determining whether a discharge impacts high quality waters:

> *"When assessing baseline water quality for a general order, we find a general review and analysis of readily available data is sufficient. . . . North Coast Water Boards should not delay the implementation of a regulatory program in order to conduct a comprehensive baseline assessment and analysis—especially where, as here, the general order imposes essentially the same iterative approach for management practices and other requirements regardless of whether or not the receiving water is high quality[50]."*

134) If a discharge will degrade high quality water, the discharge is allowable if there is a finding that any change in water quality (1) will be consistent with maximum benefit to the people of the State, (2) will not unreasonably affect present and anticipated beneficial uses of such water, and (3) will not result in water quality less than that prescribed in state policies. Maximum benefit determinations should be made on a case-by-case basis, with consideration given to various factors, including economic and social costs, tangible and intangible, of the proposed discharge, as well as the environmental aspects of the proposed discharge, including benefits to be achieved by enhanced pollution controls, and implementation of feasible alternative treatment or control methods. Both costs to the discharger and affected public must be considered.[51]

135) Additionally, the Board must find that any activities that result in discharges to such high-quality waters are required to use the best practicable treatment or control of the discharge necessary to avoid pollution or nuisance and to maintain the highest water quality consistent with the maximum benefit to the people of the State. Best practicable treatment or control (BPTC) determinations should consider relative benefits of proposed treatment or control methods to proven technologies; performance data; alternative methods of treatment or control; methods used by similarly situated dischargers; and/or promulgated best available technology or other technology-based standards. The costs of the treatment or control should also be considered and would be considered in determining the "maximum benefit to the people of the State."[52]

136) North Coast Water Board staff completed a general baseline water quality assessment for surface and groundwater in the Smith River Plain based on readily

available data. The primary constituents of concern for groundwater include nitrates and pesticides. The primary constituents of concern for surface water include nutrients, pesticides (synthetic compounds and dissolved copper), and turbidity. Focusing on these constituents of concern, the North Coast Water Board evaluated water quality using all available data from multiple data sources maintained in the following management systems: CEDEN, GeoTracker, CDPR's SURF database, CDPR's well testing program, and GAMA[53]. Existing water quality in the Smith River Plain is outlined in the Findings above. This Order accounts for the fact that at least some surface water and groundwaters in the Smith River Plain are considered high-quality for one or more constituents of concern per the Antidegradation Policy.

137) Commercial lily bulb farming in the Smith River Plain involves soil disturbance and use of agricultural chemicals, both of which can generate discharges of waste. If not properly managed, these discharges can degrade water quality, cause or contribute to pollution and nuisance conditions, and adversely affect beneficial uses of waters of the state. The North Coast Water Board anticipates that the requirements of this Order will prevent degradation of high-quality waters over time. Since implementation of the 2021 Management Plan, in which all lily bulb growers agreed to voluntarily implement a suite of water quality management practices designed to reduce pesticide and nutrient runoff, erosion, and direct discharge of pollutants to surface waters, concentrations of synthetic pesticides and dissolved cooper have decreased. Additional measures required under this Order, such as Receiving Water Limitations and the Adaptive Management Program, management practice requirements, prohibitions, and Streamside Area requirements, are anticipated to further reduce discharge pollutant loadings over time. The North Coast Water Board cannot find, however, that there will be no degradation of high-quality waters under the requirements of this Order. In particular, the North Coast Water Board anticipates degradation of some high-quality waters during the period of time that Dischargers are working to achieve compliance with receiving water limitations via the iterative implementation of management practices. As appropriate controls and management practices are implemented, the degradation is expected to be limited and, in many cases, decreasing. The Order authorizes degradation only up to the level of the objectives and requires implementation of controls such that discharges will not cause or contribute to exceedances of those objectives within a discrete time schedule. While the North Coast Water Board makes findings authorizing degradation of high-quality waters under this Order, it will, wherever feasible, require controls to prevent and reverse degradation by working with dischargers and third parties to ensure controls are implemented in an iterative manner as technology evolves and advances.

138) The North Coast Water Board finds that any limited degradation that may occur from discharges to high-quality surface and groundwater water bodies even following implementation of all applicable management practices designed to

control discharges is to the maximum benefit of the people of the State. In setting the requirements of this Order, the Board has considered the social and economic significance of the commercial lily bulb industry in the Smith River Plain, including its contribution to agricultural production and associated economic activity in Del Norte County. For instance, the total gross production value of the commercial lily bulb industry is estimated to be $7,069,000 according to the 2024 Del Norte County Crop Report. Additionally, the industry supports local employment in Del Norte County. At the same time, the Board recognizes that Tribal representatives and other community members have stated that the commercial lily bulb industry does not broadly support the local community and that the economic benefits are not shared equitably. Some of the benefits are externalized, relative to where the lily bulbs are grown and environmental and cultural impacts occur.

139) The North Coast Water Board also recognizes the social and environmental costs associated with the commercial lily bulb industry, including impacts on aquatic life, tribal uses, recreational uses, and local residents. The North Coast Water Board also acknowledges impacts to water quality from discharges separate from agricultural discharges from lily bulb agriculture, such as impacts from dairy operations. As discussed in the above Findings and EIR, the Smith River Plain provides habitat to numerous threatened and endangered aquatic species, such as coho salmon, eulachon, tidewater goby, and longfin smelt, and serves as crucial environmental trust resources for cultural, ceremonial, and subsistence beneficial uses for the Tolowa Dee-ni' Nation. Additionally, species utilizing the estuary habitat are of recreational and commercial importance. The above Findings discuss potential toxicity impacts to aquatic life from pesticide discharges and effects on reproductive health and sensory and behavioral response systems. Improperly controlled discharges may adversely impact the aquatic species themselves and connected tribal, fishing, and recreational interests. Additionally, the above Findings note the potential health concerns from pesticide or nitrates in drinking water, particularly on sensitive populations. Once pesticides or nitrate reach groundwater used for municipal and domestic supply, they are persistent and difficult to remove. Treating or replacing a contaminated drinking water source is technically challenging and costly, particularly for the small systems and private domestic wells that rely on the shallow aquifer in the Smith River Plain. As a result, preventing the discharge is substantially more practicable than remediating the source after contamination occurs. As stated above, any degradation (i.e., change in water quality from baseline conditions) from discharges regulated by this Order is expected to be limited following implementation of stringent Order provisions.

140) This Order minimizes these social and environmental costs by, among other provisions, requiring compliance with Receiving Water Limitations through the Adaptive Management framework and robust surface water monitoring to verify compliance. The water quality improvements expected to occur as a result of implementing the Lily Bulb Order are expected to create social and economic

benefits for residents of the State, members of the Tolowa Dee-Ni' Nation, tourists, business, and the local community. Although these benefits are difficult to quantify, they include: (1) protection of municipal and domestic water supply, which are sensitive to nitrate contamination; (2) protection of the Smith River's cold freshwater habitat beneficial uses, which support recreational, commercial, and subsistence fishing of Chinook salmon, coho salmon, and steelhead; (3) reduction in copper, pesticide, and nutrient loading to ecologically sensitive receiving waters including Tillas Slough and Delilah Creek; and (4) support for the long-term recovery of threatened and endangered species including Southern Oregon/Northern California coho salmon, tidewater goby, and eulachon, which are culturally significant to the Tolowa Dee-ni' Nation.

141) This permitting approach is consistent with the maximum benefit to the people of the state. In reaching this determination, the North Coast Water Board considered alternative regulatory approaches, including immediate compliance with Receiving Water Limitations and the imposition of additional discharge prohibitions. Immediate compliance or a prohibition-based approach could result in the cessation of commercial lily bulb cultivation in the Smith River Plain, because there is no demonstrated management practice that would achieve immediate and complete attainment of Receiving Water Limitations particularly for copper, which persists in field soils from decades of prior application and mobilizes during storm events regardless of current application rates. The cessation of this agricultural activity would eliminate the economic and social benefits associated with the industry and would forgo the water quality improvements achievable through a structured, enforceable, and iterative regulatory program.

At the same time, the North Coast Water Board finds that a less stringent approach would not be consistent with maximum benefit given the documented condition of the receiving waters. The receiving waters of the Smith River Plain support cold freshwater habitat, spawning and rearing habitat for federally and state-listed salmonids, Native American Culture and subsistence uses, and municipal and domestic supply. Monitoring documented in the 2025 SWAMP Report and Updates Memo demonstrates persistent exceedances of Water Quality Benchmarks, including predicted copper toxicity in approximately 30 percent of samples and repeated synthetic pesticide exceedances at Lower Delilah Creek and Tillas Slough. The sensitivity of these beneficial uses and the documented history of exceedances justify the stringency of the controls imposed by this Order, including the Streamside Area requirements, Receiving Water Limitations based on the most protective available water quality values, mandatory monitoring, and an Adaptive Management Program that escalates management practice requirements when monitoring demonstrates that initial practices are not achieving water quality objectives.

The North Coast Water Board therefore finds that the level of control imposed by this Order represents the approach most consistent with the maximum benefit to

the people of the state. This approach is expected to reduce pollutant loading from baseline conditions, particularly with respect to copper, while preserving the beneficial uses of the receiving waters and the economic and cultural values dependent upon them.

142) The Board finds this Order and the requirements herein to be, on balance, supportive of environmental and water quality benefits, local employment, and the community. For these reasons, any limited degradation that may occur as a result of Commercial Lily Bulb Operations, despite implementation of measures required by this Order, is consistent with the maximum benefit to the people of the state.

143) As detailed in above Findings, the Basin Plan assigns 20 beneficial uses to surface and ground water in the Smith River Plain. This Order protects beneficial uses by meeting water quality objectives, at a minimum, which is set as the floor of the Antidegradation Policy. Waste discharges must be reduced and water quality improved to achieve water quality objectives and protect beneficial uses. Waste discharges must not cause or contribute to exceedances of water quality objectives either immediately or through a specific time schedule.

144) The North Coast Water Board further finds that the permitted discharges will be controlled by BPTC. The North Coast Water Board cannot dictate the manner of compliance with water quality orders (Wat. Code, section 13360), and no single set of management practices is appropriate for every field. Rather, BPTC must be implemented through a combination of practices that sometimes may be site specific that will ensure that discharges meet water quality objectives and eliminate unreasonable degradation. This Order requires Farm Evaluations, Irrigation and Nitrogen Management Plans, management practice tracking, and surface and groundwater water quality monitoring and reporting that are designed to ensure that degradation is prevented or minimized and that management practices are protective of water quality. The Order relies on implementation of practices and treatment technologies that constitute BPTC/best efforts, based to the extent possible on existing data. Management measures and monitoring may be modified as data are assessed and reported and whenever site evaluations show that measures need to be improved to meet water quality standards.

5. Sources of Drinking Water Policy

145) The Sources of Drinking Water Policy (Policy) (SWRCB Resolution No. 88-63) established the principle that all surface and ground waters within the State are considered suitable or potentially suitable for the municipal and domestic supply (“MUN”) beneficial use with certain exceptions. Exceptions applicable to groundwater include: where there is contamination (unrelated to the pollution incident) that cannot reasonably be treated for domestic use; where groundwater contains total dissolved solids (“TDS”) exceeding 3,000 milligrams per liter and is not reasonably expected to supply a public water system; and where there is

insufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day.

146) The Policy acknowledges North Coast Water Boards have discretion to separately evaluate whether bodies of water are presently or potentially suitable for MUN designation. North Coast Water Boards shall also assure that the beneficial uses of municipal and domestic supply are designated for protection wherever those uses are presently being attained, and assure that any changes in beneficial use designations for waters of the State are consistent with all applicable regulations adopted by the Environmental Protection Agency

6. Human Right to Water

147) On February 16, 2016, and April 23, 2019, the State Water Board and the North Coast Water Board adopted resolutions (Resolution No. 2016-0010 and R1-2019-0024, respectively) identifying the human right to water as a top priority and core value of the State Water Board and Regional Water Quality Control Boards (collectively the Water Boards) in association with Water Code section 106.3. The resolutions stated the Water Boards will work "to preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations." This Order promotes that policy by requiring the Enrollees to meet water quality objectives, as applicable, designed to protect human health and ensure that water is safe for domestic uses.

7. Statewide Precedential Order

148) The State Water Board Irrigated Lands Regulatory Program sets forth precedential requirements for all Regional Irrigated Lands in DWQ 2018-0002 In the Matter of Review of Waste Discharge Requirements General Order No. R5-2012-0116 for Enrollees Within the Eastern San Joaquin River Watershed (Statewide Precedential Order).

149) Lily bulb cultivation is irrigated agriculture; therefore, Enrollees regulated under this Order are part of the State and North Coast Water Board Irrigated Lands Regulatory Program and subject to the Statewide Precedential Order requirements that the State Water Board designated as precedential. This Order maintains consistency with the Statewide Precedential Order requirements by including conditions related to Enrollee education events, Farm Evaluations, sediment and erosion control requirements, irrigation and nitrogen management, record keeping, groundwater quality monitoring for Enrollees, and the option for grower coalition(s). Additionally, this Order requires monitoring and reporting to verify and provide feedback on the degree and effectiveness of implementation of these precedential requirements.

150) Specifically, this Order implements Statewide Precedential Order requirements through requiring: (1) irrigation and nutrient management; (2) Drinking Water Supply Well monitoring; (3) Groundwater Trend Monitoring; (4) compliance education; and (5) Groundwater Protection Plans that include Groundwater Protection Targets as described in Section II.H of this Order.

Groundwater Protection

151) The North Coast Water Board adopted the Groundwater Basin Evaluation and Prioritization Resolution No. R1-2021-0006[5] which identifies priority groundwater basins having a relatively high threat from salts and nutrients and that would benefit from salt and nutrient management planning. The North Coast Water Board is required to update these priority basins every five years per the State Water Board Resolution No. 2009-0011, Recycled Water Policy. The Smith River Plain is categorized as a Priority 2 groundwater basin under the Groundwater Basin Evaluation and Prioritization Resolution.

152) In 2000, in response to Executive Order D-5-99, State Water Board staff created a map where published hydrogeologic information indicates soil or rock conditions that may be more vulnerable (or susceptible) to groundwater contamination: "Hydrogeologically Vulnerable Areas[54]." The map was created using Department of Water Resources (DWR) and US Geological Survey (USGS) data to identify areas where geologic conditions are more likely to allow recharge at rates substantially higher than in lower permeability or confined areas of the same groundwater basin. The Smith River Valley Groundwater Basin was included in this 2000 map.

153) The Statewide Precedential Order allows for risk-based designations, such as high and low vulnerability groundwater areas, to inform differentiation and prioritization of requirements, as opposed to uniform requirements. The Statewide Precedential Order requires certain groundwater protection provisions for areas that the North Coast Water Board designates as "high vulnerability" areas or a similar risk-based designation. These provisions include the determination of statistical outliers based on nitrogen applied and removed reporting to drive adaptive management and the certification of Irrigation and Nutrient Management Plans. Similarly, the Statewide Precedential Order requires application of a methodology designed to determine targets for nitrogen loading within high priority areas, defined as "those areas where the Executive Officer determines that irrigated agriculture may be causing or contributing to exceedances of water quality objectives or a trend of degradation of groundwater that may threaten applicable basin plan beneficial uses." The Statewide Precedential Order, recognizing that implementation approaches may need to be adapted to the specific conditions and scale of a given regulatory program, allows regional water quality control boards "with considerable discretion to design reasonable frameworks for differentiation and prioritization," as well as discretion in defining geographic areas and determining appropriate methodologies.

154) The Statewide Precedential Order amended a Central Valley Irrigated Lands Program, which covers 3,000 agricultural operations utilizing approximately 540,000 acres of irrigated lands supporting a wide diversity of crops. In contrast, lily bulb agriculture in the Smith River Plain currently encompasses a single crop, three growers, on fewer than 1,000 acres in rotation (with 160 acres planted acres in any one year). The groundwater protection framework of the Statewide Precedential Order relies on aggregated statistics requiring a critical mass of growers and are specifically designed to consider a diversity of crops. A/R ratio outlier methodology, township-scale Groundwater Protection Formulas/Values/Targets, and adaptive management (e.g., INMP certification) that is driven by outlier identification cannot be feasibly applied to 160 farmed acres per year and three growers. Instead, this Order sets a framework that tailors direction in the Statewide Precedential Order to a more granular scale while still achieving the State Board's water quality protection intentions. Specifically, the certification of INMPs and the development of Groundwater Protection Plans and Groundwater Protection Targets are based on groundwater monitoring data on the individual scale demonstrating high risk (i.e., those areas that irrigated agriculture may be causing or contributing to exceedances of water quality objectives or a trend of degradation of groundwater that may threaten applicable basin plan beneficial uses) rather than reported A/R data and associated statistical methodologies used to establish groundwater protection targets at a broader landscape-scale.

155) The Statewide Precedential Order further grants regional water boards the discretion "to determine that some or all growers…will have alternative requirements" with respect to reporting nitrogen removed. The Statewide Precedential Order establishes three conditions that must be met for this determination: growers must (1) operate in areas with evidence of no or very limited nitrogen impacts to surface water or groundwater; (2) have minimal nitrogen inputs; and (3) have difficulty measuring yield. Growers meeting these conditions may be required to report only Nitrogen Applied rather than Nitrogen Removed:

a) Regarding the first condition (evidence of no or very limited nitrogen impacts), the limited groundwater sampling data from the 2015 Smith River Plain Groundwater Interim Monitoring Report does not establish that lily bulb agriculture is a confirmed contributor to nitrate exceedances. The three samples exceeding the 10mg/L nitrate MCL have not been attributed specifically to lily bulb operations, and the Smith River Plain supports multiple land uses and potential nitrogen sources. In April 2025, North Coast Water Board staff sampled nine (9) private domestic wells within the current and historic lily bulb cultivation area in the Smith River Plain using a domestic well sampling program offered through the California Department of Pesticide Regulation. None of the sampled wells exceeded the 10 mg/L nitrate MCL and ranged from 1.8 mg/L – 5.9 mg/L. The available evidence

does not demonstrate that lily bulb cultivation is causing or contributing to widespread or confirmed nitrogen impacts to groundwater.

b) Regarding the second condition (minimal nitrogen inputs), lily bulb cultivation involves a single crop on a 3-5 year rotation with irrigated pasture. Any given lily bulb field will receive between 150-200 lb./acre of nitrogen every 3-5 years with irrigated pasture in the intervening years. Given this 160-acre annual cultivated footprint within the 1000 acres in rotation, the annualized nitrogen application across the entire lily bulb cultivation area is closer to 30-40 lbs/acre. The nitrogen inputs associated with lily bulb agriculture on approximately 160 planted acres are minimal in both absolute terms and in comparison to the scale of operations contemplated by the Statewide Precedential Order.

c) Regarding the third condition (difficulty measuring yield), lily bulb crops present inherent challenges in accurately measuring yield for calculating nitrogen removed due to the nature of bulb harvesting and the variability of bulb sizes. Bulbs are planted each year, but only some get harvested each year. Bulbs will typically get replanted until they are sized appropriately for commercial sale.

The North Coast Water Board finds that lily bulb agriculture in the Smith River Plain meets all three conditions for alternative requirements under the Statewide Precedential Order. Accordingly, this Order requires an alternate framework to reporting Nitrogen removed.

Other Precedential Requirements

160) The Statewide Precedential Order states “the requirement for implementation of sediment and erosion control practices by growers with the potential to cause erosion and discharge sediment that may degrade surface waters shall be precedential for irrigated lands regulatory programs statewide; however, the regional water boards shall continue to have discretion as to how these practices are documented and reported.” This Order is consistent with this precedential requirement by requiring all Enrollees to implement sediment and erosion control management practices on Farm Areas and Appurtenant Agricultural Roads. These practices are reported annually as part of the Annual Compliance Report.

161) Consistent with the Statewide Precedential Order’s continued support for third-party (Coalition) approaches to regulating agricultural discharges, this Order authorizes a Coalition to serve as the third-party intermediary between the North Coast Water Board and the Enrollees, performing the core functions the Statewide Precedential Order recognizes as appropriate to that role, including fee collection and remittance, grower outreach, data management, and entry of surface water quality data into CEDEN and groundwater quality data into GeoTracker. Consistent

with the precedential direction that growers retain the option not to participate in a third party, this Order allows growers to enroll individually and assume the corresponding monitoring and reporting obligations directly. The Order also preserves the data-transparency commitments the Statewide Precedential Order made precedential: management practice and monitoring data, sufficient to verify the program's progress, are reported to the North Coast Water Board; and the North Coast Water Board retains the authority to require the identity or location of individual Enrollees where it determines that information is necessary. The Order tailors the scale of the Coalition's required qualifications and the Coalition selection process to a program involving a single crop and a small number of growers. This scaling of requirements is consistent with the Statewide Precedential Order's recognition that aspects of that order, which are precedential only for full third-party programs serving large regional coalitions, do not apply to programs structured around a more limited set of third-party functions, and with the discretion the Statewide Precedential Order leaves to regional water boards to design reasonable, appropriately scaled frameworks.

8. California Environmental Quality Act

162) For the purpose of adoption of this Order, the North Coast Water Board is the lead agency pursuant to the California Environmental Quality Act (CEQA) (Pub. Res. Code §21000 et seq.).

163) On October 10, 2024, the North Coast Water Board sent a Notice of Preparation (NOP), which included an Initial Study, to public agencies and persons with potential interest in the project. Copies of the NOP and Initial Study were available for review at the North Coast Water Board Santa Rosa office. Additionally, the NOP and attached Initial Study were posted at the North Coast Water Board's webpage (http://www.waterboards.ca.gov/northcoast/) and an announcement of its availability was sent to individuals that subscribed to electronic mailing lists relevant to the proposed Lily Bulb Order. The NOP and the attached Initial Study are available online at: https://ceqanet.lci.ca.gov/2024100484

164) On October 22, 2024, the North Coast Water Board held a hybrid scoping meeting to solicit input from agencies and interested parties on issues to be addressed in the EIR. The scoping meeting included a description of the meeting purpose, proposed requirements, presented an overview of the environmental review process and preparation of the EIR, and included a public comment period.

165) During the public comment period for the Initial Study the North Coast Water Board received written and oral comments from Northcoast Environmental Center, California Farm Bureau, California Department of Fish and Wildlife, California Coastal Commission, Save California Salmon, Lily Bulb Growers (Rob Miller, Matthew Westbrook, Don Crockett), Sharon Tanner and Brian McNaughton, Native American Heritage Commission, Phoebe Lenhart, Richard Blair, Alicia Williams, Gil

Vargas, Carl Page, John Roberts, Janelle Kobalt, Josefina Barrantes (Environmental Protection Information Center), Regina Chichizola (Save California Salmon), Andrew Orahoske, Katie Rian (California Department of Fish and Wildlife), and Candice Vargas.

166) Prior to the adoption of this Order, and after considering public comment, the North Coast Water Board certified a Final Environmental Impact Report (EIR) that identifies the potential environmental impacts associated with this Order and identifies mitigation measures to reduce the potential environmental impacts.

167) This Order relies on the environmental impact analysis contained in the Final EIR to satisfy the requirements of CEQA. The Final EIR identified, disclosed, and analyzed the potential environmental impacts of the Order. The potential compliance activities undertaken by the regulated Enrollees in response to this Order fall within the range of compliance activities identified and analyzed in the Final EIR. Therefore, all potentially adverse environmental impacts of this Order have been identified, disclosed, and analyzed in the Final EIR. If it is determined that an Enrollee filing for coverage under this Order could create impacts not identified in the Final EIR, individual WDRs would be prepared for that Enrollee and additional CEQA analysis performed, which would likely tier off the Final EIR as necessary. (See Cal. Code Regs., tit.14 §15152).

168) The Final EIR evaluated the potential environmental impacts of the Order, including the implementation of reasonably foreseeable Management Practices that Enrollees could undertake to comply with the Order, together with a reasonable range of alternatives to the Project requirements that present a significant impact to Agriculture and Forestry Resources. The North Coast Water Board is the lead agency for the Project under CEQA. The Final EIR consists of the Draft EIR, revisions to the Draft EIR, the comments received on the Draft EIR during the public review period, and the North Coast Water Board's written responses to those comments. (Cal. Code Regs., tit. 14, § 15132.)

169) The Final EIR determined that implementation of the Order would result in either no impact, a less-than-significant impact, or a less-than-significant impact with mitigation incorporated, to all environmental resource areas analyzed except Agriculture and Forestry Resources. For impacts to Biological Resources, Cultural Resources, and Tribal Cultural Resources, the Final EIR identified mitigation measures, including construction timing restrictions, avoidance of sensitive habitats and historical resources, design standards for runoff control features, invasive species management, and coordination with resource agencies, that reduce the potential impacts of constructing and installing Management Practices to less than significant. These mitigation measures are set forth in Attachment E: CEQA Mitigation Measures and are incorporated as requirements of this Order.

170) The Final EIR determined that implementation of the Streamside Area requirements of the Order would result in a significant and unavoidable impact to Agriculture and Forestry Resources through the potential conversion of Prime Farmland to non-agricultural use and the potential conflict with existing Del Norte County zoning for agricultural use. This impact results because the Streamside Area requirements, consisting of a Riparian Vegetation Area in which native riparian vegetation is allowed to establish through natural succession and a Vegetated Buffer, may remove land within the setback footprint from lily bulb cultivation. The Final EIR estimated that approximately 28 acres of the Baseline Cultivation Area and approximately 132 acres of the broader Potential Cultivation Area (Prime Farmland) within the Project Area could be converted to non-agricultural use as a result of the Streamside Area requirements.

171) The Final EIR evaluated a reasonable range of alternatives to the Project requirement that results in the significant impact to Agriculture and Forestry Resources, including the No Project Alternative and the Reduced Streamside Area Setback Alternative. The No Project Alternative would avoid the agricultural conversion impact but would not meet the Project objectives of protecting and restoring beneficial uses and achieving water quality objectives. The Reduced Streamside Area Setback Alternative would lessen but not eliminate the impact to Agriculture and Forestry Resources, and would not achieve the same level of sediment and temperature protection as the Project and, therefore, would not fully comply with the Riparian Management provisions of the North Coast Water Board's Temperature Policy. The Final EIR determined that no alternative would both avoid the significant and unavoidable impact to Agriculture and Forestry Resources and fully achieve the basic objectives of the Project.

172) The Project was modified to lessen the significant and unavoidable impact to Agriculture and Forestry Resources by including a Riparian Vegetation Area Restoration Alternative. Under this alternative, an Enrollee may avoid converting the full Streamside Area to non-agricultural use by mitigating only the incremental difference between existing riparian conditions and the Riparian Vegetation Area required under the Order through the restoration and long-term protection of riparian vegetation at an alternative location within the same HUC-12 watershed. While this measure reduces the impact, it does not reduce the impact to a less-than-significant level, and no feasible mitigation is available that would both reduce the impact to less than significant and achieve the Project's water quality objectives.

173) Because implementation of the Order would result in a significant and unavoidable impact to Agriculture and Forestry Resources for which no feasible mitigation or alternative is available that would also achieve the basic objectives of the Project, the North Coast Water Board has adopted a Statement of Overriding Considerations pursuant to California Code of Regulations, title 14, sections 15092 and 15093, set forth in Resolution No. R1-2026-0036. The North Coast Water

Board has determined that the benefits of the Project, including the protection and restoration of water quality and beneficial uses of the Smith River Plain, the protection of cold freshwater and estuarine habitat for threatened and endangered species, and the protection of the tribal cultural, ceremonial, and subsistence uses, outweigh the significant and unavoidable impact to Agriculture and Forestry Resources.

174) The North Coast Water Board has independently reviewed and considered the information contained in the Final EIR and the entire administrative record. The Final EIR reflects the independent judgment and analysis of the North Coast Water Board. The North Coast Water Board certified the Final EIR as adequate and complete under CEQA, as set forth in Resolution No. R1-2026-0036. (Cal. Code Regs., tit. 14, § 15090.) The findings therein are incorporated into, and constitute, Findings for this Order.

H. Cost Considerations

175) Water Code section 13241 requires the North Coast Water Board to consider certain factors, including economic considerations, in the adoption of water quality objectives. Water Code section 13263 requires the North Coast Water Board to take into consideration the provisions of Water Code section 13241 in adopting waste discharge requirements. The following Findings discuss the anticipated cost of compliance with the Order[55]. Several assumptions were required to be made for these analyses and there are several inherent limitations and uncertainties, discussed below.

176) When establishing monitoring and reporting requirements under Water Code section 13267, the North Coast Water Board must ensure that the burden, including costs, of the reports bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. Many of the costs considered below are costs associated with the monitoring and reporting requirements of this Order. Enrollees can reduce their costs by joining a Third-Party Program for water quality monitoring and reporting in lieu of individual monitoring and reporting.

177) The monitoring and reporting requirements of this Order allows the North Coast Water Board to identify agricultural waste discharges with a higher risk of degrading water quality so that those discharges may be promptly minimized or prevented. Monitoring and reporting of nitrogen application and groundwater quality, protect human health by informing the North Coast Water Board of discharges that may affect the quality of water designated as municipal and domestic supply and by allowing assessment of the extent to which the water quality objectives are being met.

178) The North Coast Water Board needs these reports to document and ensure compliance with this Order. The North Coast Water Board finds that the burden of the requirements of the Order bears a reasonable relationship to the benefits of the requirements.

1. Cost of Compliance with the Order

179) The cost of compliance with the Order under existing conditions includes the costs associated with water quality fees, monitoring and reporting, and any management practices that may need to be implemented pursuant to the Order requirements. These costs are described further below.

Water Quality Fees

180) The State Water Board sets a Water Quality Fee Schedule, which includes agricultural and Irrigated Lands Regulatory Programs throughout the state, as specified in California Code of Regulations, title 23, section 2200.6. All enrolled Commercial Lily Bulb Operations must pay the State Water Board fees on an annual basis. Although the State Water Board fees may change from year to year, the fee categories/schedule for the 2025/2026 fiscal year are shown below.

a) If an Enrollee is a member of a group that has been approved by the North Coast Water Board or North Coast Water Board's Executive Officer to manage fee collection and payment, then the annual fee shall be $1.50 per acre for all enrolled parcels.

b) If an Enrollee is not a member of a group that has been approved by the North Coast Water Board or North Coast Water Board's Executive Officer to manage fee collection and payment, then the annual fee shall be: $37.40 per acre up to 300 acres plus $18.71 per acre over 300 acres with a minimum fee of $710.

181) In regions that have implemented Irrigated Lands Orders with Third-Party Programs or Grower Coalitions, most Enrollees have elected to enroll through those entities. Coalitions in Irrigated Lands Regulatory Programs manage fee collection, conduct representative surface and groundwater monitoring, provide compliance education, and assist Enrollees with general Order requirements. The North Coast Water Board anticipates that most Enrollees under this Order will also elect to enroll through a Coalition.

Compliance with Order Requirements

182) All Enrollees must comply with requirements to implement and adapt management practices related to sediment and erosion control; irrigation, pesticide, and nutrient management; and Streamside Area setbacks. This Order provides Enrollees

flexibility in selecting management practices and requires Enrollees to monitor and report discharges and implement management practices to minimize or prevent discharges of waste.

183) Enrollees may be required to implement improved or additional management practices, as necessary, and report on the water quality-related outcomes of their management practice implementation. Enrollees must, ultimately, implement management practices that result in compliance with the Order.

184) Management practices associated with irrigation, nutrient and pesticide use, and sediment and erosion control are already being implemented by lily bulb growers in the Smith River Plain. This may be due to requirements imposed by other regulatory agencies (e.g., pesticide tracking and reporting by the Department of Pesticide Regulation and Agricultural Commissioners) and through voluntary actions supported by the 2021 Management Plan.

185) Implementation of management practices may also have direct net cost benefits to a Commercial Lily Bulb Operation (e.g., irrigation and nutrient management can result in less fertilizer costs and reduced water/pumping costs for irrigation; sediment and erosion management minimize or prevent erosion of valuable topsoil).

186) The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) has developed standard agricultural management practices to address irrigation and nutrient management, pesticide management, and sediment and erosion control management, some of the more common of which are discussed below. Implementation of many of these practices would result in compliance with multiple requirements of the Order. Table I.5 provides estimated costs of management practices/scenarios Enrollees may implement to meet the requirements in the Order, as reported by USDA, NRCS.

a) Grassed Waterway– involves installing a shaped or graded channel with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet. Runoff is conveyed from terraces, diversions, or other water concentrations without causing erosion or flooding. Water quality is protected and/or improved. Costs range between $2,000 and $3,000 per acre.

b) Contour Farming – this practice is installed on the entire field. A survey is completed by trained and certified Federal, State, local personnel or consultant to determine and "stake" contour row arrangement. Permanent row markers are established to ensure that this practice is maintained for the life of this practice. All field operations including disking, bedding, planting, and cultivation are performed on the contour which is near perpendicular to the field slope. Costs range between $15 to $20 per acre.

c) Filter Strip – involves establishing a strip or area of herbaceous vegetation that removes contaminants from overland flow. Filter strips can be established anywhere environmentally sensitive areas need to be protected from sediment, or other suspended solids, and dissolved contaminants in runoff. Costs range between $200 to $300 per acre.

d) Integrated Pest Management (IPM) program – involves implementing a site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies. An IPM approach seeks to prevent or mitigate offsite pesticide risks to water quality from leaching, solution runoff and adsorbed runoff losses; and prevent or mitigate on-site pesticide risks to pollinators and other beneficial species through direct contact; among other goals. Costs range between $50 and $100 per acre.

e) Nutrient Management – involves managing the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments. The practice is implemented to minimize agricultural nonpoint source pollution of surface waters and groundwater, among other reasons. Costs associated with this practice include soil testing, analysis, and implementation of the nutrient management plan and recordkeeping. Costs range between $10 and $320 per acre.

f) Riparian Vegetation Buffer – involves establishment of an area of predominantly trees and/or shrubs located adjacent to and up-gradient from waterbodies. The practice may be implemented to reduce excess amounts of sediment, organic material, nutrients and pesticides in surface runoff and reduce excess nutrients and other chemicals in shallow groundwater flow; reduce pesticide drift entering the waterbody; restore riparian plant communities; create shade to lower or maintain water temperatures to improve habitat for aquatic organisms; or to provide other benefits. Costs vary based on whether riparian buffer vegetation is established through seeding, cuttings, bare-root plantings, or small or large containers. For scenarios where land is taken out of production to establish the riparian vegetation buffer, foregone income is considered. Costs range between $3,000 to $5,500 per acre.

g) Retention/Detention Basin – involves constructing a basin with an engineered outlet, formed by excavating a dugout, constructing an embankment, or a combination of both. The purpose of the retention/detention basin is to capture and detain pollutant-laden runoff, or other debris for a sufficient length of time to allow it to settle out in the basin. Costs are estimated between $6,000 to $13,000 per basin.

h) Vegetated Treatment Area – involves permanent herbaceous vegetative area or channel installed down slope from a Planted Area. Stormwater

runoff is directed into the VTA to capture dissolved pollutants. This practice addresses water quality degradation due to uncontrolled pesticide runoff that can flow into surface waters or leach into ground water. Costs are estimated between $10,000 and $12,000 per acre.

187) These potential costs were considered when the water quality protection requirements were developed for the Order.

Table I.5: Estimated Costs[56] of Management Practices/Scenarios for Water Quality Protection

Management Practice	Typical Scenario Size	Unit Cost	Total Cost (low)	Total Cost (High)
Grassed Waterway (412)	1 acre	$2000-$3000/acre	$2,000	$3,000
Contour Farming (330)	10 acres	$15-$20/acre	$150	$200
Filter Strip (393)	1 acre	$200-$300/acre	$200	$300
Integrated Pest Management (IPM) program (595)	40 acres	$50-$100/acre	$2,000	$4,000
Nutrient Management (590)	40 acres	$10-$320/acre	$400	$12,800
Riparian Vegetation Buffer (391)	1.5 acres	$3,000-5,000/acre	$4,500	$7,500
Retention Basin (638)	Basin	Each	$6,000	$13,000
Vegetated Treatment Area (635)	1 acre	$10,000-$15,000/acre	$10,000	$15,000

Monitoring and Reporting

188) All Enrollees are required to conduct surface water and groundwater monitoring and reporting either individually or as part of a Coalition effort. All Enrollees are required to report management practice implementation annually in their Farm Evaluation. Refer to Attachment A for monitoring and reporting requirements and Tables I.6-I.8 for estimated costs.

Table I.6: Estimated Cost of Surface Water Monitoring Requirements

Parameter	Cost per Sampling Event (Analytical + Materials and Labor)	Events per Year	Annual Cost per Station
Dissolved Copper	$100	3	$300
BLM Field Parameters	$50	3	$150
BLM Lab Parameters (optional)	$200	3	$600
Imidacloprid	$300	2-3*	$600-$900
Diuron	$300	2	$600
Ethoprop	$300	1	$300

**Imidacloprid is sampled three times per year if fields tributary to the monitoring station are in adaptive management for imidacloprid.*

Table I.6 estimates the total annual cost of surface water monitoring requirements (per monitoring site) given a sampling frequency specified in Attachment A: MRP. Collecting BLM lab parameters are ***optional***; Enrollees, or the Coalition, may instead use tributary-specific default values for BLM Analysis given in Table A.6 in Attachment A: Monitoring and Reporting Program. Assuming five monitoring stations, the estimated total cost for surface water monitoring is **$9,750 per year**. If the default BLM lab parameters are not used, and instead BLM lab parameters are collected, the total cost is estimated to be **$10,200 per year** across all Enrollees.

Table I.7: Estimated Cost of Groundwater Monitoring Requirements

Parameter	**Annual Cost per Sampling Event (Analytical + Materials and Labor) for Groundwater Trend or Drinking Water Supply Well**
Nitrate	$110
Pesticides (diuron, imidacloprid, mefenoxam, and napropamide)	$300 per pesticide

Table I.7 estimates the cost of Groundwater Monitoring Requirements on a per well basis. Each Enrollee selects one representative well for Groundwater Trend Monitoring and all Drinking Water Supply wells that are on an enrolled parcel. Nitrate must be monitored annually at each well for three years, after which, frequency may be reduced to once every three years. Enrollees must also analyze for pesticides that have been applied on enrolled parcels in the last five years. Assuming that all three Groundwater Trend Monitoring Wells and at least two additional Drinking Water Supply Wells will need to monitor for at least two pesticides, the estimated total cost of Groundwater Monitoring Requirements is **$3,550 per year** across all Enrollees.

Technical Reports and Planning Documents

189) As part of Order compliance, Individual Enrollees and Coalitions on behalf of their enrolled members are required to submit an Annual Compliance Report which includes annual management practice reporting and annual water quality monitoring results. For Fields in the Adaptive Management Program, the Order requires additional planning documents such as Certified Water Quality Management Plans and Groundwater Protection Plans. The estimated costs of Reporting and Planning documents are included in Table I.8:

Table I.8: **Estimated Annualized Technical Reports and Planning Document Costs Over Five Years**

Task	**Cost Estimate**	**Requirements**
Annual Compliance Report	$12,500 per year	Includes annual management practice reporting and annual water quality monitoring results.
Water Quality Management Plan (WQMP) for Surface Water	$10,000-$20,000 per plan	Enrollee or Coalition must submit a WQMP as part of Adaptive Management requirements that quantifiably demonstrate that practices implemented will meet Receiving Water Limitations of Order. Note: cost estimate includes WQMP development only. See Table I.5 for estimates of implementing management practices for water quality protection.
Groundwater Protection Plan	$10,000-$20,000 per plan	Enrollee or Coalition must submit a Groundwater Protection Plan as part of Adaptive Management requirements that quantifiably demonstrate that practices implemented will meet Receiving Water Limitations of Order. Note: cost estimate includes WQMP development only. See Table I.5 for estimates of implementing management practices for water quality protection.
Hydrogeological Evaluation of Groundwater Impacts	$10,000-$20,000 per technical report	Enrollee or Coalition must submit a determination of parcels that may be causing or contributing to exceedance of Receiving Water Limitations in groundwater monitoring well.

I. Enforcement for Noncompliance

190) It is the policy of the State Water Board that every violation results in the appropriate enforcement response consistent with the priority of the violation established in accordance with the State Water Board Water Quality Enforcement Policy. This Policy acknowledges that enforcement prioritization enhances the Water Boards' ability to leverage their scarce enforcement resources and to achieve the general deterrence needed to encourage the regulated community to anticipate, identify, and correct violations. To that end, the Water Boards rank violations, then prioritize cases for discretionary enforcement action to ensure the most efficient and effective use of available resources.

191) The first step in enforcement prioritization is to determine the relative significance of each violation or series of violations at a particular facility. Significance should be determined by analyzing the severity of impacts to beneficial uses, the level of disregard for regulatory program requirements, and deviation from applicable water quality control plan standards or permit or order conditions. Class A priority violations are those violations that potentially pose an immediate and substantial threat to beneficial uses and/or that have the potential to cause significant detrimental impacts individually or cumulatively to human health or the environment.

192) The second step in enforcement prioritization involves establishing case priorities for discretionary enforcement actions against specific individual entities, and determining the appropriate remedial tool. Discharges identified as Class A will be further analyzed for the extent of impact to beneficial uses when regional water boards prioritize cases and determine whether and how to proceed with enforcement.

The State Water Board Water Quality Enforcement Policy re-affirms the principle of progressive enforcement. Progressive enforcement is an escalating series of actions that allows for the efficient and effective use of enforcement resources to: (1) assist cooperative Enrollees in achieving compliance; (2) compel compliance for repeat violations and recalcitrant violators; and (3) provide a disincentive for noncompliance. Progressive enforcement may begin with notification of violations and compliance assistance, followed by enforcement orders compelling compliance, culminating in a complaint for civil liabilities. Progressive enforcement is not appropriate in all circumstances and is not considered a requirement when swift or immediate enforcement is needed or justified to address a particular violation.

193) Any instance of noncompliance with this Order constitutes a violation of the Water Code. Such noncompliance is grounds for enforcement action, and/or termination of coverage for waste discharges under this Order, subjecting the Enrollee to enforcement under the Water Code for further discharges of waste to surface or

groundwater. Possible violations of Water Code section 13260 include failure to obtain required regulatory coverage. Possible violations of this Order include but are not limited to: failure to implement Order requirements; failure to implement adaptive management; failure to comply with receiving water limitations within the discrete time schedule; falsifying information or intentionally withholding information required by applicable laws, regulations, or an enforcement order; failure to monitor or provide complete and accurate information as required; failure to pay annual water quality fees; or failure to submit required reports on time.

J. General Findings

194) Failure to prevent conditions that create or threaten to create pollution or nuisance will be sufficient reason to modify, revoke, or enforce this Order, as well as prohibit further discharge.

195) Water Code section 13260 subdivision (d) requires persons subject to waste discharge requirements to pay any annual fee established by the State Water Board.

196) The Executive Officer may make non-substantive changes to this Order to correct typographical errors or to maintain consistency within this Order or between the Order and its Attachments, e.g., to conform changes made during this Order development process that were inadvertently not carried through this entire Order. The Board will provide public notice of the non-substantive changes.

197) The Findings of this Order and the administrative record of the North Coast Water Board relevant to the General Waste Discharge Requirements for Lily Bulb Cultivation, were considered in establishing these waste discharge requirements.

II. Requirements

IT IS HERBY ORDERED that pursuant to Water Code sections 13260, 13263, and 13267, the Enrollee, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

Enrollees shall comply with all prohibitions, specifications, provisions, and other requirements described below unless otherwise noted.

A. Coverage Requirements

Requirements for Coverage

1) These General WDRs apply to discharges or potential discharges of waste from Commercial Lily Bulb Operations in the Smith River Plain (defined as the Smith River Hydrologic Subarea and the coastal terraces between Pyramid Point and the Oregon border) as described in Section I: Findings. Owners and/or operators of Commercial Lily Bulb Operations in the Smith River Plain are required to seek coverage under this Order.

2) An Enrollee may obtain coverage under this Order either individually or by enrolling in an approved Coalition. By joining a Coalition, the Enrollee agrees to be represented by the Coalition. Any Order requirements not fulfilled by the Coalition are the responsibility of the Enrollee. Consistent with the Water Board's Policy for Implementation and Enforcement of the NPS Policy, Enrollees are ultimately responsible for Order compliance, independent of the status of compliance measures being taken by Coalitions.

Obtaining Coverage and Electronic Notice of Intent

3) Owners or Operators meeting the Coverage Requirements above are required to submit an electronic Notice of Intent (eNOI) (see Attachment F: Forms and Templates) pursuant to Water Code section 13260 to enroll in this Order. Submittal of all other technical reports pursuant to this Order is required pursuant to Water Code section 13267. Failure to submit technical reports or the attachments in accordance with the timeframes established by this Order, applicable Monitoring and Reporting Program (MRP) documents, or failure to submit a complete technical report (i.e., of sufficient technical quality to be acceptable to the Executive Officer); may subject the Enrollee to enforcement action pursuant to Water Code sections 13261, 13268, or 13350. Enrollees and Coalitions must submit technical reports in the format specified by the Executive Officer.

4) To obtain coverage under these General WDRs, Enrollees must submit an eNOI form with all required information including but not limited to: Assessor Parcel

Numbers (APNs) covered by enrollment; Landowner(s); Operator(s); Contact information; and Coalition membership, if applicable.

5) eNOIs shall be updated within 30 days of a change in property ownership, Enrollee contact information, email contact information, or change in the parcels farmed by an Enrollee.

6) Property owners or operators shall complete an eNOI and enroll in the Order either individually or through an approved Coalition by **March 1, 2027**. If the North Coast Water Board determines that coverage under this Order is not appropriate for any property owner or operator, the Executive Officer will inform the party in writing and may request that the party submit a Report of Waste Discharge (ROWD) to obtain an individual permit for the discharge of waste.

7) Coverage under this Order is not transferable to any person except after the completion of a new eNOI and submittal to the North Coast Water Board, and written approval by the North Coast Water Board's Executive Officer.

8) This Order regulates both landowners and operators but does not require enrollment by both parties. If the Enrollee is not the landowner, the Enrollee shall provide written notice of the Order and its requirements to any landowner whose parcel is covered by this Order. Both landowners and operators are responsible for complying with the requirements of this Order, regardless of whether the landowner or the operator is the enrolled party.

Termination of Coverage

9) Enrollees may terminate coverage under this Order by providing a 30-day written notice to the North Coast Water Board's Executive Officer and, if applicable, notice to the Coalition. At a minimum, the written notice must include the reason for terminating coverage (e.g., transfer of ownership, Enrollee applied for and obtained individual WDRs, discharge was discontinued, etc.). The Enrollee shall continue to comply with this Order until the North Coast Water Board notifies the Enrollee in writing that coverage has been terminated. Termination of coverage must occur prior to **July 1st** of each year to avoid billing in the next fiscal year.

10) For Enrollees enrolled through a Coalition, coverage under this Order is automatically terminated if confirmation of membership in the Coalition is not received from the Coalition during the annual Participant List submittal required by Attachment A: MRP, or if the Coalition indicates that the Enrollee is no longer enrolled through the Coalition. To obtain individual coverage, the Enrollee shall re-submit an eNOI.

11) Any instance of noncompliance with this Order is grounds for enforcement action, and/or termination of coverage for waste discharges under this Order, subjecting

the Enrollee to enforcement under the Water Code for subsequent discharges of waste to surface or groundwater.

Fees

12) Enrollees shall pay an annual water quality fee to the State Water Board in compliance with the WDRs fee schedule set forth in California Code of Regulations, title 23, section 2200.6. The Coalition is responsible for collecting these fees from their enrolled members and submitting fees to the State Water Board.

13) A Coalition may require its enrolled Members to pay any relevant fees necessary to comply with monitoring and reporting conditions of this Order or comply with monitoring and reporting requirements individually.

B. Prohibitions

1) Discharge of waste from Commercial Lily Bulb Operations in a manner or location other than that described in the Findings of this Order or the Notice of Applicability (NOA) is prohibited.

2) Discharge of waste classified as “hazardous,” as defined in California Code of Regulations, title 23, section 2521, or classified as “designated,” as defined in Water Code section 13173, is prohibited.

3) The discharge of waste (e.g., fertilizers, fumigants, pesticides) into groundwater via backflow through a water supply well or down a groundwater well casing is prohibited.

4) Discharge of debris, soil, silt, sand, bark, plant waste, sawdust, rubbish, refuse, oil or petroleum products, or other organic/earthen material or solid waste from any Commercial Lily Bulb Operation in quantities that are deleterious to beneficial uses or that violate Receiving Water Limitations is prohibited. Additionally, none of the materials listed above shall be stockpiled within the Streamside Area, or where wastes could be discharged into surface waters.

5) The use of soil amendments containing septage, liquid waste oil, grease, hazardous waste, or municipal solid waste, except for biodegradable waste meeting the definition of “compost” as defined in Public Resources Code section 40116 is prohibited.

C. Receiving Water Limitations

1) Wastes discharged from Commercial Lily Bulb Operations in the Smith River Plain, including sediment, pesticides, and nutrients, shall not cause or contribute to an exceedance of applicable water quality objectives for surface waters or

groundwater, unreasonably affect applicable beneficial uses, or cause or contribute to a condition of pollution, contamination, or nuisance (as defined in Water Code §13050). Applicable water quality objectives include but are not limited to objectives for chemical constituents, including promulgated maximum contaminant levels (MCLs), pH, sediment, turbidity, and narrative objectives for pesticide and toxicity[57]. The Basin Plan narrative water quality objectives for toxicity and pesticides are implemented through numeric interpretations established by the Water Quality Benchmarks for surface water and groundwater set forth in Tables I.3 and I.4 of these Findings.

2) Receiving Water Limitations are effective immediately except where an Enrollee is implementing an approved Water Quality Management Plan or Groundwater Protection Plan under the Adaptive Management Program for a specified parameter in accordance with an approved time schedule authorized pursuant to Section H of this Order.

D. Management Practice Requirements

1) Enrollees shall implement Management Practices to prevent, minimize, or eliminate the discharge of waste to surface waters and groundwater and to achieve compliance with Receiving Water Limitations of this Order (Section II.C). Management Practices may be implemented on an individual farm, Enrollee, or Field[58] basis, or collectively over multiple farms or Fields to serve multiple Enrollees discharging to a common location.

2) All Enrollees shall, at a minimum, implement Management Practices necessary to:

    a) Prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads;

    b) Prevent, minimize or eliminate the discharge of all agricultural [59] pollutants to surface waters and groundwater;

    c) Prevent, minimize, or eliminate overapplication of nitrogen and the percolation of nitrogen into groundwater;

    d) Protect wellheads from surface water intrusion; and

    e) Implement proper handling, storage, disposal, and management of fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals.

    Enrollees may refer to Attachment B: Management Practices for a representative menu of applicable Management Practices to achieve the water quality management goals outlined above. Alternatively, Enrollees may propose and implement Management Practices that are effective at addressing the water quality

management goals listed above.

3) To eliminate, minimize, or reduce the discharge of sediment, Enrollees shall prioritize all Controllable Sediment Discharge Sources[60] for implementation of practices, maintenance, and repair.

4) All Management Practices shall be properly designed, installed[61], maintained, and promptly repaired to prevent, minimize, or eliminate the discharge of waste. Maintenance of management practices shall include their periodic inspection to evaluate effectiveness and prioritize repair.

5) When effectiveness evaluation, monitoring data, or inspections indicate that the implemented management practices have not been effective in preventing discharges from causing or contributing to exceedances of Water Quality Benchmarks or from violating Receiving Water Limitations in Section II.C, Enrollees must improve or implement additional management practices, as specified in Section II.H Adaptive Management.

6) Enrollees shall comply with applicable mitigation measures in Attachment E: CEQA Mitigation Measures during construction of Ground-Disturbing Management Practices. These mitigation measures shall be reported in accordance with the reporting requirements of Attachment A: Monitoring and Reporting Program.

7) Enrollees shall report all management practices annually in a Farm Evaluation in accordance with Attachment A: Monitoring and Reporting Program. Enrollees shall annually certify in their Farm Evaluation that maintenance and periodic inspection of management practices were completed. A copy of the Farm Evaluation shall be maintained at the Enrollee's primary place of business and shall be submitted to North Coast Water Board staff on request. The Coalition is required to submit Farm Evaluation information to the North Coast Water Board on request.

E. Streamside Area Requirements

1) For the purposes of this Order, a Streamside Area is comprised of two contiguous components: a Riparian Vegetation Area and a Vegetated Buffer in which different requirements are applied. A Streamside Area is defined as the area between the waterside edge of vegetation at ground level[62] and where the field-side edge of the Vegetated Buffer meets the Farm Area. The Riparian Vegetation Area extends from the waterside edge of vegetation to the Vegetated Buffer in Perennial and Ephemeral/Intermittent Streams. The Vegetated Buffer is measured from the Riparian Vegetation Area to the Farm Area along Perennial and Ephemeral/Intermittent Streams, and from the waterside edge of vegetation in Hydrologically Connected Undesignated Channels, Unfarmed Wetlands, and Hydrologically Connected Lakes, Ponds, or On-Stream Reservoirs. Enrollees may refer to Section IV of Attachment D: Methodologies and Procedures for an example

of a Streamside Area.

2) Enrollees shall refer to Table II.1 in determining widths for implementation of Streamside Area management practices.

Table II.1: Streamside Area Minimum Horizontal Width (feet) as Measured from Waterside Edge of Vegetation

Streamside Area component	Perennial Stream	Ephemeral/ Intermittent Stream	Hydrologically Connected Undesignated Channel	Unfarmed Wetland[63]	Hydrologically-Connected[64] Lake, Pond, or On-Stream Reservoir
Riparian Vegetation Area	25	15	N/A	N/A	N/A
Vegetated Buffer	25	10	10	50	50
Total Streamside Area width	50	25	10	50	50

Riparian Vegetation Requirements

3) Enrollees shall implement the following management practices in the Riparian Vegetation Area of all Streamside Areas:

   a) Allow the natural establishment and abundance of native riparian vegetation to minimize or prevent discharge of sediment, nutrients, and excess temperature to surface water.

   b) Existing riparian vegetation may not be removed for activities appurtenant to the lily bulb operation except for: (1) restoration and planting of vegetation that is native to California and naturally occurs in the local HUC-8 watershed; (2) work necessary for protection of public health or safety, including fire fuel management as required by California Fire Code section 304.1.2. and/or local ordinances; (3) streamside area restoration outside of jurisdictional waters of the United States or waters of the State[65], or (4) removal of riparian vegetation as part of necessary maintenance of existing watercourse crossings[66] and linear utilities, control of invasive species, and permitted surface water diversions[67]; or (5) other restoration and/or maintenance projects subject to the prior approval of the Executive Officer.

c) Allow essential functions supporting beneficial uses such as sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading (e.g., to achieve site potential effective shade[68]).

Vegetated Buffer Requirements

4) Enrollees shall install and/or maintain[69] Vegetated Buffers to minimize or prevent discharges of sediment and nutrients to surface waters. Vegetated buffers shall be the minimum width (feet) listed in Table II.1 and shall be measured from the Riparian Vegetation Area to the Farm Area along Perennial and Ephemeral/Intermittent Streams, and from the Waterside edge of vegetation to the Farm Area in Hydrologically Connected Undesignated Channels, Unfarmed Wetlands, and Hydrologically Connected Lakes, Ponds, or On-Stream Reservoirs.

5) The following activities are not allowed within a Vegetated Buffer:

   a) Construction and/or installation of new permanent structures appurtenant to lily bulb operations. (e.g., agricultural roads and buildings). Maintenance and/or reconstruction of existing permanent structures within the existing footprint is allowed.

   b) Storage of chemicals, oil, or petroleum products.

   c) Placement of construction materials, trash rubbish, refuse, plant waste, or other organic or earthen material or solid waste.

6) Vegetated buffers may be used for vehicle, or equipment use and turn around provided Enrollees manage and maintain a minimum of 90 percent vegetated cover on Vegetated Buffers between **October 1- June 15** of each year to minimize, control, or prevent discharges of sediment, nutrients, and pesticides to surface waters.

Riparian Vegetation Area Restoration Alternative

7) In lieu of meeting the Riparian Vegetation Area minimum widths for Perennial and Ephemeral/Intermittent streams in Table II.1, an Enrollee may mitigate the difference in area available for natural succession of riparian vegetation between riparian vegetation existing at the date of Order adoption and Table II.1 requirements. Mitigation must be accomplished through restoration and protection of native riparian vegetation at another location within the same sub-watershed (HUC-12) with similar or greater ecological value and function.

8) The proposed Restoration Area (length and width) shall be no less than 200 percent of the difference between existing Riparian Vegetation Area and Table II.1 requirements. The proposed Restoration Area shall be placed into a conservation

easement with sufficient financial resources to fund 20 years of riparian vegetation maintenance and replacement of vegetation that does not survive.

9) Enrollees choosing this option shall implement restoration and protection within the Restoration Area(s) and have the Restoration Area(s) placed within a conservation easement within five years of the date of Order adoption.

10) Enrollees selecting a Riparian Vegetation Area Restoration Alternative must submit a proposal to the Executive Officer for review and approval by **February 1, 2028.** The proposal must include all information necessary to indicate that the proposed Restoration Alternative will satisfy the above requirements. Restoration projects that discharge materials or pollutants into waters of the state must be authorized by the North Coast Water Board prior to implementation through an applicable permitting program (e.g., 401 Water Quality Certification).

F. Compliance Education

1) Enrollees shall participate in compliance education[70] annually that focuses on: (1) actions necessary to attain compliance with the water quality goals of this Order; and (2) practices to prevent or minimize the discharge of sediment, pesticides, and nutrients to surface water and groundwater. Enrollees shall document annual compliance education in the Farm Evaluation as specified in Attachment A: Monitoring and Reporting Program

G. Monitoring and Reporting Requirements

1) Enrollees shall comply with all monitoring requirements specified in Attachment A: Monitoring and Reporting Program (MRP). Required monitoring includes Drinking Water Supply Well Monitoring, Surface Water Monitoring, and Groundwater Trend Monitoring, as applicable. Monitoring may be conducted at the individual or Coalition level as applicable, and shall be conducted in accordance with the methods, frequencies, and locations specified in the MRP.

2) Enrollees shall comply with all reporting requirements specified in Attachment A: Monitoring and Reporting Program (MRP) which includes submission of an Annual Compliance Report, consisting of management practice information and water quality data. Enrollees participating in an approved Coalition may satisfy reporting obligations through the Coalition, which shall submit required reports on behalf of its members.

3) The North Coast Water Board's Executive Officer may require the Coalition to provide direct reporting data for its Enrollee members upon request. The Coalition shall provide this information within 30 days of the request.

H. Adaptive Management Program

Surface Water Adaptive Management Program

1) The Adaptive Management Program for surface water establishes an iterative process to ensure surface water quality conditions achieve Receiving Water Limitations (Section II.C of this Order) within a certain time schedule. Adaptive Management requirements apply to lily bulb Fields within a crop production cycle, defined as any period in which the Field is not in permanent pasture (≥90 percent ground cover). A crop production cycle includes field preparation, bulb growing, harvesting, and the post-harvest period until permanent ground cover is re-established.

2) Field(s) may be temporarily exempted from the Adaptive Management Program requirements in the years that they are planted to hay crops, forage, fallowed, or used for grazing) and the pesticides for which Adaptive Management was triggered are not applied. Applicable Field(s) shall be subject to Adaptive Management in the next year they undergo a crop production cycle (e.g., experience ground disturbing activities to prepare fields for planting, get planted to lily bulbs and undergo cultivation activities, or apply the applicable pesticide(s)). Adaptive Management Program requirements apply until after the fields have been harvested and are maintaining 90% or greater planted ground cover.

3) At any point during implementation of the Adaptive Management Program, an Enrollee may elect to implement an individual Sampling Plan to directly demonstrate that applicable Water Quality Benchmark(s) identified in Table A.5 of Attachment A: MRP for the exceeded parameter are being met at Edge-of-Field Discharge Point(s) when the Field is next planted to lily bulbs to exempt that Field from Adaptive Management requirements. If this option is selected, the Enrollee shall follow all applicable monitoring and reporting requirements as outlined in Attachment A: MRP.

4) The Executive Officer may require any Enrollee or group of Enrollees to enter, or stay in, the Adaptive Management Program where there is evidence that a Field is threatening to discharge waste. Upon notification by the Executive Officer, Enrollee(s) shall follow the general Adaptive Management Program outlined below.

5) The Adaptive Management Program is activated when a Water Quality Benchmark as identified in Table A.5 of Attachment A: Monitoring and Reporting Program (MRP) is exceeded at a downstream monitoring station. Table A.3 and Figure A.1 in Attachment A: MRP identify the tributary area associated with each downstream monitoring station. Upon activation or continuation of the Adaptive Management Program, all Fields planted to lily bulbs at the time the sample was collected and located within the tributary area of the affected monitoring station shall be subject to the Adaptive Management Program.

6) Samples collected from monitoring stations downstream of lily bulb agriculture have already exceeded Water Quality Benchmarks as documented in the 2021–2024 Smith River Plain Surface Water Monitoring Study and reported in the 2025 SWAMP Report and Updates Memo (see Findings #62-65). All Fields identified in Figure 2 in Appendix II and identified by corresponding Field ID and Coordinates of Field Centroid in Table II.2 below shall enter **Tier 1 Adaptive Management** for the parameter(s) listed upon enrollment in this Order. If any portion of a Field identified in Figure 2 in Appendix II and Table II.2 is reconfigured or split into a new or multiple Field(s), those new or reconfigured Fields will also be subject to Adaptive Management. Enrollees shall comply with Tier 1 Adaptive Management requirements during the first year each applicable Field is planted to lily bulbs.

Table II.2: Field Centroid Coordinates (Latitude/Longitude of Field Midpoint) and Tier 1 Adaptive Management Parameters Assigned at Enrollment, by Field ID (see Figure 2 in Appendix II for the corresponding map)

Field ID	Parameter(s)	Coordinates of Field Centroid
1	Imidacloprid and Copper	41.940018, -124.169381
2	Imidacloprid and Copper	41.938090, -124.167125
3	Imidacloprid and Copper	41.937427, -124.164305
4	Copper	41.936583, -124.167501
5	Imidacloprid and Copper	41.935270, -124.164809
6	Imidacloprid and Copper	41.935095, -124.163398
7	Copper	41.934979, -124.160966
8	Imidacloprid and Copper	41.933375, -124.157541
9	Imidacloprid and Copper	41.933038, -124.154134
10	Copper	41.936718, -124.177129
11	Copper	41.934973, -124.174627
12	Copper	41.934438, -124.171844
13	Copper	41.933431, -124.166763
14	Imidacloprid and Copper	41.931173, -124.163775
15	Imidacloprid and Copper	41.931852, -124.161803
16	Copper	41.931393, -124.159942
17	Copper	41.931188, -124.157065
18	Copper	41.930677, -124.154376
19	Imidacloprid and Copper	41.931652, -124.173489
20	Imidacloprid and Copper	41.931666, -124.170372
21	Copper	41.930074, -124.160475
22	Imidacloprid and Copper	41.930103, -124.177521
23	Copper	41.929683, -124.172092
24	Imidacloprid and Copper	41.929684, -124.167433
25	Copper	41.928954, -124.165004
26	Imidacloprid and Copper	41.928936, -124.163461

Field ID	Parameter(s)	Coordinates of Field Centroid
27	Imidacloprid and Copper	41.928871, -124.160531
28	Imidacloprid and Copper	41.929039, -124.157253
29	Imidacloprid and Copper	41.928097, -124.175349
30	Copper	41.927750, -124.167726
31	Imidacloprid and Copper	41.927344, -124.163367
32	Imidacloprid and Copper	41.927391, -124.160144
33	Imidacloprid and Copper	41.927437, -124.157337
34	Copper	41.925605, -124.158192
35	Copper	41.899794, -124.144167
36	Copper	41.897704, -124.138684
37	Copper	41.896020, -124.138481

7) Receiving Water Limitations are effective immediately except where an Enrollee is implementing an approved Water Quality Management Plan under the Adaptive Management Program. The Adaptive Management Program functions as a time schedule ending with Tier 2 implementation (described below), after which continued Water Quality Benchmark exceedances may constitute a violation of Receiving Water Limitations of this Order.

8) Enrollees shall implement the tiered Adaptive Management framework described below and in Table II.3 for each parameter that exceeds a Water Quality Benchmark. Upon an initial Benchmark exceedance, applicable Fields shall enter Tier 1 Adaptive Management and be subject to Tier 1 requirements during the next crop production cycle. If no Benchmark exceedance occurs during a monitoring year in which the Field is planted to lily bulbs, the Field shall no longer be subject to the Adaptive Management schedule; however, Tier 1 management practices shall be maintained in all subsequent crop production cycles.

   If, at any time while a Field is subject to Tier 1 requirements, an additional Water Quality Benchmark exceedance occurs at the downstream monitoring station for the same parameter, the Field shall be subject to Tier 2 requirements during the next crop production cycle. Tier 2 requirements shall be maintained in all subsequent crop production cycles. Any Water Quality Benchmark exceedance occurring after Tier 2 requirements have been implemented may constitute a violation of Receiving Water Limitations of this Order. See Attachment D: Methodologies and Procedures for an Adaptive Management flowchart that describes this process.

Table II.3: Adaptive Management Tier Requirements for Surface Water

Adaptive Management Tier	Tier Requirements
Tier 1: Initial Water Quality Benchmark Exceedance	**Option 1 — Grower-Prepared Water Quality Management Plan (WQMP)** The Enrollee develops and implements a WQMP that incorporates **at least one** of the following practices on each Field covered by the plan: • Treat-and-Control Management Practices • Watercourse Setback • Pesticide Application Performance Standard **Option 2 — Certified WQMP** A **Qualified Professional** designs and certifies the WQMP, including a **quantitative demonstration** that the practices implemented on each Field will be sufficient to ensure that discharges from the Field do not exceed Receiving Water Limitations at the downstream monitoring location.
Tier 2: Subsequent Water Quality Benchmark Exceedance	**Certified WQMP**

Grower-Prepared WQMP

9) Enrollees may choose, as one of two Tier 1 Adaptive Management compliance options, to develop and implement a Grower-prepared WQMP. The Grower-prepared WQMP must be submitted by **January 1st** to the Executive Officer for review and approval in the calendar year that the Field will be entering its next crop production cycle[71]. Once approved, the Grower-prepared WQMP must be implemented in the year that the Field is planted to lily bulbs. At a minimum, the Grower-prepared WQMP shall identify the pollutant exceeding the Receiving Water Limitations in Section II.C of this Order and include the following:

    a) Field Map: A map of the Field(s) with all irrigation and stormwater discharge locations labeled. The WQMP may cover all Fields or be submitted for individual Fields. The Field Map shall identify where practices will be implemented in each Field.

b) Practices Identified: For each Field covered by the Grower-prepared WQMP, the Enrollee shall identify and implement at least **one** of the following management practices:

i) Treat and Control Management Practices: Implement Management Practice(s) that will minimize or eliminate the discharge of the exceeded parameter from the Field. Tier 1 Management Practices treat[72], divert, infiltrate, reuse, contain, retain, or reduce the volume of storm water runoff from a given Field.

ii) Watercourse Setback: Fields that are hydrologically connected to receiving waters may implement a Watercourse Setback[73]. The setback shall be measured from the watercourse at the waterside edge of vegetation at ground level[74] and shall meet the minimum width to the Planted Area of the lily bulb Field that is designated in Table II.4 by watercourse type. If selected, this setback must be implemented at all edges of a planted Field that drain to the watercourse. The Watercourse Setback shall maintain at least 90 percent ground cover between **October 1 and June 15** and follow all applicable design and maintenance standards consistent with NRCS practices for conservation cover and critical area planting[75].

Table II.4. Required Widths of Vegetated Watercourse Setback by Watercourse type

Perennial Stream	Ephemeral/ Intermittent Stream	Hydrologically Connected Undesignated Channel
100 ft	100 ft	30 ft

iii) Attainment of Active Ingredient Application Performance Standard: Enrollees may refer to Table II.5 to meet tributary- and parameter-specific performance standards for active ingredient application amount. The attainment of the active ingredient application rate must be met at the tributary level. If the Enrollee elects this option for Adaptive Management Compliance, the application amount shall be reported in the Annual Compliance Report (See Attachment A: MRP). Where multiple growers are applying pesticides within the tributary are to a given monitoring station, the performance standard application amount is prorated based on total lily bulb acres cultivated.

Table II.5: Annual Active Ingredient Application Amount (lbs./year) Performance Standard by Monitoring Station

Active Ingredient and Normalized Rate by Monitoring Station Tributary Area	**Tillas Slough** (downstream of Delilah Creek)	**Delilah Creek**	**Rowdy Creek**	**Morrison Creek at Morrison Slough**	**Mello Creek*** **optional sampling, see Section III.A in Attachment A: MRP for details*	**Kamph Park Creek**
Elemental Copper (0.5 lbs./acre/year)	1003	447	10877	1097	203	70
Imidacloprid (0.01 lbs./acre/year)	20	89	22	21.9	4	1.4
Diuron (0.05 lbs./acre/year)	100	45	1088	110	20	7
Ethoprop (0.3 lbs./acre/year)	602	268	6526	658	122	42

Certified WQMP for Surface Water

10) The Certified WQMP is developed as an Adaptive Management response to results from Surface Water Monitoring. The Certified WQMP includes management practices designed to address specific constituents of concern in a manner that accounts for the characteristics and conditions of each individual lily bulb Field or operation. It provides a quantitative demonstration that the management practices implemented will result in discharges, or the lack thereof, that achieve applicable Water Quality Benchmarks in surface waters. The Certified WQMP may be submitted individually or submitted by the Coalition on behalf of multiple Enrollees.

11) Each Certified WQMP shall be prepared under the direction of, and certified by, a Qualified Professional. The Certified WQMP shall be submitted by **January 1** to the Executive Officer for review and approval in the year that the applicable Field(s) is entering its next crop production cycle.

12) The Certified WQMP shall describe and provide a schedule for the implementation of management practices to meet the Receiving Water Limitations of this Order.

13) At a minimum, the Certified WQMP shall identify the pollutant exceeding the applicable Water Quality Benchmark and include:

    a) Field Map: A map of the Field(s) with all irrigation and stormwater discharge

locations labeled The Certified WQMP may cover multiple Fields or individual Fields, as applicable.

b) Site Analysis: A description of the average frequency of crop rotation and other crop(s) or uses of Field(s) when not planted to lily bulbs and all management practices being implemented on the site to prevent, minimize, or eliminate the discharge of the exceeded constituent.

c) Adaptive Management: All the management practices that will be implemented on the Field(s) in the next year it is planted to lily bulbs. Management practices must be improved in each subsequent year adaptive management is required.

d) Quantitative Demonstration: The assessment shall evaluate the location, size, and pollutant reduction capacity or volume retention capacity of each management practice for the 1-inch 24-hour storm under wet antecedent moisture conditions (AMC III[76]). The quantitative demonstration shall be supported by water quality data collected in the field that directly reflects the performance of the implemented management practices under actual operating conditions. Supporting water quality data shall not rely solely on literature reviews, modeling assumptions, or generalized performance estimates, but must include monitoring results sufficient to demonstrate that the implemented practices are effective at reducing pollutant loads and achieving water quality benchmarks. Edge-of-Field sampling may be used but is not required. For example, in lieu of Edge-of-Eield sampling, a Certified WQMP may include monitoring results from receiving waters located upstream and downstream of the lily bulb Field (monitoring locations subject to approval by the Executive Officer).

e) Effectiveness: The Certified WQMP shall include an effectiveness monitoring plan to ensure the proper maintenance and continued performance of all existing and future management practices.

f) Schedule of Implementation: The Certified WQMP shall include a schedule of management practice implementation not to exceed two crop production cycles of the Field, unless otherwise approved by the Executive Officer.

14) The Certified WQMP must be prepared and certified in one of the following ways:

a) The WQMP is developed and certified by a Qualified Professional and submitted as part of the Annual Compliance Report to the North Coast Water Board; or

b) The WQMP is prepared and certified in an alternative manner to a Qualified Professional and approved by the Executive Officer. Such approval will be

provided based on the Executive Officer's determination that the alternative method for preparing the WQMP meets the objectives and requirements of this Order.

15) The Certified WQMP shall be submitted to the Executive Officer for review and approval. Upon approval, the Enrollee shall implement the Certified WQMP on a continuous basis. The Certified WQMP shall be updated if there is a change to site configuration or management practices. The Executive Officer may require that the Certified WQMP be updated at five-year intervals and shall notify the Enrollee at least one year prior to the end of each five-year period if an update is required. Any required update shall be certified by a Qualified Professional and shall describe all additional management practices implemented to achieve Receiving Water Limitations.

Groundwater Adaptive Management

16) The Adaptive Management Program is activated for impacts to groundwater quality based on the following conditions:

    a) There is a statistically significant increasing trend over 3 years of any groundwater monitoring parameter in a Groundwater Trend Monitoring or Drinking Water Supply Well; or

    b) A Water Quality Benchmark indicated in Table A.9 of Attachment A: Monitoring and Reporting Program is exceeded in either a Groundwater Trend Monitoring well or a Drinking Water Supply Well.

17) The Adaptive Management Program for Groundwater is implemented as described in this section and summarized in Table II.6. Enrollees shall refer to Table II.6 for a consolidated summary of program triggers, requirements, and response actions.

Table II.6: Adaptive Management Requirements for Groundwater

Adaptive Management Program Trigger	Summary of Requirements
Statistically significant increasing trend in constituent concentration over a three-year period in a Groundwater Trend Monitoring Well or Drinking Water Supply Well.	Enrollee must attend an education event and implement and report additional measures to reduce discharge of the constituent. If the constituent is nitrate, Enrollees must develop and implement a certified Irrigation and Nutrient Management Plan.
Exceedance of Water Quality Benchmark	Step 1: Enrollee or Coalition submits a Hydrogeological Evaluation of Groundwater Impacts to identify which lily bulb Fields and Enrollees are subject to the requirement to submit a Groundwater Protection Plan. Step 2: Identified Enrollee(s) must develop and implement a Groundwater Protection Plan

<u>Increasing Trend in Constituent Concentration over Three Years</u>

18) If there is a statistically significant increasing trend in the concentration of a required monitoring constituent in either a Groundwater Trend Monitoring well or a Drinking Water Supply Well over three years, the Enrollee shall:

    a) Attend at least one compliance education event addressing applicable management practices to reduce discharges of the constituent to groundwater;

    b) Implement and report additional measures to reduce discharges of the constituent to groundwater[77]; and

    c) Develop and implement a certified Irrigation and Nutrient Management Plan (INMP) for all enrolled Field(s) if the constituent is nitrate.

19) For Enrollees required to prepare, implement, and get certified[78] an Irrigation and Nitrogen Management Plan (INMP), the INMP shall cover all enrolled Fields that are either planted to lily bulbs, or planted to another crop that receives an external source of nitrogen[79]. The INMP shall be annually submitted to the North Coast Water Board for the previous crop year as part of the Annual Compliance Report until the trend of increasing nitrate concentration in the well attenuates. Alternatively, Enrollees may submit their INMP to the Coalition who shall submit

Enrollee data to the North Coast Water Board annually in accordance with Section IV of the MRP. A copy of the Certified INMP shall be located at the Enrollee's farming operations headquarters or primary place of business. The Enrollee must provide the INMP to North Coast Water Board staff, if requested.

20) Enrollees may aggregate data for a portion of a Field or for multiple Fields provided that the reported area has (1) the same fertilizer inputs, (2) the same irrigation management, and (3) the same management practices. These "Management Units' shall be defined, labeled and consistent across all INMP and Farm Evaluation reporting.

21) Enrollees shall use the INMP Template approved by the North Coast Water Board's Executive Officer. At a minimum, the INMP shall include the following information:

    a) Crop Year.

    b) Owner/Operator name.

    c) Assessor Parcel Number (APN).

    d) Total acreage for each APN identified.

    e) Planted acreage for each APN identified.

    f) Irrigation method(s).

    g) Crop Yield (tons/planted acre)

    h) Nitrogen Applied (lbs./acre) from the following sources:

        i) All applied water

        ii) Synthetic Fertilizers, and/or

        iii) Organic Amendments (e.g., manure, compost, etc.)

    i) Documented compliance education received or attended during the previous year in accordance with Section II.H of this Order.

22) The INMP shall be certified in one of the following ways:

    a) Certified by an Irrigation and Nitrogen Planning Specialist[80]. The specialist that certifies the INMP must be capable of answering questions relevant to the INMP and should be fully competent and proficient by education and experience in the Field(s) of study covered by certification relevant to the

development of an INMP; or

b) Self-certified by the Enrollee who attends a California Department of Food and Agriculture (CDFA), or other Executive Officer approved Third-Party training for INMP certification. The Enrollee must retain written documentation of their attendance in the Third-Party training; participate and obtain documentation of such participation in any continuing education required by CDFA; and make such documentation available to the North Coast Water Board on request; or

c) Self-certified by the Enrollee that the plan adheres to a site-specific recommendation from the Natural Resources Conservation Service (NRCS) or the University of California Cooperative Extension. The Enrollee must retain written documentation of the recommendation provided and make such documentation available to the North Coast Water Board on request; or

d) Self-certified by the Enrollee if no Nitrogen is applied to the Field; or

e) Certified in an alternative manner approved by the Executive Officer. Such approval will be provided based on the Executive Officer's determination that the alternative method for preparing the INMP meets the objectives and requirements of this Order.

Exceedance of Water Quality Benchmark for Groundwater

23) If a parameter identified in Table A.9 of Attachment A: MRP exceeds a Water Quality Benchmark, the Coalition, or the owner of the parcel on which the Groundwater Trend or Drinking Water Well is located, shall submit to the Executive Officer for review and approval a Hydrogeological Evaluation of Groundwater Impacts. The Hydrogeological Evaluation shall be prepared under the responsible charge of a Professional Engineer or Professional Geologist and shall be completed prior to the development of a Groundwater Protection Plan.

24) At a minimum, the Hydrogeological Evaluation of Groundwater Impacts shall:

a) Identify the monitoring well(s) with Water Quality Benchmark exceedances and describe the relevant hydrogeologic setting, including aquifer characteristics, groundwater flow direction, and hydraulic connectivity;

b) Delineate the potential area contributing to the Water Quality Benchmark exceedance, based on available hydrogeologic information and groundwater flow conditions;

c) Identify all lily bulb fields within the contributing area that have applied the exceeded parameter within the previous five years and that may reasonably

affect groundwater quality at the monitoring well; and

d) Evaluate whether the exceedance is likely attributable to current or historical agricultural practices associated with identified lily bulb fields.

25) The Executive Officer shall use the Hydrogeological Evaluation of Groundwater Impacts to determine which Enrollees, as owners or operators, are required to develop and implement a Groundwater Protection Plan in accordance with Section II.H of this Order.

26) An individual Enrollee may submit a Non-Contribution Demonstration to the Executive Officer for review and approval demonstrating that the Enrollee's Field(s) did not cause or contribute to the Water Quality Benchmark exceedance. The Non-Contribution Demonstration shall include quantitative, parameter-specific information relevant to the exceeded parameter, including, as applicable, Irrigation and Nutrient Management Plans and individual pesticide use report information, and shall be prepared under the responsible charge of a Professional Geologist or Professional Engineer.

Groundwater Protection Plan

27) The Groundwater Protection Plan requires implementation of a series of steps to achieve compliance with the Receiving Water Limitations of this Order, including defining the nature and extent of groundwater impacts, identifying sensitive receptors including agricultural and drinking water wells and interconnected surface waters, conducting continued monitoring, and implementing corrective actions where natural attenuation is not sufficient to achieve Receiving Water Limitations within a reasonable timeframe (10 years). The Groundwater Protection Plan may be prepared for multiple Enrollees or individual Enrollees, as applicable.

28) Each Groundwater Protection Plan shall be prepared under the direction of, and certified by, a Professional Geologist or a Professional Engineer. The Groundwater Protection Plan shall be submitted by **January 1** to the Executive Officer for review and approval in the year that the applicable Field(s) is entering its next crop production cycle.

29) At a minimum, the Groundwater Protection Plan shall include the following:

a) The Plan shall describe the nature, extent, and mobility of constituent(s) exceeding Water Quality Benchmark(s) in groundwater and identify all current and reasonably anticipated sensitive receptors, including agricultural or drinking water wells, and surface water bodies.

b) The Plan must include a map of all the Field(s) identified in the Hydrogeological Evaluation for Groundwater that are covered by the Plan

with all sensitive receptors labeled.

c) The Plan shall delineate the extent of impact with a hydrogeologic investigation sufficient to characterize the impacted area and potential migration pathways.

d) A monitoring network shall be established within the extent of impact and maintained to evaluate groundwater quality conditions and compliance with Receiving Water Limitations, as demonstrated by comparison to the applicable Water Quality Benchmark.

e) If groundwater quality is demonstrated to be stable or naturally attenuating toward Receiving Water Limitations within a reasonable timeframe (i.e., 10 years), the Plan may rely on monitoring and attenuation but shall continue until compliance is documented.

f) If Water Quality Benchmarks are exceeded and are not expected to attenuate within a reasonable timeframe (e.g., in the case of continuing application of the constituent):

   i) If the constituent is nitrate: the Plan shall propose a Groundwater Protection Target that establishes a nitrogen loading target (based on the individual grower's ratio of nitrogen applied to nitrogen removed) that is intended to achieve compliance with the Receiving Water Limitations for groundwater within the time schedule (10 years). Compliance with the implementation of this Plan includes the Enrollee's conformance with the Groundwater Protection Target on the applicable Field(s) until Receiving Water Limitations are met. Groundwater Protection Targets in each Plan shall be subject to public review and comment.

   ii) If the constituent is a pesticide: the Plan shall propose and implement corrective actions to reduce or control sources and prevent further impact to sensitive receptors, with management practice implementation and monitoring continuing until Receiving Water Limitations are achieved, unless otherwise approved by the Executive Officer.

g) The Plan shall include a schedule of implementation not to exceed 10 years unless otherwise approved by the Executive Officer.

I. Provisions

Noncompliance

1) Enrollees shall comply with all conditions of this Order. Noncompliance is a violation of the Porter-Cologne Water Quality Control Act (Water Code, § 13000 et seq.) and grounds for: (1) enforcement action; (2) termination, revocation and

reissuance, or modification of these waste discharge requirements; or (3) denial of an Order renewal application, or a combination thereof. Coalition(s) shall also comply with all relevant conditions of this Order on behalf of the Enrollees enrolled through their program(s).

2) Enrollees shall report any noncompliance that may endanger human health or the environment. Information shall be provided orally to the North Coast Water Board office and the Office of Emergency Services within twenty-four (24) hours of when the Enrollee becomes aware of the incident. A written report shall also be provided within five business days of the time that the Enrollee becomes aware of the incident. The written report shall contain a description of the noncompliance and its cause, the period of noncompliance, the anticipated time to achieve full compliance, and the steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance.

Enforcement

3) All Enrollees, regardless of whether they enroll individually or through a Coalition and any non-Enrollee owner or operator, bear ultimate responsibility for complying with this Order. The North Coast Water Board reserves the right to take any enforcement action authorized by law. Accordingly, failure to comply with any provisions of this Order may subject Enrollees to enforcement action. Such actions include, but are not limited to, the assessment of administrative civil liability pursuant to Water Code sections 13323, 13268, and 13350; a Time Schedule Order issued pursuant to Water Code section 13300 or 13308; issuance of a Cease-and-Desist Order pursuant to Water Code section 13301; Cleanup and Abatement Order pursuant to Water Code section 13304; or referral to the California Attorney General for recovery of judicial civil liability. Enrollees shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment.

4) For Coalition(s), failure to comply with the applicable terms and conditions of this Order or the Coalition requirements in Attachment C may result in revocation of approval to act as a Coalition or any other remedy provided by law. Affected Enrollees would be required to join an approved Coalition, meet requirements for Enrollees not represented by a Coalition, or obtain coverage under other applicable general or individual WDRs.

Inspection and Entry

5) Consistent with Water Code section 13267, subdivision (c), Enrollees and Coalition(s) shall allow the North Coast Water Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

a) Enter the premises regulated by this Order, or the place where records are kept under the conditions of this Order,

b) Have access to and copy records kept under the conditions of this Order,

c) Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d) Sample or monitor for the purpose of ensuring compliance with this Order, or as otherwise authorized by the Water Code, any substances or parameters at locations regulated under this Order.

Records Retention

6) Enrollees and Coalitions, as appropriate, shall retain copies of all reports required by this Order and the associated MRP. Records shall be maintained for a minimum of ten years from the date of the sample, measurement, report, or application. Records may be maintained electronically, and the Coalition must store backup files in a secure, offsite location managed by an independent third-party entity. This period may be extended during the course of any unresolved litigation or when requested by the North Coast Water Board's Executive Officer.

7) Enrollees and Coalitions shall provide copies of any or all records when requested by North Coast Water Board staff. Electronic submittals are acceptable.

Electronic Reporting

8) Enrollees and Coalition(s), as appropriate, shall submit reports and information required for North Coast Water Board Executive Officer approval under this Order in an electronic format[81] via email to NorthCoast@Waterboards.ca.gov.

Claims for Exemption from Public Disclosure

9) If the Coalition and/or an Enrollee asserts that all or a portion of a report submitted pursuant to this Order is subject to an exemption from public disclosure (e.g., due to proprietary or trade secret information), the Coalition and/or Enrollee must provide an explanation of how those portions of the reports are exempt from public disclosure. The Coalition and/or Enrollee must clearly indicate on the cover of the report (typically an electronic submittal) that all or a portion of the report is exempt from public disclosure, submit a complete report with those portions that are asserted to be exempt in redacted form, submit separately (in a separate electronic file) unredacted pages (to be maintained separately by staff). North Coast Water Board staff will determine whether any such report or portion of a report qualifies for an exemption from public disclosure. If staff disagrees with the asserted exemption from public disclosure, staff will notify the Enrollee prior to making such

report or portions of such report available for public inspection.

Signature and Certification

10) All documents and reports requested herein shall be signed and dated by a duly authorized representative and shall contain a statement by the Enrollee, or as appropriate by an authorized representative of the Enrollee (e.g., Third-Party representative), certifying under penalty of perjury under the laws of the State of California, that the report is true, complete, and accurate. The document and/or report shall be submitted under the title: “General Waste Discharge Requirements for Commercial Lily Bulb Operations in the Smith River Plain.”

Violation of Law and Property Rights

11) This Order does not authorize violation of any federal, state, or local laws or regulations.

12) This Order does not convey property rights of any sort, or exclusive privileges, nor does it authorize injury to private property or invasion of personal rights.

Modification, Revocation, Termination

13) This Order may be modified, revoked and reissued, or terminated. The filing of a request by an Enrollee for an Order modification, rescission, or reissuance, or an Enrollee’s notification of planned changes or anticipated noncompliance, does not stay any Order condition. Causes for modification include, but are not limited to, the violation of any term or condition contained in this Order, a material change in the character, location, or volume of discharge, a change in land application plans, or the adoption of new regulations by the State Water Board, North Coast Water Board (including revisions to the Basin Plan), or federal government.

III. Certification

I, Valerie Quinto, Executive Officer do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California North Coast Regional Water Quality Control Board, on **August 6, 2026**.

Valerie Quinto
Executive Officer
California Water Quality Control Board,
North Coast Region

Appendix I: Acronyms, Definitions, and Endnotes
Appendix II: Figures
Attachment A: Monitoring and Reporting Program
Attachment B: Management Practices
Attachment C: Grower Coalition Requirements
Attachment D: Methodologies and Procedures
Attachment E: CEQA Mitigation Measures
Attachment F: Forms and Templates

Appendix I: Acronyms, Definitions, and Endnotes

I. Acronyms and Abbreviations

Acronym/Abbreviation	Term
Antidegradation Policy	State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality Waters in California
Basin Plan	Water Quality Control Plan for the North Coast Basin
BLM	Biotic Ligand Model
BLM-IWQC	Biotic Ligand Model Instantaneous Water Quality Criteria
CalFIRE	California Department of Forestry and Fire Protection
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDPR	California Department of Pesticide Regulation
CDPH	California Department of Public Health
CEDEN	California Environmental Data Exchange Network
CEQA	California Environmental Quality Act
C_N	Nitrogen Removal Coefficient
CSDS	Controllable Sediment Discharge Sources
CRHR	California Register of Historical Resources
CWA	Clean Water Act
DDW	State Water Board, Division of Drinking Water
DWR	Department of Water Resources
EIR	Environmental Impact Report
ESJ Order	Eastern San Joaquin Order (State Board Order WQ 2018-0002).

Acronym/Abbreviation	Term
ELAP	Environmental Laboratory Accreditation Program
Enforcement Policy	State Water Board Water Quality Enforcement Policy
eNOI	Electronic Notice of Intent
GPS	Global Positioning System
GWP	Groundwater Protection (see GWP Formula, GWP Values, GWP Targets)
HUC	Hydrologic Unit Code
ILRP	Irrigated Lands Regulatory Program
INMP	Irrigation and Nitrogen Management Plan
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
mg/L	Milligrams per Liter
MRP	Monitoring and Reporting Program
NCRWQCB	North Coast Regional Water Quality Control Board
Nitrogen AR	Nitrogen Applied and Removed
NOA	Notice of Applicability
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NPS	nonpoint source
NPS Policy	State Water Board Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program
NRCS	Natural Resources Conservation Service

Acronym/Abbreviation	Term
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
QAPP	Quality Assurance Project Plan
North Coast Water Board	North Coast Regional Water Quality Control Board
ROWD	Report of Waste Discharge
SGMA	Sustainable Groundwater Management Act
State Water Board	State Water Resources Control Board
SWAMP	Surface Water Ambient Monitoring Program
Temperature Policy	Policy for the Implementation of the Water Quality Objectives for Temperature
Trend Monitoring Report	Water Quality Trend Monitoring Report
ug/L	Micrograms per Liter
UCCE	University of California Cooperative Extension
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
Water Code	California Water Code
WDRs	Waste Discharge Requirements
WQMP	Water Quality Management Plan

II. Definitions

The following definitions apply to Order No. R1-2026-0035 and its associated attachments, including the Monitoring and Reporting Program (MRP). The terms are arranged in alphabetical order. All other terms not explicitly defined here for the purposes of this Order, the Additional Findings and Regulatory Considerations, and the MRP have the same definitions as defined by Water Code Division 7 or are explained within the Order or MRP documents.

Abandoned Well. A well is considered “abandoned” when it has been destroyed in accordance with local and state well standards. An abandoned well is not synonymous with an “inactive well” (see also Inactive Well).

Active Well. A water well that is in operation/use.

Adaptive Management. The iterative process of evaluating monitoring results, programmatic performance, and new scientific information to guide modifications to management practices and implementation schedules, with the goal of achieving water quality objectives and protecting beneficial uses. Adaptive management relies on data collected through surface water and groundwater trend monitoring and other relevant sources of information including effectiveness of implemented management practices.

All-Season Road. An agricultural road that is part of the permanent road network and is designed for year-round use. These roads have a surface that is suitable for maintaining a stable operating surface throughout the year.

Antidegradation. The State Water Board established a policy to maintain high quality waters of the State - Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California." Resolution No. 68-16 requires existing high-quality water to be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of water, and will not result in water quality less than that prescribed in the policies. When authorizing the discharge of waste into waters of the state, North Coast Water Boards are required to comply with Resolution No. 68-16. Permits or regulatory orders issued by the North Coast Water Board must result in the best practicable treatment or control of the discharge necessary to assure pollution or nuisance will not occur and maintain the highest water quality consistent with maximum benefit to the people of the state. Resolution No. 68-16 has been approved by the USEPA to be consistent with the federal antidegradation policy (40 CFR 131.12).

Appurtenant. Belonging to, pertinent to, or used for the Commercial Lily Bulb Operation.

Appurtenant Field Road. An agricultural road used for Commercial Lily Bulb

Operations which connects or is used to access lily bulb fields under the ownership or control of the landowner or operator.

Authorized Representative. An individual, agency, or entity who acts on behalf of another individual, agency, or entity (such as an approved Third-Party program staff, Enrollee, or consultant retained by an approved Third-Party program acting on behalf of an individual Enrollee or the North Coast Water Board).

Basin Plan. The Basin Plan is the North Coast Region's Water Quality Control Plan. The Basin Plan describes how the quality of the surface and groundwater in the North Coast Region should be managed to provide the highest water quality reasonably possible. The Basin Plan includes beneficial uses, water quality objectives, and a program of implementation.

Beneficial Uses. The Basin Plan establishes the beneficial uses of surface water and groundwater to be protected in the North Coast Region. Beneficial uses for the Smith River Plain can be found in Section I.E.7 of this Order.

Biotic Ligand Model (BLM). The BLM is the current EPA recommended method for determining copper concentrations protective of aquatic life on a site-specific basis and has been adopted by the State of Idaho Department of Environmental Quality and the State of Oregon Department of Environmental Quality to develop state-wide, site-specific water quality criteria for copper.

Biotic Ligand Model Instantaneous Water Quality Criteria (BLM-IWQC). A criterion developed using a set of ten parameters to account for complex chemical reactions associated with copper in the environment: pH, Dissolved Organic Carbon (DOC), Calcium (Ca), Magnesium (Mg), Sodium (Na), Sulfate (SO4), Potassium (K), Chlorine (Cl), Alkalinity, and Temperature. The IWQC is used as a water quality threshold for dissolved copper for that specific site and sampling event only. The model's output also includes a toxicity unit (numerical value) to represent the relative risk of copper toxicity in the waterbody at the time of sample collection.

Commercial Lily Bulb Operation. A Commercial Lily Bulb Operation is land planted in lily bulbs or a similar bulb crop within a 5 year period (including appurtenant field roads, agricultural structures, and areas used for activities appurtenant to the Commercial Lily Bulb Operation) with one or more of the following characteristics: (1) The landowner or operator holds a current Operator Identification Number/Permit Number for pesticide use reporting; (2) The crop and/or its product is sold; or (3) the federal Department of Treasury Internal Revenue Service form 1040 Schedule F Profit or Loss from Farming is used to file federal taxes.

Concentration. The relative amount of a substance mixed with another substance. An example is 5 mg/L of nitrogen in water or 5 ppm (parts per million).

Controllable Sediment Discharge Sources (CSDS). Areas discharging or having the potential to discharge sediment to waters of the state in violation of water quality standards or other requirements of this Order caused or affected by human activity and may feasibly and reasonably respond to management practices.

Cover Crop. (See Ground Cover).

Discharge. A release of a waste to waters of the state, either directly to surface waters or through percolation to groundwater. Wastes from irrigated agriculture include but are not limited to earthen materials (soil, silt, sand, clay, and rock), inorganic materials (metals, plastics, salts, boron, selenium, potassium, nitrogen, phosphorus, etc.) and organic materials such as pesticides. Discharges from Commercial Lily Bulb Farms regulated by this Order include discharges to surface water and groundwater, through mechanisms such as stormwater runoff flowing from irrigated lands, irrigation tailwater, percolation or pollutants to groundwater, and runoff resulting from operational spills. These discharges can contain wastes that could affect the quality of waters of the state and impair beneficial uses.

Discharge Point. A discharge point is defined as a location where surface water discharges, which are in hydrologic connection to off-farm surface waters, leave the Enrollee's property. A discharge point is any hydrologically connected discharge that is not an agricultural drainage structure as defined above.

Disturbance. When natural conditions have been modified in a way that may result in waste discharge to waters of the state from the site. Disturbed areas are where natural plant growth has been removed, whether by physical, animal, or chemical means, or natural grade has been modified for any purpose. Disturbance includes all activities whatsoever associated with developing or modifying land for agricultural related activities or access. Disturbance activities include, but are not limited to, construction of roads, buildings, water storage areas; excavation, grading, and site clearing. Disturbance includes crop areas, storage areas where soil or chemicals (e.g., pesticides, fertilizers, compost, or biosolids) are located.

Drinking Water Supply Well. Any groundwater well that is connected to a residence, workshop, or place of business that may be used for human consumption, cooking, or sanitary purposes that is located within an enrolled Assessor Parcel Number (APN). This includes all domestic wells located within the enrolled APN, not limited to the leased property or within the farm boundary. This definition includes "dual-use" wells that are used for both irrigation and domestic purposes. The State Water Resources Control Board (State Water Board), Groundwater Ambient Monitoring and Assessment (GAMA) Program defines an individual well serving a single residential connection as a "private domestic well." For the purposes of this Order, a "private domestic well" is a Drinking Water Supply Well if it is located on the enrolled parcel and there are drinking water users of that well.

Edge-of-Field. Edge of the Farm Area producing crops including the Appurtenant Field Roads. Point in land where the surface water drains out of the Farm Area producing areas. See also Discharge Point.

Enrollee. The owner and/or operator of the Commercial Lily Bulb Operation discharges or has the potential to discharge waste that could directly or indirectly reach waters of the State and affect the quality of any surface water or groundwater. See also Landowner, Operator.

Ephemeral Stream. A Class III watercourse. A body of flowing water that contains water for only part of the year, but more than just after rainstorms and as snowmelt as shown in the NHD shapefile. In the absence of diversion, water is flowing less than three months during a typical year and the stream does not support riparian vegetation or aquatic life. Ephemeral watercourses typically have water flowing for a short duration after precipitation events or snowmelt and show evidence of being capable of sediment transport.

Erosion. The gradual destruction of land surface by wind or water, intensified by land-clearing practices related to farming, residential or industrial development, road building, or logging.

Exceedance. A reading using a field instrument or a detection by a California State-certified analytical laboratory where the detected result is above an applicable water quality standard for the parameter or constituent.

Farm Area. The Planted Area and appurtenant structures, field roads, maintenance areas, mixing and loading sites, and appurtenant storage yards on a Commercial Lily Bulb Operation.

Field. A term to describe a contiguous Planted Area that is farmed in lily bulbs in any particular year for the purposes of monitoring, reporting and adaptive management. A Field is a contiguous block of planted lily bulbs not separated by Appurtenant Field Roads or waterbodies. Where this Order scales requirements by Management Unit, Enrollees may report data for a portion of a Field or for multiple Fields provided that the reported area has (1) the same fertilizer inputs, (2) the same irrigation management, (3) and the same management practices. See Management Unit.

Ground Cover. Ground cover refers to the following practices: (1) Cover crops can be grasses, legumes, forbs, or other herbaceous plants established in planted fields for livestock grazing, for production into hay and forage crops, or provide seasonal or year-round ground cover for conservation purposes. (2) Conservation cover is establishing and maintaining perennial vegetated cover to protect soil and water resources on lands needing permanent protective cover that will not be used for forage production. (3) Effective soil cover includes mulching, straw mulching, plant residues or other suitable materials produced off site to the land surface. Mulching is used on bare, exposed soil

surfaces that are deemed to be potential critical erosion areas. In most cases, mulch will consist of grain straw residue, but may include wood chips, leaves, composted yard waste, etc. (NRCS Conservation Practice Standards 2016[82]).

Ground Disturbing Management Practices. These measures could include but are not limited to practices to prevent erosion of exposed soil and stockpiles, including watering for dust control, establishing perimeter silt fences, and/or placing fiber rolls; minimizing soil disturbance areas; implementing practices to maintain water quality, including silt fences, stabilized construction entrances, and storm drain inlet protection; limiting construction to dry periods; and revegetating disturbed areas.

Groundwater. The supply of water found beneath the Earth's surface, usually in aquifers which can supply wells and springs.

Groundwater Protection Formula, Values and Targets. The Groundwater Protection (GWP) Formula generates GWP Values, expressed as either nitrate-N loading numbers or concentrations of nitrate in water (e.g., mg/L), reflecting the influence of total applied nitrogen, total removed nitrogen, recharge conditions, and other relevant and scientifically supported variables that influence the potential average concentration of nitrate in water expected to reach groundwater in a given township over a given time period. GWP Values are calculated based on reported INMP data and reflect discharge estimates from the bottom of the root-zone. GWP Targets considers GWP Values to establish the nitrogen loading rate necessary to comply with the Antidegradation Policy and Basin Plan.

Groundwater Trend Monitoring Well. A well that the Enrollee selects for Groundwater Trend monitoring pursuant to Section III of Attachment A: Monitoring and Reporting Program.

High-Water Mark. That line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

High Vulnerability Groundwater Basin. Defined in the ESJ Order as areas "where known groundwater quality impacts exist for which irrigated agricultural operations are a potential contributor or where conditions make groundwater more vulnerable to impacts from irrigated agricultural activities." For the purposes of this Order, 'high vulnerability areas' are defined as the priority groundwater basins having a relatively high threat from salts and nutrients and would benefit from salt and nutrient management planning as defined in Groundwater Basin Evaluation and Prioritization Resolution No. R1-2021-0006.

Hydrologically Connected. Farm areas with a continuous surface flow path to a

natural stream channel during a storm runoff event (also referred to as hydrologic connectivity). Connectivity usually occurs through drainage structures, drainage inlets, road ditches, gullies, and channels.

Hydrologically Connected Undesignated Channel. Channels not part of the NHD dataset that are hydrologically connected to off-farm surface waters. Includes agricultural ditches.

Inactive Well. A well is considered “inactive” when it has been taken out of service but has not been destroyed (see Abandoned Well definition). An inactive well must not allow impairment of water quality within the well and/or groundwater encountered by the well.

Individual Enrollee. An Enrollee in the Lily Bulb Order who is not part of a Coalition. The Individual Enrollee is responsible for conducting all monitoring individually and reporting directly to the North Coast Water Board.

Intermittent Stream. A Class II watercourse. A body of flowing water that contains water only during or after a local rainstorm or heavy snowmelt as shown in the NHD shapefile. In the absence of diversions, water is flowing for three to nine months during a typical year, provides aquatic habitat for non-fish aquatic species, fish always or seasonally present within 1,000 feet downstream, and/or water is flowing less than three months during a typical year and the stream supports riparian vegetation.

Invasive Species. Organisms (plants, animals, or microbes) that are not native to an environment and that, once introduced establish, quickly reproduce and spread, and cause harm to the environment, economy, or human health. U.S. Department of Agriculture, Natural Resource Conservation Service website: EnviroAtlas Hydrologic Unit Codes Fact Sheet[83]. For guidance on identifying species of concern, see the Cal-IPC website: Plants A to Z[84].

Irrigation. Applying water to land areas to supply the water and nutrient needs of plants.

Irrigation Management Practices. Management practices designed to improve irrigation efficiency and reduce the amount of irrigation return flow or tailwater, and associated degradation or pollution of surface and groundwater caused by discharges of waste associated with irrigated lands.

Irrigation and Nitrogen Planning Specialist. A Certified Crop Advisor (CCA) who has completed the California Nitrogen Management exam through The California Department of Food and Agriculture (CDFA), the University of California – Davis, the American Society of Agronomy’s (ASA) International Certified Crop Adviser (ICCA) Coalition and/or the CCA – Western Region (WR) Board and takes the required continuing education credits. Enrollees may self-certify their INMP if they take the CDFA

Irrigation and Nitrogen Management Training for Grower Self-Certification, pass the Irrigation and Nitrogen Management Training and Exam and maintain the certification through continuing education. More information can be found at CDFA FREP Training (https://www.cdfa.ca.gov/is/ffldrs/frep/training.html).

Landowner. An individual or entity who has legal ownership of a parcel(s) of land. See also Enrollee, Operator.

Leaching. In agriculture, leaching is the loss of water-soluble plant nutrients from the soil, due to the percolation of rain and irrigation water. Leaching may also refer to the salinity control practice of applying a small amount of excess irrigation to drain down salts from the root soil profile to avoid salts from building up in the soil. In the natural environment, leaching contributes to groundwater contamination. As water from rain, flooding, or other sources seeps into the ground, it can dissolve chemicals and carry them into the underground water supply.

Load. The mass of a substance discharged over a given amount of time, for example 10 mg/day or 5 kg/day.

Major Storm Event. A Major Storm Event is defined as a storm that is forecasted and produces at least one inch of precipitation within a 24-hour period and is preceded by a minimum of 48 hours producing less than 0.25 inches of precipitation. A Major Storm Event has ended when no more than 0.25 inches of precipitation has been produced within a 48-hour period. Collection of samples during a Major Storm event shall occur within 24 hours following the first inch of precipitation and before cumulative precipitation exceeds three inches within a 24-hour period. See Attachment D: Methodologies and Procedures for guidance.

Management Unit. Where this Order allows reporting by Management Unit, Enrollees may report data for a portion of a Field or for multiple Fields provided that the reported area has (1) the same fertilizer inputs, (2) the same irrigation management, and (3) the same management practices. Management Units can be defined by the Enrollee in a manner consistent with the farming operation so long as the Enrollee tracks which Field(s) comprise each Management Unit. See Field.

Method Detection Limit. The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in accordance with USEPA Definition and Procedure for the Determination of the Method Detection Limit, Revision 2. The laboratory establishes the MDL values based on the analytical test method and the types of calibrated laboratory equipment that are used.

Monitoring. Observing and checking a feature or factor over time to determine compliance with this Order or other regulatory requirements. Monitoring in this Order includes but is not limited to surface water or groundwater sampling and analysis to

evaluate water quality in connection with agricultural activities, and inspecting operations, management practice implementation and effectiveness, maintenance of on-site records, and management practice reporting.

Nitrogen Applied. Total nitrogen applied includes nitrogen in any product, form, or concentration including, but not limited to, organic and inorganic fertilizers, slow-release products, compost, compost teas, manure, extracts, nitrogen present in the soil, and nitrate in irrigation water; it is reported in units of pounds of nitrogen per crop, per acre for each commercial lily bulb Field or nitrate loading risk unit.

Nitrogen Removed. Nitrogen Removed includes all nitrogen taken from the Field in harvested or other materials. Other materials may include leaf material, bulbs, and any other source of nitrogen removed from the field.

Nitrogen-Removal Coefficient (CN). Percent of nitrogen content in the dry matter of plant tissue. The CN multiplied by the weight of plant material removed from the Fields, can be used to estimate the nitrogen removed from the marketable portion of a crop.

Nonpoint Source (NPS) Pollution. The Basin Plan states that nonpoint sources of water pollution are generally defined as sources which are diffuse (spread out over a large area). Nonpoint sources of pollution are not subject to NPDES permitting. The wastes are generally carried off the land by runoff. Common nonpoint sources of pollution are activities associated with agriculture, timber harvest, certain mining, dams, and saltwater intrusion.

Nitrogen Management Practices. Management practices designed to reduce the nitrogen loss from agricultural lands, which occur through edge-of-field runoff or leaching from the root zone.

Operator. Person responsible for or otherwise directing farming operations in decisions that may result in a discharge of waste to surface water or groundwater, including, but not limited to, a farm/ranch manager, lessee, or sub- lessee. If enrolled, the operator is responsible for ensuring compliance with this Order and for any discharge of waste occurring on or from the operation. See also Enrollee, Landowner.

Operation. A distinct farming business, generally characterized by the form of business organization, such as a sole proprietorship, partnership, corporation, and/or cooperative. A farming operation may be associated with one-to-many individual farms/ranches.

Perennial Stream. A stream that holds water throughout the year. Also known as a Class I watercourse. In the absence of diversions, water is flowing for more than nine months during a typical year, fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or a spring, an area where there is concentrated discharge of ground water that flows at the ground surface (a spring may

flow any part of the year and does not have a defined bed and banks).

Pesticide. Any substance intended to control, destroy, repel, or otherwise mitigate a pest. The term pesticide is inclusive of all pest and disease management products, including insecticides, herbicides, fungicides, nematicides, rodenticides, algicides, etc.

Planted Area. The area of the Farm Area that is planted in lily bulbs; a subset of the Farm Area. Planted Area does not include appurtenant structures or field roads.

Pollutant. The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water, including dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Pollution. Any alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following: (1) the waters for beneficial uses, (2) facilities which serve these beneficial uses. Pollution may include contamination.

Quality Assurance Project Plan. A Quality Assurance Project Plan (QAPP) integrates all technical and quality aspects of a project, including planning, implementation, and assessment.

Qualified Professional. An individual licensed in California under the Professional Engineer Act (e.g., Professional Engineer), Geologist and Geophysicist Act (e.g., Professional Geologist, Certified Engineering Geologist, or Certified Hydrogeologist), and Land Surveyors' Act (e.g., Professional Land Surveyor); a California Registered Professional Forester (RPF); or a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD), a certified soil scientist registered through the American Society of Agronomy; Certified Professional in Erosion and Sediment Control (CPSEC)™/Certified Professional in Storm Water Quality (CPSWQ)™ registered through EnviroCert International, Inc.; a or professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET). A Qualified Professional must only perform work they are qualified to complete, consistent with applicable licensing and registration restrictions, and must certify any work completed. See Business and Professions Code sections 6700-6799, 7800-7887, and 8700-8805, respectively.

Quality of the Water. The "chemical, physical, biological, bacteriological, radiological, and other properties and characteristics of water which affect its use" as defined in the California Water Code Sec. 13050(g).

Receiving Waters. Surface waters or groundwater that receive or have the potential to receive discharges of waste from irrigated lands.

Receiving Water Limitation. A requirement that prohibits wastes discharged from Commercial Lily Bulb Operations in the Smith River Plain including sediment, pesticides, and nutrients from causing or contributing to an exceedance of applicable water quality objectives for surface waters or groundwater, unreasonably affecting applicable beneficial uses, or causing or contributing to a condition of pollution, contamination, or nuisance as defined in Water Code Section 13050. Receiving Water Limitations are implemented to ensure compliance with both numeric and narrative water quality objectives, including but not limited to objectives for chemical constituents, pH, sediment, turbidity, and toxicity. Compliance with Receiving Water Limitations is demonstrated by meeting Water Quality Benchmarks established in the Order, and any exceedance may trigger adaptive management or enforcement actions as specified in the Order.

Riparian Vegetation. The vegetation (including dead, dying, or decaying vegetation) along a watercourse that is distinguished from other vegetation by its dependence on the combination of soil moisture and other environmental factors provided by a watercourse.

Sediment and Erosion Control Practices. Practices used to prevent and reduce the amount of soil and sediment entering surface water in order to protect or improve water quality.

Site-Specific Potential Effective Shade. The shade equivalent to that provided by topography and potential vegetation conditions at a site. Shade controls that are effective at correcting temperature impairments also operate to prevent impairments and provide other water quality protections such as bank stability and filtering sediment and other waste discharges.

Source of Drinking Water. Any water designated as municipal or domestic supply (MUN) beneficial use in a North Coast Water Board Basin Plan and/or as defined in State Water Board Resolution No. 88-63.

Stormwater. Stormwater runoff, snow melt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26(b)(13).

Stormwater Runoff. Precipitation water in excess of what can infiltrate the soil surface and be stored in small surface depressions.

Streamside Area. The area between the waterside edge of riparian vegetation (or the nearest edge of the High-Water Mark if riparian vegetation is not present) and the field side edge of a vegetated buffer. A vegetated buffer is not synonymous with a filter strip, which may be used as part of farming practices (e.g., equipment turn-around) and disturbed for tilling, planting, or other practices.

Surface Runoff. Precipitation, snow melt, or irrigation water in excess of what can

infiltrate the soil surface and be stored in small surface depressions, a major transporter of nonpoint source wastes in rivers, streams, and lakes.

Tailwater. Runoff of irrigation water from the lower end of an irrigated field.

Toxicity Unit. A toxicity unit (TU) is a simple ratio of the measured concentration of dissolved copper to the BLM-generated criteria and is calculated by dividing the measured value by the modelled criteria. See Attachment D: Methodologies and Procedures for more information on how the 'TU' is calculated and used. See also, Biotic Ligand Model.

Coalition. An organization or entity that is approved to represent Enrollees under this Order and is obligated to fulfill the following responsibilities: (1) collect fees from Enrollees and submit payments to the State Water Resources Control Board; (2) manage communications between Enrollees and the North Coast Water Board; (3) provide compliance education resources for Enrollees; and (4) fulfill monitoring and reporting requirements including but not limited to conducting regional surface water and groundwater monitoring, and connecting Enrollees to resources that can assist the preparation and implementation of Water Quality Management Plans.

Third-Party Program. The set of requirements under this Order that a Coalition is allowed to perform on behalf of the Enrollees enrolled in that Coalition.

Total Maximum Daily Load (TMDL). The calculation of the maximum amount of a particular material that a waterbody can assimilate on a regular basis and still support beneficial uses designated for that waterbody.

Trend. A general direction in which something is developing or changing. See also Water Quality Trend.

Unfarmed Wetland. Any wetland not currently farmed or historically farmed in the lily bulb crop rotation upon enrollment in the Order. An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Vegetated Buffer. A narrow, permanent strip of dense perennial vegetation (including riparian vegetation) where no crops are grown and which is established parallel to the contours of and perpendicular to the dominant slope of the land applications area for the purposes of slowing water runoff, enhancing water infiltration, trapping pollutants bound to sediment and minimizing the risk of any potential nutrients or pollutants from reaching surface waters. A vegetated buffer is not synonymous with a filter strip, which may be used as part of farming practices (e.g., equipment turn-around) and disturbed for tilling, planting, or other practices

Watercourse Setback. A setback area adjacent to a watercourse, including streams, creeks, and other designated or undesignated channels, whether perennial, intermittent, or ephemeral, that is required to be maintained in vegetative cover in accordance with this Order for purposes of Adaptive Management. This term is distinct and independent from Streamside Areas established to implement the Temperature Policy. The Watercourse Setback is measured from the waterside edge of vegetation to the Planted Area of the lily bulb field.

Waste. "Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal" as defined in the California Water Code Sec. 13050(d). "Waste" includes irrigation return flows and drainage water from agricultural operations containing materials not present prior to use. Waste from irrigated agriculture includes earthen materials (such as soil, silt, sand, clay, rock), inorganic materials (such as metals, salts, boron, selenium, potassium, nitrogen, phosphorus), and organic materials such as pesticides.

Water Quality Benchmark. A concentration based on relevant water quality criteria that is the numeric translation of applicable Water Quality Objectives. Water Quality Benchmarks are defined in Section G.1 of the Findings and included in Attachment A: Monitoring and Reporting Program. Water Quality Benchmarks for surface water are established for both acute and chronic exposure conditions. Exceedance of a Water Quality Benchmark is determined by considering both concentration and frequency within a calendar year. Receiving Water Limitations in Section II.C of this Order reference compliance with all water quality objectives, some of which are translated through Water Quality Benchmarks. Attainment of Water Quality Benchmarks demonstrates attainment of the corresponding Water Quality Objective and compliance with Receiving Water Limitations. Conversely, exceedance of a Water Quality Benchmark indicates that discharges may be causing or contributing to an exceedance of a Water Quality Objective and are, therefore, in violation of Receiving Water Limitations of the Order. Water Quality Benchmarks for groundwater are protective of applicable Water Quality Objectives. Attainment of Water Quality Benchmarks for groundwater in this Order demonstrate compliance with Receiving Water Limitations.

Water Quality Objective(s). "Limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specified area," as defined in Sec. 13050(h) of the California Water Code. Water Quality Objectives may be either numerical or narrative and serve as Water Quality Criteria for purposes of section 303 of the Clean Water Act.

Water Quality Standard. Provisions of State or Federal law that consist of the beneficial designated uses or uses of a waterbody, the numeric and narrative water quality criteria that are necessary to protect the use or uses of that particular waterbody,

and an antidegradation statement. Water quality standards include water quality objectives in the North Coast Water Board's Basin Plan, water quality criteria in the California Toxics Rule and National Toxics Rule adopted by USEPA, and/or water quality objectives in other applicable State Water Board plans and policies. For groundwater with the beneficial use of municipal or domestic water supply, the applicable drinking water standards are those established by the USEPA or California DDW, whichever is more stringent. Under Sec. 303 of the Clean Water Act, each State is required to adopt water quality standards.

Water Quality Trend. A change in time of a measured chemical constituent that represents as aspect of the quality of the water (e.g., increasing, stable, or decreasing concentration of a constituent). The analysis of a water quality trend predicts the behavior of water quality parameters and overall water quality in the time domain.

Waters of the State. "Any surface water or groundwater, including saline waters, within the boundaries of the State" as defined in the California Water Code Sec. 13050(e). "Waters of the state" includes all "waters of the U.S." Any significant accumulation of water above the ground surface, such as lakes, ponds, rivers, streams, creeks, springs, wetlands, and canals.

III. Endnotes

The following endnotes apply to Order No. R1-2026-0035 only. Endnotes for the Monitoring and Reporting Program shall be provided at the end of Attachment A: Monitoring and Reporting Program. Endnotes are arranged in order that they appear in the document.

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[1] The California Interagency Watershed Map of 1999 (final version CalWater 2.2.1 updated in 2014) was the State of California's working definition of watershed boundaries prior to the development of the federal Hydrologic Unit Code (HUC) system. The purpose of the CalWater dataset was to standardize the boundary delineation, coding, and naming of California watersheds by government agencies. CalWater divides the State into ten Hydrologic Regions (HR). Each HR is progressively subdivided into six smaller, nested levels: the Hydrologic Unit (HU, major rivers), Hydrologic Area (HA, major tributaries), Hydrologic Sub-Area (HSA), Super Planning Watershed (SPWS), and Planning Watershed (PWS).

[2] Lily bulb crop rotation can sometimes have longer or shorter crop rotation cycles than three-to-five years.

[3] For the purposes of this Order, pesticides include insecticides, herbicides, and fungicides.

[4] 2018 SWAMP Monitoring Report: 180101-FINAL SWAMP REPORT_Smith River.pdf https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/pdf/180116/180101-FINAL%20SWAMP%20REPORT_Smith%20River.pdf

[5] See Smith River Plain Water Quality Management Plan: Smith River Plain Water Quality Management Plan Public Review Draft February 2021. https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2021/smithmgmttplan.pdf

[6] 2025 SWAMP Report_Smith River Plain Surface Water Monitoring Report 2021-2024 https://waterboards.ca.gov/northcoast/board_info/board_meetings/10_2025/10_08/pdf/1/1-smith-report.pdf

[7] The 2025 SWAMP Report Updates Memo can be found here: https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2026/25_SWAMP_MR_MEMO.pdf

[8] Smith River Plain Surface Water Monitoring Study 2021-2024 https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2025/25_SWAMP_MR_SRPWM.pdf

[9] Under section 9 of the ESA, it is illegal to import, export, or take endangered species for any purpose, including commercial activity. The term “take” means to harass, hunt, shoot, capture, trap, kill, collect, wound, harm, or pursue an ESA-listed species, or attempt any of these activities. See Protective Regulations for Threatened Species under the Endangered Species Act: Section 4(d) | NOAA

Fisheries for more information. (https://www.fisheries.noaa.gov/national/endangered-species-conservation/protective-regulations-threatened-species-under-endangered#:~:text=Under%20section%209%20of%20the,attempt%20any%20of%20these%20activities.)

[10] Pounds of copper itself, not pounds of a copper containing compound.

[11] Hurst, M., Wolfe, L., & Selby, P. (2024). The Effects of Vegetative Barriers on Copper in Runoff from Lily Bulb Fields. California State Polytechnic University – Humboldt. Final Report submitted to the California State University - Agricultural Research Institute (CSU-ARI) and Southern California Coastal Water Research Project. Date: 8/15/2024

[12] Fischer, R.A., Martin, C.O., Ratti, J.T., & Guidice, J. (2000). Improving Riparian Buffer Strips for Water Quality and Wildlife. U.S. Army Engineer Research and Development Center (ERDC).

[13] Cole, L.J., Stockan, J., & Helliwell, R. (2020). Managing riparian buffer strips to optimise ecosystem services: A review. Agriculture, Ecosystems & Environment, 296, 106891.

[14] See Tables I.3 and I.4 in the Findings for a consolidated list of Water Quality Benchmarks.

[15] See rb1_smith_river_jan2018.pdf (ca.gov) (https://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reglrpts/rb1_smith_river_jan2018.pdf)

[16] At the Sarina Road SWAMP Monitoring location

[17] See Aquatic Life Benchmarks and Ecological Risk Assessments for Registered Pesticides | US EPA for US EPA Aquatic Life Benchmarks (https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-and-ecological-risk)

[18] Toxicity was determined using methods developed by the UC Davis Aquatic Health Program Laboratory.

[19] See the 2018 SWAMP Report: 180101-FINAL SWAMP REPORT_Smith River.pdf (ca.gov)

[20] Smith River Plain Dissolved Copper Monitoring Report 2017-2018 https://share.google/4uapRZA0fypqC6b01

[21] Hurst, M., Bright, P., Villalta, E., & Wolfe, L. (2022). The Bioavailability of Copper in the Smith River Plain. California State University - Agricultural Research Institute (ARI) and the Tolowa Dee-ni' Nation. Cal Poly Humboldt, Arcata, CA. August 15, 2022.

[22] Sandahl, J. F., M. J. B. Miyasaka, N. Koide, and H. Ueda. "A Sensory System at the Interface between Urban Stormwater Runoff and Salmon Survival." *Environmental Science & Technology*, vol. 41, no. 8, 2007, pp. 2998-3004.

[23] Olivari, Francisco A., Pedro P. Hernández, and Miguel L. Allende. "Acute Copper

Exposure Induces Oxidative Stress and Cell Death in Lateral Line Hair Cells of Zebrafish Larvae." *Brain Research*, vol. 1244, 2008, pp. 1-12.

[24] Visit the North Coast Lily Bulb page to access prior studies: https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily

[25] The 2025 SWAMP Report can be found here: https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2025/25_SWAMP_MR_SRPWM.pdf

[26] The 2025 SWAMP Report Updates Memo can be found here: https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2026/25_SWAMP_MR_MEMO.pdf

[27] Normalized application rates were determined by dividing application rates for each tributary watershed by the tributary area in acres.

[28] The Water Quality Benchmark for diuron and imidacloprid in this Order are consistent with the USEPA Aquatic Life Benchmarks. The Aquatic Life Benchmark for diuron was updated in 2025. The 2025 SWAMP Report compared diuron and imidacloprid detections using benchmarks derived from UC Davis studies.

[29] See definitions of Groundwater Trend Monitoring Well and Drinking Water Supply Well in Appendix I

[30] View the Smith_River_Plain_2015_Groundwater_Interim_Monitoring_Report.pdf (ca.gov) https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/pdf/151209/Smith_River_Plain_2015_Groundwater_Interim_Monitoring_Report.pdf

[31] Trace concentrations are concentrations between the Method Detection Limit and the Reporting Limit.

[32] Established health levels are drinking water standards developed by the CA Department of Pesticide Regulation, the CA State Water Board, and the US EPA. Concentrations below these levels are considered protective against both acute and chronic human health impacts from pesticide exposure

[33] See Smith_River_Plain_2015_Groundwater_Interim_Monitoring_Report.pdf (ca.gov) https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/pdf/151209/Smith_River_Plain_2015_Groundwater_Interim_Monitoring_Report.pdf

[34] Smith River Management Plan, 2021. https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2021/smithmgmttplan.pdf

[35] National Oceanic and Atmospheric Administration (NMFS). 2014. Final Recovery Plan for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon (Oncorhynchus kisutch). National Marine Fisheries Service. Arcata, CA. 1841p

[36] See Essential Fish Habitat on the West Coast | NOAA Fisheries https://www.fisheries.noaa.gov/west-coast/habitat-conservation/essential-fish-habitat-west-coast

[37] 2005 Tidewater Goby Recovery Plan https://ecos.fws.gov/docs/recovery_plan/051207.pdf

[38] Portions of the Basin Plan's narrative toxicity objective have been superseded by the Statewide Aquatic Toxicity Provisions. (See Staff Report for State Policy for Water Quality Control: Toxicity Provisions, Appendix E, pp. 413-414. https://www.waterboards.ca.gov/water_issues/programs/state_implementation_policy/docs/2021/2021-toxicity-staff-report.pdf)

[39] Water Quality Benchmarks were derived from water quality criteria are generally consistent with the State Water Board's guidelines for listing impaired waters under Section 303(d) of the Clean Water Act. As a general approach, North Coast Water Board staff reviewed all available pesticide water quality criteria and selected the most protective (i.e., lowest) values for relevant beneficial uses of surface waters and groundwater in the Smith River Plain. In surface waters, Water Quality Benchmarks (except the acute benchmark for ethoprop and the BLM-derived benchmarks for copper) are sourced from USEPA Aquatic Life Benchmarks. The BLM Instantaneous Water Quality Criteria or BLM-IWQC is a criterion developed using a set of ten parameters to account for complex chemical reactions associated with copper in the environment: pH, Dissolved Organic Carbon (DOC), Calcium (Ca), Magnesium (Mg), Sodium (Na), Sulfate (SO4), Potassium (K), Chlorine (Cl), Alkalinity, and Temperature. The IWQC is used as a water quality threshold for dissolved copper for that specific site and sampling event only. The model's output also includes a toxicity unit (numerical value) to represent the relative risk of copper toxicity in the waterbody at the time of sample collection. For groundwater Water Quality Benchmarks, the North Coast Water Board relies on the applicable Drinking Water Maximum Contaminant Level (MCL), if available. If an MCL is not available, the North Coast Water Board has selected the best available Drinking Water Standard available. Human Health Reference Levels (HHRL) are identified by California Department of Pesticide Regulation's Human Health Assessment Branch. Pesticide concentrations measured in water exceeding these reference levels indicate a health concern. They are not legally enforceable standards but can be used to identify pesticide levels in drinking water that could pose a human health risk. USEPA Chronic or Lifetime Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of chronic non-carcinogenic effects over a lifetime of exposure, assuming that 20% of the exposure to a given pesticide is from water and additional exposure is derived from another source such as food, air, or dermal contact. USEPA Acute or One-day Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of acute

or up to one-day non-carcinogenic effects, assuming that the entire exposure to a given pesticide is from drinking water. Health-Based Screening Levels (HBSLs) are federal, non-enforceable water-quality benchmarks developed by the United States Geological Survey. The HBSL concentration level for diuron, for example, represents a one-in-one million cancer risk range.

[40] See Endnote 38.

[41] The DPR acute Human Health Reference Level (HHRL) for imidacloprid (283 µg/L) is lower than the corresponding chronic HHRL (552 µg/L) because DPR derived both values from the same point of departure applied to the subpopulation with the highest water intake per body weight (non-nursing infants). The difference between the two values reflects the drinking-water exposure assumption, not greater short-term toxicity: the acute HHRL uses 95th-percentile daily water intake, while the chronic HHRL uses average daily intake. DPR uses the lower acute HHRL of 283 µg/L as its screening level because it is protective of both acute and chronic exposures. Accordingly, this Order uses the acute screening level as its Water Quality Benchmark. (See DPR, Updated Risks from Human Exposure to Imidacloprid Residues in Well Water, April 13, 2021: https://www.cdpr.ca.gov/wp-content/uploads/2024/10/imidacloprid_risks_memo.pdf)

[42] Contact the North Coast Water Board for a copy of this internal memo.

[43] Nowell, L.H., Norman, J.E., Moran, P.W., Martin, J.D., and Stone, W.W., 2014, Pesticide toxicity index—A tool for assessing potential toxicity of pesticide mixtures to freshwater aquatic organisms: U.S. Geological Survey Scientific Investigations Report 2014–5106, 104 p., doi.org.

[44] The Clean Water Act does not specifically define nonpoint source pollution, except by stating that nonpoint source is anything that is not considered a point source. A point source is defined under federal regulation as “any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

[45] The Antidegradation Policy: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf

[46] State Water Board Order WQ 86-17 (*Fay*), pp. 16-19.

[47] Asociación de Gente Unida por el Agua v. Central Valley Regional Water Quality Control Board (2012) 210 Cal.App.4th 1255, 1262.

[48] State Water Board Order 2015-0075 (*Los Angeles MS4*), p. 23.

[49] While the baseline for the application of the state antidegradation policy is generally the highest water quality achieved since 1986, baseline water quality may be a lower level if that lower level was allowed through a permitting action that was

consistent with applicable antidegradation policies, or where a water quality objective for a particular constituent was adopted after 1968, the baseline for that constituent is the highest water quality achieved since the adoption of the objective. State Water Board Order 2015-0075 (*Los Angeles MS4*) pp. 23-24, fn. 82.

[50] In the Matter of Review of Waste Discharge Requirements General Order No. R5-2012-0116 for Growers Within the Eastern San Joaquin River Watershed that are Members of the Coalition, SWRCB Order No 2018-0002 (2018): https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2018/wqo2018_0002_with_data_fig1_2_appendix_a.pdf.

[51] Questions and Answers Resolution, No. 68-16, State Water Board (Feb. 16, 1995), pp. 5-6.

[52] Questions and Answers Resolution, No. 68-16, State Water Board (Feb. 16, 1995), pp. 5-6.

[53] The State of California maintains multiple publicly accessible environmental monitoring databases and data systems that provide surface water and groundwater quality information, including: the California Environmental Data Exchange Network (CEDEN) for statewide surface water quality data (https://ceden.org/) ; GeoTracker, an online data access system of the State Water Resources Control Board (https://www.waterboards.ca.gov/oil-gas/geotracker/) ; the California Department of Pesticide Regulation's Surface Water Database (SURF) (https://www.cdpr.ca.gov/environmental-monitoring/surface-water/) and Well Inventory Database for pesticide well sampling data (https://calpip.cdpr.ca.gov/wellInventoryDatabase.cfm) ; and the Groundwater Ambient Monitoring and Assessment (GAMA) Program's online groundwater quality tools (https://www.waterboards.ca.gov/gama/) .

[54] https://www.waterboards.ca.gov/gama/docs/hva_map_table.pdf

[55] Note that this section reviews costs of compliance to the Enrollees in this Order. There are broader economic considerations not quantified in this section. For example, implementing this Order may result in positive economic impacts on the broader community through water quality benefits to tourism, recreation, or fishing.

[56] Estimated costs are generated from NRCS Conservation Practice Codes that can be referenced in the NRCS Field Office Technical Guide. https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards

[57] See the North Coast Basin Plan for applicable water quality objectives. North Coast Basin Plan June 2025 Edition https://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/250703/06_25_BP.pdf

[58] See Appendix I for definition of a Field, which has a distinct geography the Lily Bulb Order uses for Planted Areas of lily bulb agriculture.

[59] Agricultural pollutants can include, but is not limited to fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals and wastes associated with agricultural activities.

[60] See Appendix I for definition.

[61] Engineered management practices shall be designed and installed in compliance with plans and specifications prepared by a civil engineer.

[62] The waterside edge of vegetation means the line on the bank that is established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. Enrollees may refer to the definition of Waterside edge of vegetation in Appendix I and/or Attachment D: Methodologies and Procedures for examples.

[63] This Order does not authorize agricultural activities or work in an Unfarmed Wetland. Enrollees must seek coverage through the 401 Water Quality Certification and Wetlands Program (see https://www.waterboards.ca.gov/northcoast/water_issues/programs/water_quality_certification/) for discharges of dredged or fill material to waters of the state (e.g., agricultural development or agricultural activities in Unfarmed Wetlands). An Unfarmed Wetland is any wetland not currently farmed at time of adoption of the Order. An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. (See https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf).

[64] In this case, Hydrologically Connected refers to the lake or reservoir being Hydrologically Connected to the stream, not the Farm Area.

[65] Streambank restoration within wasters of the United States or waters of the state requires separate regulatory coverage under either Clean Water Act section 404/401 or alternative waste discharge requirements. See Water Quality Certification (https://www.waterboards.ca.gov/northcoast/water_issues/programs/water_quality_certification/)

[66] Maintenance of existing watercourse crossings without the need for additional permitting by the North Coast Water Board is limited to removal of vegetation impacting the use and function of the crossing (e.g., preventing vehicle access across the crossing or limiting the flow of water through the crossing infrastructure), clearing and maintaining watercourse function using hand tools or the manual placement of energy dissipating rock.

[67] Installation of surface water diversion infrastructure requires a valid water right from the State Water Board Division of Water Rights and may require additional permit coverage from the North Coast Water Board through an approved 401 Water Quality Certification or alternate waste discharge requirements.

[68] The level of effective shade provided by vegetation when the vegetation is growing at potential. For any given location, this term is called "site- specific potential effective shade."

[69] NRCS Technical Note on Riparian Buffer Design and Species Considerations (https://www.nrcs.usda.gov/plantmaterials/idpmstn7248.pdf) and Dewalle, David. (2010). Modeling Stream Shade: Riparian Buffer Height and Density as Important as Buffer Width1. JAWRA Journal of the American Water Resources Association. 46. 323 - 333. 10.1111/j.1752-1688.2010.00423.x.

[70] Compliance education sources include formal classroom training, individual meetings with a qualified trainer, printed materials, and/or internet-based training with an approved Coalition, University of California Cooperative Extension (UCCE), Natural Resources Conservation Service (NRCS), Resource Conservation Districts (RCDs), Regional or State Water Boards, Department of Pesticide Regulation, California Department of Fish and Wildlife, California Department of Food and Agriculture, or other organizations as approved by the Executive Officer. Compliance education requirements are consistent with "outreach and education" requirements in the Statewide Precedential Order.

[71] For example, if the Field is to be prepped and planted to lily bulbs in the summer/fall of 2028, then the WQMP is due to the North Coast Water Board on January 1, 2028.

[72] Treatment Control Management Practices are the implementation of one or more mechanical, chemical, biologic, or any other treatment technology. Treatment control Management Practices must be designed by a qualified professional and must monitor pollutant concentration entering and exiting the treatment system.

[73] See definition in Appendix I

[74] The waterside edge of vegetation means the line on the bank that is established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. Enrollees may refer to the definition of Waterside edge of vegetation in Appendix I and/or Attachment D: Methodologies and Procedures for examples.

[75] Refer to relevant NRCS Conservation Practice Codes that can be referenced in the NRCS Field Office Technical Guide. https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards

[76] See Runoff Volumes Standard Operating Procedure (Rainfall and runoff) SOP) https://www.waterboards.ca.gov/water_issues/programs/swamp/docs/cwt/guidance

/512.pdf

[77] See INMP Worksheet for examples of groundwater protection management practices

[78] INMPs shall be certified either by a by a certified irrigation and nitrogen planning specialist or self-certified by the Enrollee. A certified irrigation and nitrogen planning specialist is a Certified Crop Advisor (CCA) who has completed the California Nitrogen Management exam through The California Department of Food and Agriculture (CDFA), the University of California – Davis, the American Society of Agronomy's (ASA) International Certified Crop Adviser (ICCA) Third-Party and/or the CCA – Western Region (WR) Board and takes the required continuing education credits. Enrollees may self-certify their INMP if they take the CDFA Irrigation and Nitrogen Management Training for Grower Self-Certification, pass the Irrigation and Nitrogen Management Training and Exam and maintain the certification through continuing education (https://www.cdfa.ca.gov/is/ffldrs/frep/training.html).

[79] External sources of nitrogen do not include livestock manure. For example, if a Field is planted to forage crops or irrigated pasture and only receives nitrogen through grazed livestock manure, an INMP is not required for that Field.

[80] An Irrigation and Nitrogen Planning Specialist is a Certified Crop Advisor (CCA) who has completed the California Nitrogen Management exam through The California Department of Food and Agriculture (CDFA), the University of California – Davis, the American Society of Agronomy's (ASA) International Certified Crop Adviser (ICCA) Third-Party and/or the CCA – Western Region (WR) Board and takes the required continuing education credits. Enrollees may self-certify their INMP if they take the CDFA Irrigation and Nitrogen Management Training for Grower Self-Certification, pass the Irrigation and Nitrogen Management Training and Exam and maintain the certification through continuing education (https://www.cdfa.ca.gov/is/ffldrs/frep/training.html).

[81] Guidance for electronic submittal (https://www.waterboards.ca.gov/northcoast/publications_and_forms/available_documents/pdf/2014/ECM_Letter-Guidelines.pdf).

[82] Natural Resources Conservation Service: Conservation Practice Standards Information (https://www.nrcs.usda.gov/getting-assistance/conservation-practices).

[83] See the EnviroAtlas Hydrologic Unit Codes Fact Sheet (https://enviroatlas.epa.gov/enviroatlas/datafactsheets/pdf/Supplemental/HUC.pdf).

[84] See the Cal-IPC website: Plants A to Z (https://www.cal-ipc.org/plants/profiles/).

Appendix II: Figures

Figure 1: Fields used for lily bulb cultivation as reported in 2024 and major coastal tributaries of the Smith River Plain

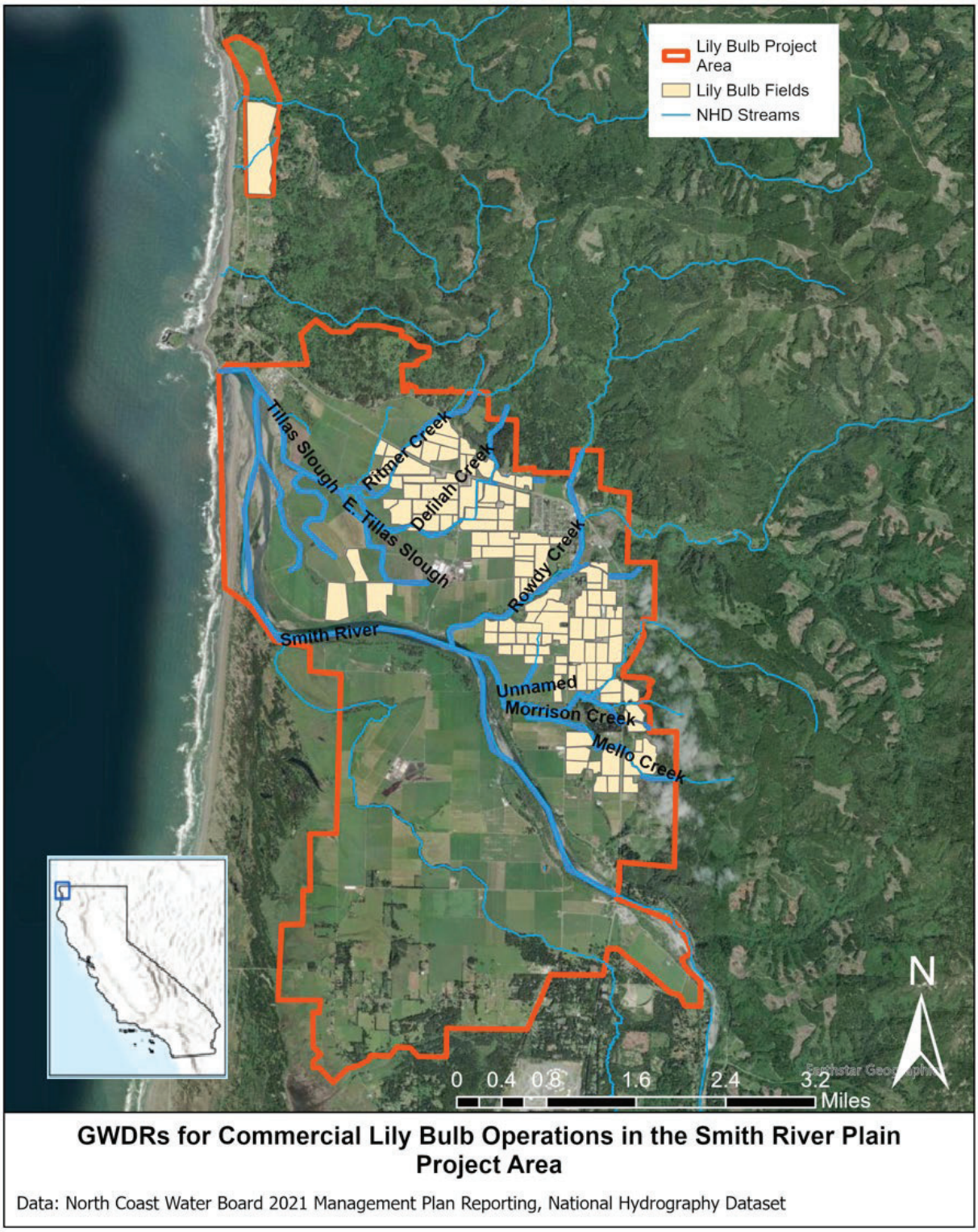
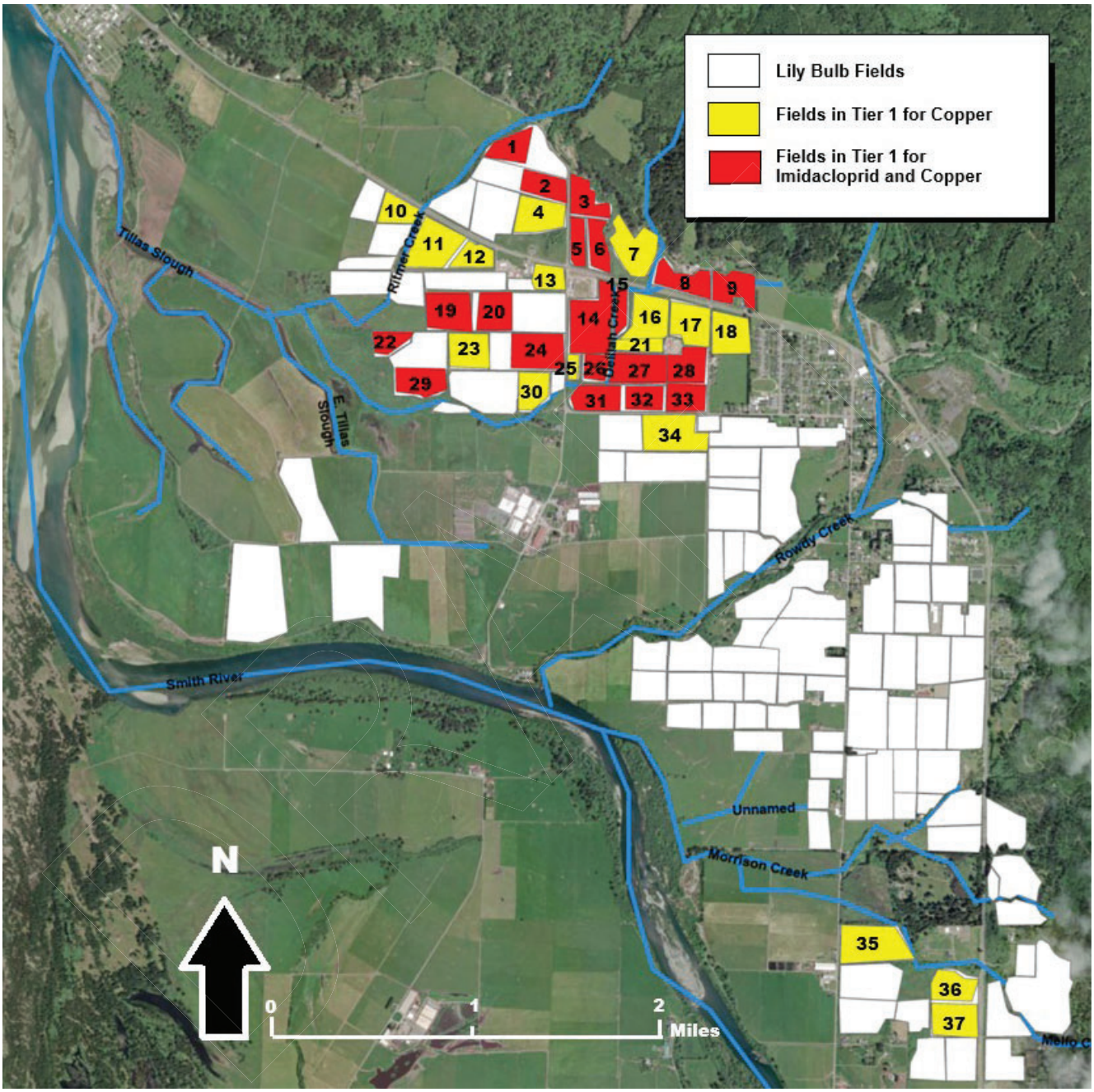


Figure 2: Fields subject to Tier 1 Adaptive Management Requirements upon Enrollment in Order in accordance with Section II.H.



See Table II.2 in Section II.H of the Order (p.77) for the coordinates of each Field ID listed on this map.

Attachment A: Monitoring and Reporting Program

I. Summary

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code section 13267, which authorizes the North Coast Water Board to require the preparation and submittal of technical and monitoring reports. The Executive Officer may modify this MRP as necessary or appropriate. This MRP establishes monitoring and reporting requirements for both Individual Enrollees and Coalitions acting on behalf of their enrolled members to evaluate compliance with the provisions of the General Order and to determine whether state waters receiving discharges from enrolled parcels are achieving applicable water quality goals. See Section I.E of the Order for additional Findings regarding this MRP.

This MRP establishes specific monitoring, reporting, and electronic data deliverable requirements for Coalition Members and Individual Enrollees. This Monitoring and Reporting Program (MRP) consists of the following elements: (1) Surface Water Monitoring; (2) Groundwater Trend Monitoring; (3) Drinking Water Supply Well Monitoring; and (4) Reporting.

1) Surface Water Monitoring: The objectives of the Surface Water Monitoring program are to: (1) monitor synthetic pesticide and dissolved copper concentrations in surface waters downstream from Commercial Lily Bulb Operations; (2) evaluate if discharges from Commercial Lily Bulb Operations are causing or contributing to exceedances of Water Quality Benchmarks in surface waters receiving those discharges or otherwise adversely affecting beneficial uses; and (3) support improvement of on-farm management practices through an iterative Adaptive Management Program (see Section II.H of this Order) designed to achieve the Receiving Water Limitations and conditions of this Order.

2) Groundwater Trend Monitoring: The objectives of Groundwater Trend Monitoring are to: (1) determine current water quality conditions of groundwater relevant to Commercial Lily Bulb Operations, (2) develop long-term groundwater quality information with respect to the pollutants of concern that can be used to evaluate the regional impacts of lily bulb farming and its practices on groundwater quality and beneficial uses, and (3) support improvement of on-farm management practices through an iterative Adaptive Management Program (see Section II.H of this Order) designed to achieve the Receiving Water Limitations and conditions of this Order.

3) Drinking Water Supply Well Monitoring: The purpose of the Drinking Water Supply Well Monitoring Program is to identify potential human health impacts from nitrate and pesticides and notify groundwater well users of nitrate or pesticides concentrations above a Maximum Contaminant Level (MCL) or human health level for drinking water wells located on parcels commercially farmed for lily bulbs.

4) Reporting: Reporting requirements consist of an Annual Compliance Report submitted to the North Coast Water Board by either the Individual Enrollee or the Coalition on behalf of its members. Annual Compliance Reports include an inventory of management practices implemented by Enrollees, Enrollee education event attendance, CEQA Mitigation Monitoring, water quality monitoring results. , and actions taken to meet Receiving Water Limitations and Order conditions, including but not limited to, revised or additional management practices implemented along with an evaluation of monitoring data to identify spatial trends and patterns.

II. Master Schedule

1) A schedule of Monitoring and Reporting is provided in Table A.1 below. All Enrollees shall participate in the monitoring requirements, below. The Coalition may perform Surface Water Monitoring and Groundwater Trend Monitoring on behalf of its enrolled Members.

2) Enrollees or the Coalition may request an extension of a deadline in this MRP by submitting a Request for Extension to the Executive Officer 60 days prior to the deadline. The request shall include an explanation of the anticipated inability to meet the deadline and a proposed time schedule to come into compliance with this MRP.

Table A.1: Water Quality Monitoring Master Schedule

Requirement	Frequency	Parameters	Where to Report
Surface Water Monitoring (see Section III.A)	3 times per year during the storm season	Dissolved copper and pesticides	Annual Compliance Report
Groundwater Trend Monitoring (see Section III.B)	Annually or once every three years in October	Nitrate and pesticides	Annual Compliance Report
Drinking Water Well Sampling (See Section III.B)	Annually or once every three years	Nitrate and pesticides	Submitted to GeoTracker

Table A.2: Reporting Master Schedule

Requirement	Elements of Report	Submittal deadline to North Coast Water Board and Frequency
Annual Compliance Report (see Section IV.A)	Farm Evaluation, annual water quality monitoring results and adaptive management reporting, compliance education event attendance, and CEQA Mitigation Measures	By **March 1, 2028**, and by **March 1st** annually thereafter.

III. Monitoring Requirements

A. Surface Water Monitoring

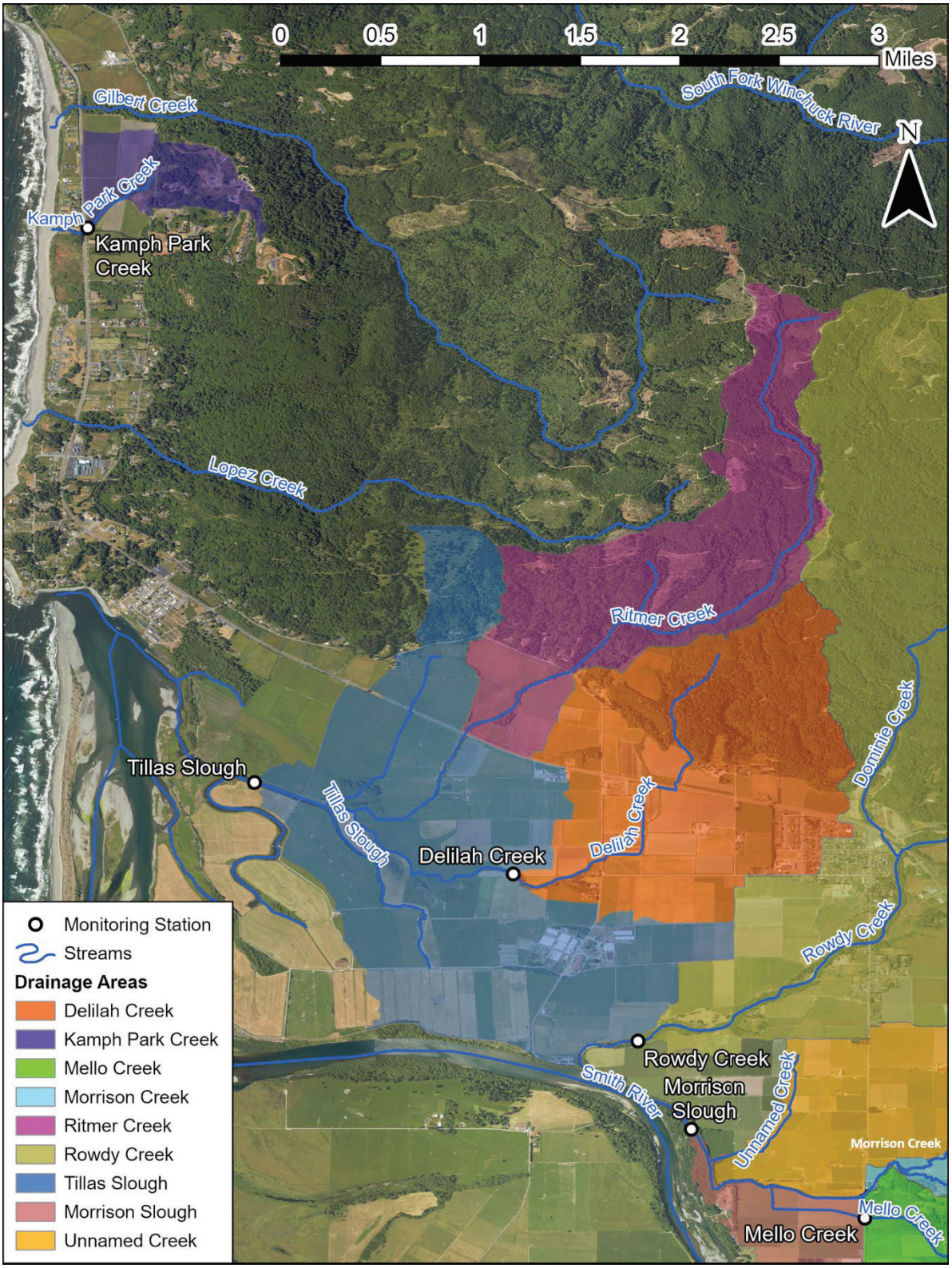
1) Overview: Surface Water Monitoring must provide sufficient data to: 1) determine whether surface waters downstream of Commercial Lily Bulb Operations meet applicable Water Quality Benchmarks; 2) trigger adaptive management where existing practices are insufficient to prevent, minimize or eliminate discharges which cause or contribute to exceedances of Water Quality Benchmarks in receiving waters; and 3) track trends in surface water quality associated with discharges from lily bulb operations. Surface waters shall be monitored for the parameters and at the frequency listed in Table A.3.

2) Locations: Surface water monitoring stations shall be as far downstream of lily bulb operations[1] in each tributary as possible considering site accessibility. Surface water monitoring stations, including corresponding GPS coordinates and station descriptions, are identified in Table A.3 and shown on Figure A.1. Provisions that pertain to modifications to surface water monitoring locations are located in Section V of this MRP. Sampling Mello Creek is optional; if the Mello Creek monitoring station is sampled, the monitoring results shall apply to all fields tributary to that monitoring station for that year and the monitoring results must be reported to the North Coast Water Board.

Table A.3: Surface Water Monitoring Locations

Tributary	Description	GPS Coordinates
Tillas Slough	Upstream side of culvert crossing near relic irrigation pumps	41.93313°, -124.19067°
Delilah Creek	Low water ford downstream of large spruce tree	41.926645°, -124.171889°
Morrison Creek at Morrison Slough	Morrison Creek upstream of confluence with Morrison Slough	41.90809°, -124.15879°
Mello Creek* **optional sampling*	Channel on east side of Fred Haight Drive about 300 feet south of culvert crossing	41.90132° -124.14635°
Rowdy Creek	Right bank accessed off levee road	41.91466°, -124.16284°
Kamph Park Creek	Unnamed creek at location downstream of Highway 101 near Post mile 44.69	41.973210°°, --124.203566°

Figure A.1: Surface Water Monitoring Stations with Watersheds



3) Sampling Schedule: Surface water monitoring shall be conducted during a Major Storm event within each of the three annual sampling windows identified in Table A.5. The Winter Sampling Event shall occur during a Major Storm event between February 1 and March 31. The Spring Sampling Event shall occur during a Major Storm event between April 1 and June 30. The Fall Sampling Event shall occur during a Major Storm event between October 1 and December 31. Samples shall be collected after cumulative precipitation from a Major Storm event reaches one inch and before cumulative precipitation exceeds three inches within a 24-hour period. Sample collection shall occur within 24 hours after the one-inch threshold is reached. Samples collected from the Tillas Slough monitoring station shall be collected during an ebb tide. Refer to Attachment D, Section I, for procedures used to determine the occurrence of a Major Storm event.

4) Parameters and Frequency: Surface waters shall be monitored for synthetic pesticides, dissolved copper (and parameters necessary to run the BLM) according to the schedule shown in Table A.4. Analytical requirements are as follows:

   a) Dissolved copper: all three Sampling Events.

   b) Imidacloprid: Spring and Fall Sampling Events, and the Winter Sampling Event if any Field(s) tributary to the monitoring station are in adaptive management for imidacloprid (see Section II.H of the Order).

   c) Diuron: Winter and Spring Sampling Events.

   d) Ethoprop: Fall Sampling Event.

Table A.4: Surface Water Parameters and Annual Sampling Frequency

Parameter	**Winter Sampling Event** (Feb 1–Mar 31)	**Spring Sampling Event** (Apr 1–Jun 30)	**Fall Sampling Event** (Oct 1–Dec 31)	**Sampling Events per Year**
Dissolved Copper	●	●	●	3
Diuron	●	●		2
Imidacloprid	○	●	●	2–3
Ethoprop			●	1

● = *monitored at this event.*

○ = *monitored only when fields tributary to the monitoring station are in Adaptive Management for that constituent.*

5) Water Quality Benchmarks: Surface waters shall be monitored for the parameters listed in Table A.5 and evaluated against the corresponding Water Quality Benchmark.

Table A.5: Surface Water Monitoring Parameters and Water Quality Benchmarks[2]

Parameter	Analytical Method	Water Quality Benchmark	Water Quality Benchmark Exceedance
Dissolved Copper *(and associated BLM input parameters; see Table A.6 or A.7)*	EPA Method 1640	Toxicity Unit[3] <1 (Acute and Chronic)	Two exceedances of the Chronic BLM-IWQC[4] in a calendar year -OR- a single exceedance of the Acute BLM-IWQC.
Diuron	EPA Method 632	Acute: 87.5 ug/L Chronic: 0.83 ug/L	Two exceedances of the chronic value in a calendar year -OR- a single exceedance of the acute.
Diuron (salinity ≥ 1 ppt)	EPA Method 632	Acute: 600 ug/L Chronic: 3.08 ug/L	Two exceedances of the chronic value in a calendar year -OR- a single exceedance of the acute.
Imidacloprid	EPA Method 525	Acute: 0.385 ug/L Chronic: 0.01 ug/L	Two exceedances of the chronic value in a calendar year -OR- a single exceedance of the acute.
Imidacloprid (salinity ≥ 1 ppt)	EPA Method 525	Acute: 16.5 ug/L	A single exceedance of the acute.
Ethoprop[5]	EPA Method 525	Acute: 22 ug/L Chronic: 0.37 ug/L	Two exceedances of the chronic value in a calendar year -OR- a single exceedance of the acute.
Ethoprop[6] (salinity ≥ ppt)	EPA Method 525	Acute: 3.15 ug/L Chronic: 2.0 ug/L	Two exceedances of the chronic Water Quality Benchmark in a calendar - OR- a single exceedance of the acute.

6) Biotic Ligand Model: Dissolved copper Toxicity Units shall be calculated using the Biotic Ligand Model (BLM). For a copy of the BLM software and user's guide please contact Kathryn Gallagher (gallagher.kathryn@epa.gov) and refer to guidance at the USEPA's Copper Biotic Ligand Model webpage: https://www.epa.gov/wqs-tech/copper-biotic-ligand-model

Enrollees and/or a Coalition have two options for calculating dissolved copper Toxicity Units when surface water salinity is less than 1 part per thousand. When surface water salinity is greater than or equal to 1 part per thousand, Option 2 below shall be used:

a) **Option 1**: Collect only the parameters required in Table A.6 and use the tributary-specific default values provided in Table A.6 for all other parameters; **or**

b) **Option 2**: Collect all parameters listed in Table A.7 to independently run the BLM to generate instantaneous water quality criteria to determine whether the Water Quality Benchmark has been exceeded.

Table A.6: Option 1, BLM Constituent Analytes and tributary-specific default values for BLM Analysis (parameters to measure indicated with italics)

Parameter (mg/L)	**Tillas Slough**	**Delilah Creek**	**Rowdy Creek**	**Morrison Creek at Morrison Slough**	**Mello Creek**	**Kamph Park Creek[7]**
Dissolved Copper	EPA Method 1640	EPA Method 1640	EPA Method 1640	EPA Method 1640	EPA Method 1640	EPA Method 1640
pH, Temperature, Specific Conductivity, Salinity	Field measure	Field measure	Field measure	Field measure	Field measure	Field measure
Alkalinity	50	14	43	19	17	24
Calcium	9.7	6.0	4.7	4.8	4.7	4.1
Dissolved Organic Carbon	3.6	1.7	0.8	1.3	1.5	3.1
Magnesium	14	3.7	6.2	2.3	2.5	3.4
Potassium	3.6	1.2	0.7	1.0	1.0	1.5

Parameter (mg/L)	Tillas Slough	Delilah Creek	Rowdy Creek	Morrison Creek at Morrison Slough	Mello Creek	Kamph Park Creek[7]
Sodium	46	7.0	3.9	4.9	4.6	11
Sulfate	19	3.8	2.3	2.8	3.8	2.7
Sulfide	0	0	0	0	0	0
Chloride, Total	116	9.9	3.8	5.5	5.8	17

Table A.7: Option 2, BLM Constituent Analytes to collect for BLM Analysis

Parameter	Analytical Method	Parameter	Analysis Type
Dissolved Copper	EPA Method 1640	Dissolved Organic Carbon	SM 5310B
pH	Field Measure	Magnesium	EPA Method 200.7
Temperature	Field Measure	Potassium	EPA Method 200.7
Specific Conductivity	Field Measure	Sodium	EPA Method 200.7
Salinity	Field Measure	Sulfate	EPA Method 300.0
Alkalinity	EPA Method 2320B	Sulfide	SM 4500S2
Calcium	EPA Method 200.7	Chloride, Total	EPA Method 300.0

7) Results: If a Water Quality Benchmark is exceeded for any applicable parameter in Table A.5, Enrollees shall refer to Table A.8 below to determine which Field(s) in the tributary area in the year the sample was collected are required to comply with the Adaptive Management Program in Section II.H of this Order

Table A.8: Fields Subject to Adaptive Management upon Benchmark Exceedance, by Sampling Event and Constituent

Constituent	Winter Event (February–March)	Spring Event (April–June)	Fall Event (October–December)
Dissolved Copper	Current cultivation fields	Current cultivation fields	Previous season fields (most recently harvested)
Diuron	Current cultivation fields	Current cultivation fields	Not monitored
Imidacloprid	Current cultivation fields*	Current cultivation fields	Previous season fields (most recently harvested)
Ethoprop	Not monitored	Not monitored	Current cultivation fields

* Imidacloprid is sampled at the Winter Event only when fields tributary to the monitoring station are in Adaptive Management for imidacloprid.

8) Reporting: The results of Surface Water Monitoring shall be reported annually in the Annual Compliance Report.

9) Noticing: North Coast Water Board staff may observe any field sampling event or collect split or duplicate samples at any monitoring location regulated under this MRP. The Enrollee(s) or Coalition conducting the sampling shall notify North Coast Water Board staff 24 hours in advance of an anticipated sampling event, Enrollees shall cooperate with North Coast Water Board staff and provide necessary site access and information on sampling schedules when requested.

Edge-of-Field Monitoring for Adaptive Management Program (Optional)

10) Enrollees may implement an individual Sampling Plan to directly demonstrate that applicable Water Quality Benchmarks identified in Table A.5 for the exceeded parameter are being met at Edge-Of-Field Discharge Point(s) in the lily bulb Field. If Water Quality Benchmarks are being met, that Field is exempted from Adaptive Management requirements despite continued exceedances at the downstream monitoring station. If this option is selected, the Enrollee must comply with the following requirements:

    a) Sampling Plan: By **March 1st** of the year the applicable Field(s) are planted, the Enrollee shall develop and submit an individual Sampling Plan to the Executive Officer for review and approval that identifies all Edge-of-Field Discharge Point(s) for the applicable Field(s) in the Adaptive Management Program. The Sampling Plan shall include a Field description; the number and location of individual sampling points to adequately characterize the majority of the discharge from the Field based on its typical discharge patterns; a map of the Field(s) with drainage patterns and planned sampling points identified; and a QAPP section with a description of sample collection procedures and a description of how samples will be handled, transported, and received by the laboratory.

    b) Sampling Requirements: Enrollees shall refer to Tables A.4-A.7 for the list of parameters that need to be analyzed and the appropriate types of analyses. Enrollees must sample their Edge-of-Field Discharge Point(s) concurrent with the sampling at the downstream monitoring station. Enrollees shall refer to sampling and handling instructions in Attachment D: Methodologies and Procedures.

    c) Sampling Analysis: A laboratory that is certified by the State Water Board's Environmental Laboratory Accreditation Program (ELAP) shall conduct all laboratory analyses according to standard methodologies (e.g., USEPA methods and/or Standard Methods for the Examination of Water and Wastewater). Laboratory analytical methods must be included in the QAPP section. The QAPP section shall include the laboratory's Standard Operating Procedures (SOPs).

    d) Reporting: Individual Enrollees shall upload all data collected in the Edge-of-Field Sampling Plan to GeoTracker in accordance with Section IV.A of this MRP. Coalition Members may submit their Edge-of-Field Sampling data to the Coalition, which shall report data to the North Coast Water Board by watershed and Anonymous Field ID in the Annual Report.

    e) Results: If sampling indicates that Water Quality Benchmarks are being met at the edge-of-field, the Field is not subject to Adaptive Management requirements, even if the downstream monitoring station has exceeded a Water Quality Benchmark. Once this demonstration has been achieved, an

Enrollee must continue to implement their approved Edge-of-Field Sampling Plan to demonstrate compliance or an alternate method approved by the Executive Officer. If the Water Quality Benchmark is not met at the Edge-Of-Field location and the corresponding downstream surface water monitoring station also exceeds a Water Quality Benchmark for the same parameter within the same calendar year, the Field in question shall be escalated in Adaptive Management (e.g., if the Field was in Tier 1, the Field must escalate to Tier 2). The Enrollee shall select and implement the appropriate Adaptive Management requirement during the next crop production cycle.

B. Groundwater Monitoring

1) Overview: The purpose of the Groundwater Monitoring Program is to 1) characterize groundwater quality and trend in areas where lily bulbs are cultivated; 2) identify drinking water supply wells that may be impacted by Commercial Lily Bulb Operations; 3) notify users of those drinking water supply wells of Water Quality Benchmark exceedances; and 4) trigger adaptive management where existing practices are insufficient to prevent, minimize or eliminate discharges which cause or contribute to exceedances of Water Quality Benchmarks. The Program consists of two components:

    a) Drinking Water Supply Well Monitoring: conducted at all private Drinking Water Supply Wells located on an enrolled parcel to identify wells with nitrate or pesticide concentrations that may pose human health risks and to notify users of those risks.

    b) Groundwater Trend Monitoring: conducted at one representative monitoring well per Enrollee to characterize groundwater quality impacts from lily bulb agriculture.

    Groundwater Trend Monitoring may be conducted by an Individual Enrollee or by a Coalition on behalf of its members. Drinking Water Supply Well Monitoring shall be conducted by the Enrollee. A monitored Drinking Water Supply Well may satisfy Groundwater Trend Monitoring requirements provided the well meets the representativeness criteria in Section B.2.b below.

2) Monitoring Locations: Enrollees shall select the following wells for monitoring:

    a) Drinking Water Supply Wells: Enrollees shall monitor all private Drinking Water Supply Wells located on an enrolled parcel. Sampling may cease at any well that is taken out of service or no longer provides drinking water because replacement water is being supplied. Enrollees shall keep records (for example, photographs or bottled-water receipts) establishing that the well is not used for drinking water.

    b) Groundwater Trend Monitoring Wells: Each Enrollee shall designate at least one representative monitoring well to characterize groundwater quality associated with all enrolled parcels. This requirement may be satisfied by an existing monitored Drinking Water Supply Well provided the well location and screen interval are representative of current groundwater quality conditions and suitable for evaluating aggregated regional impacts from Commercial Lily Bulb Operations in accordance with the Groundwater Trend Monitoring objective. Groundwater Trend Monitoring wells must be proposed to the North Coast Water Board in accordance with the following provisions:

        i) By **July 1, 2027**, the Individual Enrollee, or the Coalition on behalf of

each of its members, shall propose a representative monitoring well that considers the following criteria for identifying areas that may be at higher risk of nitrate impacts to groundwater quality from lily bulb agriculture: (1) existing water quality data; (2) depth to groundwater with consideration given to selecting wells that best represent the groundwater zones most likely to be affected by lily bulb farming and where appropriate to evaluate potential nitrate migration to deeper aquifer; and (3) presence of wells in locations that are not influenced by other potential nitrogen sources (e.g., dairies) so that monitoring results reflect nitrate impacts associated with lily bulb farming. In addition to these criteria, the Enrollee or Coalition shall include the following information for each proposed Groundwater Trend Monitoring well:

1. Map and GPS coordinates;

2. California state well number, if known;

3. Total well depth;

4. Top and bottom depths of well casing perforations;

5. A copy of the water well driller's log, if available;

6. Depth of standing water (static water level), if available; and

7. Well seal information (type of material, length of seal).

Where complete well construction and location details are not available, the Enrollee shall provide well information to the maximum extent practicable to allow the Executive Officer to determine that the well is suitable for meeting the objectives of the Groundwater Monitoring Program.

3) Parameters. Each monitored well (Groundwater Trend Monitoring Wells and Drinking Water Supply Wells) shall be sampled for the parameters listed in Table A.9 and described below:

a) Nitrate;

b) Any pesticide listed in Table A.9 that the Enrollee has applied on any enrolled parcel in the previous five years; and

c) The following field parameters: pH, conductivity (at 25 °C), temperature, and Total Dissolved Solids (TDS).

Table A.9: Groundwater Monitoring Parameters, Water Quality Benchmarks. Benchmark Exceedances and Analytical Methods

Parameter	Benchmark	Analytical Method
Diuron	Acute: 1,028 ug/L Chronic: 2.0 ug/L	EPA 632
Imidacloprid	Acute: 283 ug/L	EPA 632
Mefenoxam	Acute: 3,000 ug/L	EPA Method 525
Napropamide	Chronic: 710 ug/L	EPA Method 525
Nitrate	10 mg/L	SM4500-NO3-E

4) Frequency. Monitoring frequency is governed by the following provisions:

   a) Initial three years: Monitoring wells shall be sampled annually for three consecutive years. Annual samples for Groundwater Trend Monitoring wells shall be collected within the month of October. In lieu of one or more of the three initial annual sampling events, Enrollees may submit existing monitoring results from Drinking Water Supply Wells collected within three years prior to enrollment under this Order, provided the analyses were performed by an ELAP-certified laboratory using U.S. EPA-approved methods.

   b) After three years of initial sampling: If the concentration of any parameter listed in Table A.9 exceeds either 5 mg/L of nitrate or a pesticide chronic Water Quality Benchmark in any annual sample, the Enrollee shall continue annual sampling for that parameter. Annual sampling shall continue until concentrations remain below 5 mg/L of nitrate and below all pesticide chronic Water Quality Benchmarks for three consecutive years, at which point the Enrollee may reduce the sampling frequency for that parameter to once every three years. If a subsequent exceedance occurs during reduced-frequency sampling, annual sampling shall resume.

   c) Executive Officer discretion: The Executive Officer may at any time require an alternative sampling frequency for any monitored well based on evaluation of data.

5) Sampling methods. Samples shall be collected using proper sampling methods, chain-of-custody, and quality assurance/quality control protocols. Drinking Water Well samples shall be collected at or near the well head, before the pressure tank and prior to any well-head treatment. Where this is not possible, samples shall be

collected from a sampling point as close to the pressure tank as possible, or from a cold-water spigot located before any filters or water treatment systems.

6) Analytical methods. Laboratory analyses shall be conducted by an Environmental Laboratory Accreditation Program (ELAP)-certified laboratory using U.S. EPA-approved methods. Unless otherwise noted, all monitoring, sample preservation, and analyses shall be performed in accordance with the latest edition of Test Methods for Evaluating Solid Waste, SW-846, U.S. EPA, and analyzed by the methods and reporting limits identified in Table A.10. Certified laboratories are listed on the State Water Board's ELAP website (https://www.waterboards.ca.gov/drinking_water/certlic/labs/index.html).

7) Results. Enrollees are subject to groundwater Adaptive Management Program requirements (Section II.H of this Order) for any parameter listed in Table A.9 when either concentrations of the parameter statistically increase over three consecutive years, or there is a Water Quality Benchmark Exceedance of that parameter as specified in Table A.9. If a sample from a Drinking Water Supply Well exceeds a Water Quality Benchmark listed in Table A.9 the Enrollee must do the following:

   a) Notice to well users: The Enrollee shall provide written notice to the drinking water well users within 10 days of learning of the exceedance and shall send a copy of the notice to the North Coast Water Board. The copy provided to the North Coast Water Board shall include a report of the number of people the well supplies.

   b) Notice to non-Enrollee owner: If the Enrollee is not the owner of the parcel, the Enrollee may instead notify the owner within 24 hours of learning of the exceedance. The owner shall then notify the drinking water well users within nine days and send a copy of the notice to the North Coast Water Board.

   c) Notification template and signature: Notification shall be made by providing a copy of the Drinking Water Notification Template approved by the Executive Officer in a language accessible to the well users. Enrollees may contact the North Coast Water Board for language assistance. The template shall be signed by the Enrollee or, where applicable, the non-Enrollee owner, certifying that notice has been provided. A copy of the signed template shall be sent to the North Coast Water Board and retained by the Enrollee or non-Enrollee owner.

8) Reporting. Results of groundwater monitoring shall be reported in accordance with the following provisions:

   a) Drinking Water Supply Wells: All Drinking Water Supply Well monitoring data, shall be submitted electronically to the State Water Board's GeoTracker database by the testing laboratory. The data submitted shall include the Assessor's Parcel Number (APN) where the well is located and

the well's coordinates (latitude and longitude). The initial sampling event shall be completed in time to allow results to be submitted to GeoTracker by **March 1, 2028.**

b) Groundwater Trend Monitoring Wells. Results of Groundwater Trend Monitoring shall be included annually in the Annual Compliance Report (see Section IV).

IV. Reporting Requirements

1) Enrollees shall comply with all reporting requirements and schedule outlined in Table A.2.

2) Individual Enrollees shall create a GeoTracker user account. Instructions for setting up an account and the process of claiming a site, formatting, and uploading data, and other technical information can be found under “ESI Overview” and “Getting Started” sections on the State Water Board’s website[8.] Drinking water well monitoring data and all analytical data required of Individual Enrollees shall be uploaded to GeoTracker in an Electronic Deliverable Format (EDF). Additionally, all monitoring reports, and correspondence shall be in searchable Portable Document Format (PDF) and shall be uploaded annually to GeoTracker.

3) Coalition Members shall submit all required reporting data through the Coalition except for the Certified WQMP, Groundwater Protection Plan, and the Drinking Water Well Sampling data, which shall be submitted directly to the North Coast Water Board and uploaded to GeoTracker respectively. The Coalition shall submit all required information as detailed in this section on behalf of its enrolled Members to the North Coast Water Board. Data required of Coalitions on behalf of their enrolled members shall be submitted to the North Coast Water Board in accordance with the requirements set forth in the following sections.

4) Information collected through the MRP shall be reported in the Annual Compliance Report as described in Section IV.A of this MRP.

A. Annual Compliance Report

1) Individual Enrollees shall complete and upload their Annual Compliance Report to GeoTracker by **March 1, 2028,** and by **March 1st** annually thereafter. A Coalition may submit one Annual Compliance Report on behalf of their enrolled members by **March 1, 2028,** and by **March 1st** annually thereafter.

2) The Annual Compliance Report for Individual Enrollees shall consist of the following elements (as also described in detail below in this section):

a) Farm Evaluation: Inventory of management practices to control the discharge of sediment, pesticides, and nutrients from the Farm Area and identification of wells, watercourses, and appurtenant structures. The Farm

Evaluation also includes Adaptive Management reporting.

b) Compliance Education Event Attendance: The Enrollee shall report on the annual compliance education event attended in the previous year.

c) CEQA Mitigation Monitoring: The Enrollee shall report on the CEQA mitigation measures in Attachment E employed to comply with the provisions of the Order in the previous year.

d) Annual Water Quality Monitoring Results: Results from Surface Water Monitoring , Edge-of-Field monitoring (if applicable), and Groundwater Trend Monitoring. Drinking Water Well sampling is uploaded separately to GeoTracker and does not need to be included in the Annual Compliance Report.

3) The Annual Compliance Report that a Coalition may submit on behalf of its enrolled Members shall consist of:

a) The Participant List: The Participant List shall include the Owner/Operator name, address, and total number of enrolled acres of all enrolled Members of the Coalition. The Participant List shall also identify Enrollees who are no longer Members of the Coalition and include a reason for non-participation including, but not limited to: (1) No longer farming/sold farm, or (2) Plan to enroll in the Order as an Individual Enrollee. Finally, the Participant List shall indicate which Fields are in the Adaptive Management Program as described in Section II.H of the Order, the parameters being addressed, Tier and compliance option of Adaptive Management, Fields not currently meeting Water Quality Benchmarks, and how many years each Field has been in the Adaptive Management Program for each applicable parameter.

b) Management practice implementation and adaptive management data from the most recently submitted Farm Evaluations: Enrollees shall submit information from their Farm Evaluations, which the Coalition shall report by an Anonymous Field ID.

c) Compliance Education Attendance: The Coalition shall report education event attendance for its enrolled Members by Member ID in accordance with Section II of this Order.

d) CEQA Mitigation Monitoring: The Coalition shall report the mitigation measures in Attachment E their members implemented to comply with the provisions of the Order. These mitigation measures shall be reported to the Coalition by the Enrollees and aggregated and submitted to the North Coast Water Board by Anonymous Field ID.

e) Annual Monitoring Report: Results from Surface Water Monitoring , Edge-of-Field monitoring (if applicable), and Groundwater Trend Monitoring.

Drinking Water Well sampling is uploaded separately to GeoTracker.

Farm Evaluation

4) All Enrollees shall complete an annual Farm Evaluation to inventory the management practices currently implemented on their Commercial Lily Bulb Operation and to identify any additional practices needed to prevent discharges that could cause or contribute to exceedances of water quality objectives or violate the Receiving Water Limitations in Section II.C. The Farm Evaluation shall include all Fields in lily bulb rotation, including fields planted to lily bulbs, fallow fields, and fields producing other crops that are part of the rotation. Fields may be exempt from Farm Evaluation reporting once they have been out of lily bulb production for five years or more.

5) Enrollees shall complete a Farm Evaluation each year for all enrolled Fields. Where this MRP requires reporting by Field, Enrollees may aggregate data for multiple Fields provided that the reported area has (1) the same fertilizer inputs, (2) the same irrigation management, and (3) the same management practices. Any Fields that are aggregated for reporting purposes in this way shall be referred to as a Management Unit and shall be defined, labeled and consistent across all reporting.

6) Enrollees may use the use the Farm Evaluation Template on the North Coast Water Board's website, or an alternative template which meets all below requirements. Individual Enrollees must report this completed template as part of their Annual Compliance Report. Enrollees in a Coalition shall report Farm Evaluation information to the Coalition and keep a copy of the completed Farm Evaluation template at their farming operations headquarters or primary place of business. At a minimum, the Farm Evaluation Template will require the following:

    a) Owner/Operator Identification: The name, business address, mailing address, email address, phone number of the owner and operator (if different from owner).

    b) Commercial Lily Bulb Operation Identification: Location(s) of parcel(s) that are part of the Farming operation[9], including: (1) the address, (2) the Assessor Parcel Numbers (APNs), (3) the Drainage Area (see Figure A.1 for Drainage Areas) (4) the self-appointed Field ID[10] of each enrolled APN, if applicable, and (5) the total acreage under cultivation for each APN.

    c) Well Identification: The number of (1) irrigation wells, (2) Drinking Water Supply Wells, and (3) abandoned or inactive wells located within each enrolled APN. Each well shall be given a unique Well ID.

    d) Farm Map: A Farm Map shall include all enrolled parcels and may be an aerial photograph, topographic map, LiDAR-derived shaded relief map, Google Earth image, or equivalent that depicts features at 1-inch = 50 feet

or larger scale. The farm base map(s) shall include a north arrow, scale bar, legend for any symbology, and labels on the following appurtenant features on all enrolled parcels:

i) Field ID(s),

ii) Fields planted to lily bulbs. For all other fields, indicate land use (e.g., another crop, fallow, grazing, etc.).

ii) Farm buildings[11] and equipment yards; and

iii) Nutrient or pesticide handling and mixing sites, storage facilities, staging areas

e) Compliance Education Event Attendance: At a minimum, the compliance education event attendance records shall include: date of annual event attended; type of event (e.g., in-person meeting, online video, printed materials), and brief description of topics covered.

f) Management Practices: A list of management practices implemented within each Field to minimize and prevent erosion and the discharge of pollutants from the Farm Area, agricultural roads, and Streamside Areas. Enrollees shall report whether the minimum Streamside Area widths in Table II.1 are being met in each applicable Field and specify where minimum Streamside Area width is not being achieved, if applicable.

g) Irrigation and Nutrient Management: (1) A list of management practices implemented within each Field to minimize or prevent discharges of nutrients to surface waters and to minimize leaching of nitrogen past the root zone, (2) Primary and secondary irrigation methods for each APN, and (3) irrigation management practices to minimize or prevent surface run-off or groundwater leaching, and (4) nitrogen applied lbs/acre in each Field either planted to lily bulbs or receiving an external source of nitrogen[12]. Nitrogen applied shall be reported as follows:

ii) Nitrogen applied via fertilizers (lbs./acre).

iii) Nitrogen applied via organics and compost (lbs./acre).

iv) Nitrogen applied via water (lbs./acre).

v) Total Nitrogen applied (lbs./acre) [sum of nitrogen from fertilizer, organics/compost, and all applied water].

h) Adaptive Management Reporting (if applicable): For all Fields in the Adaptive Management Program, the Enrollee must report Adaptive Management Tier, indicate which parameter Adaptive Management is addressing and report the selected Adaptive Management Compliance

Option as specified in Section II.G of the Order.

i) CEQA Mitigation Monitoring: The CEQA Mitigation Monitoring shall include information on the implementation of CEQA mitigation measures (as described in Attachment E of the Order), including the measure implemented, identified potential impact the measure addressed, parcel(s) where of the mitigation measure was employed, and any steps taken to monitor the ongoing success of the measure.

j) Certification of Maintenance: The Enrollee shall certify on their Farm Evaluation that all management practices are designed, installed, maintained, and promptly repaired in accordance with Section II of the Order.

7) The Coalition may submit Farm Evaluation data in the Annual Compliance Report in lieu of Enrollee submittal of their individual Farm Evaluations to the North Coast Water Board. The following data from the prior year's Farm Evaluations shall be reported to the North Coast Water Board for each Field in an Excel Workbook format and be accompanied by a quality assessment of the collected information (e.g., missing data, potentially incorrect/inaccurate reporting), and a description of corrective actions to be taken regarding any deficiencies in the quality of data submitted, if such deficiencies were identified:

a) Anonymous Enrollee ID and Field number.

b) Anonymous APN Number

c) Drainage area Field is located (see Figure A.1)

d) Pesticide water quality management practices.

e) Sediment and erosion control management practices.

f) Irrigation and Nutrient Management reporting including:

i) Irrigation method.

ii) Irrigation practices.

iii) Nitrogen management practices and Nitrogen Applied through the following:

1. Nitrogen applied via fertilizers (lbs./acre).

2. Nitrogen applied via organics and compost (lbs./acre).

3. Nitrogen applied via water (lbs./acre).

4. Total Nitrogen applied (lbs./acre) [sum of nitrogen from fertilizer, organics/compost, and all applied water].

g) Number of irrigation wells (both active and inactive).

h) Number of drinking water wells on the parcel.

i) Compliance Education event date

j) CEQA mitigation measure implemented on the parcel

k) Adaptive Management Tier and Compliance Option (if applicable), and parameter for which Adaptive Management is being implemented.

Annual Water Quality Monitoring Results

8) The Annual Water Quality Monitoring results submittal shall include all Surface Water Monitoring, Groundwater Trend Monitoring, and Adaptive Management Program Edge-of-Field Sampling (if applicable) from the past crop year. Individual Enrollees shall upload all data into GeoTracker. The Coalition may submit data on behalf of its enrolled Members to the North Coast Water Board. Submittal deadlines are provided in the Master Schedule in Section II of this MRP.

9) All analytical data required of Individual Enrollees shall be uploaded to GeoTracker in an Electronic Deliverable Format (EDF). Additionally, monitoring data, monitoring reports, and correspondence shall be in searchable Portable Document Format (PDF) and shall be uploaded annually to GeoTracker. Data required of Coalitions on behalf of their enrolled Members shall be submitted to the North Coast Water Board in accordance with the requirements set forth in the following sections.

<u>Surface Water Monitoring and Groundwater Trend Monitoring Data Submittal</u>

10) The Enrollee or Coalition shall submit results using a template on the North Coast Water Board website or an alternate template approved by the Executive Officer. Data shall be submitted in an electronic format and include the following for the required reporting period:

a) Excel workbook containing all surface water data.

b) Excel workbook containing all groundwater monitoring data.

c) Electronic copies of all field sheets.

d) Electronic copies of all applicable laboratory analytical reports shall be submitted once per year with the Annual Compliance Report.

e) For chemistry data, analytical reports shall include, at a minimum, the following:

i) A lab narrative describing quality control failures.

ii) Analytical problems and anomalous occurrence.

iii) Chain of custody and sample receipt documentation.

iv) All sample results for contract and subcontract laboratories with units. Reporting Limits and Method Detection Limits.

v) Sample preparation, extraction, and analysis dates.

vi) Results for all quality control samples including all field and laboratory blanks, lab control spikes, matrix spikes, field and laboratory duplicates, and surrogate recoveries.

11) If any data is missing from the annual report, the submittal shall include a description of what data is missing and when it will be submitted to the North Coast Water Board.

Adaptive Management Program Edge-of-Field Data Submittal (if applicable)

12) Enrollees in the Adaptive Management Program who have elected to conduct Edge-of-Field Sampling shall submit data to the Coalition, which shall include these results in its Annual Compliance Report submittal to the North Coast Water Board. Individual Enrollees must submit Edge-of-Field sampling data directly to the North Coast Water Board.

13) The following information shall be reported for each applicable Field:

a) Site description, including a map showing Field boundaries, drainage patterns, and Monitoring points

b) Analytical results submitted in a tabular format

c) Any exceedance(s) of Water Quality Benchmark

d) Data interpretation including assessment of compliance and/or noncompliance with Water Quality Benchmarks

e) Copy of chain of custody, submitted electronically

f) Associated laboratory and field quality control samples results, with summary of precision and accuracy

g) Quality control data interpretation, including assessment of data quality objectives

V. Modifications to the Monitoring and Reporting Program

1) The Executive Officer may revise the monitoring parameters, schedule, locations, frequencies, or protocols, and may require additional monitoring or third-party verification, as necessary to reflect changes in enrollment, trends in pesticide use, the emergence of pesticides of concern, the implementation of management practices, or to ensure the integrity and representativeness of monitoring data to meet the objectives of this MRP. For example, changes in pesticide use practices or emerging pesticides of concern may prompt modifications to monitoring parameters at the Executive Officer's discretion.

2) This MRP allows Enrollees or the Coalition to request modifications to monitoring schedules and/or frequencies after a sufficient amount of time has passed (e.g., 10 years) to determine that: (1) the Enrollee or Coalition has demonstrated overall compliance with requirements of the Order; and (2) monitoring data indicate that the Enrollee or group of Enrollees are not causing, contributing to, or threatening an exceedance of applicable water quality objectives or a condition or pollution or nuisance; or unreasonably affecting applicable beneficial uses. The request must be supported by applicable water quality monitoring data and applicable information to indicate Enrollee compliance with Order requirements (e.g., Farm Evaluation data, inspection reports, or information supplied by the Enrollee or Coalition).

3) The Executive Officer may revoke reduced monitoring frequencies and re-instate monitoring schedules indicated in the MRP for Enrollee(s) who no longer meet the conditions for which reduced monitoring was granted.

4) Enrollees and/or the Coalition may propose new or alternate surface water monitoring stations for approval by the Executive Officer to address changes in lily bulb operations, monitoring access constraints, or the need to differentiate monitoring locations among Enrollees within a tributary area. Proposals for alternate locations must include map(s), description, and GPS coordinates of all proposed monitoring locations. Alternate monitoring locations must also specify access routes, ingress/egress points, and potential hazards. The map(s) may be an aerial photograph(s), topographic map, LiDAR-derived shaded relief map, Google Earth image, or equivalent, that depicts features at 1-inch = 50 feet or larger scale and clearly delineates the alternate location.

VII. MRP Endnotes

[1] Monitoring stations shall be as far downstream of lily bulb operations that is possible, considering site accessibility.

[2] See Section G.1 in the Findings for a discussion on Water Quality Benchmarks and sources of these Benchmarks. Laboratory analyses should have the detection limit and reportable detection limit lower than corresponding numeric water quality objectives or water quality guidelines. Change of laboratory method with approval of the North Coast Water Board may be required to meet the reporting limits requirement.

[3] The toxicity unit (TU) is a simple ratio of the measured concentration of dissolved copper to the BLM-generated criteria and is calculated by dividing the measured value by the modelled criteria.

[4] The BLM Instantaneous Water Quality Criteria or BLM-IWQC is a criterion developed using a set of ten parameters to account for complex chemical reactions associated with copper in the environment: pH, Dissolved Organic Carbon (DOC), Calcium (Ca), Magnesium (Mg), Sodium (Na), Sulfate (SO4), Potassium (K), Chlorine (Cl), Alkalinity, and Temperature. The IWQC is used as a water quality threshold for dissolved copper for that specific site and sampling event only. The model's output also includes a toxicity unit (numerical value) to represent the relative risk of copper toxicity in the waterbody at the time of sample collection.

[5] At this time, the Surface Water Monitoring program requires only one Sampling Event for ethoprop per year, and therefore, only the acute Water Quality Benchmark would apply in determining exceedances. This MRP allows the Executive Officer to require additional sampling of ethoprop depending on water quality monitoring results. If additional sampling of is required, the chronic Water Quality Benchmark would also be used to determine exceedances.

[6] See Endnote 5 above.

[7] These values are based on one sample event.

[8] GeoTracker electronic submittal of information (https://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/).

[9] All parcels that have been planted to lily bulbs anytime in the five years previous to enrollment are considered part of the Commercial Lily Bulb Operation for purposes of this Order. Parcels may be unenrolled after they have not been planted to lily bulbs for over five years.

[10] Fields are defined as areas of similar agrochemical, nutrient, and irrigation management for purposes of reporting.

[11] Farm buildings include equipment storage sheds, farmworker housing, and processing buildings.

[12] External sources of nitrogen do not include livestock manure. For example, if a Field is planted to forage crops or irrigated pasture and only receives nitrogen through grazed livestock manure, an INMP is not required for that Field.

Attachment B: Management Practices

Attachment B provides guidance on Management Practices that may be implemented to comply with Section II.D (Management Practice Requirements) of this Order. Alternatively, Enrollees may propose and implement Management Practices that provide equivalent or greater protection of water quality to meet the requirements of the Order. Enrollees are responsible for the design, implementation, maintenance, and repair of Management Practices to ensure their continued effectiveness in achieving the water quality goals of this Order.

The Management Practices in Table B.1 below are listed by category to achieve compliance with the following requirement from Section II.D in the Order:

All Enrollees shall, at a minimum, implement Management Practices necessary to:

a) Prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads;

b) Prevent, minimize or eliminate the discharges of all agricultural pollutants, including synthetic pesticides and copper-based fungicides to surface waters and groundwater;

a) Prevent, minimize, or eliminate overapplication of nitrogen and the percolation of nitrogen into groundwater;

c) Protect wellheads from surface water intrusion; and

d) Implement proper handling, storage, disposal, and management of fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals.

Design specifications for Management Practices listed in Table B.1 can generally be found through the NRCS Conservation Practice Standards[1], and the Handbook for Forest, Ranch, and Rural Roads[2].

[1] Conservation Practice Standards | Natural Resources Conservation Service
https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards

[2] Updated Handbook for Forest, Ranch and Rural Roads | Pacific Watershed Associates
https://www.pacificwatershed.com/roadshandbook

Table B.1: Management Practices by Category and Descriptions

Sediment and Erosion Control Management Practices *Management practices to prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads.*
Field Practices
Filter Strip – A vegetated strip is maintained adjacent to a drainage ditch or waterway to filter pollutants.
Field Size Reduction – Field sizes are reduced to lessen the amount of stormwater runoff from the field.
Flow Dissipaters – Flow dissipaters are used to minimize erosion at discharge points, usually constructed out of riprap or concrete.
Contour Farming – Fields are planted on the contour to reduce runoff.
Precision Land Forming – Fields are graded to increase irrigation efficiency and improve drainage control and minimize erosion.
Row Arrangement – Crop rows are graded, directed and at a length to optimize rain and irrigation water.
Cover Crop – Vegetation is planted in fields to minimize the area of bare soil, thereby reducing the potential for erosion.
Enhanced Soil Infiltration – Soil water penetration has been increased through the use of amendments, deep ripping and/or aeration.
Critical Area Planting – Permanent vegetation is established in areas that are expected to have high erosion rates or in areas that would otherwise prevent the establishment of vegetation.
Soil amendments – Amendments, such as compost, mulch or other organic matter are added to the soil to improve soil structure and reduce erosion.
In Furrow Dams – In furrow dams are installed to increase infiltration and settling out of sediment prior to entering the tail ditch.
Field Border – Borders (including berms) are installed at the low end of fields to capture runoff and trap sediment.
Plant Residue Tillage Management – Plant materials are left on the soil surface to reduce runoff and erosion.
Vegetative Barrier – Vegetation is planted to slow or reduce surface runoff by promoting detention and infiltration.
Grassed Waterway – Grass is maintained in drains and ditches to reduce erosion and filter pollutants.

Sediment and Erosion Control Management Practices
Management practices to prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads.
Stormwater Diversion – Structures or embankments are installed to keep stormwater on lily bulb field headlands.
Field Isolation – Runoff from lily bulb fields flows onto a pasture or other vegetated area where it is dispersed, filtered and infiltrated before reaching surface waters.
Grade Stabilization Structure – Drop spillways or check dams are installed to stabilize the grade and control erosion.
Appurtenant Agricultural Roads
Road Erosion Control – Rocking, paving, compaction, seasonal vegetation, or ground cover (e.g., straw) during the wet season are used to prevent erosion on the road surface. ***Road Sediment Control*** – Waterbars, grading, rolling dips, etc. are used to prevent and minimize sediment transport off of road surfaces.
Proper Culvert Sizing and Maintenance – Culverts are sized correctly to pass the 100-year storm flows. Culverts are inspected regularly and maintained to ensure structural integrity, proper function, and to minimize erosion downstream.
Road Maintenance – Pre- and post-storm inspections are conducted, erosion sites are identified, and a prioritized inventory of erosion sites is developed and updated from which to schedule and implement fixes.
Appurtenant Farm Areas
Agricultural Pond Maintenance – Agricultural ponds are maintained to prevent erosion and failure of dams, embankments, and spillways. Ponds are regularly inspected, and necessary preventative maintenance is performed.
Livestock Management – This practice encompasses several possible measures related to managing pasture to protect water quality, such as stable stream crossings that protect bed and banks, alternate water for livestock, rotational grazing, and fencing or other barriers that limit access to riparian zones.

Pesticide Management Practices
Management practices to prevent, minimize or eliminate the discharges of pesticides to surface water and groundwater
Integrated Pest Management Plan – A pesticide management plan has been developed that considers available pest control techniques to keep pesticide use at a level that minimizes risk to water quality.

Pesticide Management Practices *Management practices to prevent, minimize or eliminate the discharges of pesticides to surface water and groundwater*
Use of Low Risk Pesticides – Lower risk pesticides have been selected to minimize risk to water quality based on toxicity, runoff potential, and leaching potential.
Pesticide Sampling and Analysis – Stormwater runoff from fields is sampled and analyzed for pesticide concentrations to assess effectiveness of management practices.
Pesticide Mixing/Loading Setbacks – Setbacks are maintained adjacent to waterways and other sensitive areas for pesticide application, mixing, and loading.
Soil Amendments – Amendments are added to the soil to bind pesticides, thereby reducing offsite movement and/or reducing their toxicity.
Sprayer Shields – A shield on the spray boom is used to reduce drift.
Irrigation Water Management – The volume, frequency, and application rate of irrigation water is planned to minimize runoff.
County Pesticide Permit Compliance – All applicable pesticide regulations and handling and application directions are being followed.
Crop Rotation – Crops are rotated seasonally in a sequence to reduce use of pesticides and fertilizers and to reduce erosion.
End of Row Shutoff When Spraying – The pesticide sprayer is shut off at the end of the row and kept off in the turnaround.
Avoid Surface Waters When Spraying - Pesticides are not sprayed in and around surface waters where they can contact surface waters directly considering, among other things, wind direction and strength
No Spray Buffer Zone – Areas where spraying does not take place from between the downwind edge of the application area and an identified sensitive area.
Drift Control Agents – Additives are used to increase droplet size to reduce drift.
Monitor Climatic Conditions – Wind speed and direction, temperature, and relative humidity are monitored and considered in planning pesticide applications.
Application Timing and Rain Forecasting – The rain forecast is monitored to anticipate storm events that produce runoff pesticide application are planned to lengthen the amount of time prior to a storm event.
Pesticide Applicator Adjustments – Spray nozzle pressure and height and droplet size are adjusted to better target the pesticide application, minimize drift, and improve the efficiency of applications, which can all reduce the amount of pesticide required.

Nitrogen Management Practices *Management practices to prevent, minimize, or eliminate overapplication of nitrogen and the percolation of nitrogen into groundwater.*
Nutrient Application at Agronomic Rates – Nutrients are applied at rates to meet crop needs while reducing nutrient runoff and infiltration to groundwater.
Nutrient Budget – Nutrients applied versus nutrients removed (nutrient balance) is calculated to arrive at a nutrient application rate that minimizes excess application of nutrients.
Soil Testing – Nitrogen concentration in soils is measured and applications are adjusted accordingly.
Irrigation Water Testing – Nitrogen concentrations in irrigation water are measured and fertilizer nitrogen applications are adjusted accordingly.
Use of Beneficial Cover Crops – Cover crops that fix and utilize nitrogen are used to minimize nitrogen applications and leaching to groundwater.

Wellhead Protection and Good Housekeeping *Management practices to protect wellheads from surface water intrusion; and management practices for the proper handling, storage, disposal, and management of fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals.*
Wellhead Protection
Wellhead Protection – An area around the wellhead is delineated where certain activities are limited in order to protect the wellhead from contamination.
Backflow Prevention - Install and maintain backflow prevention devices on irrigation wells***.***
Abandoned or Inactive Wells - Properly destroy permanently inactive groundwater wells
Good Housekeeping
Proper Disposal of Pesticides – Pesticides containers are triple rinsed before disposal and rinse water is mixed and applied according to label requirements. Pesticides are considered hazardous waste and disposed of accordingly.
All Applicable Pesticide Storage, Handling, and Use Laws are followed – State and local laws relating to the proper handling, storage, and use of pesticides are followed. Pesticide storage areas are well-maintained with proper signage.

Attachment C: Coalition Requirements

Attachment C outlines the approval process and requirements for a Grower Coalition (Coalition) under this Order. Coalitions are programs or entities approved by the North Coast Water Board's Executive Officer to collect and submit State Board fees on behalf of Enrollees, provide education and resources to Enrollees, and may conduct monitoring and reporting on behalf of their members in accordance with the MRP.

A Coalition may be approved by the North Coast Water Board's Executive Officer following adoption of this Order in accordance with expectations and requirements in this Attachment. Once approved, the Coalition will be listed on the North Coast Water Board's Lily Bulb Program website[97].

I. Coalition Requirements

A. General Provisions

1) A Coalition that is approved to represent Enrollees under this Order shall, at a minimum, fulfill the following responsibilities:

    a) Collect fees from its Enrollee members and submit payment to the State Water Resources Control Board,

    b) Assist communication between its Enrollee members, the North Coast Water Board, and State Water Board, and

    c) Provide compliance education resources for its Enrollee members.

2) The Coalition may fulfill certain monitoring and reporting requirements as specified in Attachment B: Monitoring and Reporting Program. However, this function is not required of a Coalition. For Enrollees who do not submit reporting information through the Coalition, they must report all information directly to the North Coast Water Board via GeoTracker.

3) The Coalition may work with multiple entities or programs to meet one or more of the above requirements provided the Coalition has binding agreements (e.g., through Memorandums of Agreement) that clearly define roles and responsibilities within each entity to meet all Coalition requirements.

4) The North Coast Water Board may revoke the status of an approved Coalition and require its enrolled Enrollees to enroll either individually or in another approved coalition if the Coalition fails to meet requirements of this Order after initial approval.

5) Prospective Coalition entities shall follow the procedures outlined below in Sections B and C to become an approved Coalition for this Order. Prospective Coalition(s) shall obtain written approval from the North Coast Water Board's Executive Officer prior to assisting Enrollees with compliance with this Order.

B. Minimum Qualifications

A prospective Coalition wishing to act as a representative on behalf of enrolled Enrollees shall meet the minimum qualifications below:

1) Administrative Capacity – The Coalition must have a well-defined governance and administrative structure with clearly defined roles and responsibilities, and shall demonstrate sufficient managerial and financial capacity to carry out fee collection and remittance to the State Water Board, Enrollee outreach and communication, and assistance to Enrollees with self-reporting and recordkeeping requirements under this Order.

2) Membership and fee accounting – The Coalition must track and provide ongoing accounting of its Enrollee membership and fees to document Enrollee compliance. The Coalition must have clearly stated membership eligibility requirements and report them to the North Coast Water Board as needed to document compliance.

3) Transparency and accountability – The Coalition must have meaningful and clearly stated goals, objectives, and associated performance metrics relevant to the Order requirements that are the focus of the program. The Coalition must provide regular assessments of its performance relative to its stated goals and objective based on meaningful performance metrics. This includes reporting of water quality data and farm-level data as needed to document compliance with this Order.

4) Compliance education – The Coalition must include continuing education opportunities as appropriate either directly through the Coalition or through coordination with other technical service providers or local entities to ensure its Enrollees obtain technical skills and assistance necessary to achieve compliance with the limits and requirements established in this Order.

If providing monitoring and reporting functions on behalf of Enrollees, a prospective Coalition must also meet the following minimum qualifications:

5) Data management and Record Keeping – The Coalition must upload data as required by this Order to the Water Boards' various data management systems (e.g., CEDEN, GeoTracker, etc.). The Coalition must have the capacity to manage and retain data for ten years and comply with record-keeping requirements in Section II.I (Provisions) of the Order.

6) Development of Required Technical Material –The Coalition must have capability to develop and implement, or contract detailed technical documents as specified in Attachment A of the Order including but not limited to annual water quality and management practices reporting.

7) Conducting Water Quality Monitoring – The Coalition must have the capability to develop or contract group surface water and groundwater quality monitoring programs in accordance with the requirements in Sections II and III of the

Attachment B of the Order

C. Coalition Application and Approval Process

1) Within three months following adoption of this Order, the North Coast Water Board will publish on the Lily Bulb Program webpage an application form and submittal instructions for prospective Coalitions. A prospective Coalition shall submit a complete application to the North Coast Water Board within the submittal deadline stated on the webpage to be considered.

2) The Coalition application shall include:

   a) The legal name, organizational structure, bylaws or operating procedures and contact information for the prospective Coalition, identifying whether the applicant is a nonprofit corporation, local or state government entity, Joint Powers Authority, or other entity formed pursuant to a binding agreement among multiple parties; names and qualifications of key Coalition staff and contractors; description of roles and responsibilities; demonstration of managerial and financial capacity; and recent financial statements or proof of solvency.

   b) A description of how the Coalition will meet each Minimum Qualification in Section B of this Attachment C;

   c) Identification of the persons or entities responsible for fulfilling each Coalition responsibility under Section A of this Attachment C;

   d) Where the Coalition intends to engage subsidiary or partnering entities to assist with Coalition responsibilities (including but not limited to fee collection), copies or summaries of the binding agreements among those entities;

   e) Membership eligibility requirements and the consequences (including revocation of membership eligibility) that will be triggered when an Enrollee is no longer in good standing due to: (i) non-payment of fees; (ii) non-submittal of required information; (iii) non-participation in compliance education; or (iv) failure to implement or adapt management practices required by this Order; and

   f) A governance structure that includes a governing board composed in whole or in part of Enrollees, or that otherwise provides Enrollees with a mechanism to direct or influence Coalition governance through appropriate by-laws.

3) The Executive Officer will review the Coalition application and may request additional information from the applicant. The Executive Officer may approve, conditionally approve, or deny the application based on the applicant's demonstrated ability to carry out the Coalition responsibilities set forth in Section A

and meet the Minimum Qualifications in Section B of this Attachment C.

4) If the Executive Officer approves the application, the Executive Officer will issue a Notice of Applicability to the Coalition and, if appropriate, conditions specific to the Coalition.

5) If the Executive Officer denies the application, the Executive Officer shall provide the applicant with the basis for denial in writing. The applicant may revise and resubmit the application addressing the identified deficiencies.

D. Coalition Requirements

1) Approved Coalitions shall comply with all requirements of Coalitions as outlined in the Order and Attachment B: Monitoring and Reporting Program for Enrollees in a Coalition upon receipt of the Notice of Applicability.

2) Approved Coalitions shall be prepared to accept enrollments by **January 1, 2027**.

3) By **March 1, 2027,** and annually thereafter, the Coalition shall submit to the North Coast Water Board a list of all its Enrollee members. The list shall specifically identify any new Enrollees, or any Enrollees terminated since the last reporting period. As part of the membership list submittal, the Coalition shall identify Enrollees who have failed to fulfil the requirements of this Order as specified in Attachment B: Section IV.A

4) The Coalition shall respond promptly to North Coast Water Board requests for any of the information the Coalitions are required to maintain, which may include but is not limited to: (1) Enrollee contact information; (2) Enrollee reports (e.g., Farm Evaluations), (3) compliance education attendance lists, and (4) water quality monitoring locations.

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[97] Visit the Lily Bulb Program webpage: Lily Bulbs | California Northcoast Regional Water Quality Control Board https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/

Attachment D: Methodologies and Procedures

I. Guidance for Determining Major Storm Events

Attachment A: Monitoring and Reporting Program requires three Surface Water Monitoring events per year during a Major Storm Event. This section provides guidance on determining a Major Storm Event, measuring precipitation, obtaining official forecasts, and examples of forecasts.

A Major Storm Event is defined as a storm that is forecasted and produces at least one inch of precipitation within a 24-hour period and is preceded by a minimum of 48 hours producing less than 0.25 inches of precipitation. A Major Storm Event has ended when no more than 0.25 inches of precipitation has been produced within a 48-hour period.

Collection of samples during a Major Storm event shall occur within 24 hours following the first inch of precipitation and before cumulative precipitation exceeds three inches within a 24-hour period.

Precipitation forecasts shall be obtained from the National Weather Service Forecast Office of the National Oceanic and Atmospheric Administration (NOAA) for the town of Smith River, CA (41.93°N 124.14°W). North Coast Water Board staff recommends using the following link to obtain precipitation forecasts information.

https://www.weather.gov/wrh/WxTable?LAT=41.9286&LNG=-124.1460&DAYS=7&INT=6

Once a Major Storm Event has been identified for a sampling event, precipitation shall be monitored on an hourly basis using two rain gauges to confirm when sampling should occur. For the monitoring stations on the Smith River Plain (see Attachment A: Monitoring and Reporting Program), the rain gauge shall be located north of the Smith River and on the coastal side of Highway 101. For the Kamph Park Creek monitoring station, the rain gauge shall be located on the coastal terrace within one mile of the monitoring station. The rain gauge shall be installed and maintained using guidance found at the following website.

https://www.waterboards.ca.gov/water_issues/programs/swamp/docs/cwt/guidance/5111.pdf

II. Sample Collection and Handling Instructions

Enrollees shall follow the below procedures to comply with water quality monitoring requirements in this Order:

1) Identify the sampling parameters required to be tested and the number of locations that will be sampled.

2) Request the laboratory provide the appropriate number of sample containers, types of containers, sample container labels, blank Chain of Custody forms, and sample preservation instructions.

3) Prior to sampling, record information about the planned sampling event into Field Sheets and Chain-of-Custody forms. This information should include the Enrollee name along with the sample location identifier and sample container types and number to be filled. Field measurement data and observations shall be recorded as they are collected.

4) Collect samples in accordance with the following instructions:

    a) Sampling from an Edge-of-Field discharge point, drainage ditch, or swale: sample from a consistently flowing part of the concentrated flow. If the discharge point is too small or shallow, install a barrier device in the channel or deepen a small area so you are able to sample directly into the bottles. Allow sufficient time to pass after disturbing the bottom so that any solids stirred up do not contaminate your sample.

    c) Sampling From a Stormwater Detention / Retention Basin or Other Treatment Device: sample at the outlet of the structure. Collecting samples from stagnant or slowly moving water inside a pond will not yield a representative sample as the pollutants might not be adequately mixed. Stormwater basins may hold stormwater for long periods of time.

    d) Sampling From a Well: locate a valve or cold water tap as near to the well as possible, preferably prior to any storage/pressure tanks or physical/chemical treatment system that might be present. Open the valve (turn on pump if needed), monitor and record pH, specific conductance and temperature of the groundwater removed during purging at 5-minute intervals. Once these parameters have stabilized within 10 percent over 10 minutes, the well has been purged. Observe and record the rate and volume of water purged using a graduate bucket and stopwatch. Remove any hose that may be present before sample collection and reduce the flow to a low level to minimize sample disturbance. Collect samples directly into the laboratory supplied containers.

5) All monitoring instruments and equipment shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements.

6) Use only the sample containers provided/specified by the laboratory to collect and store samples. Use of any other type of containers could cause sample contamination.

7) Prevent sample contamination by not touching or putting anything into the sample containers before collecting samples.

8) Not overfill sample containers. Overfilling can change the analytical results. g. Secure each sample container cap without stripping the cap threads.

9) Label each sample container. The label shall identify the date and time of sample collection, the person taking the sample, and the sample collection location or discharge point. The label should also identify any sample containers that have been preserved.

10) Use the appropriate sample shipping method to the laboratory. The laboratory should receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory to meet all method hold times). The options are to either deliver the samples to the laboratory, arrange to have the laboratory pick them up, or ship them overnight to the laboratory.

11) Carefully pack the sample container into an ice chest or refrigerator to prevent breakage and maintain temperature during shipment; frozen ice packs or ice is placed into the shipping container to keep the sample close to 4° C (39° F) until arriving at the laboratory (do not freeze samples).

12) Complete a Chain of Custody form with each set of samples. The Chain of Custody form shall include the discharger's name, address, and phone number, identification of each sample container and sample collection point, person collecting the samples, the date and time each sample container was filled, the analysis that is required for each sample container, and both the signatures of the persons relinquishing and receiving the sample containers. Salinity (recorded through field measurement) shall be recorded on the Chain of Custody form for all dissolved copper samples.

13) Designate and train personnel for the collection, maintenance, and shipment of samples in accordance with the above sample protocols and laboratory-specific practices.

III. Quality Assurance and Quality Control Requirements

This section establishes minimum Quality Assurance and Quality Control (QA/QC) requirements that Enrollees, Coalitions, and contracted laboratories shall follow when conducting surface water, groundwater, and Drinking Water Supply Well monitoring required by Attachment A: Monitoring and Reporting Program. These requirements are intended to produce data of sufficient quality to support Adaptive Management decisions and the general objectives of the Monitoring and Reporting Program. Compliance with this Section satisfies the QA/QC obligations of this Order; Enrollees and Coalitions are not required to develop or submit a separate Quality Assurance Project Plan (QAPP) for review and approval. The State Water Board's Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Program Plan[3] may be consulted for additional guidance.

1) Data Quality Objectives: Data collected pursuant to Attachment A shall meet the following minimum Data Quality Objectives unless an alternative is approved in writing by the Executive Officer.

    a) Precision. Relative Percent Difference (RPD) between field duplicates and between laboratory duplicates or matrix spike/matrix spike duplicate pairs shall be no greater than 25 percent for results above five times the Reporting Limit. Precision is not evaluated where both results are below five times the Reporting Limit.

    b) Accuracy. Recoveries from Laboratory Control Samples (LCS), matrix spikes (MS), and matrix spike duplicates (MSD) shall fall within the laboratory's published control limits, or within 70 to 130 percent where the laboratory has not established formal control limits. Surrogate recoveries for organic methods shall fall within the laboratory's established control limits.

    c) Representativeness. Samples shall be collected in accordance with the procedures in Section II of this Attachment D such that they represent the water quality at the designated monitoring location at the time of collection.

    d) Comparability. All laboratory analyses shall be conducted using the analytical methods specified in Tables A.4 (surface water) and A.7 (groundwater) of Attachment A, or alternative methods of equivalent or better sensitivity approved by the Executive Officer.

    e) Completeness. The Enrollee or Coalition shall provide an explanation in the Annual Compliance Report for any required sample not collected or not successfully analyzed.

[3] SWAMP QAPP: https://www.waterboards.ca.gov/water_issues/programs/swamp/quality_assurance.html

2) Laboratory Selection: All laboratory analyses required under this Order shall be conducted by a laboratory certified under the State Water Board's Environmental Laboratory Accreditation Program (ELAP) for the applicable analytical method. Current ELAP-certified laboratories are listed at https://www.waterboards.ca.gov/drinking_water/certlic/labs/. The Enrollee or Coalition shall maintain documentation of the laboratory's current ELAP certification and shall make this documentation available to North Coast Water Board staff upon request.

3) Sample Containers, Preservation, and Hold Times: In addition to the sample handling procedures in Section II of this Attachment:

    a) Sample containers, chemical preservatives, and maximum hold times shall conform to the requirements of the analytical method specified for each parameter in Tables A.4 (surface water) and A.7 (groundwater) of Attachment A and to the current SWAMP Quality Assurance Program Plan.

    b) Containers shall be supplied by the analyzing laboratory, pre-cleaned and pre-preserved (where chemical preservation is required) in accordance with the applicable method.

    c) Samples requiring thermal preservation shall be maintained at 4 °C ± 2 °C from the time of collection until receipt at the laboratory. Samples shall not be frozen.

    d) Samples shall be received at the laboratory within 48 hours of collection unless a shorter time is specified by the applicable analytical method.

    e) Samples received outside the method-specified hold time, or that did not meet preservation requirements during transport, shall be flagged in the laboratory analytical report and discussed in the Quality Assurance narrative submitted pursuant to Provision 8 of this Attachment D. Where practicable, the Enrollee shall resample affected stations during the next Major Storm Event.

4) Field Instrument Calibration: In addition to the requirement in Section II of this Attachment D to calibrate and maintain field instruments in accordance with manufacturer specifications:

    a) Multi-parameter water quality instruments used for field measurement of pH, specific conductance, temperature, salinity, and any other field parameter required by Attachment A shall be calibrated at the beginning of each sampling day using fresh certified standards.

    b) Calibration verification (a post-calibration check using a standard not used for calibration) shall be performed at the end of each sampling day. If the verification reading deviates from the expected standard value by more

than the manufacturer's acceptance criterion, or by more than 10 percent where the manufacturer has not specified a criterion, all field measurements collected since the most recent successful calibration verification shall be flagged for review.

c) Calibration standards, calibration readings, and calibration verification readings shall be recorded on the Field Sheet for each sampling event, along with the date of standard preparation or the expiration date stated by the manufacturer.

d) The Enrollee or Coalition shall maintain a Field Operations Log documenting equipment inventory, instrument calibration history, accuracy and precision check results, and any corrective actions taken during the monitoring program. The log shall be retained per Provision 10 of this Attachment and made available to North Coast Water Board staff upon request.

5) Field Quality Control Samples: The following field Quality Control samples shall be collected during each Surface Water Monitoring sampling event and each Groundwater Monitoring sampling event:

a) Field Blank. One field blank per sampling event, prepared by pouring laboratory-supplied analyte-free water through reusable sampling equipment (where applicable) and into the same containers used for field samples, then submitted to the laboratory using the same analytical methods as the field samples.

b) Field Duplicate. One field duplicate per sampling event, collected by filling two sets of sample containers concurrently from the same location using the same procedures, and submitted to the laboratory blind (i.e., labeled to prevent identification by the laboratory as a duplicate). Field duplicates shall be analyzed for all parameters analyzed in the parent sample.

c) Equipment Blank. Where reusable sampling equipment is decontaminated and reused between stations within a single sampling event, one equipment blank per sampling event shall be collected by passing analyte-free water through the decontaminated equipment and into the same containers used for field samples.

d) All field Quality Control sample results shall be reported alongside the corresponding field sample results. Field blank detections above the Reporting Limit, and RPD between field duplicates exceeding the precision Data Quality Objectives shall be addressed in the Quality Assurance narrative.

6) Laboratory Quality Control: The analyzing laboratory shall include the following Quality Control samples with each analytical batch. An analytical batch is defined

as up to 20 samples of similar matrix prepared together.

a) Method Blank. One method blank per analytical batch. Results shall be below the Reporting Limit for all target analytes. Detections above the Reporting Limit shall be discussed in the laboratory case narrative.

b) Laboratory Control Sample (LCS). One LCS per analytical batch, prepared at approximately five times the Reporting Limit. Recovery shall be within the laboratory's established control limits, or within 70 to 130 percent where no control limits have been established.

c) Matrix Spike and Matrix Spike Duplicate (MS/MSD). One MS/MSD pair per analytical batch for organic analyses. Recoveries shall fall within the laboratory's established control limits, or within 70 to 130 percent where no control limits have been established. RPD between MS and MSD shall not exceed 25 percent.

d) Surrogate Standards. Surrogate standard requirements, including frequency, identity, and acceptance criteria for recovery, shall conform to the requirements of the applicable analytical method specified in Tables A.4 and A.7 of Attachment A. Surrogate recoveries shall fall within the laboratory's established control limits and results reported with each analytical batch.

e) Instrument Calibration. Initial calibration and continuing calibration verification shall be performed in accordance with the applicable analytical method.

7) Reporting Limits: The laboratory's Method Detection Limit (MDL) and Reporting Limit (RL) for each analytical method shall be at or below the Water Quality Benchmark for the corresponding parameter as specified in Tables A.4 (surface water) and A.7 (groundwater) of Attachment A. Where an analytical method's lowest demonstrable Reporting Limit is above the applicable Water Quality Benchmark, the Enrollee or Coalition shall notify the Executive Officer in writing prior to the next sampling event and shall identify the alternative analytical method or accommodation proposed to address the limitation.

8) Data Verification: Upon receipt of each laboratory analytical report, the Enrollee, Coalition, or designated contractor shall verify each report to confirm:

a) Hold times and preservation requirements were met for each sample;

b) Field Quality Control and laboratory Quality Control results meet the Data Quality Objectives of this Attachment;

c) Method blank detections, if any, do not invalidate associated field sample results;

d) Field measurement records (pH, temperature, conductivity, and other applicable field parameters) and calibration documentation are present and complete; and

e) Chain-of-Custody records are complete and traceable from field collection to laboratory receipt.

Results that fail verification shall be flagged in the data record, and the Enrollee or Coalition shall identify whether the flagged result is usable, usable with qualifications, or rejected. A Quality Assurance narrative summarizing all flagged results, the nature of the failure, and the usability determination shall be included with each Annual Compliance Report.

9) Electronic Data Deliverables:

a) Surface Water Monitoring data shall be submitted in a CEDEN-compatible Electronic Data Deliverable format. Templates and format specifications are available at https://ceden.org.

b) Drinking Water Supply Well Monitoring data shall be submitted electronically to the State Water Board's GeoTracker database by the testing laboratory in the Electronic Deliverable Format (EDF). Data shall include the Assessor's Parcel Number of the well and the well's latitude and longitude coordinates.

c) Groundwater Trend Monitoring data shall be submitted to GeoTracker in the EDF format by the testing laboratory.

10) Records Retention: The Enrollee, Coalition, or designated contractor shall retain the following records for a minimum of five years from the date of sample collection:

a) Field Sheets, including all field measurement readings and calibration records;

b) Chain-of-Custody forms;

c) Laboratory analytical reports, including all Quality Control sample results and case narratives;

d) Quality Assurance narratives prepared under Provision 8 of this Attachment D; and

e) Documentation of ELAP certification of the analyzing laboratory for each method used during the retention period.

Records required under Records Retention requirements of this Attachment D shall be made available to North Coast Water Board staff upon request and may be reviewed as

part of any inspection or compliance review conducted under this Order.

IV. Streamside Area Examples

A Streamside Area is comprised of two contiguous components: a Riparian Vegetation Area and a Vegetated Buffer in which different requirements are applied. A Streamside Area is defined as the area between the waterside edge of vegetation and where the field side edge of the Vegetated Buffer meets the Farm Area. The Riparian Vegetation Area extends from the waterside edge of vegetation to the Vegetated Buffer in Perennial and Ephemeral/Intermittent Streams. The Vegetated Buffer is measured from the Riparian Vegetation Area to the Farm Area along Perennial and Ephemeral/Intermittent Streams, and from the waterside edge of vegetation in Hydrologically Connected Undesignated Channels, Unfarmed Wetlands, and Hydrologically Connected Lakes, Ponds, or On-Stream Reservoirs. See also Appendix I: Acronyms, Definitions, and Endnotes for definitions of terms related to the Streamside Area.

For the purposes of this Order, the waterside edge of vegetation is the line on the bank established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. The purpose of establishing the Streamside Area at the waterside edge of vegetation is to identify where riparian vegetation that provides shade begins.

Figure D.1 is an example of a Streamside Area on a Perennial Stream. The Riparian Vegetation Area extends 25 ft. from the waterside edge of vegetation in the Perennial Stream. The requirements specific to the Riparian Vegetation Area are given in the Streamside Area Section of the Order. Contiguous to the Riparian Vegetation Area is a Vegetated Buffer, which must extend at least 25 ft. until it hits the Farm Area. Headlands and equipment turn-around areas are allowed within the Vegetated Buffer provided the applicable requirements given in the Streamside Area section of the Order are followed.

Figure D.2 shows an example of a Streamside Area on an Ephemeral/Intermittent Stream. Figure D.3 shows an example of a Streamside Area on a Hydrologically Connected Undesignated Channel.

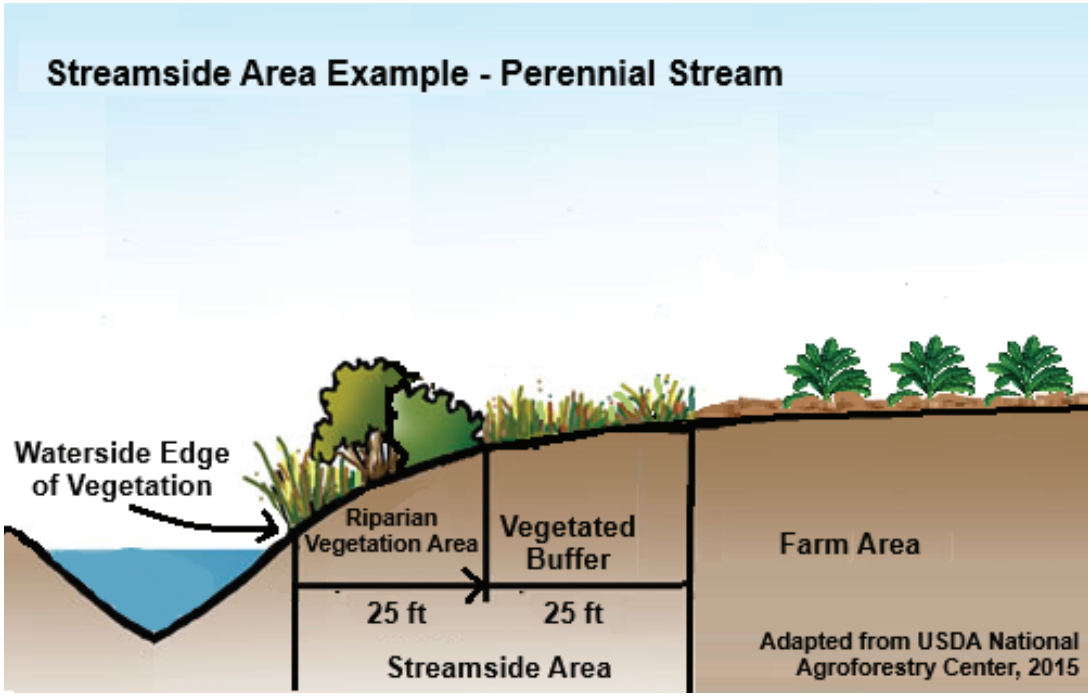


Figure D.1: Streamside Area on a Perennial Stream

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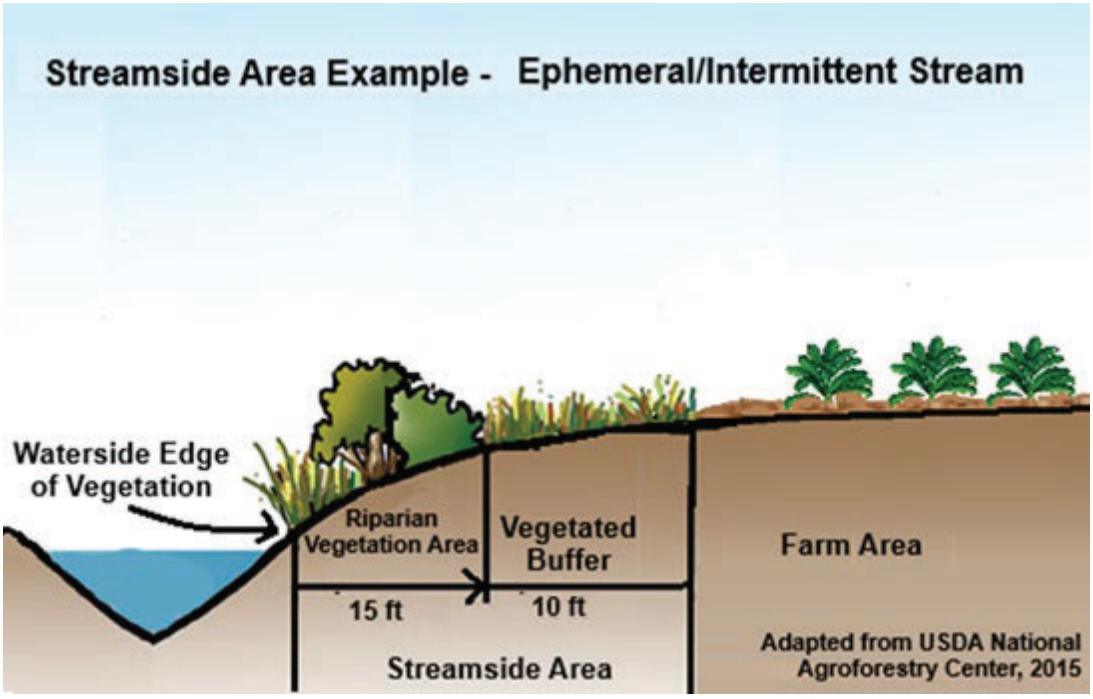


Figure D.2: Streamside Area on Ephemeral/Intermittent Stream

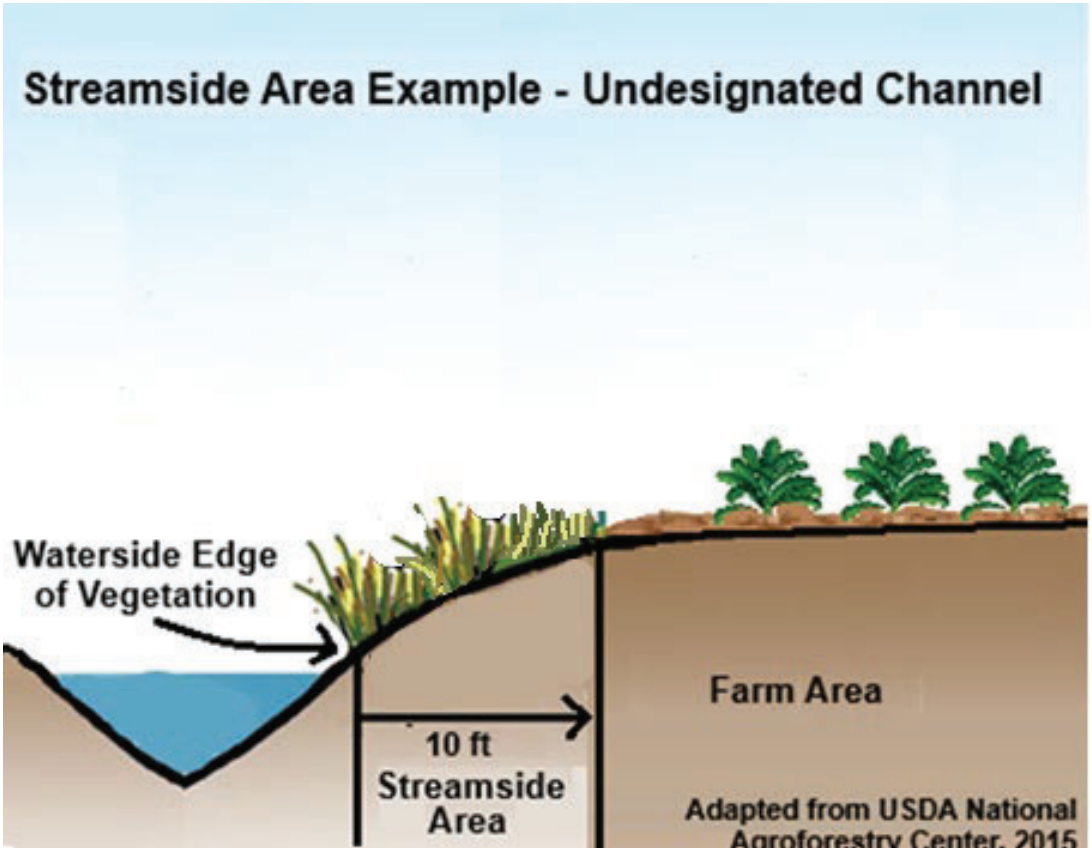
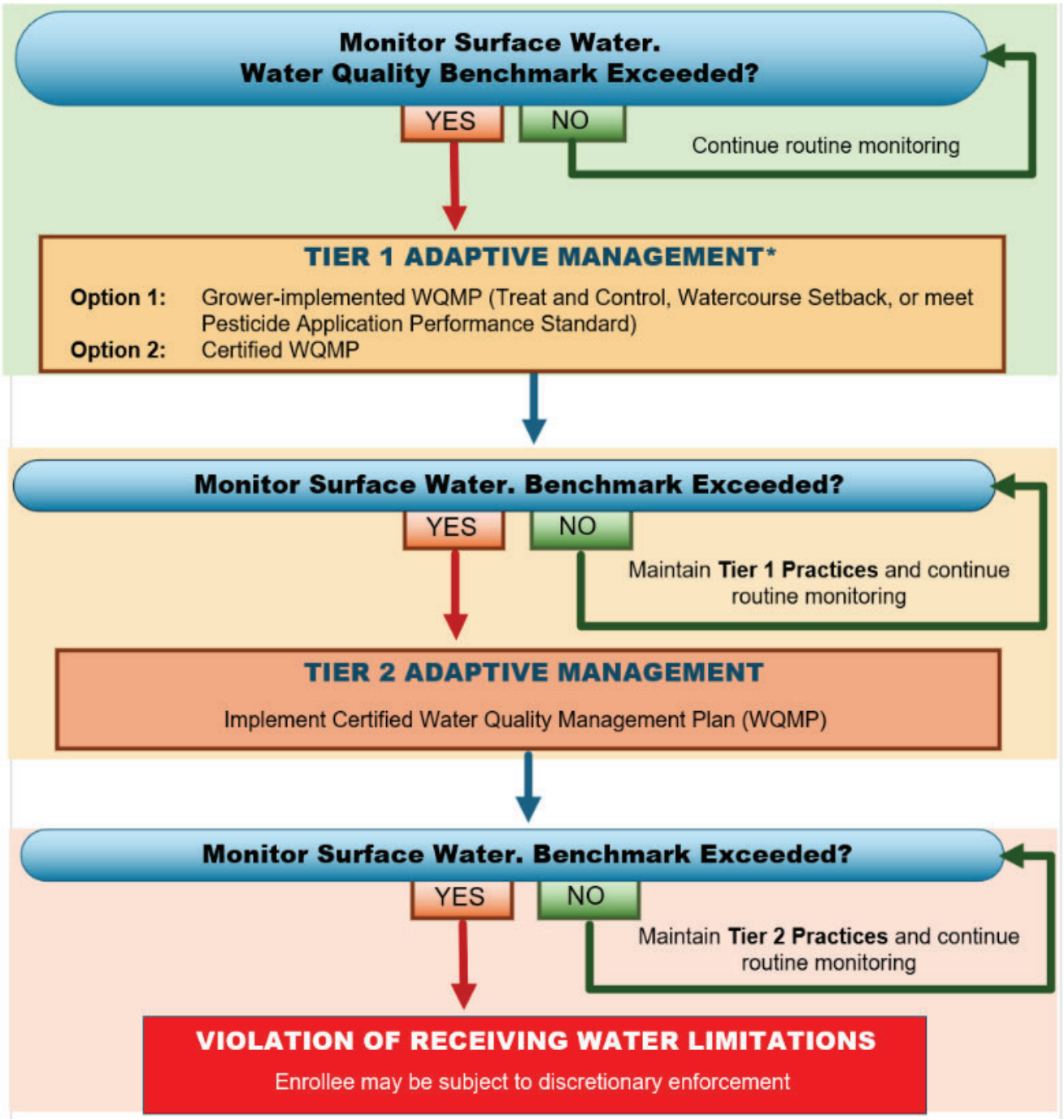


Figure D.3: Streamside Area Example, Undesignated Channel

V. Adaptive Management Flowchart for Surface Water

The flowchart below provides a visual guide to the Adaptive Management Program requirements in response to Water Quality Benchmark exceedances. See Section II.H: Adaptive Management Program in this Order for more detail.



Attachment E: CEQA Mitigation Measures

The following mitigation monitoring and reporting program (MMRP) summary table includes the mitigation measures identified in the California Regional Water Quality Control Board, North Coast Region (North Coast Water Board) draft environmental impact report (EIR) for the proposed Order project in accordance with the California Environmental Quality Act (CEQA). For each mitigation measure, this table identifies monitoring and reporting actions that must be carried out and the monitoring schedule.

Enrollees are responsible for complying with all mitigation measures in the final EIR and this MMRP summary table. Enrollees must determine whether their proposed activities (e.g., management practices) are subject to individual mitigation measures and, if applicable, take the necessary actions to ensure the mitigation measures are fully implemented. In some cases, this may involve hiring a professional (e.g., biologist, archaeologist) and becoming familiar with applicable laws and regulations.

Enrollees who enroll individually in the Order must report their compliance with mitigation measures in the Annual Compliance Report (ACR), which is submitted as part of their overall compliance reporting for the Order. The Coalition shall submit this information to the North Coast Water Board on behalf of its Enrollee Members. As the CEQA Lead Agency, the North Coast Water Board is ultimately responsible for ensuring compliance with the mitigation measures identified in the Final EIR. The North Coast Water Board will accomplish this through review of ACRs to confirm that reported actions fully meet the requirements of the applicable mitigation measures. The North Coast Water Board will also confirm mitigation measure compliance during periodic inspections of individual fields.

The MMRP will be made available to Enrollees, and they may use the checklist to help document their compliance with applicable mitigation measures. The North Coast Water Board may also use the MMRP checklist to confirm and document compliance

Mitigation, Monitoring and Reporting Program (MMRP) Summary Table

Mitigation Category	Mitigation Measure	Monitoring and Reporting Action and Schedule (Responsible Party in Parenthesis)
Ag and Forestry Resources	N/A	N/A

Mitigation Category	Mitigation Measure	Monitoring and Reporting Action and Schedule (Responsible Party in Parenthesis)
Biological Resources: BIO-1	Where construction/installation, maintenance and/or management practices could impact sensitive vegetation communities (e.g., riparian habitat or wetlands adjacent to the construction area) and special-status species, as defined and listed in Section VII and Appendix D, Enrollees must use the least impactful effective management practice to avoid impacts to such species and habitat. Enrollees of the General Order must implement the following measures to reduce potential impacts to levels that are less than significant. • Avoid and minimize disturbance of riparian, wetlands, and other sensitive vegetation communities. • Avoid and minimize disturbance to areas containing special-status plant or animal species. • Where construction in areas that may contain sensitive biological resources and aquatic resources cannot be avoided through the use of alternative management practices, conduct an assessment of habitat conditions, and the potential for presence of sensitive vegetation communities (e.g., riparian and wetland habitat) or special-status plant and animal species prior to construction. This may include the hiring of a qualified biologist to identify riparian and other sensitive vegetation communities (e.g., conduct a biological assessment, and/or wetland delineation), and/or habitat for special-status plant and animal species.	Confirm that the least impactful effective management practice is selected to avoid impacts to biological resources. Schedule: During design of management practice(s). (Enrollee) Where areas potentially containing sensitive biological resources cannot be avoided, confirm performance of habitat and species assessment. Schedule: Prior to construction / installation of management practice(s), if applicable.(Enrollee) Confirm that maintenance or repair activities will not disturb any special-status species. Prior to undertaking proposed activity. (Enrollee) For activities proposed during nesting season, confirm performance of survey for nesting birds and avoidance of nests / young. Schedule: Prior to undertaking proposed activity, if applicable. (Enrollee) Test accumulated sediments in control features with disposal at an appropriate facility, if warranted. Schedule: Prior to undertaking proposed activity, if applicable. (Enrollee) In the event avoidance of sensitive biological resources is not feasible, confirm additional CEQA review and appropriate consultation with CDFW. Schedule: Prior to undertaking any construction / installation or other activities that could adversely affect sensitive biological resources (Enrollee and NCRWQCB)

Biological Resources: BIO-1 cont'd.	• When conducting maintenance or repair on facilities such as sediment basins, or other facilities that may provide habitat for species, ensure that such activities will not disturb any special-status species that may be present. If conducting maintenance or repair activities during the nesting season (generally February 1 to September 15), inspect the facilities to ensure that nesting birds are not present within or adjacent to areas where such activities will occur. If nests or young are identified in such areas, conduct the activities outside of the nesting season. • Runoff management features should be designed and routinely maintained to minimize the spread and propagation of invasive species, such as reed canary grass (Phalaris arundinacea). • Accumulated sediments in control features shall be tested prior to removal, with disposal at an appropriate facility, if warranted. Where adverse effects on sensitive biological resources cannot be avoided, undertake additional CEQA review and develop a restoration or compensation plan in consultation with the California Department of Fish and Wildlife to mitigate the loss of the resources	

Biological Resources: BIO-2	Riparian Habitat, Wetlands, and Lake and Streambed Alteration Notification Compliance. Culvert upgrades and replacement may be a management practice used to achieve the objective of Storm-Proofing Appurtenant Agricultural Roads for Surface Water Protection. Enrollees shall notify CDFW and comply with the Lake and Streambed Alteration Agreement, if issued. Enrollees shall obtain permits from the Regional Water Quality Control Board and Army Corps of Engineers pursuant to the Clean Water Act, if applicable	CDFW shall be notified pursuant to Fish and Game Code section 1600 et seq. for Project activities affecting lakes or streams and associated riparian habitat and shall comply with the Lake and Streambed Alteration Agreement, if issued. Enrollees shall obtain permits from the Regional Water Quality Control Board and Army Corps of Engineers pursuant to the Clean Water Act, if applicable (Enrollee) Schedule: Prior to construction of management practices.

Hydrology and Water Quality: HWQ-1	Implement Construction Best Management Practices for Erosion Control Enrollees must implement the following measures during construction activities for the implementation of the Proposed Project Management Practices for Water Protection under the General Order, or must implement alternative measures that are demonstrated to be equally or more effective: • Implement practices to prevent erosion of exposed soil and stockpiles, including watering for dust control, establishing perimeter silt fences, and/or placing fiber rolls. • Minimize soil disturbance areas. • Implement practices to maintain water quality, including silt fences, stabilized construction entrances, and storm drain inlet protection. • Where feasible, limit construction to dry periods. • Design practices and routinely maintain practices to minimize the spread and propagation of invasive species, such as reed canary grass (*Phalaris arundinacea).* • Revegetate disturbed areas. The performance standard for these erosion control measures is to use the best available technology that is economically achievable. These measures may be included in SWPPP requirements, as appropriate.	Confirm that Best Management Practices are included in contract documents, if any. Schedule: During preparation of contract and specifications. (Enrollee) Confirm that all BMPs are implemented fully, and that erosion control measures use the best available technology that is economically achievable. Schedule: During construction / installation of applicable management practices. (Enrollee) Confirm that BMPs are designed and routinely maintained to minimize the spread and propagation of invasive species, such as reed canary grass. Schedule: during construction and ongoing maintenance (Enrollee)

Hazardous Materials: HAZ-1	Hazardous Materials Spill Prevention, Control, and Counter-Measures for Land Disturbance Activities General Order enrollees or their contractors must maintain/implement the following: • A list of hazardous materials present on site during construction, to be updated as needed along with product safety data sheets and other information regarding storage, application, transportation, and disposal requirements; • A hazardous materials communication plan, which lists contacts for emergency services, hazardous materials spill response agencies, and wildlife agencies, as well as protocols for communication in the event of a spill; • Standards for secondary containment of hazardous materials stored on site; • Spill response procedures based on product and quantity. The procedures must include spill response/clean-up materials to be used, location of such materials within the construction site, and disposal protocols. • Test accumulated sediments in control features for hazardous materials prior to removal, with disposal at an appropriate facility, if warranted.	Confirm that measure is included in contract documents, if any. Schedule: During preparation of contract and specifications. (Enrollee) Confirm list of hazardous materials, standards for secondary containment, and spill response procedures are on site/documented. Schedule: Prior to land disturbance activities. (Enrollee) Confirm preparation of a hazardous materials communication plan that includes all information identified in the mitigation measure. Schedule: Prior to land disturbance activities. (Enrollee) Test accumulated sediments in control features prior to removal, with disposal at an appropriate facility, if warranted. Schedule: prior to removal of accumulated sediments (Enrollee)

Cultural Resources: CUL-1	For proposed actions or management practices that involve modifications to previously undisturbed soils (i.e., below the levels of current agricultural practices, or in areas that have not previously been cultivated or developed) or a structure that may qualify as a historical resource, the following steps must be taken to avoid and/or reduce potential impacts on significant cultural resources: The Enrollee must retain an archaeologist who meets the U.S. Secretary of Interior's professional standards as an archaeologist to conduct a records search at the regional Information Center of the California Historical Resources Information System (CHRIS). The record search must determine if cultural resources have previously been identified in the proposed disturbance area and whether the proposed disturbance area has previously been subject to archaeological pedestrian survey. The professional archaeologist must contact the NAHC to request a search of the Sacred Lands files and a list of tribes with a traditional and cultural affiliation with the proposed disturbance area. The archaeologist must contact the tribes identified by the NAHC to request information about sites and resources that may not have been identified during the record search process, including TCRs, and whether the tribes have any concerns about the proposed action. If a pedestrian survey has not previously been conducted on the property, a survey must be conducted by a qualified archaeologist. All identified archaeological sites and historic buildings and structures must be recorded on California Department of Parks and Recreation 523 Site Record forms.	Confirm that the measure is included in contract documents, if any. Schedule: During preparation of contract and specifications (Enrollee) Confirm that construction workers are fully aware of all requirements pertaining to cultural resources and receive basic training on how to identify potential cultural resources. Schedule: Prior to construction / installation of applicable management practices. (Enrollee) For applicable activities, confirm retention of a qualified archaeologist to conduct a records search, contact tribes, and conduct pedestrian survey, as necessary. Schedule: Prior to construction / installation of applicable management practices.(Enrollee) Confirm any identified archaeological sites, and historic buildings and structures, are recorded on proper forms. Schedule: Prior to construction / installation of applicable management practices. (Enrollee) If historical resource(s) are identified within the proposed disturbance area, confirm avoidance of those resource(s) to the extent feasible. Schedule: Prior to construction / installation of applicable management practices. (Enrollee) If historical resource(s) cannot be avoided, confirm preparation of a data recovery plan and submittal to NCRWQCB. Schedule: Prior to construction / installation of applicable management practices. (Enrollee)

Cultural Resources: CUL-1 continued	If the historical resource(s) cannot be completely avoided, the qualified archaeologist must develop and implement a data recovery plan, which makes provisions for adequately recovering the scientifically consequential information from and about the historical resource(s) that may be impacted by the proposed activity. The data recovery plan must be prepared and submitted to the North Coast Water Board for approval, and the data recovery plan must be approved by North Coast Water Board prior to any excavation taking place that may impact the resource(s). North Coast Water Board must ensure that data recovery plans for Native American archaeological sites have the opportunity be reviewed by consulting tribes.	Confirm that submitted data recovery plan adequately provides for recovery of scientifically important information about historical resource(s) to be impacted, and that consulting tribes are provided opportunity to review. Schedule: Prior to commencement of any excavation activities.(NCRWQCB) If approved, confirm that data recovery plan is properly and fully implemented. Schedule: During and potentially after construction / installation, if applicable. (Enrollee) In the event that cultural resources are encountered, ensure that work stops immediately. Schedule: During construction / installation, if necessary. (Enrollee) Ensure all accidentally discovered cultural resources are evaluated for inclusion in the CRHR and that avoidance measures or appropriate mitigation measures are implemented for historical resources. Schedule: During construction / installation, if necessary. (Enrollee)

Cultural Resources: CUL-1 continued	Archaeological sites known to contain human remains must be treated in accordance with the provisions of Section 7050.5 of the Health and Safety Code (see Mitigation Measure CUL-3). For any artifacts removed during project excavation or testing, the professional archaeologist must provide for the curation of such artifact(s). For structure(s) evaluated as a historical resource(s) that cannot be avoided, reconstruction of the structure(s) at an off- site location, consistent with the Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings, may be an appropriate minimization measure that may be implemented in addition to, or as part of, the data recovery plan. 1)Provisions must be made by the enrollee or third party for the accidental discovery of historical or unique archaeological resources during construction of applicable management practices, pursuant to CEQA Guidelines 15064.5(f). If cultural resources are uncovered during construction, work must immediately cease within 50 feet of the finds and the materials must be evaluated by a qualified archaeologist. If the finds are determined to be a historical or unique archaeological resource, avoidance measures or appropriate mitigation (e.g., data recovery, documentation, and curation) must be implemented.	See CUL-1.
Cultural Resources: CUL-2	See Mitigation for CUL-1 above	See CUL-1.

Cultural Resources: CUL-3	Comply with State Laws Pertaining to the Discovery of Human Remains. If human remains are discovered during construction, the requirements of Health and Safety Code section 7050.5 must be followed. Potentially damaging excavation must halt on the construction site within a minimum radius of 100 feet of the remains, and the county coroner must be notified. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code section 7050.5[b]). If the coroner determines that the remains are those of a Native American, the NAHC must be contacted by phone within 24 hours of making that determination (California Health and Safety Code section 7050[c]).	Confirm that measure is incorporated in contract documents, if any. Schedule: During preparation of contract and specifications.(Enrollee) Confirm that construction workers are fully aware of all requirements pertaining to human remains. Schedule: Prior to construction / installation of management practices or other activities involving ground disturbance. (Enrollee) In the event that human remains are encountered, confirm that work is stopped immediately and California Health and Safety Code requirements are followed and the county coroner is contacted. Schedule: During construction / installation, if applicable. (Enrollee) Confirm that any discoveries of human remains are evaluated and addressed properly as outlined in the measure. Schedule: During construction / installation, if applicable (Enrollee)

Cultural Resources: CUL-3	Pursuant to the provisions of PRC section 5097.98, the NAHC must identify a most likely descendent (MLD). No photographs will be taken of any human remains, unless required for identification purposes and with permission from Tribal representatives. There shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent human remains until the following occurs: 1. The Permit Holder will immediately contact the Del Norte County Coroner (Coroner). Del Norte County Coroner 650 5th Street, Crescent City CA. 95531 Phone: 707-464-4191 2. If the Coroner determines the remains to be Native American: a. The Coroner will contact the Native American Heritage Commission (NAHC) within 24 hours. b. The NAHC will designate a Most Likely Descendant (MLD) [CCR 15064.5(e)(1)(B)]. c. The designated MLD will meet with the Permit Holder as soon as feasible, to make a recommendation on the treatment of the remains and associated artifacts. The MLD designated by NAHC must have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. The enrollee must work with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect. Ground disturbing activities must not resume until these requirements are met.	See CUL-3 above.

Tribal Cultural Resources: TCR-1	See Cultural Resources (CUL-1 through CUL-3) above.	
Tribal Cultural Resources: TCR-2	Implement tribal cultural viewshed protection measures Low-profile design and naturalistic contours. Design above-ground elements (including berms and basin edges) to maintain low profiles, use naturalistic grading, and minimize visual contrast with surrounding landforms. Material and finish controls. Use non-reflective materials and finishes for any above-ground structures, appurtenances, or signage to minimize glare and visual contrast. Vegetation retention and screening. Retain existing screening vegetation where feasible and restore disturbed areas with native vegetation appropriate to the local setting. Where vegetation establishment is part of design or permitting compliance, prioritize revegetation methods that support both ecological function and the continuity of the TCL's visual setting. Lighting limitations. Avoid new permanent nighttime lighting associated with Management Practice implementation. If lighting is necessary for safety, use the minimum intensity required and fully shield fixtures to direct light downward and away from culturally important views.	Confirm that measure is incorporated in contract documents, if any. Schedule: During preparation of contract and specifications.(Enrollee) Confirm that construction workers are fully aware of all requirements pertaining to the viewshed. Schedule: Prior to construction / installation of management practices or other activities involving ground disturbance. (Enrollee)
Tribal Cultural Resources: TCR 3	See Mitigation Measures BIO-1, HWQ-1, and HAZ-1 above.	

Attachment F: Forms and Templates

Contents

I. Notice of Intent

II. Request for Termination

III. Drinking Water Well Information Form

a. Drinking Water Well Information Form Instructions

b. Drinking Water Well Notification Templates

c. Nitrate Fact Sheet

IV. Irrigation and Nitrogen Management Plan

a. Irrigation and Nitrogen Management Plan Instructions

North Coast Regional Water Quality Control Board

LILY BULB ORDER
NOTICE OF INTENT

To obtain regulatory coverage and comply with Waste Discharge Requirements General Order for discharges from Commercial Lily Bulb Operations within the Smith River Plain, Order R1-2026-0036.

You must complete the entire form. Please send the completed, signed form to the North Coast Regional Water Quality Control Board (North Coast Water Board). Instructions for filling out and sending this form start on page 4.

Enrollment Type

__ **I am enrolling in the Order individually.** By checking this box, I acknowledge that I must fulfill all Monitoring and Reporting requirements in Attachment A: Monitoring and Reporting Program.

__ **I am enrolling in the Order through an approved Coalition.** By checking this box, I acknowledge that the Coalition may fulfill some of the Monitoring and Reporting requirements in Attachment A: MRP, but I am ultimately responsible for ensuring my compliance with all requirements.

1. Owner Information

1a. Landowner First Name:	1b. Landowner Last Name:
1c. Landowner Phone Number:	1d. Landowner Email:

1e. Landowner Mailing Address: _____

_____

1f. Is the landowner also the operator of the commercial lily bulb operation? Yes No
(If you checked Yes, skip Operator Information 2a through 2d)

2. Operator Information

2a. Operator First Name:	2b. Operator Last Name:
2c. Operator Phone Number:	2d. Operator Email:

2e. Operator Mailing Address: _____

Lily Bulb Operation Information

Name of Operation (DBA) if applicable: _____

3. Parcel Information

Please list parcels for which you would like to obtain regulatory coverage (*attach additional sheets as necessary*).

Assessor's Parcel Number (APN)	**Watershed** (Refer to Figure A.1 for a map of watersheds in the Smith River Plain.)	**APN Acres**	**Farmed Acres**

4. Map of Operation

Attach a map of the lily bulb operation that includes all enrolled parcels with parcel boundaries. A map may be an aerial photograph, topographic map, LiDAR-derived shaded relief map, Google Earth image, or equivalent that depicts features at 1-inch = 50 feet or larger scale. The base map(s) shall include a north arrow and label.

Owner Notification and Certification

If the facility is currently leased or operated by someone other than the owner, this section must be signed by the operator.

> *I certify that the owner of the parcel(s) I am enrolling has been notified of these General Waste Requirements and that I have been designated by the owner as the "Enrollee".*

Operator's Printed Name: _____

Signature: _____

Title: _____Date: _____

Certification

> *"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the Order, including the implementation of the Monitoring and Reporting Program, will be complied with."*

Enrollee Printed Name*: _____

Enrollee Signature: _____Date: _____

Submittal of NOI Form

1. Fees

Irrigated Lands Fee information can be found at:
(https://www.waterboards.ca.gov/water_issues/programs/agriculture/)

2. Submittal

This NOI must be completed for existing lily bulb operations and submitted to the North Coast Water Board no later than **March 1, 2027**, or, prior to enrollment by new, expanding, or reoperating previously inactive lily bub operations.

If enrolling in a Coalition, please submit this completed NOI form and appropriate enrollment fee (when applicable) to the Coalition.

If enrolling individually, please submit this completed NOI Form and appropriate enrollment fee (when applicable) to the following address:

North Coast Regional Water Quality Control Board
ATTN: Lily Bulb Order
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95401

Email: NorthCoast@waterboards.ca.gov

North Coast Regional Water Quality Control Board

LILY BULB ORDER
REQUEST FOR TERMINATION

Request to Terminate Coverage of Commercial Lily Bulb Operations under General Order R1-2026-0036.

Submission of this form constitutes an official notification to the North Coast Regional Water Quality Control Board (North Coast Water Board) that the lily bulb operation identified below, and all associated APNs, has elected to terminate coverage under the Lily Bulb Order. To officially terminate your enrollment, this form must be completed, physically signed by the individual Owner and/or Operator (herein 'Responsible Party') listed on the operation eNOI and received by the North Coast Water Board.

By submitting this Notice of Termination form, ALL parcels associated with the Responsible Party enrolled in the Lily Bulb Order will be terminated.

Owner/Operator Information

1. Complete this section if currently enrolled in a Coalition:

Responsible Party:	
Member ID (if enrolled through Coalition):	
Phone Number:	
Email:	
Business Mailing Address:	

2. Complete this section if currently enrolled Individually:

Responsible Party:	
WDID:	
Phone Number:	
Email:	
Business Mailing Address:	

Reason for Termination

No longer farming commercially as of (month, day, year): ___/____/_____

Change in ownership as of (month, day, year): ___/____/_____

Have you notified the new owner of their requirement to send a Notice of Intent to the North Coast Water Board? _____ Yes _____ No

Change in Operator as of (month, day, year): ___/____/_____

Have you notified the new operator of their requirement to send a Notice of Intent to the North Coast Water Board? _____ Yes _____ No

Certification

I certify under penalty of law that the submitted information is to the best of my knowledge true, accurate, and complete.

Responsible Party Signature: _____

Printed Name: _____Date: _____

Submitting Form

Please send this form by mail to:

North Coast Regional Water Quality Control Board
Attn: Lily Bulb Order
5550 Skylane Boulevard. Suite A

Santa Rosa CA, 95403

Or you may send by email to:NorthCoast@waterboards.ca.gov

North Coast Regional Water Quality Control Board

LILY BULB ORDER FARM EVALUATION

Annual Field-level inventory of management practices, irrigation and nutrient management, and adaptive management status for Commercial Lily Bulb Operations in the Smith River Plain, required under Order No. R1-2026-0035, Attachment A: Monitoring and Reporting Program, Section V.A.

You must complete the entire form. This Farm Evaluation must be submitted to the Coalition or GeoTracker by March 1 annually. Retain a signed copy at your primary place of business.

Crop Year (e.g., 2026/2027): _____

Enrollment Type Reporting Year

Check one box below to indicate your enrollment type.

__ I am enrolled in the Order individually. By checking this box, I acknowledge that I must fulfill all Monitoring and Reporting requirements in Attachment A: Monitoring and Reporting Program.
GeoTracker WDID:_____

__ I am enrolled in the Order through an approved Coalition. By checking this box, I acknowledge that I must fulfill all Monitoring and Reporting requirements for Enrollees in a Coalition in Attachment A: MRP.
Coalition ID: _____

1. Owner / Operator Identification

Complete all fields. Operator information (2a–2e) is required if the operator is different from the landowner.

Owner Information

1a. Landowner Name	1b. Landowner Mailing Address
1c. Landowner Phone Number	**1d. Landowner Email**

Operator Information

Complete if the operator is different from the landowner.

2a. Operator First Name	2b. Operator Mailing Address
2c. Operator Phone Number	**2d. Operator Email**

2e. Operation Name (DBA, if applicable):
_____

2. Commercial Lily Bulb Operation Identification

List all parcels in lily bulb rotation (planted, fallow, or rotation crops). Parcels out of lily bulb production for 5 or more years may be exempt. See Figure A.1 in Attachment A; Monitoring and Reporting Program for Drainage Areas. Field IDs must be consistent across all Farm Evaluation reporting. Attach additional sheets as necessary.

APN	Parcel Acres	Drainage Area	Field ID (self-appointed)	Total Farmed Acres

Notes:
_____
_____

3. Well Identification

List all irrigation wells, Drinking Water Supply Wells, and abandoned or inactive wells on each enrolled APN. Assign a unique Well ID to each well. Drinking Water Supply Well monitoring data is submitted separately to GeoTracker.

APN	Well ID (unique)	Well Type (Irrigation / Drinking Water Supply / Abandoned or Inactive)	Latitude (decimal degrees)	Longitude (decimal degrees)	Is this well monitored under the MRP?

Notes:

4. Farm Map

Attach an updated Farm Map with each annual Farm Evaluation.

Farm Map Requirements — Check and attach
A Farm Map must be attached to this Farm Evaluation. The map must: • Be an aerial photograph, topographic map, LiDAR-derived shaded relief map, Google Earth image, or equivalent at 1-inch = 50-feet or larger scale • Include a north arrow, scale bar, and legend for all symbology • Label all of the following features on all enrolled parcels: – Field IDs – Fields planted to lily bulbs (label land use of other fields: fallow, grazing, etc.) – Farm buildings and equipment yards – Nutrient or pesticide handling and mixing sites, storage facilities, and staging areas – Location of all wells, using Well IDs from Section 3 – Watercourses, drainage ditches, and Streamside Areas

5. Compliance Education Event Attendance

At least one compliance education event per year is required.

Date of Event (MM/DD/YYYY)	Type of Event (In-Person / Online Video / Printed Materials / Other)	Sponsoring Organization or Provider	Brief Description of Topics Covered

Field Specific Reporting

For Sections 6-9, fill out for each Field, as appropriate. Attach Section 6-9 for each Field separately.

Field ID: _____

APN(s) included in the Field

6. Management Practices

Check all management practices implemented on each Field. Management practices must be designed, installed, maintained, and promptly repaired in accordance with Section II of the Order. Use the Notes column to note field-specific differences or information related to implementation. See Attachment B: Management Practices for descriptions of each practice.

6A. Sediment and Erosion and Control Management Practices

Practices to prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads.

Field Practices

Management Practice	Implemented	Notes
Filter Strip	☐	
Field Size Reduction	☐	
Flow Dissipaters	☐	
Contour Farming	☐	
Precision Land Forming	☐	

Management Practice	Implemented	Notes
Row Arrangement	☐	
Cover Crop	☐	
Enhanced Soil Infiltration	☐	
Critical Area Planting	☐	
Soil Amendments (erosion control)	☐	
In Furrow Dams	☐	
Field Border	☐	
Plant Residue Tillage Management	☐	
Vegetative Barrier	☐	
Grassed Waterway	☐	
Stormwater Diversion	☐	
Field Isolation	☐	
Grade Stabilization Structure	☐	
Other:	☐	
Other:	☐	

Appurtenant Agricultural Roads

Management Practice	Implemented	Notes
Road Sediment Control (waterbars, grading, rolling dips)	☐	

Management Practice	Implemented	Notes
Proper Culvert Sizing and Maintenance	☐	
Road Maintenance — Pre- and Post-Storm Inspections	☐	
Other:	☐	

Appurtenant Farm Areas

Management Practice	Implemented	Notes
Agricultural Pond Maintenance	☐	
Livestock Management	☐	
Proper Disposal of Pesticide Containers	☐	
All Applicable Pesticide Storage, Handling, and Use Laws Followed	☐	
Other:	☐	

6B. Pesticide Management Practices

Practices to prevent, minimize, or eliminate the discharge of pesticides to surface water and groundwater.

Management Practice	Implemented	Notes
Integrated Pest Management (IPM) Plan	☐	
Use of Low Risk Pesticides	☐	
Pesticide Sampling and Analysis	☐	
Pesticide Mixing and Loading Setbacks	☐	

Management Practice	Implemented	Notes
Soil Amendments to Bind Pesticides	☐	
Sprayer Shields	☐	
Irrigation Water Management	☐	
County Pesticide Permit Compliance	☐	
Crop Rotation	☐	
End of Row Shutoff When Spraying	☐	
Avoid Surface Waters When Spraying	☐	
No Spray Buffer Zone	☐	
Drift Control Agents	☐	
Monitor Climatic Conditions Before Application	☐	
Application Timing and Rain Forecasting	☐	
Pesticide Applicator Adjustments (nozzle pressure, droplet size)	☐	
Other:	☐	
Other:	☐	

6C. Streamside Area — Minimum Buffer Width Compliance

Report whether enrolled fields meet the minimum Streamside Area widths (Riparian Vegetation Area and Vegetated Buffer) in Table II.1 of the Order.

Watercourse Name	Watercourse Type	Current Riparian Vegetation Area Width	Current Vegetated Buffer Width	Minimum Width Met? (Yes / No)

7. Irrigation and Nutrient Management

Report irrigation methods and nitrogen application for all enrolled fields planted to lily bulbs or receiving an external source of nitrogen.

7A. Irrigation Methods

Field ID	Primary Irrigation Method	Secondary Irrigation Method (if any)

7B. Nitrogen Management and Wellhead Protection

Practices to prevent, minimize, or eliminate overapplication of nitrogen, percolation of nitrogen into groundwater, and contamination of wellheads.

Nitrogen Management

Management Practice	Implemented	Notes / Field ID(s)
Nutrient Application at Agronomic Rates	☐	
Nutrient Budget (nitrogen applied vs.nitrogen removed estimate)	☐	
Soil Testing for Nitrogen	☐	
Irrigation Water Testing for Nitrogen	☐	
Use of Beneficial Cover Crops to Fix or Utilize Nitrogen	☐	
Other:	☐	

Management Practice	Implemented	Notes / Field ID(s)
Other:	☐	

Wellhead Protection and Good Housekeeping

Management Practice	Implemented	Notes / Field ID(s)
Wellhead Protection Delineation	☐	
Backflow Prevention Devices on Irrigation Wells	☐	
Properly Destroy or Abandon Permanently Inactive Wells	☐	

7C. Nitrogen Applied (lbs. per acre)

Report for all fields planted to lily bulbs or receiving an external source of nitrogen. Nitrogen applied via water shall be reported separately.

Field ID	N via Synthetic Fertilizers (lbs./acre)	N via Organics or Compost (lbs./acre)	N via Irrigation Water (lbs./acre)	Total N Applied (lbs./acre)

Note: Enrollees who are required to develop a certified Irrigation and Nitrogen Management Plan (INMP) must additionally complete the certified INMP as part of their Annual Report.

8. Adaptive Management Reporting

Complete this section for all Fields in the Adaptive Management Program. If no fields are in the Adaptive Management Program, check the box below and skip to Section 9.

__ No fields on this operation are currently in the Adaptive Management Program. (Skip to Section 9.)

Field ID or APN	Constituent Triggering Adaptive Management	Adaptive Management Tier	Adaptive Management Compliance Option Selected	Year Adaptive Management Was Activated	Additional Measures Implemented or Planned

Edge-of-Field Sampling: __ Not selected. __ Selected — data submitted separately per MRP

9. CEQA Mitigation Measure Monitoring

Report implementation of all applicable CEQA Mitigation Measures from Attachment E for the reporting year.

Mitigation Measure Number (Attachment E)	Potential Impact Addressed	APN(s) or Parcel(s) Where Measure Was Employed	Steps Taken to Implement Measure	Steps Taken to Monitor Ongoing Success

Notes:

_____

10. Certification of Maintenance and Farm Evaluation

Certification of Maintenance

I certify that all management practices identified in this Farm Evaluation are designed, installed, maintained, and promptly repaired in accordance with Section II of Order R1-2026-0035.

Certification of Farm Evaluation

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of Order R1-2026-0035, including the implementation of the Monitoring and Reporting Program, will be complied with."

Enrollee Printed Name: _____

Enrollee Signature:_____ Date: _____

Submittal

Individual Enrollees: Submit this completed Farm Evaluation to GeoTracker by March 1 annually

Coalition Members: Submit Farm Evaluation data to your Coalition for reporting to the North Coast Water Board.

Retain a signed copy at your primary place of business. Provide a copy to North Coast Water Board staff on request.

North Coast Regional Water Quality Control Board

ATTN: Lily Bulb Order

5550 Skylane Blvd., Suite A, Santa Rosa, CA 95401

Email: NorthCoast@waterboards.ca.gov

North Coast Regional Water Quality Control Board

Certified Irrigation and Nitrogen Management Plan (INMP)

Enrollee Name: _____GeoTracker ID# (if applicable):_____

Crop Year (Harvested):

Instructions:

The INMP must be certified. Complete instructions are located at the back of the worksheet.

1. Parcel Management

APN	Watershed	Parcel Acres	Farm Area Acres

Total Farm Area Acres: _____

Comments:

2. Irrigation Pre-Season Planning

Crop Evapotranspiration (ET, inches):

Anticipated Crop Irrigation (inches):

Irrigation Water N Concentration (ppm or mg/L, as NO3 -N):

3. Irrigation Method

(Check one for Primary; if applicable, check one for Secondary)

Primary Secondary[1]

□ Drip

□ Micro Sprinkler

□ Furrow

□ Sprinkler

□ Border Strip

□ Flood

[1] A secondary irrigation system could be used for crop germination, frost protection, crop cooling, etc.

4. Irrigation Efficiency Practices (Check all that apply)

- □ Laser Leveling
- □ Use of ET in scheduling irrigations
- □ Water application schedule to need
- □ Use of moisture probe (e.g., tensiometer)
- □ Soil Moisture Neutron Probe
- □ Pressure Bomb
- □ Other: _____

5. Harvest/Yield Information

Production Unit (e.g., tons): _____Converted to lbs.: _____

Harvested Yield (lbs/acre): Expected: _____ Actual: _____

6. Nitrogen Efficiency Practices (Check all that apply):

- □ Split Fertilizer Applications

- □ Irrigation Water N Testing
- □ Soil Testing
- □ Tissue/Petiole Testing
- □ Fertigation
- □ Foliar N Application
- □ Cover Crops
- □ Variable Rate Applications using GPS
- □ Other:

7. Nitrogen Applied and Nitrogen Sources:

Sources	**Recommended/ Planned N (A)**	**Actual N (B)**
Soil – Available N in Root Zone (Annualized, lbs/ac)		
N in Irrigation Water* (Annualized, lbs/ac)		
Organic Amendments* (Manure/Compost/Other, lbs/ac estimate)		
Dry/Liquid Fertilizer N* (lbs/ac)		
Foliar Fertilizer N* (lbs/ac)		
Total Nitrogen Applied (lbs/ac)		

8. Nitrogen Removed*:

Harvest Yield (lbs/acre)	Crop Removal Coefficient (C_N)	Nitrogen Removed (lbs/acre)

*Nitrogen Removed includes nitrogen removal in the plant material via harvest. This is incorporated into the Crop Removal Coefficient which calculates the nitrogen removed in one season. Given that no Crop Removal Coefficient exists for Easter Lily Bulbs at the time of Order adoption, this value may be estimated using values for similar crops that are obtained from literature or the UC Cooperative Extension.

Total Nitrogen Applied (lbs./acre): _____

Total Nitrogen Removed (lbs/acre): _____

Irrigation Nutrient Management Plan Certification

The person signing this Irrigation and Nitrogen Management Plan (INMP) certifies, under penalty of law, that the INMP was prepared under his/her direction and supervision, that the information and data reported is to the best of his/her knowledge and belief, true, accurate, and complete, and that he/she is aware that there are penalties for knowingly submitting false information. Where the person signing the INMP is not the Enrollee, he/she may rely on the information and data provided by the Member and is not required to independently verify the information and data.

The person signing the INMP below further certifies that he/she used sound irrigation and nitrogen management planning practices to develop irrigation and nitrogen application recommendations and that the recommendations are informed by applicable training for meeting the crop's agronomic needs while minimizing nitrogen loss to surface water and groundwater. Where the person signing the INMP is not the Enrollee, he/she is not responsible for any damages, loss, or liability arising from subsequent implementation of the INMP by the Member in a manner that is inconsistent with the INMP's recommendations for nitrogen application. **This certification does not create any liability for claims for environmental violations.**

The person signing this document is:

- □ Certified INMP Specialist (e.g., Certified Crop Adviser who has completed CDFA training)
- □ Self-Certified by Enrollee who has completed the CDFA training program
- □ Self-Certified by the Enrollee who follows NRCS or UC site-specific recommendations (documentation required)
- □ I do not apply nitrogen

I, _____, certify this INMP in accordance with the statement above.

_____ Signature _____ Date

If the certifier is not the Enrollee, the Enrollee additionally agrees as follows:

I,_____, Enrollee, have provided information and data to the certifier above that is, to the best of my knowledge and belief, true, accurate, and complete, that I understand that the certifier may rely on the information and data provided by me and is not required to independently verify the information and data, and that I further understand that the certifier is not responsible for any damages, loss, or liability arising from subsequent implementation of the INMP by me in a manner that is inconsistent with the INMP's recommendations for nitrogen application. I further understand that the certification does not create any liability for claims for environmental violations.

_____ Signature _____ Date

Irrigation and Nitrogen Management Plan (INMP) Instructions

Complete an Irrigation and Nitrogen Management Plan (INMP) Worksheet for Fields subject to groundwater adaptive management per Section II.H of the Order.

Each section heading below (in bold) corresponds to the section heading on the INMP Worksheet. The numbered references correspond to each numbered box on the INMP Worksheet.

Irrigation and Nitrogen Management Plan

Enter the name of the Owner or Operator enrolled in the Order.

Enter the **Crop Year (Harvested)**. Information on INMP Worksheets should be based on the calendar year in which harvest was completed. If the crop was harvested in November of 2028, enter '2028" in this space.

1. Parcel Management

Use this table to account for all parcels for which the plan applies. Multiple parcels, portions of parcels may be included in a single plan if they all have the same: crop, fertilizer inputs, irrigation management, and nitrogen management practices.

Enter the **Assessor's Parcel Number (APN)** and **County** for each parcel associated with your plan.

Enter the Farm Area acres for each parcel or portion of parcel to which this plan applies. Farm Area acres incorporate all of the Farm Area (The Planted Area and appurtenant structures, maintenance areas, mixing and loading sites, Appurtenant Field Roads, and appurtenant storage yards on a Lily Bulb Operation). For example, if the parcel is 10 acres, but the Farm Area only includes 5 acres, record 5 acres in that box. Sum the Farm Area acres from each parcel for the Total Acres covered under the plan Use the Comment/Notes box to provide any further information that may be pertinent to the worksheet (e.g., nitrogen use efficiency, nitrogen removal rates, reasons for substantial differences between plan and actual numbers, etc.).

2. Irrigation Pre-Season Planning

Crop Evapotranspiration. Enter the potential crop evapotranspiration (ETc) in inches anticipated for the season. Evapotranspiration rates are provided by geographical location and multiplied by a crop- specific coefficient to estimate the amount transpired by your crops.

Anticipated Crop Irrigation. Enter the amount of irrigation water in inches expected to be applied over the course of the season.

Irrigation Water N Concentration. Enter the concentration of nitrogen in the irrigation water used on your crop as parts per million (ppm) or milligrams per liter (mg/L). The concentration of nitrogen in your irrigation water can be obtained from sources such as local district testing, laboratory analysis, or other sources. These results can be reported as either Nitrate as N, nitrate-nitrogen, or NO3-N.

Irrigation Method. Check the box to indicate the irrigation method used the most for crop irrigation (primary irrigation) during the growing season for the parcel/Nitrogen Management Unit under this plan. If applicable, indicate any secondary irrigation systems. Secondary irrigation systems include those used for crop germination, crop cooling, or salinity management**.**

Irrigation Efficiency Practices* (5). Check all boxes that apply to indicate irrigation efficiency practices used on your parcels during the season. Indicate if, to your knowledge, the parcels have been laser leveled.

3. Harvest/Yield Information

Production Unit. This is the standard unit in which you measure your harvest for the parcels identified under **Parcel Management**. **You will need to convert this number to lbs per acre later**.

Harvested Yield. This includes all crop yield harvested for the season. For pre-season planning, fill in the Expected Yield for the season. The Expected Yield should be reported on a per-acre basis for the parcel or Nitrogen Management Unit covered by the plan. Expected Yield expectations will guide nitrogen management decisions and will inform the **TOTAL NITROGEN Recommended** to be used in the Nitrogen Management section below. Enter actual harvested Yield in the next box following harvest in lbs. per acre.

4. Nitrogen Efficiency Practices

Nitrogen Efficiency Practices. Check all boxes that apply to indicate any nitrogen efficiency practices used on your parcels during the season**.**

Nitrogen Applied and Nitrogen Sources

Recommended/Planned N (Column A): Complete the boxes in the Nitrogen Sources section in **Column A** based on the anticipated Nitrogen Sources required to obtain the Expected Yield. Use crop recommendations from CDFA, UCCE, NRCS, commodity organizations or site-specific knowledge to appropriately estimate the amount of nitrogen (N) necessary. Use Recommended/Planned N totals for each source of N and schedule applications for the crop year. Use additional tools/spreadsheets to plan timing for each application. Proper scheduling of N applications and irrigations is essential for efficient nitrogen management.

Recommended / Planned TOTAL NITROGEN: All Nitrogen Sources in this section should be the total for **Recommended / Planned TOTAL NITROGEN (14A).**

5. Recommended / Planned TOTAL NITROGEN: Sum all values from Column A.

Complete the following sections based on the nitrogen source:

Soil – Available N in Root Zone. Represents nitrogen in the soil root zone that is available to the crop during the growing season. Enter the amount of residual soil nitrogen based on soil samples or other available data.

N in Irrigation Water. Enter the amount of nitrogen applied via irrigation water over the

course of the crop year in pounds per acre. For planning, this value is calculated based on the **Anticipated Crop Irrigation** and the **Irrigation Water N Concentration**. For the Actual N column, this value is calculated based on the *actual* crop irrigation and irrigation water N concentration. To calculate N in irrigation water, use the following formula:

N concentration (ppm or mg/L) x inches of irrigation applied x 0.226

Nitrate as nitrogen is also referred to as Nitrate as N, nitrate-nitrogen, or NO_3-N.

Organic Amendments. Organic Amendments include any nutrient applications from sources that do not have a guaranteed nutrient content, such as compost and manure applications. Applied organic amendments should be reported as the amount of nitrogen available to the plant during the crop year, in pounds per acre.

Dry/Liquid Fertilizer N. The Dry/Liquid Fertilizers include any nitrogen- containing product with a guaranteed nutrient content. This number should be reported as the amount of nitrogen applied as pounds per acre; this may be different than the amount of fertilizer applied which may include other nutrients.

Foliar Fertilizer N. Foliar nitrogen applications include any nitrogen-containing product applied to the crop canopy or above ground plant parts, and should be reported in pounds per acre.

Actual N (Column B): Fill in the **Actual N (Column B)** based on actual applied nitrogen amounts. This should be completed after the crop is harvested for each of the nitrogen sources outlined above. Use the Recommended/Planned N schedule to guide nitrogen applications throughout the growing season. Actual application amounts and timing can be adjusted based upon changing conditions (weather, pest damage, expected yield, tissue samples, etc.). The information in this column should reflect the actual application during the Crop Year. Refer to the Nitrogen Source section above for additional instructions and definitions.

Actual TOTAL NITROGEN: Actual applied Nitrogen Sources. Actual TOTAL NITROGEN: Sum of all values from Column B.

Nitrogen Removed

Harvested Yield. This includes all crop yield harvested for the season in lbs/acre.

Harvest Yield x Crop Removal Coefficient (C_N).** Use this box to multiply the harvested yield by the crop removal coefficient. Given that no Crop Removal Coefficient exists for Easter Lily Bulbs at the time of Order adoption, this value may be estimated using values for similar crops that are obtained from literature or the UC Cooperative Extension.

Nitrogen Applied and Removed Totals

Enter your total Nitrogen Applied (from 6) and Nitrogen Removed (from 7) in lbs./acre.

6. INMP Certification

Any INMP requiring certification must be certified by an Irrigation and Nitrogen Management Specialist, such as:

Crop Advisers certified by the American Society of Agronomy (CCA). Any Certified Crop Adviser who certifies an INMP must also have completed the nitrogen management training program offered by the University of California Agriculture and Natural Resources (UCANR) and the California Department of Food and Agriculture (CDFA).

Certified Professional Soil Scientists (CPSS)

Certified Professional Agronomists (CPAg)

Technical Service Providers (TSP) certified in nutrient management in California by the Natural Resources Conservation Service (NRCS)

Certified Agricultural Irrigation Management Specialists (CAIS) certified by The Irrigation Association.

Additionally, plans may be self-certified by the Enrollee if:

The certifying Enrollee has attended the California Department of Food and Agriculture (CDFA) or other approved training program for INMP certification. The Member must retain written documentation of their attendance in the training program.

The certifying Enrollee adheres to a site-specific recommendation from the Natural Resources Conservation Service (NRCS Nutrient Management Plan) or the University of California Cooperative Extension (UCCE). The Member must retain written documentation of the recommendation.

DRINKING WATER WELL INFORMATION FORM

Complete entire form if you have a drinking water well on an enrolled Assessor's Parcel Number (APN) and submit it with your well samples to an Environmental Laboratory Accreditation Program laboratory for required data entry into the State's GeoTracker. The Enrollee is responsible for uploading the data into GeoTracker if the laboratory will not submit directly to GeoTracker.

1. Enrollee Information

(Personal information will not be available to the public, only APN and well sample data will be available to view through the GeoTracker database) – *Note: fields with asterisk are required to be filled out.

1a. Enrollee Name*

1b. Enrollee Email*:

1c. Enrollee Phone*:

1d. Coalition Enrollment?*:

1e. Member's Mailing Address*:

1f. Property Address (if different from mailing address):

1g. Is the Enrollee also the landowner:

- □ YES (if Yes, skip 2a-2d below)
- □ NO

1h. Is the Enrollee (including family) the only consumer of the drinking water

- □ YES
- □ NO (if no, notification to all consumers and the North Coast Water Board is required if nitrate or pesticide exceedance is identified)

2. Landowner Information

(Fill out if Enrollee is not the landowner)

2a. Landowner's Name:

2b. Landowner's Mailing Address:

2c. Landowner's Phone:

2d. Landowner's Email:

3. Drinking Water Well Information*:

Drinking Water Well
Information Form

List all drinking water well on Irrigated Lands Regulatory Program enrolled parcel(s) below.

Well Name / Field ID (required)	Latitude	Longitude	Assessor Parcel Number (APN) (required)

4. Certification

"I certify under penalty of law that to the best of my knowledge and belief, this document and any attachments submitted is, true, accurate, and complete and was prepared by me or under my direction or supervision. I am aware that there are significant penalties for knowingly submitting false information."

Signature (required) Date

INSTRUCTIONS FOR
DRINKING WATER WELL SAMPLING

*Note: Fields with an asterisk are the minimum data required for GeoTracker entry. The GeoTracker link and instructions can be found online at: (https://www.waterboards.ca.gov/ust/electronic_submittal/).

Enrollee Information

1a. Enrollee Name*: Name of person who is enrolled in the Lily Bulb Order.

1b. Enrollee Email*: Valid email address for Enrollee.

1c. Enrollee Phone*: Provide working phone number for Enrollee.

1d. Coalition: Identify whether enrolled in a Coalition

1e. Member Mailing Address*: Mailing address of the enrolled member

1f. Property Address: Address of the enrolled parcel if different from the mailing address.

1g. Is the Enrollee also the owner? If yes, skip 2a-2d below. If no, please provide landowner information.

1h. Is the Enrollee (including family) the only consumer of the drinking water?

In the event of nitrate + nitrite as nitrogen or pesticide exceedance - if yes, notify North Coast Water Board; if no, notification required to all users and the North Coast Water Board within 10 days.

Landowner Information

2a. Landowner Name: Provide name of landowner of enrolled parcel(s).

2b. Landowner Mailing Address: Provide a valid mailing address for the landowner of the enrolled parcel(s).

2c. Landowner phone: Provide valid phone number for landowner of enrolled parcel(s).
2d. Landowner email: Provide valid email for landowner of enrolled parcel(s).

Drinking Water Well Information

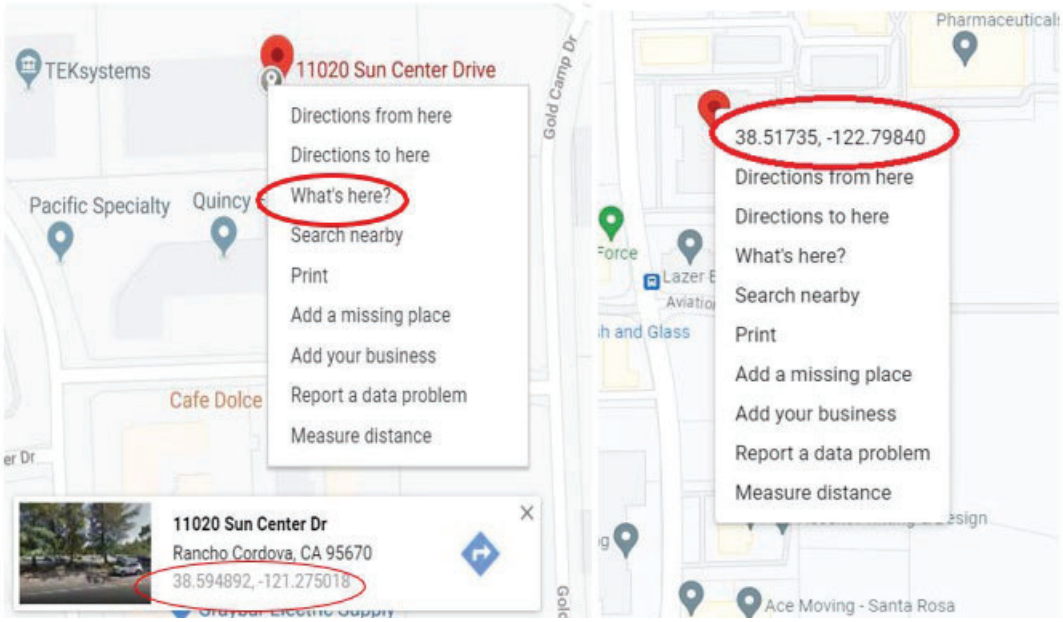
Well Name/Field Point Name*: Provide a specific name for each well. Name should clearly identify well for future sampling events (not to exceed 10 characters). If water is collected after a treatment system provide TRT- at beginning of Well Name (e.g., TRT-SEwell)

An “X” should be placed in the column to the left of the Well Name/Field Point Name field if the well has previously been sampled. This column will be used for previously sampled wells (within the last 5 years) for data entry or during year 2 of sampling to help

the laboratory identify previously sampled wells.

Longitude and Latitude can be found by using a cell phone or computer. Longitude and Latitude must be provided in decimal degrees. To determine your coordinates, while using google maps **on a computer**, type in the address and search. Once the address is displayed on the map, using your mouse, right-click the pin drop select What's here? A display box should appear near the bottom of the screen (left). In some versions, the latitude and longitude will appear on the top of the box (right).

In this case of the property on the left, latitude = 38.594892, longitude = -121.275018.



On your cell phone - using google maps drop a pin (by placing finger on map and hold in place where the drinking water well is located). When a dropped pin box comes up at the bottom of the screen, scroll down to pin symbol for latitude and longitude information.

County*: The county the enrolled parcel is located.

APN*: An Assessor's Parcel Number (APN) is a unique number that is assigned to each tract of land in a county by the Tax Assessor. Please provide the APN of the enrolled parcel with the drinking water well.

DRINKING WATER NOTIFICATION TEMPLATE

At a minimum, the Enrollee or non-Enrollee owner shall notify drinking water well users of the exceedance by providing them a copy of a Drinking Water Notification Template approved by the Executive Officer. The template shall be signed by the Enrollee or non-Enrollee owner certifying notice has been provided to the users. A copy of the signed template shall be sent to the North Coast Water Board and retained by the Enrollee or non-Enrollee owner.

Please complete template on next page for any Drinking Water Well that exceeds the Nitrate MCL of 10 mg/L. Provide a copy of this Drinking Water Notification Template to all users of the drinking water well within 10 days of learning of the exceedance and submit a copy to the North Coast Water Board.

For exceedances of a Water Quality Benchmark for pesticides, please complete the template on the page after and submit a copy to the North Coast Water Board.

North Coast Regional Water Quality Control Board
ATTN: Lily Bulb Order Drinking Water Well Notification
5550 Skylane Blvd STE A
Santa Rosa CA 95403-1072

NITRATE EXCEEDANCE NOTIFICATION
Do Not Drink Your Water

Use Only Bottled Water Until Further Notice

Failure to follow this advisory could result in serious illness.

Test Result: ___ mg/L

Nitrate in your well was found to exceed the drinking water standard of 10 mg/L established for safe drinking water.



- **Pregnant women are at increased risk** for potential health effects and should not drink water with high levels of nitrate. Drinking water with high nitrate levels may also cause serious complications in pregnancy.
- **Do not give the water to infants.** Infant formula and other edible products should be prepared with bottled water or other water with low levels of nitrate. Infants are at increased risk to become seriously ill or even death from consumption of high levels of nitrate.
- **Do not boil your water.** Boiling your water may increase nitrate levels.

This notification was provided by:

Assessor's Parcel Number (APN):

County:

Name *(of Landowner/Operator)*:

Date:Signature:

Coalition (if applicable):

Member ID:

- □ No one drinks or cooks with this well water.
- □ Notification has been provided to the user(s) or appropriate landowner(s).
- □ Replacement water has been provided to the user(s).

Please submit a signed copy of this notification to the **North Coast Water Board**:

NITRATE FACT SHEET

What is nitrate?

Nitrate can occur naturally in surface and groundwater at levels that do not cause health problems. However, levels of nitrate in excess of the standard drinking water are dangerous, especially for infants and pregnant women. Nitrate contamination in groundwater is generally associated with septic systems, confined animal feeding operations, or fertilizer use.

What health concerns are associated with nitrate in drinking water?

High nitrate levels can interfere with the ability of red blood cells to carry oxygen to the tissues of the body, producing a condition called methemoglobinemia. This is of greatest concern in infants; clinical effects on infants ingesting high levels of nitrate are often referred to as the "blue baby syndrome." Symptoms include shortness of breath and blueness in the skin. Symptoms in infants can develop rapidly, with health deteriorating over a period of days. If symptoms occur, seek medical attention immediately. High nitrate levels may also reduce the oxygen-carrying ability of the blood in pregnant women and increase the risks for complication in their pregnancies.

What can consumers do to reduce exposure to nitrate in drinking water?

Use bottled water until an appropriate treatment system is in place.

Drinking water may be treated to remove nitrate. Home filters such as Brita filters do not remove nitrate from drinking water, but other systems can be used to remove nitrate. Please consult the State Water Board's residential water treatment approved list (https://www.waterboards.ca.gov/drinking_water/certlic/device/Documents/wtd2017/76Registered%20Models%20for%20Nitrate%20listing%20081117_WITH%20LINKS%20TO%20PDS.pdf).

Boiling water is not a solution, as it can concentrate the nitrate level.

Do not make infant formula with drinking water that contains nitrate levels above 10 mg/L.

Can nitrate-contaminated water be used to bathe babies and children?

Yes. Babies and children can be bathed in water with high levels of nitrate. Showers may also be taken. Nitrate is only a concern for ingestion (eating and drinking). Nitrate is not absorbed through your skin. People who install filter systems for nitrate often install them just for their kitchen sink faucet, because they use that faucet for their cooking and drinking water.

Can nitrate-contaminated water be used to wash fruits and vegetables before they are eaten?

Generally, fruits and vegetables can be washed with water with high nitrate levels. The amount of water used for this purpose is small, and if the fruits and vegetables are wiped or blotted dry after washing, there should be no health risk. The water should not be used for cooking.

For more information

Or, for more information about nitrate in wells used for drinking water, visit the Groundwater Information Sheet regarding Nitrate online (www.waterboards.ca.gov/gama/docs/coc_nitrate.pdf).

PESTICIDE EXCEEDANCE NOTIFICATION

Test Result: ____ units: _____

The following pesticide was found in a concentration in your well that exceeds a human health level.

Pesticide: _____

Refer to the table below for human health levels and a brief description below.

Parameter	**Benchmark (ug/L)**	**Source or Reference[98]**
Diuron	Acute: 1028 Chronic: 2.0	Chronic: USGS Health Based Screening Level (HBSL) for one-in-a-million cancer risk estimate Acute: CDPR Human Health Reference Level (HHRL)
Imidacloprid	Acute: 283	DPR Human Health HHRL
Mefenoxam	Acute: 3000	USEPA One-Day or Acute HHBP
Napropamide	Chronic: 710	USEPA Chronic or Lifetime HHBP
Nitrate	10 (mg/L)	USEPA Maximum Contaminant Level (MCL)

HHRL: The Human Health Reference Levels (HHRLs) are identified by DPR's Human Health Assessment Branch. For some pesticides and degradates, HHA calculated acute and chronic HHRLs. Residues measured in groundwater exceeding these reference levels indicate a health concern.

MCL: The Maximum Contaminant Level (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are federally enforceable standards.

Chronic or Lifetime HHBP: USEPA Chronic or Lifetime Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of chronic non-carcinogenic effects over a lifetime of exposure, assuming that 20% of the exposure to a given pesticide is from water and additional exposure is derived from another source such as food, air, or dermal contact.

Acute or One-Day HHBP: USEPA Acute or One-day Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of acute or up to one-day non-carcinogenic effects, assuming that the entire exposure to a given pesticide is from drinking water.

This notification was provided by:

Assessor's Parcel Number (APN):

County:

Name *(of Landowner/Operator)*:

Date:Signature:

Coalition (if applicable):

Member ID:

- □ Notification has been provided to the user(s) or appropriate landowner(s).
- □ Replacement water has been provided to the user(s).

Please submit a signed copy of this notification to the **North Coast Water Board**:

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[98] Water Quality Benchmarks were derived from water quality criteria are generally consistent with the State Water Board's guidelines for listing impaired waters under Section 303(d) of the Clean Water Act. As a general approach, North Coast Water Board staff reviewed all available pesticide water quality criteria and selected the most protective (i.e., lowest) values for relevant beneficial uses of surface waters and groundwater in the Smith River Plain. For groundwater Water Quality Benchmarks, the North Coast Water Board relies on the applicable Drinking Water Maximum Contaminant Level (MCL), if available. If an MCL is not available, the North Coast Water Board has selected the best available Drinking Water Standard available. Human Health Reference Levels (HHRL) are identified by California Department of Pesticide Regulation's Human Health Assessment Branch. Pesticide concentrations measured in water exceeding these reference levels indicate a health concern. They are not legally enforceable standards but can be used to identify pesticide levels in drinking water that could pose a human health risk. USEPA Chronic or Lifetime Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of chronic non-carcinogenic effects over a lifetime of exposure, assuming that 20% of the exposure to a given pesticide is from water and additional exposure is derived from another source such as food, air, or dermal contact. USEPA Acute or One-day Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of acute or up to one-day non-carcinogenic effects, assuming that the entire exposure to a given pesticide is from drinking water. Health-Based Screening Levels (HBSLs) are federal, non-enforceable water-quality benchmarks developed by the United States Geological Survey.

Attachment B:
CEQA Mitigation Measures

General Waste Discharge Requirements for Commercial Lily Bulb Operations in the Smith River Plain

Summary of Revisions and Response to Comments on the Draft Order and Draft Environmental Impact Report

Comments from, and responses to, comment letters received on the Draft Environmental Impact Report (DEIR) and Draft Lily Bulb Order between January 30, 2026 – March 30, 2026 are located in the sections below. Additionally, the Board Chair admitted four late comments submitted by April 1, 2026. Section I is a Summary of Revisions made to the Draft Lily Bulb Order. Section II includes comments and responses related to the Draft Lily Bulb Order. Section III includes comments and responses related to the associated DEIR.

On January 30, 2026, the North Coast Water Board published the Draft Lily Bulb Order and DEIR and began a 45-day public comment period. On February 18, 2026, North Coast Water Board staff conducted a public workshop in Crescent City. At the public workshop, staff discussed the Draft Order and DEIR and the Board accepted oral comments from the public. At this workshop, the North Coast Water Board directed staff to extend the public comment period from 45 days to 60 days.

To better understand and evaluate comments received on the Draft Lily Bulb Order, staff engaged directly with certain commenters during the revision process. This included meetings with growers and consultation with the Tolowa Dee-ni’ Nation pursuant to AB 52.

The revisions to the Draft Lily Bulb Order reflect staff's consideration of oral comments made at the February 2026 public workshop, written comments submitted during the comment period, late comments admitted by the Chair, and outreach and consultation efforts summarized above.

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Section I: Summary of Revisions

This section summarizes **substantive revisions** staff made to the Draft Lily Bulb Order as released on January 30, 2026. All revisions below have been incorporated into the Proposed Lily Bulb Order as released on July 24, 2026 and considered by the North Coast Water Board for adoption on August 6, 2026. Page numbers referenced **in this section only** refer to page numbers in the Draft Lily Bulb Order. All other page numbers referenced in this Summary of Revisions and Response to Comments document reference the Proposed Lily Bulb Order unless otherwise noted.

1. Streamside Area Requirements

Location of revision in Draft Order: (p. 68)

Expands the period when the Vegetated Buffer Area of the Streamside Area needs to meet the 90% vegetated ground cover requirement from November 1-April 30 to October 1- June 15. This period more closely aligns with the 'storm season' identified by the Surface Water Monitoring Program as the purpose of the Vegetated Buffer Area is for pollutant filtering and bank stabilization necessary to meet the Temperature Policy.

2. Surface Water Monitoring

Location of revision in Draft: (pp. 9–10 of MRP)

Ties the surface water monitoring schedule to pesticide application timing based on SWAMP Report results and Pesticide Use Reports. Three Major Storm sampling events occur, one each in Winter (Feb–Mar), Spring (Apr–Jun), and Fall (Oct–Dec), each analyzing the constituent(s) most likely to be discharging in that window. This results in the same total number of events per year (3) but about 25% fewer constituent analyses per year.

3. Surface Water Adaptive Management

Location of revision in Draft: (pp. 9–10 of MRP)

Adaptive Management requirements are more closely directed at the fields and application activities most likely responsible for a detected exceedance. When a Water Quality Benchmark exceedance occurs at a monitoring station, the Order requires the identification of the field(s) most likely to have contributed to the exceedance based on their most recent pesticide application history and the constituent-specific monitoring calendar.

For example, copper is typically applied between February and August. An exceedance of a copper Benchmark during the Fall Event (October–December) would implicate fields that were harvested earlier that year (i.e., fields on which copper had been applied during the prior growing season) rather than fields newly planted in the fall, on which copper has not yet been applied. Similarly, a diuron or ethoprop exceedance during the Winter Event (February–March) would implicate fields planted the prior fall, when those products were applied, rather than fields that have been fallow or in rotation.

4. Fields in Adaptive Management upon Enrollment

Location of revision in Draft: (p.66 of Order)

Staff re-evaluated fields that are subject to Tier 1 Adaptive Management upon enrollment based on the pesticide application timing revisions to surface water monitoring and adaptive management triggers. This re-evaluation was based on pesticide application cycles for each parameter rather than Water Year cycles. This resulted in additional fields being subject to Tier 1 Adaptive Management in Tillas Slough for copper and imidacloprid. The list of fields subject to Tier 1 Adaptive Management upon enrollment are shown in Figure 2 of Appendix II and Table II.2 in the Order. If the field gets reconfigured, then the entire field is included if any portion of that field was identified for Adaptive Management.

5. Surface Water Monitoring Stations

Location of revision in Draft: pp. 6–8 and 11 of MRP; p. 69 of Order

Consolidates the Unnamed Creek, Morrison Creek, and Mello Creek stations to a single station where Morrison Creek enters the Morrison backwater (see Figure A.1 in Attachment A: Monitoring and Reporting Program), and removes the Ritmer Creek station since growers indicate that lily bulbs will no longer be farmed in its tributary area. Monitoring at this station will be required if lily bulbs are farmed in this tributary area in the future. Drainage-area delineations, the BLM default-value table, and the Annual Active Ingredient Application Amount Performance Standards are recalibrated to the new station footprint. The remaining stations focus monitoring downstream where lily bulbs are actively farmed and where beneficial uses may be present.

6. Major Storm Event Sampling Window

Location of revision in Draft: p. 9 of MRP; p. 87 of Order; Attachment D, Section 1

Adds precipitation boundary condition so that samples are collected before more than three inches of rain has fallen in 24 hours. The Draft only set a lower precipitation boundary (one inch in 24 hours to begin a Major Storm). The new upper boundary

condition of no more than three inches of rain within 24 hours focuses sampling on the rising limb of the hydrograph and avoids inundated, diluted conditions.

7. Surface Water Quality Benchmarks

Location of revision in Draft: p.31 of Order

Water Quality Benchmarks for Surface Water (Table I.3) has been updated to include Benchmarks for the Estuarine Habitat Beneficial Use and shall apply whenever saline conditions (≥1 ppt) are present.

8. Groundwater Monitoring Program

Location of revision in Draft: pp. 14–17 of MRP

Consolidates the two groundwater monitoring programs into a single Groundwater Monitoring section with shared parameters, sampling frequency, and analytical methods. Specific provisions related to notification of well users for Drinking Water Wells exceeding a Benchmark are retained. The Draft had duplication between the two sets of groundwater monitoring requirements and inconsistent frequencies, actions, and trigger levels. The revision increases parity between the two programs and removes redundancy without losing water quality protection.

9. Groundwater Monitoring Frequency

Location of revision in Draft: pp. 14–17 of MRP

Sampling frequency better scales to monitoring results across both Groundwater Trend wells and Drinking Water Supply Wells, using a 5 mg/L nitrate (and chronic pesticide value) interim action level. All required wells are sampled annually in October for the first three years; thereafter, wells below 5 mg/L of nitrate (or below the chronic pesticide value) move to once every three years. Wells above this interim action level remain on annual sampling. An increasing trend over three years, or an exceedance of a Water Quality Benchmark triggers Adaptive Management. Pesticides are sampled where the Enrollee has applied them on enrolled parcels in the previous five years. This revision shortens the reduced Drinking Water Well sampling interval from five years to three years and provides a more direct water quality-driven reduced monitoring trigger for Groundwater Trend Monitoring.

10. Groundwater Adaptive Management

Location of revision in Draft: pp. 22–27 and 31 of MRP; pp. 71–75 of Order

Scales Statewide Precedents to smaller, individual scale. Replaces aggregate, large-scale framework that requires a critical mass of growers for statistics-based approach with individual, water quality-based triggers appropriate to three growers and a single crop. Revises INMP reporting so growers only report nitrogen applied, and eliminates the Applied/Removed ratio, Applied-minus-Removed difference, crop removal coefficients, and township-scale Groundwater Protection Formulas, Values, and Targets in favor of more direct, individual adaptive management. Adaptive Management is triggered by groundwater monitoring results (see Revision 9). Certified INMPs are required for decreasing trend in groundwater quality and a Groundwater Protection Plan (renamed from the Water Quality Management Plan for Groundwater) is required when a Water Quality Benchmark is exceeded. Groundwater Protection Plan must propose an individual Groundwater Protection Target developed by a Qualified Professional that is quantitatively demonstrated to attenuate the trend or meet Water Quality Benchmarks within the time schedule allowed by the Order. Allowed time schedule in Groundwater Protection Plan is reduced from 20 years to 10 years.

11. Reporting Requirements

Location of revision in Draft: pp. 4–5 and 22–27 of MRP

Removes reporting requirements scaled to Statewide Precedents that are infeasible for the scale of three growers. Reporting is limited to only what is needed to verify compliance with this Order's requirements. This revision focuses limited resources on monitoring, adaptive management, and direct actions that will improve water quality. Removes requirement for the Water Quality Monitoring Workplan submittal, as surface water monitoring stations, Quality Assurance and Control, and sampling procedures/methodologies are now specified by the Order rather than proposed by the Coalition. Workplan elements that remain meaningful (e.g., representative well selection for Groundwater Trend Monitoring) are embedded directly in the relevant monitoring section and may be submitted by the individual enrollee. The MRP retains the provision for the Coalition and/or Enrollees to propose alternate monitoring stations, methodologies, procedures, and sampling frequencies. These provisions have been consolidated into Section V of the MRP: Modifications to the Monitoring and Reporting Program.

12. Coalition Requirements

Location of revision in Draft: Attachment C

Scales the Coalition requirements to a three-grower program. Retains fee collection and remittance to the State Board as the core function, narrows the Minimum Qualifications

to those meaningful at this scale (administrative capacity, fee accounting, GeoTracker data management, and capability to develop required technical and monitoring materials), and replaces the Request-for-Proposal competitive selection with a streamlined application and approval process. The Draft's ten Minimum Qualifications and RFP-based selection were modeled on large regional Coalitions serving hundreds to thousands of growers across a substantial area and were not scaled to lily bulb agriculture in the Smith River Plain.

13. Quality Assurance and Quality Control Requirements

Location of revision in Draft: pp.4-5 of MRP and Attachment D

As part of revisions to Reporting and Coalition requirements, (Revisions 11 and 12), the requirement for the Coalition or Enrollees to submit a Quality Assurance Project Plan as part of their Workplan submission has been replaced by Quality Assurance requirements that the Order specifies. These are located in Attachment D: Methodologies and Procedures.

14. Findings (Public Participation, Antidegradation, SWAMP Data, Synergistic Pesticide Toxicity, and Statewide Precedents)

Location of revision in Draft: throughout Section I: Findings

Refines the Antidegradation analysis to incorporate current data and respond to comments; updates the 2025 SWAMP Report findings to reflect revised pH data and resulting changes to BLM-predicted toxicity-unit summaries and exceedance counts; expands Public Participation findings; includes findings related to staff's work to evaluate synergistic pesticide toxicity with respect to Water Quality Benchmarks; updates the Statewide Precedential Order findings consistent with Revision 10; updates the supporting findings and data that underpin the monitoring, reporting, and Adaptive Management framework; revises cost of compliance findings for consistency with all Order revisions.

15. Typographical Revisions, Terminology and Definitions

Location of revision in Draft: throughout Order and MRP; definitions on pp. 82–94 of Order

Minor clarity and consistency edits throughout, including corrected internal cross-references, refined definitions, and consistency in Beneficial Use terminology with the North Coast Basin Plan (e.g., consistent use of "Native American Culture" for the CUL beneficial use).

Section II: Response to Comments on the Draft Lily Bulb Order

This section is organized into comment themes and summaries of comments. Each response to a comment (RTC) will address common issues raised by multiple commenters. Responses may also be individual, where the comment cannot be grouped into a general theme.

Index 1 includes all comments received by the North Coast Water Board on the Draft Order. These comments are organized by Comment Number as indicated below, in Table 1, and referenced in the comment themes. Index 1 is cross-referenced back to comment themes. Grammar, formatting, and terminology used by the commenter, as copied by North Coast Water Board staff into Index 1 of this Response to Comments document were not altered or corrected.

Table 1: List of Commenters by Comment Number

Comment Number(s)	Commenter(s)
AW-1 – AW-60	Alicia Williams
Baker-1	Kimberly Baker (Klamath Forest Alliance)
CDFW-1 – CDFW-20	California Department of Fish and Wildlife
CT-1 – CT-11	California Trout (CalTrout)
Johanson-1	Cinda Johansen
CCR-1 – CCR-8	Crescent Coastal Research (Craig Strong)
Crockett-1 – Crockett-12	Crockett United Lily Growers
DNRCD-1 – DNRCD-9	Del Norte Resource Conservation District
Powell-1 – Powell-2	E. Sandy Powell
Harms-1	Easter Lily Research Foundation (Ezekiel Harms, President)
Free-1 – Free-6	Dan Free (NOAA-NMFS)
Butler-1	Edith Butler
Holland-1 – Holland-2	Ellinor Holland
ELF-1 – ELF-44	Environmental Law Foundation et al.
Dremann-1	Eric Dremann
Pace-1 – Pace-12	Felice Pace
Galea-1 – Galea-2	Garrett Galea
Montagne-1	Greta Montagne
HFMA-1 – HFMA-17	Humboldt Fishermen's Marketing Association et al.
Obrien-1	Jess O'Brien
Hostler-1 – Hostler-12	Joseph Hostler
Tays-1	Kimberly Tays
Wilson-1 – Wilson-4	Laurie Wilson
Sargent-1 – Sargent-4	Margaret Ann Sargent & Vincent Quattlebaum
Reeder-1	Marie Reeder

Comment Number(s)	Commenter(s)
Wade-1 – Wade-7	Michael Wade
Brockington-1	Nancy Brockington
Scott-1 – Scott-2	Rhonda Scott
St.Clair-3 – St.Clair-6	Ethan St.Clair
Miller-1 – Miller-8	Rob Miller (Dahlstrom & Watt)
Dettmar-1 – Dettmar-17	Tara Dettmar
Jordan-1	Tobias Jordan
TDN-1 – TDN-24	Tolowa Dee-ni' Nation
Shade-1 – Shade-2	Trisha Shade
TU-N-1 – TU-N-10	Trout Unlimited National (Matt Clifford, CA Director)
TU-1 – TU-7	Trout Unlimited, California Council
Kharazi-1 – Kharazi-12	Tyler Kharazi
Westbrook-1 – Westbrook-18	Will Westbrook (Palmer Westbrook, Inc.)

Comment Number(s)	Commenter(s)
Form Letter-1 (135 signatories)	Nancy Ihara, Sally Cinnamon, J. O'Brien, James Feichtl, Gary Bailey, Barbara Cole, Sara Buckley, Laurie Christomos, Jessica Jones, JL Angell, Mike Carpentier, Cris Clausing, Cate Classen, Jennifer Faer, Carolina Arenas Grosso, Dustin Davidson, Nancy Nichols, Andrea Pellicani, Mark Hayden, Amanda Sears, Allison Seibel, Deborah Filipelli, PhD, Sharon Paltin, MD, Nicole Fish, Lorraine Van Briggle, Jamie Taylor, Kiley Hudson, Diana Ashley, Carolyn Carry, Laura Lee Cundiff, Jess O'Brien, Rhonda Scott, Amber Ryno, David Rhodes, Tamara Wolski, Rachel Bradley, Wm. Baumgartner, John Mertes, Cari Torres, Scott Douglas Laxier, Alexandra Elliott, Joseph Alvarado, Tracy Fleming, Nancy Brockington, Julia Hawkins, PhD, Marie Garabedian, R. Reichert, Ellen Koivisto, Alan Bartl, Joyce Frohn, J. Barry Gurdin, Michele Cusumano, Mary Ann Madej, Ph.D., Brita Romans, Matt Richardson, Justin Truong, Mary Davison, Robert H. Retallick, RN, Denise Padgette, Amanda O'Connell, James Warfel, Amanda Cooper, Seleste Hill, Paul Lufkin, Cinda Johansen, Harold Watson, Robert Reed, AJ Cho, Brezlyn Stork, Te Maia Wiki, Wendy Smith, Les Roberts, Stephen Wilkerson, Angie Coriani, Andrea Carcovich, Chris Evans, Sita Ryce, Thomas Force, John Walton, Gisele Albertine, Katherine Patterson, Meryl Pinque, Katya Abbott, Ann Dorsey, Paul Glassner, Estrella Quiroga, Rena Kay, Darien MacSweeney, Jessica Zern, Ryan Kenneth, Sara Artemisia, Shawna Hyatt, Jewell Batway, Chriz Mitch, Kelli Stanley, Kimberly Leeds, Raphael Ponce, Robert Hughes, Joy Savoie, Derek Volkart, Pixie McNab, Davin Peterson, Diane Marks, James R. (Randy) Monroe, Nicolas Dunn, Michele Villeneuve, Alex Weisshaus, Caephren McKenna, Silvia Bertano, Keiko Barrett, Madeline Lawder, Sharon Paltin, Lea Jovanovski, Ellen McCann, Margaret Lohr, Roger Schmidt, Derek Gendvil, Sharon Hollis, Allison Seibel, Thomas Welte, Dogan Ozkan, Philip Simon, James Jungwirth and Kari Rein, Brandon Bunch, Sonja Taylor, Kern Aughinbaugh, Chrissy Thomure, Andrea Carcovich, Kyle Buchanan, Dogan Ozkan, Ruth Motherwell, Christopher Lish, B. Evans, Timothy Howard, Rebecca Canright, AJ Cho
Form Letter-2 (4 signatories)	Michele Dieterich, Austin Koontz, Sarah Fowler, Jeanette LeTourneaux

Comments and Responses

Comments and Responses are numbered for ease of reference. In this document, where a response to a comment refers to another response, it will use the shorthand, RTC #.

Background

RTC #1: Salmonid Biological and Economic Significance

Comment Numbers: ELF-7, ELF-8, ELF-9, CDFW-1, CDFW-2, CDFW-3, CDFW-7, HFMA-1, HFMA-2, TU-N-1, TU-2, Kharazi-6, Reeder-1

Commenters expressed detailed information on the Smith River's biological and economic significance. CDFW described it as "irreplaceable" with 38+ fish species, confirmed Coho at high risk of extinction below depensation threshold, and warned of "ecological trap" risk. ELF provided Coho escapement at 2,365 vs. 6,800 recovery goal. HFMA emphasized fishery closures affect coastal communities beyond the Basin. TU National cited the Governor's Salmon Strategy. Reeder emphasized the tourism-dependent economy.

> **Response:** Thank you for these comments. The Proposed Lily Bulb Order includes findings on the ecological significance of the tributaries in the Smith River Plain. Additional information supplied in the comments above are admitted into the Administrative Record through their inclusion in Index 1 to this document.

RTC #2: General Support for Regulatory Action

Comment Numbers: ELF-1, ELF-38, CT-1, CT-9, CDFW-4, EPIC-1, EPIC-15, CCR-8, HFMA-4, TU-N-2, TU-N-7, TDN-4, TDN-24, Dettmar-1, Hostler-2, Hostler-12, Johansen-1, Baker-1

Commenters broadly supported the Board establishing regulatory requirements while calling for significant strengthening. ELF stated the Board "should not delay adoption" but should adopt with revisions. CDFW "supports the North Coast Water Board's efforts." CalTrout urged "regulations as soon as possible." The Tolowa Dee-ni' Nation committed to continued consultation.

> **Response:** Staff acknowledge these comments and recommend that the North Coast Water Board adopt the Proposed Lily Bulb Order.

RTC #3: Voluntary Management Practice Activities

Comment Numbers: Crockett-2, Crockett-5, Crockett-1, DNRCD-2, DNRCD-4, Westbrook -17

Commenters documented nine specific adaptive management activities over 10 years and cited Morrison Creek improvement after moving fields away. DNRCD characterized

pesticide residuals as “de minimis” and stated this does not justify regulations to “eliminate” the industry. DNRCD’s stated that their own water quality objectives align with the Order’s management practices. Westbrook urged thoroughness in developing the Order over rush.

Response: Staff appreciate the RCD’s initiative in developing novel management practices to address the unique conditions in the Smith River Plain. The results of copper modeling support the use of amendments to raise soil pH and increase the amount dissolved organic carbon reaching nearby surface waters to bind to dissolved copper ions and reduce their bioavailability. This interaction is reflected in the Biotic Ligand Model (BLM) algorithms and can result in raising the BLM thresholds to a level where toxicity is reduced to safe levels. Even modest adjustments to soil amendment practices can have a significant effect on copper bioavailability and a corresponding increase in the BLM-derived threshold. Because the copper concentrations that can cause chronic toxicity are so low in the Smith River Plain relative to waterbodies in other agricultural areas, raising the threshold where chronic toxicity is predicted by the BLM even a small amount can be the difference in exceeding the benchmark versus staying below it. A relatively small increase in pH and DOC can provide enough buffering and neutralization to raise the BLM copper thresholds above levels historically measured in Smith River Plain sampling.

The levels of dissolved copper detected at tributary locations downstream of lily bulb agriculture have the potential to cause chronic toxicity due to the low water hardness, pH, and dissolved organic carbon, which makes organisms more sensitive to the low level effects of copper. Even extremely low levels of dissolved copper when present in the local water chemistry related conditions of the Smith River Plain can pose a risk of chronic toxicity that is not considered *de minimis*.

Similarly, even though concentrations of synthetic pesticides are measured in parts per billion, they can still pose a risk of chronic toxicity to aquatic life. The proposed Order sets Water Quality Benchmarks to protect against the risk of chronic toxicity and are based on ecotoxicity data to protect the most sensitive aquatic species. The Water Quality Benchmarks used in the Order are a way to establish the water quality level that is protective of beneficial uses in the Smith River Plain.

While most of the pesticide detections in the SWAMP study were below Water Quality Benchmarks, during storm events and sometimes during baseflow conditions, pesticide concentrations occasionally exceeded the Water Quality Benchmarks. Addressing the timing and location of the recorded exceedances is a way to prioritize management practices and bring storm related spikes in pesticide concentration down below the benchmarks and reduce the risk of toxicity to an acceptable level.

The Proposed Order does not intend to 'eliminate' the lily bulb growing industry. The Proposed Order sets up a regulatory program and places requirements on lily bulb operations to address the water quality problems documented in the 2025 SWAMP Report and in the monitoring and reporting program. It sets up an adaptive management process that requires additional or enhanced management practices to be implemented iteratively until water quality monitoring shows that pesticides and copper below the permit thresholds. It allows for reduced monitoring and maintaining existing management practices where monitoring shows water quality benchmarks are being met during storm events and baseline conditions. It sets up a clear path to compliance through iterative adaptive management.

Staff recognizes that the water quality sampling results from Morrison Creek show a history of fewer water quality exceedances when compared to other tributaries in the Smith River Plain. The Order's Adaptive Management Program is structured to ramp up requirements if water quality monitoring results exceed Water Quality Benchmarks. In areas where Water Quality Benchmark exceedances are fewer or absent, cost of compliance with the Order's requirements should be lower.

Staff also recognizes and appreciates the proactive efforts of United Lily to alter lily bulb field runoff away from Morrison Creek. Hydrologically disconnecting drainage ditches from sensitive natural resources is one the most effective ways to address contributions to water quality exceedances identified in the 2025 SWAMP Report.

Scope of Order

RTC #4: Spray Drift and Health Protection

Comment Numbers: Kharazi-7, Pace-8, Hostler-6, Sargent-2, Form Letter-1

Commenters requested buffer zones between lily bulb fields and residences and/or schools. Hostler recommended 200-300 foot buffers. These requests address protection of human health from pesticide exposure via aerial spray drift.

Response: The commenters' requests for buffers between fields and residences or schools address protection of human health from pesticide exposure via aerial spray drift during application. The regulation of pesticide application practices is within the statutory authority of the Department of Pesticide Regulation (DPR) and county agricultural commissioners under the Food and Agricultural Code, not the North Coast Water Board. The North Coast Water Board has been coordinating with DPR and the Del Norte County Agricultural Commissioner to relay these concerns. See RTC #40 regarding coordination between the North Coast Water Board and DPR under the 2019 Management Agency Agreement (MAA). See also RTC #8 regarding community health concerns raised during development of the Order, including coordination between the North Coast Water Board and other CalEPA Boards, Divisions, and Offices.

RTC #5. ESA/CESA Take Liability and Listed Species Protections

Comment Numbers: CT-7, CT-8, CT-11, CCR-1, CCR-2, CCR-8, HFMA-9, AW-19, ELF-39, TDN-8, Dettmar-6, Dettmar-7, Kharazi-5, Free-6, Holland-2, Tays-1, TU-5, Westbrook-18

Commenters expressed that the Draft Order must prevent take of ESA/CESA-listed species. CalTrout raised vicarious take liability under Strahan v. Coxe. CCR and Dettmar characterized the Order as a "permit to violate the ESA." ELF noted no specific tidewater goby protections. Westbrook argued beneficial uses have continued for 80+ years.

> **Response:** *Strahan v. Coxe* (1st Cir. 1997) 127 F.3d 155, concerned a state agency's third-party take liability under the Endangered Species Act (ESA) when issuing licenses and permits authorizing gillnet and lobster pot fishing which entangled endangered Northern Right whales. The First Circuit Court of Appeals concluded that "a governmental third party pursuant to whose authority an actor directly exacts a taking of an endangered species may be deemed to have violated the provisions of the ESA." (*Strahan*, 127 F.3d at 163.) In *Strahan*, the Court found the necessary causal link between the licensing scheme and the taking, given that it was not possible for a licensed commercial fishing operation to use its gillnets or lobster pots in a manner permitted without risk of violating the ESA by exacting a taking; that is, the state had licensed commercial fishing in specifically the manner likely to result in a take. (*Id.*, at 163-164.)
>
> In contrast to the facts in *Strahan*, the Draft Order does not cause a taking. The Draft Order regulates waste discharges associated with agricultural operations; it does not permit Enrollees to conduct activities in a manner that would result in the take of listed species. Finding 30 of the Draft Order expressly states that the Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited or becomes prohibited in the future under either the California or Federal Endangered Species Acts. It further directs Enrollees to obtain any necessary take authorization and ensure all requirements of the applicable Endangered Species Acts are met.
>
> The Proposed Order establishes waste discharge requirements, monitoring, and other protective measures intended to minimize pollutant discharges and protect water quality and aquatic life beneficial uses. As stated in Finding 1 of the Draft Order, the purpose of this action is to provide a water quality regulatory structure to minimize discharges of waste and to prevent adverse impacts to water resources from agricultural activities associated with lily bulbs and other similar bulb crops. The Proposed Order implements applicable water quality control plans and takes into consideration the beneficial uses to be protected, including aquatic life and tribal beneficial uses; water quality objectives reasonably required for that purpose;

other waste discharges; the need to prevent nuisance; and the provisions of Water Code section 13241. In particular, the Water Quality Benchmarks within the Proposed Order were determined by reviewing all available pesticide water quality values, including U.S. EPA aquatic life benchmarks, and, exercising best professional judgment consistent with scientific evidence, selecting the most protective values for relevant beneficial uses, including the most sensitive Cold Freshwater Habitat and Native American Culture uses.

Any causal connection is further attenuated here given that the North Coast Water Board regulates these discharges and places necessary restrictions on the discharge of waste; it does not authorize or provide entitlements to the underlying land use activity.

Finally, North Coast Water Board staff, in developing appropriate waste discharge requirements for the Board's consideration, have closely coordinated with state and federal wildlife agencies.

In short, the Proposed Order would not cause "take" but instead establishes a necessary regulatory structure to prevent or lessen existing harms, including harms to protected species.

RTC #6. Tribal Cultural Significance

Comment Numbers: TDN-1, Dettmar-2, Dettmar-3, Dettmar-13, Hostler-1, Hostler-11, Hostler-12, Scott-1, Scott-2, Powell-2, Kharazi-6

Commenters addressed the cultural significance of the Smith River and its salmon to the Tolowa Dee-ni' Nation. The Tolowa Dee-ni' Nation established sovereignty and aboriginal territory. Dettmar articulated salmon as "central to ceremony, spiritual practice, oral tradition, and Tribal identity." Hostler described the First Salmon Ceremony direct-contact exposure. Scott documented the historical context of indigenous rights.

Response: Staff acknowledges the cultural significance of the Smith River to the Tolowa Dee-Ni' Nation. The North Coast Water Board has been in consultation with the Tolowa Dee-ni' Nation regarding the project since 2024. As described in the Order's findings, in April 2024 staff contacted six Tribes identified by the Native American Heritage Commission as having current or historic lands in or near the Project Area, and identified two additional Tribes that could be affected. The Tolowa Dee-ni' Nation requested formal consultation under AB 52 in May 2024, and the North Coast Water Board and the Tolowa Dee-ni' Nation initiated formal consultation in mid-2024. Consultation has continued throughout development of the Order and the DEIR.

Significantly, the Tolowa Dee-ni' Nation had an active and direct role in developing Tribal Cultural Resource analysis in the DEIR. Through a subcontract with

Montrose Environmental, the Tolowa Dee-ni' Nation contributed to the tribal cultural resources baseline, the definition of tribal cultural resources used in the DEIR (including the Tribal Cultural Landscape concept that extends the analysis beyond archaeological resources to the living plant and animal species and viewsheds that sustain cultural practice), and the associated mitigation measures. The Tolowa Dee-ni' Nation's own Tribal Cultural Resources submittal is included as Attachment F to the DEIR. The North Coast Water Board defers to the Tolowa Dee-ni' Nation's expertise regarding the identification and significance of its tribal cultural resources and the cultural practices that depend on the health of the Smith River Plain, consistent with the purpose of AB 52 consultation.

RTC #7. Tribal Beneficial Use Protections in the Draft Order

Comment Numbers: ELF-2, Kharazi-9, Pace-10, TDN-24, Form Letter-2. St.Clair-6

Commenters requested specific enforceable protections for Tribal beneficial uses. ELF argued the Draft Order fails to give adequate weight to Tribal beneficial uses, environmental justice concerns, and the extraordinary ecological value of the Smith River estuary. St.Clair asserted that the state is failing its obligation to protect Native American Culture (NAC) beneficial uses. The Tolowa Dee-ni' Nation committed to continued government-to-government consultation.

Response: Staff acknowledges the importance of protecting Tribal beneficial uses designated in the North Coast Basin Plan, including Native American Culture (CUL), Tribal Subsistence Fishing (TSUB), and other uses. The Proposed Order's Receiving Water Limitations, Water Quality Benchmarks, and management practice requirements are designed to protect all designated beneficial uses, including CUL. The North Coast Water Board is committed to continuing government-to-government consultation with the Tolowa Dee-ni' Nation and other tribes. See RTC #6 for more detail on the North Coast Water Board's consultation pursuant to AB 52 with the Tolowa Dee-ni' Nation.

RTC #8: Community Health Impacts from Agricultural Activities

Comment Numbers: AW-41, AW-42, AW-54, AW-55, AW-56, Wade-1, Wade-2, Wade-3, Wade-4, Wade-5, Wade-6, Wade-7, Hostler-3, Shade-1, Montagne-1

Commenters expressed concerns about community health impacts from pesticide application practices. Wade described a cancer epidemic near Rowdy Creek, named Telone II and Chlorothalonil as carcinogens near Smith River School, demanded a cancer cluster investigation, a 1-mile no-spray buffer, and mandatory well testing. Hostler described childhood exposure at Smith River Elementary. Williams documented the August 2024 spray drift incident.

Response: During the course of 10 public meetings on development of the Lily Bulb Order that were held in Del Norte County between July 2024-October 2025, staff heard many community concerns that extended beyond the regulatory authority of the North Coast Water Board. Accordingly, staff referred those concerns—such as pesticide application practices and air quality—to the appropriate CalEPA Boards, Divisions, and Offices, including the Office of Environmental Health Hazard Assessment and the California Department of Pesticide Regulation. In parallel, staff has coordinated with NOAA Fisheries, the CA Department of Fish and Wildlife, the CA Coastal Commission, and the US Fish and Wildlife Service through a natural resource agency workgroup to address technical questions related to Order development.

Under the 2019 Management Agency Agreement (MAA) starting in August 2025, CDPR and the North Coast Water Board conducted a series of staff-to-staff meetings on available data and the Draft Lily Bulb Order. CDPR conducted a review of available data, including pesticide use reporting (PUR) data, surface water and groundwater monitoring data (including from the SWAMP studies) and toxicity studies completed (to date) for the Smith River.

CDPR's preliminary review concluded that additional data were needed for them to adequately evaluate the potential impacts to aquatic life such as fish from copper concentrations detected in surface water. As a result, CDPR announced the initiation of a Fish Toxicity Study in the Smith River Plain to fill this data gap. Results of this study will help identify if current copper concentrations are associated with impacts to fish populations in the Smith River watershed. CDPR is contracting researchers from California State Polytechnic University, Humboldt to conduct the study which will span two years beginning this year.

RTC #9: Enforcement Provisions

Comment Numbers: CCR-4, CCR-5, CCR-6, AW-46, AW-47, AW-48, Dettmar-14, Pace-5, Pace-9, TU-4, Kharazi-10, Hostler-9, Wilson-4

Commenters expressed that enforcement provisions are inadequate and vague. CCR characterized the Order as a "Pollution Permit." CCR and Dettmar requested automatic permit revocation on a third exceedance. Williams argued enforcement must be specific. Wilson proposed that violation fines fund toxin testing for Smith River residents.

Response: Proposed Order Findings #131(e) and Findings #190 through 193 discuss potential enforcement for noncompliance, consistent with the State Water Board's Water Quality Enforcement Policy (Enforcement Policy). Enforcement for noncompliance is discretionary and would follow the enforcement prioritization protocols and progressive enforcement principles set forth in the Enforcement Policy. Enforcement decisions are made on a case-by-case basis and take into

account the significance of the violation and the appropriate action to ensure the most efficient and effective use of available resources. The Water Code, Enforcement Policy, and Policy on Supplemental Environmental Projects govern where funds recovered pursuant to any administrative civil liability action may be directed.

RTC #10: Economic Analysis

Comment Numbers: HFMA-8, AW-43, AW-44, AW-45, Wilson-1, Reeder-1, TDN-6, Kharazi-1, Jordan-1, Westbrook-1, Westbrook-2, Westbrook-3, Westbrook-4, Westbrook-5, Westbrook-6, Westbrook-7, Westbrook-8, DNRCD-1, DNRCD-3, Crockett-5, Crockett-6, Miller-1, Miller-6

Some commenters argued the Draft Order's cost burden will result in the industry's demise. Others argued the economic reasoning doesn't account for fishery losses. The Tolowa Dee-ni' Nation noted only three growers benefit from ongoing exceedances. Williams asserted that grants cover most BMP costs at zero cost to growers.

Response: Staff acknowledges the range of perspectives on the economic implications of the Proposed Order and has considered the costs of compliance alongside the economic value of the beneficial uses the Order is designed to protect.

Regarding the assertion that the Order's cost burden will result in the industry's demise: The North Coast Water Board is required to consider economic factors when adopting waste discharge requirements (Water Code §§ 13241, 13263). The Proposed Order's Findings include a cost analysis reflecting estimated costs for monitoring, reporting, and management practice implementation (see Findings, Cost Considerations). The North Coast Water Board does not find that the anticipated costs of compliance with this Order alone would be large enough to necessarily cause any existing lily bulb operator to cease or otherwise abandon operations. The Proposed Order provides compliance flexibility through multiple Tier 1 management practice options, a coalition pathway that allows cost-sharing for monitoring and reporting, and a phased adaptive management structure that scales requirements to documented water quality conditions rather than imposing maximum requirements on all enrollees at the outset. The Proposed Order was also revised to simplify nutrient management reporting and to reduce the total number of laboratory analyses through constituent-specific monitoring, further reducing compliance costs.

Staff also notes that the commenters' characterization of cumulative cost pressures, including taxes, labor, insurance, shipping, and other regulatory requirements, reflects costs that are not attributable to this Order. Water Code

section 13241 requires the Board to consider economic factors in adopting waste discharge requirements; it does not require the Board to ensure that all cumulative business costs from all sources remain below any particular threshold.

Regarding the argument that the economic analysis does not account for fishery losses, staff agrees that an assessment of economic considerations under Water Code sections 13241 and 13263 must consider the economic value of the beneficial uses being protected, not solely the costs borne by the regulated industry. The Smith River supports commercial, recreational, and Tribal fisheries with substantial economic and cultural value. Commercial fishery closures since 2022 due to conservation concerns for Chinook and coho salmon have had documented economic impacts on coastal fishing communities throughout the region. The Proposed Order's Findings were revised to reflect refined economic considerations, including the costs of compliance for the regulated industry and the economic and cultural value of the beneficial uses that continued water quality degradation places at risk.

Regarding the availability of grants and cost-share programs: staff acknowledges that federal and state cost-share programs, including those administered by USDA Natural Resources Conservation Service, the California Department of Food and Agriculture, and the State Water Board, have been and remain available to support implementation of certain management practices on lily bulb operations. The availability of public funding to offset compliance costs is relevant to the Board's economic analysis under Water Code section 13241 and further supports the finding that the costs of compliance are not unreasonable.

RTC #11: Copper Persistence in Soils

Comment Numbers: AW-16

Williams argued the five-year lookback period is insufficient because copper persists in soils indefinitely. Recommended extending to 20 years.

Response: The Proposed Lily Bulb Order applies to current activities covered under the Order. The commenter proposes requiring enrollment of fields no longer cultivating lily bulbs, which falls outside the scope of the North Coast Water Board’s Water Code section 13263 authority.

RTC #12: Site-Specific Individual WDRs

Comment Numbers: AW-17

Williams recommended site-specific individual WDRs for fields draining to Delilah Creek, Tillas Slough, and Rowdy Creek.

Response: The North Coast Water Board considered whether site-specific individual WDRs are warranted. Water Code section 13263 authorizes general waste discharge requirements for a category of discharges where the discharges are produced by the same or similar operations. The three remaining lily bulb operations meet these criteria. The North Coast Water Board also considered the efficient use of available staff resources in selecting a permitting approach. General waste discharge requirements provide a consistent regulatory framework for similar operations and are generally less resource-intensive to develop, implement, oversee, and renew than multiple individual permits. The Draft Order's adaptive management framework addresses site-specific water quality conditions by placing fields with documented exceedances into Tier 1 Adaptive Management upon enrollment.

RTC #13: Board Notification of Non-Enrollee Landowners and Operators

Comment Numbers: AW-18

Williams argued the Board, not the enrollee, should directly notify non-enrollee landowners and operators of their potential liability.

Response: The Draft Order requires enrollees to notify non-enrollee landowners and operators. The North Coast Water Board also conducts its own outreach as part of the enrollment process and will make the adopted Order publicly available.

RTC #14: Request for Board to Compel Agency Action

Comment Numbers: AW-38, TU-7

Williams argued NOAA, CDFW, and USFWS have failed to take action and the Board should request they do so. TU CA Council similarly urged agencies to exercise their authority.

Response: The North Coast Water Board does not have authority to direct other state or federal agencies to take enforcement action under their independent statutory mandates. The North Coast Water Board will continue to coordinate with these agencies through existing interagency mechanisms and will share monitoring data and compliance information, and evaluate opportunities for coordinated regulatory and enforcement responses where appropriate and consistent with each agency's authorities. In appropriate circumstances, this coordination may include consideration of joint enforcement actions.

RTC #15: Cannabis Order as Regulatory Model

Comment Numbers: TDN-16, TDN-17, TDN-18, TDN-19, TDN-23, Dettmar-5, Dettmar-17

The Tolowa Dee-ni' Nation and Dettmar expressed that the Draft Order should be aligned with the Cannabis Order, providing a stronger model through clear discharge prohibitions, tiered compliance, mandatory monitoring, and explicit enforcement. The Tolowa Dee-ni' Nation recommended specific structural changes including receiving water limitation language, parcel-level risk tiering, mandatory corrective action triggers, and removal of coalition participation.

> **Response:** The Proposed Order is tailored to the unique characteristics of commercial lily bulb production, its physical setting in the Smith River Plain, and the agricultural regulatory framework established by the State Water Board's precedential East San Joaquin Order (Order WQ 2018-0002-DWQ), which governs waste discharge requirements for irrigated agricultural lands. The Cannabis Order regulates a different activity in a different setting and under a different regulatory program; its parcel-level risk tiering is built around factors such as slope, site disturbance, and proximity to watercourses that are meaningful for cultivation on steep, forested terrain but do not translate to the flat, hydrologically-connected agricultural plain at issue here.
>
> The Proposed Order does tier its requirements by risk, but it does so using monitoring data rather than physical proxies. Fields are placed into Adaptive Management because they have demonstrated, through receiving water monitoring, that they are not meeting Receiving Water Limitations—and the revised framework ties that designation to each field's pesticide application history. Staff considers this the most effective basis for assessing actual risk to water quality, because it identifies the growers whose fields the data implicate rather than inferring risk from slope or distance to a water body. This approach is especially appropriate in the Smith River Plain, where the low-gradient, highly interconnected hydrology means that nearly all production areas are connected to surface waters; proximity- or slope-based tiering would not meaningfully distinguish higher- from lower-risk fields in that setting, whereas monitoring-based tiering does.
>
> The recommendation regarding Coalition participation is addressed in the Response to Comments on Coalition Requirements (see RTC #68).

RTC #16: Comments Outside Scope of Order

Comment Numbers: Sargent-3, Sargent-4

Sargent raised issues outside the scope of this proceeding regarding Crescent City's wastewater treatment plant and a proposal to transform the closed landfill into a water management utility.

> **Response:** These comments have been forwarded to the appropriate North Coast Water Board staff that regulate the City's publicly-owned treatment works and landfill.

Findings

RTC #17: Antidegradation Analysis

Comment Numbers: ELF-5, ELF-31, CDFW-8, HFMA-10, EPIC-14

Commenters expressed that the antidegradation analysis is legally insufficient. ELF and EPIC argued the BPTC finding is unsupported, given past performance data. CDFW challenged Finding No. 117 ("limited and reversible" degradation). EPIC and ELF argued that the findings fail to adequately analyze the social and environmental costs of continued degradation. HFMA argued the Order will not comply with the Antidegradation Policy.

> **Response:** Findings 112 through 123 of the Draft Order discuss the state and federal Antidegradation Policies and how the Draft Order complies with these provisions. In particular, these Findings follow direction from the State Water Board (ESJ, Order WQ 2018-0002) in applying the Antidegradation Policies to address nonpoint sources discharges regulated under a general order.
>
> As a preliminary matter, North Coast Water Board staff completed a general baseline water quality assessment based on readily available data and concluded that at least some surface water and groundwaters in the Smith River Plain are considered high-quality for one or more constituents of concern per the Antidegradation Policy. High quality waters are those that have a baseline water quality better than required by water quality control plans and policies. Baseline water quality is generally the best quality of water since 1968, the year of the adoption of the Antidegradation Policy.
>
> The Draft Order Findings include extensive discussion of existing water quality data. While complete water quality data dating back to 1968 are not available, the Board relied on the best available information, including historical land use, pollutant sources, and existing water quality data, to conduct a general baseline water quality assessment. Historical records indicate that commercial lily bulb cultivation and associated copper use occurred prior to adoption of the Antidegradation Policy; however, available information does not allow the Board to conclusively characterize dissolved copper concentrations in all affected waters since 1968. Based on the best available information, however, staff concludes that

at least some affected surface waters and groundwaters qualify as high-quality waters under the Antidegradation Policy with respect to dissolved copper. While there have been some more recent exceedances in surface water for synthetic pesticides, these compounds were not historically used in agriculture prior to 1968. Thus, surface and ground water are high-quality with respect to these constituents. For nutrients, including nitrates, available water quality data similarly demonstrate that portions of the surface and ground water in the Smith River Plain are high quality with respect to these constituents.

While commenters fault the sufficiency of the Board's baseline analysis, the State Water Board has confirmed that a "general review and analysis of readily available data is sufficient," that the Board "need not generate new data or take extraordinary steps to search for existing data," "there will always be substantial data gaps," and the Board "should not delay the implementation of a regulatory program in order to conduct a comprehensive baseline assessment and analysis – especially where . . . the general order imposes essentially the same iterative approach for management practices and other requirements regardless of whether or not the receiving water is high quality." (ESJ, Order WQ 2018-0002, p. 76-78.) Accordingly, although historical water quality conditions cannot be fully reconstructed for every constituent in every affected waterbody, staff concludes that the best available information provides a sufficient basis for a general baseline water quality assessment and supports the antidegradation findings in the Draft Order.

Next, staff concluded that, while the provisions of the Draft Order are anticipated to reduce discharge pollutant loadings and prevent degradation, there may be some degradation of high-quality waters, particularly during the period of time enrollees are working to achieve compliance with receiving water limitations. Given the baseline quality assessed, recent trending decreases in concentrations, and anticipated implementation of the measures required under the Order, staff anticipates that any water quality degradation will be limited, and particularly in the case of dissolved copper's historical loadings, water quality is likely to improve from baseline conditions.

The conclusion that any degradation will be limited rests on the specific, enforceable controls the Order imposes at the outset of, and throughout, enrollment. The Order establishes Receiving Water Limitations that prohibit discharges from causing or contributing to exceedances of applicable water quality objectives, and it requires each Enrollee to implement management practices designed to minimize the discharge of waste to surface water and groundwater. The Streamside Area requirements, consisting of a Riparian Vegetation Area and a Vegetated Buffer, further reduce the delivery of sediment, pesticides, copper, and nutrients to surface water. The Order's Adaptive Management framework is triggered by monitoring results and, as revised, directs additional and more

advanced controls at the specific fields determined to be a likely source of the exceedance based on pesticide application history. Fields in tributary watersheds with documented exceedances are placed into Tier 1 Adaptive Management upon enrollment, so that the highest-risk fields begin implementing and escalating controls immediately. For groundwater, the Order requires management practices that minimize the application of nitrogen relative to crop need, thereby reducing the potential for nitrate to leach to groundwater, and requires an individual Groundwater Protection Target developed by a qualified professional, where a Water Quality Benchmark is exceeded. The surface water and groundwater monitoring programs provide the feedback necessary to verify that these controls are achieving their purpose and to compel further action if they are not. Together, these provisions ensure that any degradation of high quality waters is confined to the limited and temporary period during which Enrollees implement and refine management practices toward attainment, is held within the bounds of the applicable water quality objectives, and is reduced over time as controls take effect, consistent with best practicable treatment or control (BPTC).

Given this potential for degradation, the Board is then required to determine whether any change in water quality (1) will be consistent with maximum benefit to the people of the state, (2) will not unreasonably affect present or probably future beneficial uses of such water, and (3) will not result in water quality less than prescribed in water quality control plans or policies. Further, the Board must find that any activities that result in discharges to high quality waters are required to use the BPTC to avoid pollution or nuisance and maintain the highest water quality consistent with the maximum benefit to the people of the state.

The Proposed Order appropriately finds that the discharges will be controlled by BPTC. While the Board generally cannot dictate the manner of compliance with water quality orders and no single set of practices is appropriate for every field, the Order relies on a combination of practices, some of which have been voluntarily implemented since implementation of the 2021 Management Plan but also additional measures, such as requiring implementation of management practices; Receiving Water Limitations and Streamside Area setbacks; iterative and advancing implementation of measures; and monitoring and reporting to track compliance and inform implementation. While commenters note that some past management measures have not proved effective, the Proposed Order builds on past practices and lessons learned. Shy of prohibiting discharges from lily bulb operations, commenters do not point to alternative protective measures. Further, as the State Water Board acknowledged in the ESJ Order, what constitutes best practicable treatment or control will evolve over time as the Board’s understanding of the discharges and technology advances. Board staff considered alternative methods of regulation, such as immediate compliance with Receiving Water Limitations and specific discharge prohibitions but concluded that such measures

could effectively preclude continued operation of lily bulb farming because growers would be required to immediately eliminate discharges before they had an opportunity to implement measures necessary to achieve compliance with Receiving Water Limitations.

The Proposed Order concludes that any limited degradation following implementation is to the maximum benefit of the people considering various factors, such as the social, economic, and environmental costs at issue. The Draft Order generally recognized the relative significance of the commercial lily bulb industry in the Smith River Plain and costs of alternative regulation, as well as social and environmental costs, including impacts on aquatic life, tribal uses, and recreational uses. Based on input received during the written comment period, the public workshop, and ongoing tribal consultation, Board staff has expanded upon its maximum benefit determination, as well as other components of its Antidegradation Findings, in the Proposed Order. Staff continues to conclude the Proposed Order complies with the Antidegradation Policy.

RTC #18: NPS Policy Key Elements

Comment Numbers: ELF-3, ELF-4, ELF-20

ELF expressed that the Draft Order must comply with all five Key Elements, citing Monterey Coastkeeper v. SWRCB (2018). ELF argues that the Order fails to demonstrate that the time schedule is as short as practicable, as required by Key Element 3.

Response: Findings 109 through 111 of the Draft Order discuss the Nonpoint Source Policy and compliance therewith. In *Environmental Law Foundation v. State Water Resources Control Board*, the Third Appellate District clarified that the NPS Policy includes Key Element language, which the above findings include, as well as additional advisory and nonbinding commentary below each Key Element. (*Environmental Law Foundation v. State Water Resources Control Board* (2023) 89 Cal.App. 5th 451, 476-477.) Key Element 3 states the following: “Where a RWQCB determines it is necessary to allow time to achieve water quality requirements, the NPS control implementation program shall include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching the specified requirements.” The nonbinding, advisory commentary below Key Element 3 recognizes that while there are instances where it will take time to achieve water quality requirements, “the time schedule may not be longer than that which is reasonably necessary to achieve an NPS implementation program’s water quality objectives.” The Draft Order notes that, given existing water quality conditions and the time needed to develop and implement actions to address discharges, additional time may be necessary to achieve receiving water limitations; accordingly, it includes a time schedule and

specific quantifiable milestones for implementing required management practices and meeting limitations as soon as practicable.

The Adaptive Management Program's timeline reflects the time reasonably necessary to identify, install, and verify the effectiveness of management practices given the specific characteristics of commercial lily bulb production. Lily bulbs are grown on a multi-year rotational cycle, such that the associated pesticides are not applied every year. The response of a given field to a newly installed or modified management practice can be meaningfully evaluated only when that field cycles back into production and is sampled during the seasonal window in which the constituent of concern is expected to be discharged. This rotational cycle is an inherent feature of the crop and lengthens the minimum interval over which the effectiveness of a practice can be observed.

The Adaptive Management Program is also necessarily iterative. Management practices that require field-scale installation require time to construct and test across a monitoring cycle before their effectiveness can be confirmed. A time schedule that did not accommodate at least one full install-and-verify cycle, accounting for the rotational nature of the crop, would not allow the program to determine whether required practices are working before escalating to more stringent measures.

For fields required to implement Tier 1 Adaptive Management at enrollment, Enrollees have one growing cycle to demonstrate compliance with Receiving Water Limitations before they are required to develop and implement a Certified Water Quality Management Plan (WQMP) . Developing and implementing a Certified WQMP is a robust, relatively expensive requirement. If implementation of the Certified WQMP is not successful at meeting Receiving Water Limitations by the end of the time schedule (no more than two growing seasons at Tier 2), the Enrollee would then be in violation of the Order and may be subject to discretionary enforcement.

The Order's time schedule is no longer than reasonably necessary to achieve the program's water quality objectives. The schedule requires implementation of management practices and attainment of receiving water limitations as soon as practicable, escalates the required level of control where monitoring demonstrates that practices are not achieving water quality requirements, and includes quantifiable milestones to measure progress at each step. Consistent with this principle, the Proposed Order has been modified to reduce the time schedule allowed for an enrollee's Groundwater Protection Plan to attain Water Quality Benchmarks from twenty years to ten years, reflecting the North Coast Water Board's determination that a shorter schedule is practicable for this program.

RTC #19: AB 2108 / Water Code § 13149.2

Comment Numbers: ELF-6, ELF-35, ELF-36, ELF-37, AW-7,

Commenters expressed that the § 13149.2 analysis is cursory and insufficient. ELF argued it fails to summarize impacts to tribal and low-income communities and fails to identify the Board's full powers including basin plan prohibition authority. ELF also argued the findings failed to address the state and regional board racial equity resolutions. Williams argued "may impact" should be changed to "has impacted."

Response: Water Code section 13149.2 requires "concise, programmatic" findings on potential environmental justice, tribal impact, and racial equity considerations related to issuance of a regional or statewide waste discharge requirements. These findings are based on readily available information identified by staff or raised during public review and must include a concise summary of anticipated water quality impacts in disadvantaged or tribal communities as a result of the permitted activity and any environmental justice concerns within the scope of the Board's authority with regard to those impacts, as well as identification of measures available and within the scope of the Board's authority to address the impacts.

The Regional Water Board does not interpret Water Code section 13149.2 to require within the necessary findings a complete recitation of the Board's water quality authorities, including the possibility of adoption of a basin plan prohibition, or varying permitting options. Identifying "measures available" is reasonably interpreted to mean identifying how the order addresses impacts, not the unlimited potential permitting iterations available. Further, Water Code section 13149.2 does not require an explanation for order measures. Antidegradation Findings, found in Section I.G.4 of the Proposed Order adequately address alternative permitting options considered and not pursued and sufficiently detail the rationale for proposed requirements.

The Proposed Order Findings, while following Water Code section 13149.2's direction to include concise, programmatic findings, have been revised to slightly expand upon anticipated water quality impacts and environmental justice concerns based on readily available information and information raised during the public review process, including the Board workshop and written comment period, and expand upon the list of measures included within the Order that are intended to address these impacts.

Finally, commenters note that the Draft Order's Findings fail to discuss applicable racial equity resolutions. The Proposed Order Findings (see Findings #31-33) have been revised to include a brief discussion of these resolutions and application to this permitting action. The requirements within the Order are consistent with the commitments in those resolutions.

RTC #20: AB 52 Consultation Process

Comment Numbers: AW-13, AW-14, AW-15, Shade-2

Two commenters raised concerns about the integrity of the AB 52 tribal consultation process, alleging potential conflict of interest between a grower and a member of the Tolowa Dee-Ni' Nation. Williams recommended involving tribes from outside the immediate area and that the three responding tribes be listed explicitly.

> **Response:** As described in the Proposed Order Finding #28-29, in April 2024 staff contacted six Tribes identified by the Native American Heritage Commission as having current or historic lands in or near the Project Area, and identified and notified two additional Tribes that could be affected. The Tribes contacted were Cher-Ae Heights Indian Community of the Trinidad Rancheria, Elk Valley Rancheria, Karuk Tribe, Shasta Nation, Yurok Tribe, Tolowa Dee-Ni' Nation, Melochundum Band of Tolowa Indians, and Resighini Rancheria Coastal Indian Community. Of the eight Tribes notified, three responded. One updated contact information, a separate Tribe deferred to the Tolowa Dee-Ni' Nation. The Tolowa Dee-Ni' Nation requested formal consultation, initiated in mid-2024. The North Coast Water Board cannot control the internal governance decisions of a sovereign tribal nation. The Order has been revised to specify which Tribes responded to the AB52 notice.

RTC #21: Omissions from Findings

Comment Numbers: ELF-10, ELF-11, ELF-41

ELF expressed that the Draft Order's background section omits: (1) the 2018 NMFS/CDFW Copper Monitoring Report; (2) prior permit efforts dating to 2011; and (3) the 2018 ELF/PCFFA petition. ELF incorporated the 2018 Petition and exhibits by reference.

> **Response:** The Draft Order did include information on Order development starting in 2011 (see Finding #8). The Proposed Order was modified to include background information on the 2018 NMFS/CDFW Copper Monitoring Report (see Finding #58 in the Proposed Order) and the 2018 Petition referenced by ELF (see Finding #11 in the Proposed Order).

RTC #22: 2021 Management Plan Effectiveness

Comment Numbers: ELF-12, ELF-13, ELF-14, CDFW-5, TDN-7, CCR-2, Dettmar-6, TU-N-3

Commenters expressed differing views on effectiveness of the Smith River Plain Water Quality Management Plan (Management Plan). ELF asserted that the Board's conclusion that concentrations decreased is unsupported. CDFW attributed reductions to both management practices and a decline in cultivation acreage. The Tolowa Dee-ni' Nation noted the 2026 diuron listing came five years after the voluntary strategy. CCR and Dettmar characterized the listings as proof the Management Plan failed.

Response: The 2026 diuron listing is based on data collected before the 2021 Management Plan was implemented. Section 303(d) listings are made under the State Water Board Listing Policy (Resolution 2004-0063), based on lines of evidence within a defined data window assessed against water quality standards. The 2026 Delilah Creek diuron listing came through the 2024 California Integrated Report cycle, whose data assembly window predated the 2021 Management Plan for most weighted evidence. The principal exceedance (Delilah Creek at 57.7 µg/L in March 2015, documented in the 2018 SWAMP Report[1]) preceded Management Plan implementation by approximately six years. Accordingly, the listing reflects historical water quality conditions that prompted development of both the Plan and the Lily Bulb Order, rather than the effectiveness of the Management Plan itself.

The Tolowa Dee-ni' Nation correctly observes that listing decisions can lag actual conditions. Staff agrees that Section 303(d) listing decisions may reflect historical conditions because they rely on data collected over defined assessment periods. However, that timing does not diminish the need for regulatory action based on the best available current information. This Order, which moves from voluntary stewardship to enforceable requirements, is the direct response.

ELF asserts that the Board's conclusion that discharges have declined is unsupported. Contrary to this assertion, the staff found that multiple independent data sources support the conclusion that pollutant discharges have declined over time. CDPR Pesticide Use Reports show average annual copper applications dropping from 14,126 lbs/yr (2012–2017) to 5,842 lbs/yr (2018–2021), with copper sulfate specifically falling from 22,387 lbs (2013) to 29 lbs (2016) (Finding #47 of the Proposed Order). Receiving water data show peak diuron concentrations at Delilah Creek dropping from 57.7 µg/L (2013–2015) to 5.9 µg/L (2021–2024), and the acute toxicity observed in the March 2015 Delilah Creek sample has not recurred (2025 SWAMP Report). Although differences in sampling design, analytical methods, and applicable criteria between the two monitoring periods limit a precise quantitative trend analysis, the qualitative direction of change is well-supported.

[1] State Water Resources Control Board, *Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List* (Listing Policy), Resolution No. 2004-0063, adopted September 30, 2004; approved by the Office of Administrative Law February 22, 2005; as subsequently amended. Available at https://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_listing.html

Staff agree with CDFW that both improved management practices and reductions in cultivated acreage likely contributed to these improvements. Rotational cultivated acreage declined from approximately 1,500–1,600 acres to approximately 1,000 acres, with annual planted acreage falling from approximately 375 to 160 acres (Finding 2 of the Proposed Order). The 2025 SWAMP Report helps distinguish the effects of improved management practices from reductions in cultivated acreage by normalizing pesticide application rates to tributary area. This normalization provides the analytical basis for the Order's Adaptive Management triggers because it provides a more consistent basis for evaluating changes in pesticide application intensity while accounting for changes in cultivated acreage. Accordingly, compliance under this Order is evaluated based on whether receiving waters attain the applicable Receiving Water Limitations, as measured through the Water Quality Benchmarks established for the Adaptive Management Program, rather than quantifying the extent to which changes in cultivated acreage, implementation of management practices, or other environmental factors contributed to observed water quality conditions.

Regarding the 2026 303(d) listing of diuron, a 303(d) listing means a water body has not attained water quality standards based on accumulated historical data. It does not establish that loading is unchanged or that interventions have failed. This Order is the regulatory step that follows from impairment findings consistent with the State Nonpoint Source Implementation and Enforcement Policies: enforceable Receiving Water Limitations, mandatory monitoring, and an Adaptive Management Program with measurable milestones to achieve standards within a defined schedule.

RTC #23: Public Engagement and Outreach Process

Comment Numbers: AW-1, AW-2, AW-3, AW-4, AW-5, AW-6, AW-8, AW-9, AW-10, AW-11, AW-12

Williams expressed extensive concerns about outreach, arguing WC 189.7(a) requirements were not satisfied. Specific concerns include: TrueNorth failed to distribute flyers and suppressed public comment; Board staff aided suppression; WC 189.7(D) SEP list solicitation requirements were not met; TrueNorth should not be contracted for future outreach.

Response: Water Code section 189.7 requires the Regional Board to engage in equitable, culturally relevant community outreach to promote meaningful civil engagement from potentially impacted communities of proposed discharges of waste that may have disproportionate impacts on water quality in disadvantaged communities or tribal communities and ensure that outreach and engagement continue throughout the waste discharge planning, policy, and permitting processes. As detailed in Draft Order Findings 11 through 16, Regional Board staff

has conducted extensive outreach for the Proposed Order, including two Board workshops; seven staff-led Technical Advisory Group meetings, whose members include tribal representatives, local stakeholders, members of the public, and community organizations; a community meeting in Smith River; a presentation at the Del Norte County Board of Supervisors' regular meeting; and a CEQA scoping meeting. Staff also broadly circulated the Draft Order and Draft EIR for written comment. Finally, staff has been engaged in tribal consultation pursuant to AB 52. Water Code section 189.7(a)(2)(A)-(D), and (b) are contingent upon a budget appropriation by the legislature to hire environmental justice and tribal community coordinator positions. Consistent with Water Code section 189.7, the above demonstrates that the public had ample opportunity to participate in the decision-making processes surrounding the Draft Order and that staff sought and facilitated involvement from the affected public and took into consideration their concerns.

RTC#24: Additional Beneficial Uses — WET, GWR, WQE, FLD

Comment Numbers: HFMA-3, HFMA-16

HFMA argued that additional beneficial uses should be included: Wetland Habitat (WET), Groundwater Recharge (GWR), Water Quality Enhancement (WQE), and Flood Peak Attenuation/Flood Water Storage (FLD). HFMA cited a 2014 letter from CDFW to the North Coast Water Board Executive Officer.

Response: "Beneficial uses" (BUs) of waters of the state are protected against water quality degradation. An essential part of the Water Quality Control Plan for the North Coast Region (Basin Plan) is the designation and protection of beneficial uses. Table 2-1 of the Basin Plan identifies beneficial uses for each hydrologic area in the Region, as well as for specific waterbodies, and the beneficial uses of a specifically identified waterbody generally apply to its tributaries. The Smith River Plain and its tributaries, including those located within the lily bulb growing area, are identified in Table 2-1 as the Smith River Plain Hydrologic Subarea 103.11. The existing and potential beneficial uses of the subarea are identified in Table I.2 of the Proposed Order, entitled Existing and Potential Beneficial Uses in the Smith River Plain.

Staff considered each of the cited beneficial uses in developing the Draft Order. The three beneficial uses Wetland Habitat (WET), Water Quality Enhancement (WQE), and Flood Peak Attenuation/Flood Water Storage (FLD) are designated for freshwater and saline wetlands in the North Coast Region. They are wetland-specific and are not designated at the hydrologic subarea scale; the Basin Plan does not apply them to all tributaries and connected surface waters within Hydrologic Subarea 103.11. Where wetlands exist or have the potential to exist within the area regulated by this Order, however, these beneficial uses apply and are protected.

The North Coast Water Board agrees that riparian and wetland habitats are vital ecological components critical to the function of the Smith River Plain ecosystem. The Order protects these uses through Streamside Area requirements that require a minimum buffer width between unfarmed wetlands and farming activities (Section II.E of the Order), implementation of management practices to meet Receiving Water Limitations, and Adaptive Management where implemented practices are not sufficient to meet Receiving Water Limitations of this Order. Consistent with the approach taken throughout the Order, requirements are framed around protection of the most sensitive beneficial uses supported by the receiving waters, which is protective of wetland-related uses where those uses are present.

Groundwater Recharge (GWR). GWR is a beneficial use of surface waters that protects the use of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting saltwater intrusion into freshwater aquifers. GWR is not designated for surface waters in the Smith River Plain Hydrologic Subarea. The Smith River Plain is a coastal marine terrace characterized by a high water table, substantial annual rainfall, and low-gradient coastal streams. For a large portion of the year, shallow groundwater discharges to these streams rather than the streams recharging the underlying aquifer; the streams are predominantly gaining rather than losing. Groundwater quality in the Smith River Plain is independently protected under this Order through application of water quality standards for the Municipal and Domestic Supply (MUN) beneficial use, which protects groundwater for drinking water purposes using drinking-water-based Water Quality Benchmarks for pesticides.

RTC #25: Porter-Cologne Reasonableness Standard

Comment Numbers: CAFB-1

The California Farm Bureau argued that the Regional Board must comply with Porter-Cologne's reasonableness standard when adopting waste discharge requirements. The commenter cited Water Code sections 13000, 13241, 13050(h), 13263, and 13267(b)(1), as well as City of Burbank v. State Water Resources Control Board (2005) 35 Cal.4th 613, to establish that the Board must evaluate whether regulatory requirements will reasonably protect beneficial uses considering all demands on the state's waters, including both environmental and agricultural values, "beneficial and detrimental, economic and social, tangible and intangible."

Response: The North Coast Water Board has appropriately taken into account the reasonableness standard in the development of the Order, in accordance with Water Code sections 13000, 13241, and 13263. "Section 13241 does not specify how a water board must go about considering the specified factors. Nor does it require that board to make specific findings on the factors." (City of Arcadia v. State Water Resources Control Board (2010) 191 Cal.App.4th 156, 177.) The

North Coast Water Board has summarized its consideration of reasonableness in the Proposed Order Findings, Section I.H: Cost Considerations. These Findings as well as Findings in Section I.G.4 were revised in the Proposed Order to reflect that it has also taken into consideration economic impacts raised in the comments. Regarding whether economics were considered during the adoption of the water quality objectives upon which the receiving water limits are based, it is generally "presumed that official duty has been regularly performed." (Evid. Code, § 664; see City of Sacramento v. State Water Resources Control Bd. (1992) 2 Cal.App.4th 960, 976.)

RTC #26: Economic Considerations Required Under Porter-Cologne

Comment Numbers: CAFB-4

The California Farm Bureau argued that the Draft Order's "cost considerations" sections are inconsistent with the Water Code, which requires the Board to evaluate "economic considerations" when adopting waste discharge requirements (Water Code §§ 13263(a), 13241(d)). The commenter distinguished "economic considerations" (encompassing the production, distribution, and consumption of goods and services) from "cost considerations" (limited to direct regulatory costs). The commenter argued that neither the Draft Order nor DEIR contains analysis of the Order's impact on the production, distribution, and consumption of goods and services, and cited EPIC v. CDFF, AGUA v. CVRWQCB, City of Gardena, and City of Burbank.

Response: The North Coast Water Board has appropriately taken into account economic considerations in the development of the Order, in accordance with Water Code sections 13263 and 13241. However, "Section 13241 does not specify how a water board must go about considering the specified factors. Nor does it require that board to make specific findings on the factors." (City of Arcadia v. State Water Resources Control Board (2010) 191 Cal.App.4th 156, 177.) Neither Water Code section 13241 nor section 13263 prescribes a particular methodology for evaluating economic considerations or requires a regional water board to prepare a comprehensive economic impact analysis.

Staff appropriately included estimates based on available information within the confines of various uncertainties and assumptions. The North Coast Water Board does not find that the anticipated increased costs due to compliance with this Order alone would be large enough to necessarily cause any existing lily bulb operation to go out of business, render it economically unviable, or otherwise choose to abandon their operations. Regarding the distinction between "cost considerations" and "economic considerations," the commenter has not identified cited authority requiring a full economic impact assessment. The Proposed Order has been revised to reflect additional environmental and industry economic considerations in Section I.G.4 of the Findings (see Findings #138-144).

Requirements and Prohibitions

RTC #27: Enforcement Provisions

Comment Numbers: AW-37

Williams expressed that the Draft Order should state that lily grower practices have created an ongoing public nuisance and list enforcement consequences.

> **Response:** The Proposed Order regulates discharges of waste from commercial lily bulb operations pursuant to the North Coast Water Board's authority under the Porter-Cologne Water Quality Control Act. The Order's Findings describe the water quality conditions in the Smith River Plain and the basis for regulatory action. Whether a condition of pollution or nuisance exists is a factual and legal determination that the Regional Water Board may make at any time under Water Code sections 13263 and 13304, independent of the findings in this Order. Regarding enforcement consequences, the Proposed Order's adaptive management program includes progressive escalation of requirements, and the Order specifies that noncompliance is subject to enforcement under Water Code sections 13261, 13268, 13300, 13301, 13304, and 13350 including administrative civil liability, cease and desist orders, and cleanup and abatement orders. The North Coast Water Board does not find it necessary to include a separate public nuisance finding in the Order at this time.

RTC #28: Inspection, Entry, and Compliance Verification Schedule

Comment Numbers: AW-26, AW-58

Williams expressed that the Draft Order must: (1) cite legal authority for inspection; (2) specify no advance notice required; (3) list consequences for denial; and (4) replace “periodic” with a specific annual inspection schedule.

> **Response:** Finding #126 and Order Provision I.5 detail the Board’s inspection authority pursuant to Water Code section 13267. Staff does not believe revisions to these provisions, including more detailed inspection procedures, are necessary. While staff believe the commitment for “periodic” inspections is appropriate and promotes necessary regulatory flexibility, as further noted in Finding 34, the Order does not limit the Board’s authority to inspect. Finally, enforcement provisions are sufficiently detailed in Findings #190-193 of the Proposed Order.

Streamside Area

RTC #29: North Coast Water Board Authority

Comment Numbers: CAFB-5

The California Farm Bureau argued that the Draft Order's prescriptive vegetated setback requirements exceed the North Coast Water Board's legal authority under Porter-Cologne. The commenter argued that a fundamental limitation to the Board's authority is that an activity must result in a "discharge of waste" to be regulated, and that vegetated buffers are not discharges of waste. The commenter further argued that riparian habitat and setbacks are not water quality objectives, that the Board cannot regulate riparian habitat under the guise of water quality protection, and that regulating land use is not within the Board's purview.

> **Response:** The Proposed Order does not require vegetated setbacks for the purpose of regulating land use or riparian habitat.; rather, it requires management practices, including vegetated setbacks, within Streamside Areas to control nonpoint source pollution, consistent with the Board's NPS Policy obligations and the Temperature Implementation Policy. The North Coast Basin Plan was amended in 2004 with the Policy for Implementation of the Water Quality Objective for Temperature. The Temperature Implementation Policy states that the North Coast Water Board shall take action to achieve temperature objectives including restoring and maintaining riparian shade through nonpoint source control programs, permits and waivers, and enforcement actions. Controllable water quality factors include any anthropogenic activity that results in the removal of riparian vegetation that provides shade. The North Coast Water Board, when issuing Waste Discharge Requirements, must consider the water quality conditions that could reasonably be achieved through the coordinated control of all factors that may affect water quality (Wat. Code §§ 13241; 13263). Streamside Area requirements implement the Temperature Implementation Policy by requiring conditions necessary for natural succession of riparian vegetation. Additionally, vegetated setbacks serve a water quality protection function by filtering sediment, reducing pollutant transport, and stabilizing streambanks. The setbacks are not an exercise of land use authority but rather a management practice requirement to protect water quality and beneficial uses.

RTC #30: Dictating Manner of Compliance (Water Code § 13360)

Comment Numbers: CAFB-6

The California Farm Bureau argued that the Draft Order's streamside management area setbacks and vegetative buffer requirements violate Water Code section 13360 by dictating the particular manner of compliance. The commenter cited the statute's prohibition on specifying "the design, location, type of construction, or particular manner in which compliance may be had" and argued the Order specifically states how a discharger will comply rather than simply directing compliance with a time schedule. The commenter cited Tahoe Sierra Preservation Council v. SWRCB (1989) 210

Cal.App.3d 1421 and Pacific Water Conditioning Assn. v. City Council (1977) 73 Cal.App.3d 546.

> **Response:** See Response to CAFB-5. The Regional Water Board cannot prescribe the particular manner of compliance (Water Code § 13360), but requiring the conditions which allow for the natural succession of riparian vegetation to implement Basin Plan policies is within its regulatory authority. The Proposed Order also includes an Offsite Restoration Alternative in lieu of meeting Streamside Area buffers. Through this alternative, the Order provides Enrollees two distinct options for compliance with the Temperature Policy.

RTC #31: Recommended Setback Widths

Comment Numbers: CDFW-11, CDFW-12, CDFW-19, Free-1

CDFW provided two specific recommendations with respect to the Streamside Area widths: Recommendation 2 (Increase Minimum Streamside Area Width to 100 ft (Perennial) / 50 ft (Intermittent/Ephemeral)), Recommendation 3 (Increase Streamside Area Width to 30 ft on hydrologically-connected undesignated ditches). CDFW acknowledged that Streamside Areas are intended to implement the Temperature Policy of the Basin Plan, and the North Coast Water Board cannot prescribe the particular manner of compliance with its orders. Free recommends minimum 100-foot no-go zones for perennial streams and 50-foot zones for ephemeral streams and ditches that deliver to fish-bearing streams. Free questions why larger buffers are required for wetlands and ponds compared to ephemeral streams and ditches that deliver to higher-order streams.

> **Response:** CDFW correctly identifies that Streamside Area requirements implement the North Coast Basin Plan Policy for Implementation of the Water Quality Objective for Temperature (Temperature Implementation Policy[2]) and that Water Code section 13360 generally restricts the Board from prescribing the manner of compliance with its orders. The Board's response distinguishes between two regulatory functions: Streamside Area minimum widths, which serve the temperature objective by maintaining riparian shade; and watercourse setbacks beyond the minimum width, which serve as adaptive management options for reducing pesticide and sediment runoff to surface waters.

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[2] North Coast Regional Water Quality Control Board, *Policy for Implementation of the Water Quality Objective for Temperature*, Resolution No. R1-2014-0006, Attachment 1; incorporated as an amendment to the Water Quality Control Plan for the North Coast Region (Basin Plan). Available at https://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/160802/R1-2014-0006_Att_1.pdf.

Streamside Area minimum widths implement the Temperature Policy. The Temperature Implementation Policy identifies removal of riparian vegetation that provides shade is a controllable water quality factor and directs the Board to incorporate riparian shade protections in permits to achieve the temperature objective. The minimum widths in Table II.1 of the Proposed Order represent the Board's determination of the widths necessary to reasonably establish site-specific potential effective shade in the Smith River Plain. CDFW's recommended widths of 100 feet and 50 feet exceed what site-specific potential effective shade requires and are more consistent with the wider buffer widths the literature associates with reduction of dissolved pollutants in runoff (see Finding #50 of the Proposed Order).

Larger setbacks for controlling pesticide runoff are available through Adaptive Management. Where existing BMPs do not prevent exceedances of Water Quality Benchmarks in surface waters, the Adaptive Management Program (Proposed Order Section II.H) requires Enrollees to expand or supplement management practices on a Field-by-Field basis, and a watercourse setback is one of the available options. CDFW's recommended widths therefore remain available as compliance pathways where receiving water monitoring at the downstream stations documents exceedances attributable in part to runoff from those fields. The Board structured the requirement this way so that the regulatory minimum reflects the shade function the Streamside Area is designed to serve, while leaving the appropriate runoff-control setback width to the site-specific framework of the Adaptive Management Program.

Undesignated channels and agricultural drainage structures are documented conveyance pathways for storm-driven transport of synthetic pesticides and dissolved copper from lily bulb fields (2025 SWAMP Report Section 6). The Order addresses them primarily through Adaptive Management Program responses to receiving water exceedances. CDFW's recommended 30-foot setback for hydrologically-connected undesignated channels is among the available options when adaptive management is triggered. The Proposed Order reserves that width determination to the site-specific framework rather than imposing an order-wide minimum.

RTC #32: Winterization Period

Comment Numbers: Free-1

The commenter argues the 90% cover requirement for vegetated buffers is not scientifically defensible because allowing activities within buffers will mobilize sequestered contaminants. The commenter argues the winterization period should reflect Northern California precipitation patterns, noting that precipitation and runoff typically begin in October and extend into June, consistent with other permits that restrict sediment-generating activities during that window.

Response: The Vegetated Buffer Area implements the bank stabilization and pollutant filtering functions that support implementation of the Temperature Implementation Policy of the Basin Plan. By maintaining ground cover through the storm season, the Vegetated Buffer stabilizes streambanks against erosion and filters sediment and sediment-bound pollutants from runoff before it reaches receiving waters, consistent with the Policy's objectives for protecting riparian function to meet temperature objectives.

The Proposed Order was revised to extend the 90% ground cover requirement for the Vegetated Buffer Area to the period of October 1 through June 15. This change aligns the ground cover requirement with the revised surface water monitoring program, which samples during a Fall storm-event window (October through December) and a Spring window (April through June). The Draft Order's original winterization window of November 1 through May 1 was narrower than the period during which the Proposed Order identifies that storm-driven runoff and monitoring occur. Extending the ground cover requirement to October 1 through June 15 ensures that vegetated buffers are established and providing sediment and pollutant filtration throughout the full storm season, including the early-season and late-season storms captured by the revised monitoring program.

RTC #33: Buffer Bypass via Access Roads and Ditches

Comment Numbers: Pace-11, Pace-12

Commenter documented a specific mechanism by which agricultural runoff bypasses vegetated buffer strips via access roads into ditches. Commenter referenced a complaint submitted to the Water Board which documented these discharge pathways. Pace proposed requiring runoff detention ponds at access road discharge points.

Response: Staff acknowledges that agricultural runoff can bypass vegetated buffer strips through access roads and channelized flow paths before reaching receiving waters. This is a recognized challenge in the design and implementation of filter strips in low-gradient, high-precipitation environments such as the Smith River Plain. North Coast Water Board staff have worked directly with growers to improve filter strip design and structural integrity to reduce the occurrence of channelized bypass during storm events.

The Proposed Order addresses this concern through multiple provisions. The Adaptive Management Program is designed to escalate management practice requirements when monitoring demonstrates that existing practices, including filter strips, are not achieving Water Quality Benchmarks.

Regarding the specific recommendation to require detention ponds at access road discharge points: Water Code section 13360 prohibits the North Coast Water Board from prescribing the particular manner of compliance. The North Coast

Water Board cannot mandate a specific structural practice such as a detention pond. Additionally, the same hydrologic conditions that cause filter strips to be overwhelmed during large storm events (e.g., prolonged saturation, high-intensity precipitation, and low-gradient drainage) would similarly challenge a single detention facility unless it were designed to accommodate very large volumes, which may not be feasible on individual field margins. The Proposed Order's performance-based approach allows enrollees to select and implement the combination of management practices best suited to their field configurations and drainage patterns, with the adaptive management program providing the feedback mechanism to evaluate effectiveness and require adjustments where necessary.

North Coast Water Board staff followed up with the commenter regarding the referenced complaint. Staff acknowledge the broader concern that drainage infrastructure can create preferential flow paths that reduce the effectiveness of vegetated buffers, and this concern informed the development of the Proposed Order's management practice and Streamside Area requirements.

RTC #34: Riparian Vegetation Area Restoration Alternative

Comment Numbers: CDFW-13, CDFW-20, Free-2

CDFW does not support the Riparian Vegetation Area Restoration Alternative because the riparian component is fundamental. If retained, CDFW recommended requiring enrollees to first demonstrate WQ attainment (Recommendation 4). Free states that allowing mitigation for the riparian vegetation requirement is inconsistent with the purpose of riparian vegetation, which is to reduce sediment, pesticide, and nutrient delivery to fish-bearing streams.

Response: The Riparian Vegetation Area Restoration Alternative was added to the Project as a CEQA mitigation measure to lessen the significant and unavoidable impact to Agriculture and Forestry Resources caused by the potential loss of farmland to Streamside Area setbacks. The Streamside Area setbacks in the Proposed Order implement the Temperature Policy (see RTC #31: Recommended Setback Widths). The commenters are correct that the water quality benefits of riparian vegetation are realized where sediment, pesticides, and nutrients are delivered to fish-bearing streams; however, the Proposed Order includes Watercourse Setbacks as a Tier 1 compliance option that requires setback widths more consistently supported in the literature for providing pollutant-filtering functions.

The Riparian Vegetation Area Restoration Alternative is primarily focused on the shade component from riparian vegetation and may only be selected for that portion of the Riparian Vegetation Area that are not currently meeting Streamside

Area setback widths. Enrollees must still meet Vegetated Buffer widths and comply with all other Order requirements, including monitoring and adaptive management.

RTC #35: Temperature, Shade, and Interim Measures

Comment Numbers: AW-40, AW-49

Williams expressed that large wood should be installed for interim shade and permission for restoration work on grower lands should be an enrollment condition.

Response: The Proposed Lily Bulb Order imposes riparian protection zones but pursuant to Water Code section 13360 does not specify the exact manner of compliance, only that the Enrollee must allow for the natural succession of native riparian vegetation. The Proposed Lily Bulb Order includes an Riparian Vegetation Area Restoration Alternative.

RTC #36: Setback/Filter Strip Effectiveness

Comment Numbers: ELF-15, ELF-16, ELF-17, ELF-23, CT-2, HFMA-7, TU-N-4, Dettmar-8. St.Clair-5

Nine commenters argued that vegetated setbacks and filter strips will not effectively control pesticide discharge under Smith River Plain conditions. All cited the Hurst et al. (2024) study. ELF argued the Draft Order proposes 50-foot setbacks smaller than the 80-foot setbacks shown to fail. CalTrout, HFMA, and TU National emphasized the unique estuarine floodplain challenge. St.Clair asserted that the data confirms that water-soluble toxins bypass vegetative filters and flow directly into streams.

Response: Staff acknowledge the Hurst et al. (2024) findings. The Proposed Order does not rely on Streamside Area setbacks as the sole management practice to achieve water quality objectives. The Streamside Area requirements serve a dual purpose: (1) implementing the Temperature Implementation Policy; and (2) providing baseline pollutant filtration. Setbacks are one component of the overall regulatory framework, which also includes Receiving Water Limitations and an Adaptive Management Program. The Tier 1 Adaptive Management program provides three compliance options, one of which is a Watercourse Setback Alternative that requires 100 ft setbacks on streams and a 30 ft setback on hydrologically-connected ditches. If this particular option to control discharges is not successful, the Order requires Enrollees to procure the assistance of a Qualified Professional under Tier 2 Adaptive Management.

Pesticide Management Requirements

RTC #37: Pesticide Application Reduction

Comment Numbers: CDFW-10, CT-6, CT-10, AW-25, AW-53, Hostler-8, Powell-1

Commenters expressed that pesticide application reduction should be mandatory for all enrollees. CDFW recommended requiring attainment of active ingredient performance standards for all enrollees (Recommendation 1). CalTrout argued management practices must supplement application reductions. Williams argued the Order should incentivize phase-out of copper, imidacloprid, diuron, and ethoprop.

> **Response:** Water Code section 13360 prohibits the North Coast Water Board from prescribing the particular manner of compliance. Furthermore, the North Coast Water Board cannot limit the application of pesticides, which is an authority granted to the California Department of Pesticide Regulation. See RTC# 40 for information on the MAA between the North Coast Water Board and DPR.

RTC #38: Zero Discharge Limit

Comment Numbers: CT-4, CT-5, CT-9, TDN-2, TDN-5, TU-N-8, TU-N-9, TU-N-10, HFMA-11, HFMA-12, HFMA-17, Dettmar-1, Dettmar-4, Dettmar-12, Kharazi-11, Pace-1, Pace-6, Hostler-4, AW-57, Butler-1, Dremann-1, Obrien-1, Brockington-1, Ihara-1, Jordan-1, Shade-1, Hostler-5, Hostler-7, St.Clair-3, Form-Letter-1

Commenters expressed that the Draft Order's receiving water benchmarks should be replaced with a zero-discharge standard. CalTrout proposed zero-discharge for all TMDL-listed pesticides monitored at edge of field. The Tolowa Dee-ni' Nation argued zero-discharge is "legally justified and required" under Porter-Cologne. HFMA urged cease and desist orders, citing the 245-T precedent and "affirmative duty to act." St.Clair pointed out the 'moral fallacy of allowable poison' and asserted that the Board not treat the Smith River as a drainage ditch. Multiple individual commenters and Form Letter-1 (123 signatories) requested no further pesticide discharge.

> **Response:**
>
> North Coast Water Board staff considered and declined to propose a zero-discharge standard for the reasons discussed below. (See also response to RTC # 17.)
>
> The State Water Board's Antidegradation Policy (Resolution No. 68-16) establishes the legal framework for evaluating whether degradation may be authorized. Resolution No. 68-16 provides that whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the

people of the state, will not unreasonably affect present and anticipated beneficial uses of such water, and will not result in water quality less than that prescribed in the relevant water quality control plan. The North Coast Water Board may decline to authorize any degradation from baseline levels; however, if any interim degradation is authorized during the compliance period, it must be justified and found to be consistent with maximum benefit to the public (see Findings Section G, Antidegradation Analysis). Resolution No. 68-16 does not require the North Coast Water Board to adopt a zero-discharge standard in every circumstance. Rather, the Board must determine whether the regulatory approach it adopts satisfies these requirements.

Staff determined that a zero-discharge standard is not warranted because the Proposed Order's regulatory approach reflects several legal, technical, and practical considerations**.** First, the North Coast Water Board is required to consider economic factors when issuing waste discharge requirements (Water Code §§ 13241, 13263). A zero-discharge standard for copper, a metal that has been applied to lily bulb fields for decades and has accumulated in soils throughout the production area, would be economically infeasible as there is no feasible management practice that would eliminate all copper discharge from fields. Staff considered the economic consequences of such a prohibition alongside the environmental and cultural values of the beneficial uses being protected.

With respect to copper, the historical record documents a significant reduction in copper application rates, from an average of 14,126 pounds per year between 2012–2017 to an average of 5,842 pounds per year between 2018–2021, along with a phase-out of copper sulfate in favor of copper hydroxide. (Finding #47 in the Order). The Proposed Order's adaptive management framework and Receiving Water Limitations are designed to continue this trajectory and are expected to improve baseline water quality with respect to copper over the time schedule set in the Proposed Order. A zero-discharge standard is not necessary to achieve this improvement and would foreclose the adaptive management approach that allows the North Coast Water Board to tie regulatory requirements to monitoring results.

With respect to synthetic pesticides (diuron, imidacloprid, and ethoprop), staff reviewed all available pesticide water quality values — including U.S. EPA aquatic life benchmarks, California Toxics Rule criteria, and other applicable standards — and, exercising best professional judgment consistent with scientific evidence, selected the most protective values for the relevant beneficial uses as the Water Quality Benchmarks for this Order. These benchmarks are set at concentrations designed to protect the most sensitive beneficial uses, including cold freshwater habitat and the spawning, migration, and rearing of salmonids. Enrollees must comply with Receiving Water Limitations based on these benchmarks and the Biotic Ligand Model-derived benchmarks for dissolved copper.

The Proposed Order's compliance schedule is as short as practicable, considering the unique three-to-five-year cropping rotation cycle and the time necessary to design, install, and evaluate the effectiveness of advancing management practices. This is consistent with the Nonpoint Source Policy's commentary that time schedules be as short as practicable while acknowledging that immediate attainment of receiving water limitations may not be feasible where management practice effectiveness must be evaluated iteratively through monitoring.

Taken together, these considerations support the staff's determination that a zero-discharge standard is not warranted. Instead, the Proposed Order establishes protective receiving water limitations, requires implementation of management practices to reduce pollutant loading, and includes an adaptive management framework that allows the Board to evaluate monitoring results and require additional measures, as appropriate, to achieve and maintain Receiving Water Limitations. This approach is consistent with the Antidegradation Policy, the Nonpoint Source Policy, and the Board's obligations under Porter-Cologne.

Regarding the request for cease and desist orders: The North Coast Water Board retains authority to issue cease and desist orders under Water Code section 13301 and cleanup and abatement orders under section 13304 if an enrollee's discharge creates or threatens to create a condition of pollution or nuisance, or if an enrollee violates the requirements of this Order. The adoption of this Order does not limit the North Coast Water Board's independent enforcement authority. The Proposed Order's adaptive management framework includes progressive escalation of requirements and enforcement consequences that are designed to achieve compliance within the shortest practicable timeframe while providing enrollees with a defined pathway to demonstrate compliance through implementation of management practices.

RTC #39: Pesticide Alternatives

Comment Numbers: AW-30, AW-31, AW-53, DNRCD-5, Crockett-11

Williams cited Easter Lily Foundation studies identifying nine alternative pest management products and listed additional alternatives. DNRCD and Crockett referenced biochar work with USDA/NRCS, with Crockett requesting a one-year implementation delay.

Response: Staff acknowledge previous and ongoing efforts by the lily bulb industry to develop and test alternate pest management and management practice methods. The Proposed Order retains the time schedule in the Draft. The North Coast Water Board adopted the voluntary Smith River Plain Water Quality

Management Plan (2021 Management Plan[3]) in 2021 to meet "water quality standards through the control of waste discharges associated with lily bulb operations in the Smith River Plain." While the 2021 Management Plan was voluntary, the information was intended to eventually inform the development of an Order. It is staff's position that the intent to develop an Order was clear in the 2021 Management Plan, and a delay in implementation will not support water quality goals.

RTC #40: CDPR and North Coast Water Board Collaboration

Comment Numbers: AW-22, AW-23, AW-29, AW-32

Commenter argued the Board has failed to utilize its MAA with CDPR.

Response: The California Department of Pesticide Regulation (CDPR) has collaborated with the North Coast Water Board on water quality issues related to Smith River Plain agriculture and assisted with the development and implementation of the 2021 Smith River Plain Water Quality Management Plan as a member of the Stewardship Team.

Since 2024, CDPR has been providing technical support, as part of the Technical Advisory Group (TAG), to the North Coast Water Board as part of Lily Bulb Order development.

Under the 2019 Management Agency Agreement (MAA) starting in August 2025, CDPR and the North Coast Water Board conducted a series of staff-to-staff meetings on available data and the Draft Lily Bulb Order. CDPR conducted a review of available data, including pesticide use reporting (PUR) data, surface water and groundwater monitoring data (including from the SWAMP studies) and toxicity studies completed (to date) for the Smith River.

CDPR's preliminary review concluded that additional data were needed for them to adequately evaluate the potential impacts to aquatic life such as fish from copper concentrations detected in surface water. As a result, CDPR announced the initiation of a Fish Toxicity Study in the Smith River Plain to fill this data gap. Results of this study will help identify if current copper concentrations are associated with impacts to fish populations in the Smith River watershed. CDPR is contracting researchers from California State Polytechnic University, Humboldt to conduct the study which will span two years beginning this year.

[3] 2021 Management Plan https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2021/smithmgmttplan.pdf

The study represents a collaboration between the Water Boards and CDPR on continued work across both departments to protect the environment and engage with local communities and Tribes.

RTC #41: Weather-Based Pesticide Application Prohibition

Comment Numbers: Kharazi-8, Pace-7, Hostler-3, Wilson-3, Sargent-2, Ihara-1, TU-6, Form Letter-1, Form Letter-2

Multiple commenters expressed that pesticide application during wet weather, rainy, or foggy conditions should be prohibited. Hostler testified to personal exposure on windy days. Wilson argued wet-weather spraying causes double toxicity. TU California recommended designating unrestricted copper products as restricted use in Del Norte County.

Response: The regulation of pesticide application, including the timing, method, rate, and conditions under which pesticides may be applied, is within the exclusive statutory authority of the California Department of Pesticide Regulation (DPR) and county agricultural commissioners (CACs), not the North Coast Water Board. The Draft Order addresses the commenters' underlying concern through its Receiving Water Limitations, Adaptive Management Program, and management practice requirements. These provisions regulate the outcome rather than prescribing the specific agricultural practices enrollees must follow. The personal exposure testimony is noted and has been referred to the Del Norte County Agricultural Commissioner. Community health concerns are addressed in RTC #8: Community Health Impacts from Agricultural Activities.

RTC #42: Pesticide Labels

Comment Numbers: AW-24, AW-49, Free-1

Williams cited the ethoprop (Mocap) pesticide label requiring "do not apply within 800 feet of brackish water habitats" and argued this must be the required setback. Free argues the streamside management zones are inconsistent with pesticide labels for protection of aquatic habitat.

Response: The regulation of pesticide label compliance is within the jurisdiction of DPR and the Del Norte County Agricultural Commissioner under the Food and Agricultural Code, not the North Coast Water Board under Porter-Cologne. Label compliance is a legal obligation of the applicator independent of this Order and is enforced by DPR/CAC. See RTC #31 for response on Streamside Area setback widths.

Adaptive Management

RTC #43: Shorten Adaptive Management Timeline

Comment Numbers: ELF-20, CT-3, CCR-4, TU-N-6, Dettmar-11, Kharazi-12, Free-4

Commenters argued that the Adaptive Management program's timeline is unreasonably long. ELF calculated that under the Draft Order's structure, a violation could not occur for approximately ten years, and argued the Board fails to show this schedule is "as short as practicable" as required by NPS Policy Key Element 3. ELF noted the Draft Order omits the NPS Policy language that time schedules "may not be longer than that which is reasonably necessary to achieve an NPS implementation program's water quality objectives." CalTrout stated the adaptive management process allows continued exceedances for at least 7 years, possibly much longer, before a violation. CCR characterized the enforcement structure as "ongoing permission to contaminate" and a "Pollution Permit." Free argues the adaptive management plan is inadequate to protect state and federally listed coho salmon given the species' strict 3-year life history. Trout Unlimited (National) also noted the Board "could choose to grant a waiver" even after a violation occurs. Dettmar characterized the progressive enforcement as allowing "years of additional harm before any meaningful consequence." Kharazi stated voluntary compliance has failed for forty years and the Board has a legal obligation to act now.

> **Response:** See Response to RTC #18: NPS Policy Key Elements for a detailed discussion of the Order's Adaptive Management time schedule and its consistency with NPS Policy Key Element 3.

RTC #44: Watershed-Wide Approach to Adaptive Management

Comment Numbers: CDFW-14, TDN-3, TU-N-5

CDFW recommended a watershed-wide approach to adaptive management (Recommendation 5), arguing that the Draft Order's field-specific approach may prolong water quality degradation as individual fields rotate through the 3-5 year crop production cycle before more advanced controls take effect. CDFW stated that current practices have already proven insufficient and that fields within a tributary watershed experience similar environmental constraints necessitating more advanced controls across the entire watershed, not field by field. CDFW warned that under the staggered field-specific system, multiple salmonid cohorts could be exposed to toxic conditions before advanced controls are implemented throughout the watershed. The Tolowa Dee-ni' Nation raised a related concern: the Draft Order allows exceedances before encouraging adaptive management for only discrete fields and only for certain pesticides or compounds, rather than requiring watershed-level action for all pollutants. Trout Unlimited (National) noted the 3-year lily bulb crop rotation cycle complicates field-level adaptive management.

Response:

Staff considered these comments and revised the Proposed Order to strengthen the field-specific Adaptive Management framework in several respects to address concerns regarding crop rotation, attribution of exceedances, and timely implementation of advanced controls. However, staff do not recommend the watershed-wide approach proposed in CDFW Recommendation 5 because the available monitoring and pesticide application data support targeting Adaptive Management to the fields most likely contributing to an exceedance, rather than requiring advanced controls across an entire tributary watershed.

Imposing more advanced controls across an entire tributary watershed would require fields not in production at the relevant time and fields on which the constituent of concern was not applied to install and bear the cost of advanced practices that the monitoring data do not implicate. For a three-grower program with limited resources, that approach would diffuse effort across non-contributing fields without a corresponding water quality benefit, rather than concentrating controls where the data show the discharge is originating**.** Accordingly, rather than applying Adaptive Management watershed-wide, the Proposed Order was revised to improve the identification of contributing fields and ensure that Adaptive Management is applied more precisely and effectively.

The Proposed Order was modified to tie Adaptive Management even more directly to the fields whose pesticide application history makes them the likely source of a given exceedance, rather than to all fields tributary to a monitoring station. As revised, when a Water Quality Benchmark exceedance occurs, the Order identifies the contributing fields based on their recent application history and the constituent-specific monitoring calendar (see Table A.2 in Attachment A: MRP). For example, an exceedance of a copper Benchmark during the Fall event implicates fields harvested earlier that year—on which copper was applied during the prior growing season—rather than fields newly planted that fall, on which copper has not yet been applied. This refinement directs Adaptive Management at the fields and applications that the SWAMP data and application timing actually associate with the discharge.

Staff evaluated the history of pesticide applications using CDPR’s Pesticide Use Report (PUR) data for the time period covered by the 2025 SWAMP Report. Synthesizing the water quality data, PUR data, and rainfall patterns, staff were able to more closely detect the relationship between the pattern of annual pesticide applications, Major Storm Events, and exceedances of applicable water quality criteria. Using this information, staff recommend the field-specific adaptive management framework, as revised.

The revised framework also addresses the concern that crop rotation allows fields to escape Adaptive Management or delays advanced controls. Because the

monitoring calendar attributes an exceedance based on when a field was planted and treated rather than its crop status at the moment of sampling, a field that applied the constituent of concern and subsequently rotated out of production remains subject to Adaptive Management for that application. In addition, the Proposed Order requires that if any portion of a field in Adaptive Management is reconfigured, the entire resulting field is included in Adaptive Management, so that rotation and field reconfiguration cannot be used to shed an Adaptive Management obligation. The Proposed Order further retains the provision that all fields associated with water quality exceedances in the 2025 SWAMP Report are entered into Tier 1 Adaptive Management upon enrollment.

Adaptive Management escalates to more stringent controls where monitoring demonstrates that practices are not achieving water quality requirements. To account for site-specific conditions, an enrollee may also implement edge-of-field monitoring to demonstrate attainment of water quality objectives and compliance with Receiving Water Limitations (see RTC #54: Edge-of-Field Sampling).

Regarding the Tolowa Dee-ni' Nation's concern that Adaptive Management is triggered only for certain compounds, the constituent-specific monitoring program covers the pesticides and copper identified in the SWAMP data as the constituents of concern for the Smith River Plain, and an exceedance of any monitored Water Quality Benchmark triggers Adaptive Management for the implicated fields. For more on sampling constituents, see RTC #55.

RTC #45: Adaptive Management upon Enrollment

Comment Numbers: ELF-21, Westbrook-10

Two commenters raised opposing concerns about initial tier placement. ELF argued that Tillas Slough and Lower Rowdy Creek are improperly excluded from the advanced schedule despite documented exceedances: Tillas Slough experienced two acute and four chronic exceedances between 2021 and 2024, and Lower Rowdy Creek had a chronic exceedance during the same period. Westbrook argued the opposite: that placing nearly all production areas directly into Tier 1 adaptive management upon enrollment “effectively penalizes local agricultural producers” who are already following Board-recommended practices.

Response: The revisions to the Proposed Order respond to both concerns by tying initial Tier 1 placement to the specific fields whose pesticide application history makes them the likely source of a documented exceedance, rather than to entire tributary areas.

In response to ELF, the Proposed Order was modified to include fields in the Tillas Slough drainage in Tier 1 Adaptive Management upon enrollment. Under the revised framework, which selects fields based on pesticide application timing, the

Tillas Slough exceedances are now associated with the specific fields whose application history corresponds to the constituents and timing of those exceedances, and those fields are required to enter Tier 1 Adaptive Management upon enrollment. Pesticide performance standards for Tillas Slough as a Tier 1 option has also been added (see Table II.3 in Section II.H of the Order). An updated map showing all fields required to enter Tier 1 Adaptive Management upon enrollment is provided in Figure 2 in Appendix II of the Order with a list of fields provided in Table II.2 in the Proposed Order.

With respect to Lower Rowdy Creek, no fields in that drainage are required to enter Tier 1 Adaptive Management upon enrollment. The threshold for requiring Adaptive Management upon enrollment is two chronic Water Quality Benchmark exceedances within a crop cycle; the single chronic exceedance documented in Lower Rowdy Creek does not meet that threshold. Lower Rowdy Creek remains in the monitoring program, and an exceedance there will trigger Adaptive Management under the Order's standard provisions in the same manner as any other monitored location.

In response to Westbrook, the revised approach does not place "nearly all production areas" into Tier 1 Adaptive Management. By selecting fields based on documented exceedances and the corresponding pesticide application history rather than enrolling entire tributary areas, the Proposed Order limits initial Tier 1 placement to the fields the monitoring data actually implicate. A producer's fields are placed into Tier 1 upon enrollment only where a Water Quality Benchmark exceedance meeting the threshold has been documented and that producer's application history associates its fields with the exceedance.

RTC #46: Enrollment Prerequisites and Immediate WQMP Certification

Comment Numbers: ELF-26, AW-28, AW-50

Two commenters argued that enrollees should demonstrate compliance readiness before or upon enrollment. ELF proposed requiring all growers to adopt a certified WQMP immediately upon enrollment, then treat post-WQMP exceedances as permit violations. Williams argued fields draining to Delilah, Tillas, and Rowdy must implement increased-tier BMPs before enrollment and that enrollment should be denied without proof of improved practices.

Response: The Proposed Order was modified to designate fields for Adaptive Management in a manner that more closely ties to each field's history of pesticide application. As revised, all fields in tributary watersheds with documented Water Quality Benchmark exceedances are entered into Tier 1 Adaptive Management upon enrollment, and the fields subject to Adaptive Management are identified based on their recent application history and the constituent-specific monitoring

calendar rather than uniformly across the watershed. The highest-risk fields therefore begin implementing and escalating management practices immediately upon coming under coverage, which accomplishes the protective objective the commenters identify.

The Proposed Order does not, however, require management actions as a precondition to enrollment, because the enrollment mechanism itself is what makes a discharger subject to the Order's enforceable requirements. Until a discharger is enrolled, the North Coast Water Board has limited options through which to compel the specific actions the commenters propose; conditioning coverage on pre-enrollment performance would leave the discharge unregulated rather than bringing it under the Order's monitoring, reporting, and Adaptive Management requirements, which is contrary to the purpose of a general order. Denying enrollment would not stop the discharge, it would only remove the regulatory framework designed to control it.

Requiring enrollees to adopt particular increased-tier management practices before enrollment would also conflict with Water Code section 13360(a), which provides that waste discharge requirements may not specify the manner of compliance. The Water Board may identify the water quality conditions to be achieved and require Adaptive Management to achieve them, but it may not dictate that an enrollee install a specific practice as a precondition to coverage. The tiered Adaptive Management structure is the appropriate and legally supported mechanism for directing those actions, and it operates from the moment of enrollment rather than before it.

Finally, the recommendation that all enrollees adopt a certified Water Quality Management Plan immediately upon enrollment regardless of monitoring results is not proportionate to the documented conditions and is not supported by the data for fields without exceedances. The Order instead requires the equivalent planning and management-practice obligations where monitoring data demonstrate they are warranted, consistent with the iterative process contemplated by the Nonpoint Source Policy (see RTC #18: NPS Policy Key Elements).

RTC #47: Adaptive Management Triggers

Comment Numbers: AW-39

Williams argued that exceedance benchmarks should be changed from two to one, making any single exceedance an immediate trigger for the next tier of adaptive management.

Response: The Proposed Order establishes Water Quality Benchmarks for acute and chronic exposures. A single exceedance of an acute Water Quality Benchmark within a monitoring period triggers adaptive management, which is consistent with

this recommendation. The Proposed Order establishes chronic Water Quality Benchmarks at lower concentrations to protect beneficial uses from longer exposures. Two exceedances of a chronic Water Quality Benchmark trigger adaptive management. Water Quality Benchmarks for synthetic parameters were determined by reviewing all available pesticide water quality values and selecting the most protective values.

The Proposed Order was modified to include revisions to the way fields are designated for Adaptive Management. Rather than placing all current cultivated fields tributary to a monitoring station into Adaptive Management when a Water Quality Benchmark exceedance occurs, the Proposed Order now identifies the specific fields whose pesticide application history makes them the likely source of the exceedance, based on each field's recent applications and the constituent-specific monitoring calendar. When a Benchmark exceedance triggers Adaptive Management, the requirement attaches to the fields the data and application timing actually implicate. For example, a copper exceedance during the Fall event implicates fields harvested earlier that year, on which copper was applied during the prior growing season, rather than fields newly planted that fall on which copper has not yet been applied.

This refinement addresses the underlying concern reflected in the comment that Adaptive Management respond meaningfully to documented exceedances.

RTC #48: Tier 1 Management Practice Options

Comment Numbers: ELF-22, ELF-23, ELF-24, ELF-25, AW-51, AW-52

Commenters expressed that Tier 1 options lack evidence of effectiveness and may not satisfy the NPS Policy Key Element 2 “high likelihood” standard. ELF argued none of the three options is supported by evidence. Williams argued Option 1 (Grower-Prepared Plan) should be eliminated given 14 years of demonstrated bad faith, any WQMP must be certified by a professional in regenerative agriculture, and the timeline is inconsistent with Government Code section 11340 et seq.

Response: The three Tier 1 options are supported in the record. Watercourse Setback widths fall within the effective buffer width range summarized in Finding #50. The Active Ingredient Application Performance Standard rests on the strong correlations the 2025 SWAMP Report documents between normalized application rates and receiving water outcomes. The Treat and Control option draws from practices tested under the 2021 Management Plan and from the Hurst et al. (2024) field study (see Finding #59 in the Order). NonPoint Source Policy Key Element 2 does not require certainty for any single option at any single Field — it requires a program designed with a high likelihood of attainment over its time schedule. Tier 1 options satisfy that standard because each option is reasonably supported by the

information in the 2025 SWAMP Report. All Enrollees continue receiving water monitoring under Attachment A Section III in the Proposed Order, and Fields that do not attain compliance escalate to Tier 2.

ELF-24 comment about pro-rating among growers is addressed by the Field-by-Field structure of the program. Fields in a tributary area planted to lily bulbs (or recently harvested depending on the constituent and timing of the exceedance) in the sample year enter adaptive management upon a downstream exceedance, and each Enrollee is responsible for compliance on their own Fields. An Enrollee may use Edge-of-Field Sampling to demonstrate Field-level compliance independently. ELF-25 correctly observes that 2021 Management Plan practices have not eliminated exceedances at Lower Delilah Creek and Tillas Slough but the magnitude of those exceedances has decreased substantially since the 2013–2015 baseline, and the Order's response to persistent exceedances is precisely what Non Point Source Policy Key Element 2 contemplates: an enforceable, iterative program with escalating requirements where initial practices prove insufficient.

Option 1 (Grower-Prepared WQMP) requires Executive Officer approval and is not properly characterized as bad faith. Grower-Prepared WQMPs under Draft Order Table II.3 Option 1 are submitted to the Executive Officer for review and approval before they function as a compliance pathway. The "14 years of bad faith" framing does not align with the documented record of grower engagement: initial stakeholder meetings in 2011, co-development of the 2021 Management Plan, continuous Plan implementation since 2021 with annual self-reporting and Board inspections (Draft Order Finding 48), and participation in TAG meetings during 2024–2025 (Draft Order Finding 11). Existing plans and resources from Del Norte Resource Conservation District, Natural Resources Conservation Service, and similar sources are available for Enrollees to draw on in preparing a WQMP.

Staff decline to recommend the restriction of WQMP certification to regenerative agriculture professionals. The Order specifies the outcomes a WQMP must achieve and provides multiple certification pathways. "Qualified Professional" is defined in Draft Order Appendix I. Limiting certification to a single management philosophy would eliminate pathways that staff have found capable of producing protective plans without improving the likelihood of attaining water quality requirements.

This Order is not an emergency regulation under Government Code section 11340 et seq. It is being adopted through the standard public participation, CEQA, and Board adoption procedures applicable to general waste discharge requirements.

Surface Water Monitoring

RTC #49: Monitoring Frequency

Comment Numbers: CDFW-16, ELF-28, ELF-44, TU-3, DNRCD-6, Crockett-8, Miller-4, Miller-5, Westbrook-16, Free-3

Commenters expressed opposing positions on surface water monitoring frequency. CDFW recommended 3 wet + 2 dry events. ELF argued for dry-season and first-flush sampling. Grower commenters recommended reducing to 1x/year. Miller proposed a differentiated approach. Free argued the monitoring frequencies in the Draft Order are inadequate to identify potential locations or fields that are discharging pollutants and is therefore inadequate for implementing the proposed adaptive management program. Free recommends that dry-season sampling be conducted.

> **Response:** The Proposed Order was modified to tie sampling to the timing of pesticide application rather than three events at any point during the storm season applied uniformly to all constituents. As revised, three Major Storm sampling events occur each year in Winter (February–March), Spring (April–June), and Fall (October–December). Each event analyzes only the constituent or constituents most likely to be discharging during that window. This retains the same total number of sampling events (three per year) while reducing the number of constituent analyses by approximately 25 percent. The revised seasonal windows also broaden the temporal coverage relative to the Draft Order's November 1–April 30 wet season: the Fall event (October–December) is positioned to capture first-flush conditions at the onset of the rainy season and the Spring event (April–June) captures the May and late-season storm shoulder period. Because copper is applied approximately February through August and imidacloprid approximately April through August, the constituent-specific calendar samples these parameters during the periods of greatest discharge risk rather than during a fixed window that may not coincide with application.
>
> Accordingly, the Proposed Order’s Winter Sampling Event begins in February rather than in January to keep field attribution under the Adaptive Management Program reasonable and workable. Copper is applied only sometimes in January but more regularly beginning in February. A copper exceedance detected in January would therefore be ambiguous to attribute: it could implicate current-cultivation fields (if those fields happened to apply copper that January) or fields that were just harvested from the prior growing season. Resolving that ambiguity would require a more complex, field-by-field tracking system to determine whether copper was actually applied in January before an exceedance could be assigned.
>
> The Draft Order's schedule consisted of two Major Storm Event samples plus one additional wet-season sample that was collected between storms. Staff determined, however, that limited monitoring resources should be focused more

directly on the periods most likely to contain high concentrations of pollutants. The revised schedule replaces the between-storm event with a third Major Storm Event, so that all three annual events are now timed to precipitation-driven runoff. In addition, the definition of a Major Storm Event has been bracketed by both a lower and an upper precipitation boundary to constrain the sampling window to the rising limb of the hydrograph. The Draft Order set only a lower boundary (one inch of rain in 24 hours to initiate a Major Storm Event). The revision adds an upper boundary so that samples are collected before more than three inches of rain has fallen in 24 hours. This timing is significant because the SWAMP Report indicates that constituent concentrations in the tributaries may be highest during the rising limb of the hydrograph, when runoff from fields has mobilized pesticides and copper but has not yet been substantially diluted by continued storm flow. By eliminating the between-storm event and bracketing each Major Storm Event to the rising limb, the revised schedule more closely constrains sampling to the conditions under which exceedances are most likely to be observed.

This revised framework declines to reduce monitoring to a single annual event in certain tributaries for imidacloprid and diuron, as recommended by some of the commenters. A single sampling event would impair the program's ability to detect storm-driven exceedances and to identify the fields most likely responsible for them. The revisions instead reduce the monitoring burden through the constituent-specific design, which lowers analytical cost and effort while preserving the temporal and parameter coverage needed to detect exceedances and trigger adaptive management. The revised monitoring schedule retains the same number of sampling events per year but reduces the number of constituents analyzed at each station per year by 25%.

CDFW, ELF, and Free recommend that the monitoring program include dry-season (summer) sampling, with CDFW recommending two dry-season events in addition to wet-season sampling. The Proposed Order focuses surface water monitoring on the periods and conditions during which the SWAMP Report indicates exceedances are most likely to be detected, rather than distributing sampling across the year without regard to when constituents are mobilized.

The SWAMP Report indicates that constituent concentrations in the tributaries are highest during the rising limb of the hydrograph, when precipitation-driven runoff has mobilized pesticides and copper from fields and is actively discharging to the tributaries, but before continued storm flow substantially dilutes those concentrations. Sampling during these conditions provides the greatest probability of detecting an exceedance and identifying the fields contributing to it. Dry-season conditions, by contrast, generally lack the runoff that transports these constituents from fields to surface water, so dry-season surface water sampling is less likely to capture the discharge events the monitoring program is designed to detect.

Free's recommendation for edge-of-field monitoring is addressed in the RTC #54. Recommendations regarding the number and placement of monitoring stations are addressed in the RTC #50.

RTC #50: Monitoring Locations

Comment Numbers: DNRCD-7, Crockett-7, Crockett-9, Miller-3, Pace-3, AW-27, Sargent-1, Westbrook-13

Grower commenters argued for fewer locations (reduce to 4 creeks). Environmental commenters argued for expansion. Crockett raised a claim that Unnamed Creek has no hydrogeologic connection to Receiving Waters. Sargent requested continuous testing below Dr. Fine Bridge.

Response: The Proposed Order has been modified to refine monitoring locations based on staff field investigations and updated drainage mapping. The Morrison Creek monitoring station was relocated to its mouth in the Morrison Slough to capture runoff from lily bulb fields downstream of the Morrison and Mello monitoring stations. This refinement combined the Morrison, Mello, and Unnamed Creek drainages into one downstream station where all beneficial uses protected by Water Quality Benchmarks are present. Drainage maps were updated to reflect current field configurations, and all associated performance standards were recalculated based on the updated drainage areas. The Proposed Order retains the option for Mello Creek to be sampled in order to avoid Enrollees co-mingling discharges from their fields into a single sampling station. If the option to sample Mello Creek is not selected, then all fields tributary to the Mello Creek monitoring station would be included in the new Morrison Creek at Morrison Slough monitoring station for purposes of Adaptive Management.

Regarding the request to reduce monitoring to four creeks where production currently occurs: The commenter's proposal would exclude Tillas Slough and Rowdy Creek from the monitoring program. Tillas Slough recorded two acute and eight chronic exceedances of Water Quality Benchmarks between 2021 and 2024, and Rowdy Creek recorded one chronic exceedance during the same period. Removing monitoring locations with documented exceedances would be inconsistent with the purpose of the monitoring program and would eliminate the data needed to track whether water quality conditions in those drainages are improving.

Regarding the request for continuous testing below the Dr. Fine Bridge: The tributary-level monitoring stations in the Proposed Order are located to capture discharge from lily bulb production areas before it integrates with (and dilutes with) other sources in the estuary. The North Coast Water Board retains authority to add monitoring locations if warranted.

RTC #51: Sampling Methods

Comment Numbers: TDN-11, TDN-12, TDN-13, TDN-14, Dettmar-10, Dettmar-16, Pace-2

Three commenters proposed technical improvements: automated ISCO samplers triggered by flow/conductivity, analysis of both dissolved and sediment-bound phases, and flow-weighted compositing.

Response: Tolowa Dee-ni' Nation staff raised questions about whether the surface water sampling window described in the Draft Order captures first-flush and peak concentration events, and whether automated samplers collecting composite samples triggered by flow or conductivity during the rising limb of the storm hydrograph would improve compliance determinations.

Surface Water Monitoring requirements in the Draft Order are designed to capture first-flush concentrations (See RTC #49) This timing reflects the fate-and-transport pattern described in the 2025 SWAMP Report Section 6.1 which shows that diuron and imidacloprid concentrations peak sharply during early overland flow before diluting as streamflow rises. Under a grab sampling regime, collecting samples on the rising limb following the first inch of precipitation is a reliable approach for capturing concentrations near their peak.

Composite sampling characterizes loads across a storm event while grab sampling during the rising limb characterizes peak concentrations. Compliance with the Lily Bulb Order is determined against Water Quality Benchmarks expressed as concentration thresholds (Draft Order Tables I.3 and A.4). Because composite sampling produces an average concentration across the compositing period, it is most useful for characterizing pollutant load; whereas grab samples are commonly used for determining compliance with concentration-based benchmarks.

Automated sampling has value for characterization but is not necessary for compliance. Flow- or conductivity-triggered automated samplers with time-interval compositing would generate more detailed data on pollutant transport during the rising and recession limbs of storms. That enhancement is most useful for refining the Adaptive Management Program and informing future Order revisions rather than for determining whether a Water Quality Benchmark has been exceeded. Deployment would require capital investment in samplers, sensors, secure enclosures, telemetry, and power, with ongoing maintenance and analytical costs. While composite sampling instrumentation is feasible to install and operate, the information obtained does not align with how compliance is evaluated under the Proposed Order The MRP allows monitoring enhancements through modifications and Executive Officer revisions (Attachment A Section V).

Tolowa Dee-ni' Nation staff recommend analyzing both dissolved and sediment-bound phases on the basis that copper-based fungicides may be underestimated by water-column analysis alone.

Compliance is based on the Water Quality Benchmark for copper (Draft Order Table I.3) which reflects the bioavailable fraction that is toxic to aquatic life. The Hurst et al. (2022) and Hurst et al. (2024) studies (Findings 49 and 59) document that copper primarily leaves lily bulb fields bound to sediment particles, but also that the bioavailable Cu^{2+} form in receiving waters with dissolved organic carbon binding plays a buffering role. The Biotic Ligand Model used to derive the Benchmark integrates pH, DOC, hardness, and major ions to predict dissolved-phase bioavailability directly.

The empirical record does not support significant re-mobilization of sediment-bound copper into the dissolved phase. Section 7.2 of the 2025 SWAMP Report documents that dissolved copper concentrations and BLM-predicted bioavailability drop to subtoxic levels at the downstream monitoring stations outside the storm season, notwithstanding continuous sediment-bound copper inputs from earlier storms. If sediment-bound copper were materially re-partitioning into the dissolved phase in receiving waters, dissolved concentrations would persist at potentially toxic levels through baseflow. They do not. Storm-season dissolved copper toxicity tracks pH depression and storm-driven transport, not legacy sediment release.

For these reasons, dissolved-phase copper monitoring as specified in Proposed Order Attachment A: MRP is sufficient to support compliance determinations under the Order.

RTC #52: QA/QC Standards

Comment Numbers: TDN-15

The Tolowa Dee-ni’ Nation identified omitted QA/QC elements in Attachment D: field blanks, duplicate samples, calibration records, and detection limits.

Response: The Proposed Order was revised to include Quality Assurance and Quality Control requirements in Attachment D in lieu of requiring the Coalition to submit a Quality Assurance Project Plan (QAPP) as part of a Water Quality Monitoring Workplan.

RTC #53: Biotic Ligand Model and California Toxics Rule

Comment Numbers: CDFW-18

CDFW expressed support for the BLM transition, characterizing it as “more sensitive and biologically relevant.”

Response: Staff acknowledge CDFW's support for the transition from the hardness-based CTR to the Biotic Ligand Model for copper toxicity assessment.

RTC #54: Edge-of-Field Monitoring

Comment Numbers: ELF-29, CDFW-15, AW-27, Free-3

Commenters expressed that edge-of-field monitoring should be mandatory rather than optional. ELF argued for public disclosure of results, pursuant to the NPS Policy's Key Element 4. CDFW recommended edge-of-field monitoring as an Adaptive Management exemption pathway. Williams argued the Board must perform edge-of-field monitoring independently.

Response: *Environmental Law Foundation v. State Water Board* (2023) 89 Cal. App. 5th 451 addressed anonymization of monitoring data and whether it violates the NPS Policy Key Element 4's directive for sufficient feedback mechanisms. The court noted that nothing in Key Element 4, either within the element language or associated commentary, prohibits the anonymization of data. The court ultimately concluded that despite anonymization of data, there existed sufficient feedback mechanisms to allow the regional board and public to determine whether the program was achieving its ultimate purpose and that Key Element 4 does not require perfect transparency or that the public have access to the same data set as the regional board. The court acknowledged the balance the State Water Board was striking between public transparency and individual grower confidentiality concerns, as well as the discretion afforded under the Nonpoint Source Policy to fashion feedback mechanisms sufficient for determining whether a program is achieving its purpose.

Here, the surface water monitoring required by the MRP is conducted at fixed receiving-water stations on the tributaries (e.g., Delilah Creek, Morrison Creek), not at individual fields. These station results characterize the condition of the receiving water in each tributary watershed and are reported to CEDEN, where they are publicly accessible. They are not anonymized in any manner that obscures whether the program is achieving its purpose; any member of the public can determine whether Water Quality Benchmarks are being met at each station and whether adaptive management is being triggered. Key Element 4's feedback function is therefore satisfied by the receiving-water monitoring framework, independent of edge-of-field monitoring.

Edge-of-field monitoring generates individualized, field-specific data tied to a particular grower's operation. The Order provides for edge-of-field monitoring as an optional pathway through which an enrollee may demonstrate attainment of water quality objectives and compliance with Receiving Water Limitations in order to qualify for an exemption from Adaptive Management requirements. Making edge-

of-field monitoring mandatory and individually attributable, as the comments request, is therefore unnecessary to satisfy Key Element 4, which is met by the publicly available receiving-water station data. However, it is worth noting that where an Enrollee elects the Edge-of-Field pathway, the results demonstrating attainment are reported to and reviewed by the North Coast Water Board on a by-field basis, which would be subject to public disclosure.

RTC #55: Sampling Constituents

Comment Numbers: ELF-27, TU-1, Kharazi-4, Holland-1, AW-29

Commenters expressed that the Draft Order addresses only four constituents while 17 pesticides have been detected. ELF specifically identified metam sodium, 1,3-dichloropropene, permethrin, chlorothalonil, napropamide, and phorate.

Response: The Proposed Order requires surface water monitoring for dissolved copper, diuron, imidacloprid, and ethoprop. These four constituents were selected based on their known use in lily bulb production, toxicity profiles, prior study results, and input data needs for the Biotic Ligand Model.

The 2013–2015 SWAMP study analyzed surface water samples for a broad suite of pesticides and detected 17 pesticides (including isomers and degradants) at downstream monitoring stations. The results of the 2013-2015 study informed the list of constituents analyzed in the 2021–2024 SWAMP study which were selected based on d on their known use in lily bulb production, toxicity profiles, and input data needs for the Biotic Ligand Model, in addition to the 2013-2015 study results. The 2021-2024 SWAMP study confirmed that diuron and imidacloprid were frequently detected downstream of lily bulb fields, with exceedances of water quality criteria documented at Lower Delilah Creek and Tillas Slough, and that dissolved copper concentrations predicted toxicity at all downstream stations in approximately 30 percent of samples.

The detection of a pesticide in a single study does not by itself establish that the constituent warrants inclusion in a long-term compliance monitoring program. The four constituents selected for monitoring under the Proposed Order are those with the strongest demonstrated linkage between application on lily bulb fields and repeated exceedances of water quality criteria or predicted toxicity in receiving waters across both SWAMP studies.

Regarding the specific constituents identified by the commenter: 1,3-dichloropropene and metam sodium are soil fumigants applied in the largest quantities by weight of any pesticides used on lily bulbs (Table I.1). These products are applied as pre-plant soil treatments and are regulated as restricted materials by the California Department of Pesticide Regulation. Their application is subject to restricted materials permits issued by the Del Norte County Agricultural

Commissioner, which include site-specific conditions addressing application methods, buffer zones, and notification requirements. Neither 1,3-dichloropropene nor metam sodium was detected in the 2021–2024 SWAMP surface water study at concentrations exceeding water quality criteria, though their breakdown product methyl isothiocyanate was included in the analyte suite for the 2015 groundwater study. Permethrin exceeded a benchmark in a single sample during the 2013–2015 study that also produced a positive acute toxicity result, but was not detected at levels of concern in the 2021–2024 study. Chlorothalonil, napropamide, and phorate were applied in smaller quantities (Table I.1) and were not detected at concentrations exceeding applicable water quality criteria in either the 2013–2015 or 2021–2024 studies.

The Proposed Order's monitoring program is designed to focus analytical resources on the constituents with the strongest demonstrated link between application on lily bulb fields and exceedances of water quality criteria in receiving waters. The North Coast Water Board retains authority under Water Code section 13267 to require monitoring for additional constituents if future data indicates they pose a risk to water quality or beneficial uses. Additionally, the Proposed Order does not limit the North Coast Water Board's authority to modify the Monitoring and Reporting Program to add constituents if warranted by new information (see MRP Section V, Modifications to the MRP).

RTC #56: Deriving Water Quality Benchmarks

Comment Numbers: Westbrook-9

Commenter characterized the Water Quality Benchmarks as an “educated guess,” citing Order Findings that discussed their derivation: “Water Quality Benchmarks for surface water and groundwater monitoring pesticide parameters were determined by reviewing all available pesticide water quality values, including U.S. EPA aquatic life benchmarks, and, exercising best professional judgment consistent with scientific evidence, selecting the most protective (i.e., lowest) values for relevant beneficial uses”

Response: The characterization of the Water Quality Benchmarks as an "educated guess" is not accurate. The Water Quality Benchmarks in the Proposed Order were developed through a structured scientific and regulatory process using published aquatic life toxicity thresholds, peer-reviewed scientific literature, and best professional judgment to select protective benchmark concentrations for the Smith River Plain.

Best professional judgment is a well-established regulatory framework used when Basin Plans contain narrative water quality objectives but do not establish numeric water quality objectives. In those circumstances, staff evaluate available peer-reviewed scientific information and existing aquatic life benchmarks to develop

protective numeric indicators. To develop the Benchmarks, staff surveyed a wide range of available screening thresholds, including USEPA Water Quality Benchmarks, USGS Health Based Screening Levels, and thresholds developed by the UC Davis Method for Derivation of Pesticide Water Quality Criteria for the Protection of Aquatic Life.

This approach is consistent with State Water Board Order WQO 2023-0081 , which expressly recognized that Regional Water Boards may translate narrative water quality objectives into numeric receiving water limits using scientific evidence and best professional judgment where numeric objectives have not been established. The Order states, in part:

"When water quality objectives are established in a basin plan in narrative form, it is appropriate for a regional water board to exercise its professional judgment, relying on scientific studies, to establish numeric limits. This is a fundamental regulatory practice of the regional water boards in implementing basin plans and exercising their regulatory authority under the Water Code."

Accordingly, the Proposed Order follows the same approach approved by the State Water Board. In this Order, the State Water Board found that the Central Coast Water Board properly relied on U.S. EPA aquatic life benchmarks and other scientific literature in establishing numeric receiving water limits.

Consistent with this approach, North Coast Water Board staff chose the most conservative benchmarks available from the available aquatic life benchmarks and other scientific literature to protect the aquatic species of the Smith River Plain, a sensitive resource that exists downgradient of lily bulb operations. The Water Quality Benchmarks are applied to all surface water grab samples, independent of the duration of exposure the benchmarks were based on, to provide an added margin of safety.

Chronic benchmarks are developed from laboratory studies in which aquatic organisms are exposed continuously to a contaminant over periods of several days. By contrast, the MRP requires instantaneous grab samples that represent only a single point in time during a storm event. Because concentrations in streams typically rise and fall throughout a runoff event, a grab sample is unlikely to capture the highest concentration that occurs during the storm and therefore generally underestimates the short-term peak concentration. Nevertheless, the Proposed Order compares that instantaneous measurement to a chronic benchmark that was developed for continuous, multi-day exposure. This conservatively assumes that the concentration measured in the grab sample persists throughout the duration of the chronic exposure period, even though actual concentrations fluctuate over the course of the storm. As a result, using chronic benchmarks as instantaneous

adaptive management triggers provides a substantial additional margin of safety beyond the conservatism already built into the benchmark values themselves.

Accordingly, the Water Quality Benchmarks are not "educated guesses," but protective benchmark concentrations derived through a structured scientific and regulatory process using the best available scientific information and conservative assumptions to protect aquatic life and beneficial uses.

RTC #57: Biotic Ligand Model Methodology

Comment Numbers: ELF-19

ELF expressed that the Toxicity Unit benchmark for copper is not defined — Attachment D contains no derivation methodology.

Response: The commenter is correct that Attachment D did not previously describe the methodology for calculating the Toxicity Unit (TU). The TU, however, is not an independently derived Water Quality Benchmark requiring its own derivation methodology. Rather, the Biotic Ligand Model (BLM) first generates site-specific Water Quality Benchmarks (the Criterion Maximum Concentration [CMC] and Criterion Continuous Concentration [CCC]) based on the water chemistry at each monitoring location. The TU is then calculated by dividing the measured dissolved copper concentration by the applicable BLM-generated Water Quality Benchmark to determine whether, and by how much, the measured concentration approaches or exceeds that benchmark. The Findings been revised to describe this calculation, explain its relationship to the BLM-generated Water Quality Benchmarks, and clarify its use in evaluating compliance with the Receiving Water Limitations and triggering Adaptive Management. Additional explanation in the response to this comment is also entered into the administrative record.

The BLM is a model that processes water quality data inputs to develop maximum criteria to protect against both the chronic and acute toxic effects of dissolved copper. One set of outputs of the BLM (and the outputs utilized in the adaptive management framework) are instantaneous water quality criteria that consist of a Criterion Maximum Concentration (CMC) and a Criterion Continuous Concentration (CCC). These criteria are compared to the dissolved copper concentration measured in the lab analysis of the instream sample. If the copper concentration is above the CCC, there is predicted risk of chronic copper toxicity, and if the copper concentration is above the CMC, there is a predicted risk of acute copper toxicity.

The CMC is the highest concentration of dissolved copper to which an aquatic community can be exposed briefly without an unacceptable acute effect. It is calculated from LC50 values for sensitive species from an acute toxicity database,

then scales those values based on the water chemistry inputs into the BLM. Compliance with the CMC is measured as a 1-hour average. The CCC is the highest concentration of dissolved copper to which an aquatic community can be exposed indefinitely without an unacceptable chronic effect. Compliance with the CCC is measured as a 4-day average. The CCC is a calculated value that uses an 'Acute to Chronic Ratio' (ACR) calculated by comparing the ratio of acute to chronic toxicity values derived from toxicity studies.

The toxicity unit (TU) is calculated by dividing the measured dissolved cooper concentration by the applicable BLM-derived Water Quality Benchmark(CMC or CCC). The resulting value indicates the relative difference between the measured concentration and the applicable BLM-generated Water Quality Benchmark. A TU of 1.0 indicates that the measured concentration equals the applicable benchmark. Values greater than 1.0 indicate the measured concentration exceeds the benchmark, while values less than 1.0 indicate concentrations below the benchmark. . For example, a TU of2.0 means the measured concentration was two times the benchmark, while a TU of 3.0 indicates it is three times the benchmark. Expressing results as Toxicity Units allows comparisons among monitoring locations and sampling events even though the BLM generates different Water Quality Benchmarks based on the site-specific water chemistry for each sample. This allows meaningful comparisons among monitoring locations and sampling events despite differences in water chemistry.

The Toxicity Unit calculation represents the relative risk of copper toxicity in the waterbody at the time of sample collection. As stated in the Draft Order: "Due to the unique water chemistry of the Smith River Plain, risk of toxicity is predicted to occur at a lower dissolved copper concentration by the BLM compared to the hardness-based CTR at the monitoring stations downstream of lily bulb agriculture".

Use of the BLM-derived Water Quality Benchmark, and the corresponding Toxicity Unit calculation, is appropriate in the Proposed Order because it provides a scientifically valid and more sensitive method for evaluating compliance with the Receiving Water Limitations and triggering Adaptive Management. The factors driving the lower BLM-based benchmark unique to the Smith River Plain include periods of low pH and low dissolved organic carbon concentrations at monitoring sites during winter storm events which increase the bioavailability and toxicity of dissolved copper. These site-specific conditions are not accounted for by the hardness-based California Toxics Rule (CTR) criteria.. As a result, the BLM generates lower site-specific benchmarks than the hardness based CTR criteria under the water chemistry conditions present in the Smith River. Consequently, the same measured dissolved copper concentration may exceed the BLM generated benchmark before it would exceed the corresponding hardness based CTR criterion, resulting in Adaptive Management being triggered at a lower dissolved

copper concentration. The comparison of the BLM-derived benchmarks and the corresponding CTR criteria for individual samples is provided in Appendix A of the 2021-2024 SWAMP study data result tables.

Accordingly, the TU does not require a separate derivation methodology because it is not an independently derived Water Quality Benchmark. Rather, it is a straightforward calculation that compares the measured dissolved copper concentration to the site-specific Water Quality Benchmark generated by the BLM. The Monitoring and Reporting Program has been revised to include additional guidance on the Biotic Ligand Model.

RTC #58: Copper Toxicity Science

Comment Numbers: ELF-40, CDFW-6, CDFW-9, AW-32, AW-33, TDN-8, TDN-9, Dettmar-8, Kharazi-2, Kharazi-3, Galea-1, Galea-2, Powell-1, Holland-1, Montagne-1, St.Clair-4

Commenters expressed detailed concerns about copper toxicity mechanisms. CDFW cited literature showing dissolved copper impairs sensory systems within minutes. Kharazi analogized copper/salmon olfaction to lead/children's nervous systems. Galea raised a unique mechanism: pesticide-driven salmon avoidance and elevated straying rates. ELF noted that DOC and dissolved copper trends do not track each other all season. St.Clair asserts that even 2–5 ppb of dissolved copper destroys the olfactory neurons of Chinook, Coho, Steelhead, and Cutthroat trout.

Response: North Coast Water Board staff share the commenters' concerns about the risk of sublethal effects from low levels of dissolved copper enhanced by the water chemistry of the tributaries in the Smith River Plain. The Biotic Ligand Model (BLM) was developed based on a conceptual model at the fish's gill interface with the environment, not the sensory endpoint at the olfactory rosette. However, the peer-reviewed literature confirms the protectiveness of the BLM-derived criteria of sublethal effects to salmonid olfactory senses from dissolved copper binding to the olfactory rosette.

Meyers and Adams (2010)[4] and DeForest et al. (2011)[5] showed that the BLM is protective of sublethal sensory effects because of how closely it tracks DOC binding

[4] Meyer JS, Adams WJ. 2010. Relationship between biotic ligand model-based water quality criteria and avoidance and olfactory responses. Environ Toxicol Chem 29:2096–2103.
[5] DeForest, D.K., Meyer, J.S., Gensemer, R.W., Chiavelli, D.A., Santore, R.C. and Adams, W.J., 2011. Protectiveness of water quality criteria for copper in Western United States waters relative to predicted olfactory responses in juvenile Pacific salmon.

to copper, an important determining factor in the bioavailability of copper at the olfactory rosette as well as the gill. The researchers took the neurophysiological and behavioral data from the salmonid olfactory sensory effects studies and compared them to the thresholds generated by the BLM. The Meyer and Adams study demonstrated that the BLM-based chronic criteria were fully protective in 100% of the 16 exposure water-species combination in the copper avoidance and olfaction experiments. The DeForest et al. study likewise showed that the BLM criteria were below the olfactory based thresholds using data from 133 natural stream locations.

The commenters also correctly note that DOC and dissolved copper trends do not track each other during all seasons. The BLM model accounts for DOC levels in its criteria calculation. Even if DOC drops during a spike in copper concentrations, the BLM then accounts for the increased bioavailability of copper and calculates a lower instantaneous criterion.

Commenters also correctly point out one of the sources of copper is the portion accumulated in stream sediments that can release dissolved copper when conditions are conducive. Low pH associated with storm events can introduce hydrogen ions that competitively displace copper ions attached to sediment or complexed with DOC. The free copper is then available in the water column to affect aquatic life. Controlling erosion and detaining sediment before it reaches the stream channel is an important goal and the Proposed Order requires implementation of erosion control practices. Some of these practices include grass filter strips, grass waterways, and riparian setbacks.

RTC #59: Impacts to Salmonids from Copper

Comment Numbers: Crockett-3, Crockett-4

Commenter states that impacts to salmonids from copper applied on lily bulb fields is speculative. Commenter claims that no evidence has been established that indicates detrimental impacts to salmonids in field trials; the evidence provided by the fisheries agencies is based solely on laboratory experiments. Commenter states that the number of salmonid adults returning to the Smith River has almost tripled in the past three years and suggests that it means that lily bulb production is causing detrimental impacts to salmonids.

Response: The dissolved copper Water Quality Benchmarks in the Proposed Order are based on the BLM calculated instantaneous water quality criteria and

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Integrated Environmental Assessment and Management, 7(3), pp.336–347. Available at: doi.org.

are fully protective of salmonid species. The BLM model was developed by academic and private researchers and formally validated by the US EPA using the results of studies from a large ecotoxicological dataset during their criteria setting process (EPA, 2007)[6]. While toxicity testing has not been conducted in the Smith River Plain since the 2013-2017 SWAMP study, those results did show that agricultural chemicals were having a toxic effect in some of the samples, including an acutely toxic event occurring during the March 11-12, 2015 sampling event in Delilah Creek. Another sample from Delilah Creek taken on June 8th, 2017 tested positive for chronic toxicity. Some of the toxicity testing results, including the chronic test results from the initial round of sampling were confounded by matrix interference in the test results.

Comparing sample results for pesticide and dissolved copper concentrations to modeled or lab based water quality benchmarks is accepted methodology for assessing water quality data and the risk to aquatic life. While specific toxicity studies using site ambient surface waters will provide direct feedback on the level of toxicity produced by the chemicals and metals in the water column, it is not commonly feasible to conduct monitoring that includes toxicity testing, due to cost and resource limitations. Water sample analyzed for pesticide and metals concentrations at a lab is much more practical and a valid means for assessing the risk of toxicity due to agricultural chemicals.

Sample results in SWAMP studies conducted by the North Coast Water Board from 2013-2017 and 2021-2024 have shown that aquatic species are at risk of being adversely affected by chemicals and dissolved copper in the water column associated with lily bulb production in the Smith River Plain. Refer to the SWAMP reports[7] that compare sample results to water quality benchmarks and established criteria.

RTC #60: Cumulative/Synergistic Pesticide Toxicity

Comment Numbers: CCR-3, CCR-7, HFMA-5, Dettmar-9, Dettmar-15, Free-5

[6] United States Environmental Protection Agency. 2007. Aquatic life ambient freshwater quality criteria - copper. Washington, DC: Office of Water and Office of Science and Technologies, US Environmental Protection Agency. EPA-822-R-07-001.

[7] Find the SWAMP Reports here: https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/

Commenters expressed that the Draft Order does not address cumulative impacts from combined pesticide exposure. CCR argued there is “absolutely no mention” of this issue. HFMA cited the Basin Plan’s narrative toxicity objective which explicitly covers synergistic effects. Free identified that heavy metals can increase the toxicity of various pesticides (e.g., organochlorides) and vice versa.

Response: The Basin Plan's narrative toxicity objective requires that waters "shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life" and specifies that "[t]his objective applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances". The narrative pesticide objective similarly addresses "any individual pesticide or combination of pesticides". In response to these comments, staff evaluated the cumulative toxicity of pesticide mixtures in the Smith River Plain and revised the Proposed Order's Findings accordingly.

Cumulative Toxicity Assessment

Staff reviewed the USGS Pesticide Toxicity Index (PTI)[8], a peer-reviewed tool that assesses the potential acute toxicity of pesticide mixtures by summing toxic units (TUs) for all pesticides detected in a sample using a Concentration Addition (CA) model. Staff calculated the Sensitive PTI — which uses the 5th percentile of compiled toxicity values for the benthic invertebrate taxonomic group — for all 2021–2024 SWAMP monitoring samples where pesticides were detected at Lower Delilah Creek and Tillas Slough, the two downstream stations with meaningful detections[9]. The Sensitive Toxicity Concentrations (STCs) for the three primary pesticides are: diuron (160 µg/L), ethoprop (43.9 µg/L), and imidacloprid (0.65 µg/L). A Sensitive PTI of 1.0 or greater indicates significant risk of acute toxicity to the 5th percentile most sensitive organisms.

The highest cumulative Sensitive PTI in the entire dataset was 0.12 (12% of the 1.0 threshold), recorded at Lower Delilah Creek on March 5, 2023 — the largest storm-driven pesticide pulse documented during the study. No sample at any station approached the 1.0 threshold. The only sample where all three pesticides were co-detected at meaningful concentrations — November 5, 2023 at Lower Delilah Creek (diuron 0.094 µg/L, ethoprop 2.0 µg/L, imidacloprid 0.028 µg/L) — produced a cumulative Sensitive PTI of 0.089, with ethoprop and imidacloprid each

[8] Nowell, L.H., Norman, J.E., Moran, P.W., Martin, J.D., and Stone, W.W. 2014. *Pesticide Toxicity Index — A tool for assessing potential toxicity of pesticide mixtures to freshwater aquatic organisms.* U.S. Geological Survey.
[9] Zabinsky, B. 2026. *Review of the USGS Pesticide Toxicity Index Tool for Assessing Potential Toxicity of Pesticide Mixtures to Freshwater Aquatic Organisms.* Internal Technical Memorandum, North Coast Regional Water Quality Control Board. June 30, 2026

contributing approximately half the total toxic units. This demonstrates the type of cumulative assessment the commenters requested: the PTI captures scenarios where no individual pesticide exceeds its benchmark but the combined mixture poses greater risk than any single compound alone.

Conservatism of the Assessment

The CA model assumes toxicity is strictly additive. For pesticides with the same mode of action, this assumption is accurate; for pesticides with different modes of action, it tends to overestimate combined risk. Diuron (a photosynthesis-inhibiting herbicide), ethoprop (an organophosphate acetylcholinesterase inhibitor), and imidacloprid (a neonicotinoid nicotinic acetylcholine receptor agonist) all have different modes of action. The USGS study found that even for pesticides with different modes of action, the CA model is usually within 2 to 3 times the observed toxicity — meaning it is slightly conservative but broadly applicable. Accordingly, the PTI values reported above are likely to overestimate the actual combined acute risk.

A side-by-side comparison of the freshwater EPA acute benchmarks and the Sensitive PTI using all SWAMP data confirms that the EPA acute benchmarks are structurally more conservative than the PTI for each individual pesticide. The EPA acute benchmarks apply a 2× safety factor (Level of Concern = 0.5) to the lowest available acute toxicity test result, producing thresholds approximately half the STC values used in the PTI. The EPA acute benchmarks produced a higher percent-of-threshold than the cumulative Sensitive PTI in 100% of samples at Lower Delilah Creek and 94% of samples at Tillas Slough. The PTI's cumulative addition feature does not overcome this difference at the concentration levels documented in the Smith River Plain.

Protection Against Chronic Cumulative and Synergistic Effects

The PTI is designed to assess acute toxicity risk only and does not directly assess chronic effects or model true synergistic interactions. However, the Proposed Order's chronic benchmark framework provides substantial implicit protection against chronic cumulative and synergistic effects through multiple compounding layers of conservatism:

- The individual chronic benchmarks are derived using intentionally conservative methods. The imidacloprid chronic benchmark (0.01 µg/L) is based on a NOAEC (No-Observed-Adverse-Effect Concentration) value that is an artifact of the test concentrations chosen — it was simply the next tested concentration below the EC10 (10% Effect Concentration) of 0.03 µg/L. The diuron chronic benchmark (0.83 µg/L) is derived using an Acute-to-Chronic Ratio (ACR) of 210 borrowed from a different taxonomic group, when the median ACR for pesticides is only 10.

Both methods produce benchmarks well below concentrations demonstrated to cause chronic effects in the tested species.

- These chronic benchmarks are applied to instantaneous grab sample results — including storm-event samples capturing peak or near-peak concentrations on the rising limb of the hydrograph — rather than the multi-day average concentrations the 7–21 day chronic toxicity tests were designed to evaluate. Staff have determined that the use of a chronic benchmark as an instantaneous trigger represents an acceptable margin of safety for potential synergistic interactions.
- The Proposed Order requires two chronic exceedances within a planting cycle to trigger adaptive management, ensuring the system responds to a pattern of elevated concentrations rather than a single result.

At observed concentration levels — where the highest cumulative Sensitive PTI for acute toxicity reached only 12% of the protective threshold — the magnitude of potential synergistic chronic effects is expected to be small relative to the margins of safety embedded in the individual chronic benchmarks.

Copper-Pesticide Interactions

Commenter Free raises the concern that heavy metals such as copper can increase the toxicity of pesticides and vice versa. The Proposed Order addresses copper and pesticides through separate but complementary monitoring and adaptive management frameworks. Dissolved copper is assessed using the Biotic Ligand Model (BLM), which generates site-specific instantaneous water quality criteria accounting for pH, dissolved organic carbon, hardness, and other parameters that influence copper bioavailability. The BLM framework is independent of and additive to the pesticide benchmarks, meaning both copper toxicity risk and pesticide toxicity risk are assessed for each sampling event. While the Proposed Order does not model specific copper-pesticide interactions, the use of conservative benchmarks for both copper (BLM-derived criteria) and pesticides (EPA chronic benchmarks), combined with adaptive management that responds to exceedances of either, provides a protective approach that accounts for the co-occurrence of both stressor categories.

Revisions to the Proposed Order

In response to these comments, the Proposed Order's Findings have been revised to:

Acknowledge the Basin Plan's narrative toxicity and pesticide objectives covering synergistic effects and the combination of pesticides;

Document staff's evaluation of the USGS Pesticide Toxicity Index as a cumulative assessment tool, including the results of applying the Sensitive PTI to the 2021–2024 SWAMP dataset;

Explain that the CA model's additive framework is conservative for pesticides with different modes of action, providing a safety margin that addresses the concern for synergistic effects;

Explain that the chronic benchmark framework provides substantial implicit protection against chronic cumulative and synergistic effects through compounding conservatism in benchmark derivation, application to instantaneous samples, and the two-exceedance adaptive management trigger; and

Confirm that at observed concentration levels, cumulative acute toxicity risk from the pesticide mixture is well below levels of concern.

RTC #61: Upstream Pollutant Source Attribution

Comment Numbers: Westbrook-11, Westbrook-12, Westbrook-13, Westbrook-14, Westbrook-15

Commenter expressed: copper occurs naturally; synthetic pesticides detected above lily production areas possibly from illegal cannabis; baseline testing should be required; the monitoring program doesn’t identify individual sources; and monitoring cost burden was shifted from the North Coast Water Board to Enrollees.

Response: While copper exists in nature, the SWAMP studies showed a clear increase in agriculturally-applied chemicals including dissolved copper in downstream samples compared to upstream. The presence of copper in the environment is considered natural background, which leaves less comparative room for discharges of dissolved copper from agricultural production than if natural background were lower.

Regarding Enrollees bearing the cost of monitoring: The requirement for enrollees to conduct and fund monitoring of their own discharges is standard practice under the Porter-Cologne Water Quality Control Act and is consistent with every general waste discharge requirement and conditional waiver adopted by the North Coast Water Board and other Regional Water Quality Control Boards statewide. Water Code section 13267 authorizes the North Coast Water Board to require any person who has discharged, discharges, or is suspected of having discharged or discharging waste to furnish technical or monitoring program reports, provided the burden bears a reasonable relationship to the need for the report and the benefits to be obtained. Water Code section 13268 provides that failure to furnish such reports may result in administrative civil liability.

The North Coast Water Board's SWAMP monitoring program, which has provided the scientific basis for this Order, was conducted at public expense to characterize baseline conditions and identify impairments, a function distinct from the ongoing compliance monitoring that is the enrollee's responsibility under the Order.

RTC #62: Monitoring Burden Disproportionate for Small Industry

Comment Numbers: CAFB-2

The California Farm Bureau acknowledged water quality issues in the region but argued that monitoring and reporting requirements, especially for nitrogen and pesticides, are not reasonable given the small scale of the industry (fewer than 750 acres, approximately 160 in production per year). The commenter noted an acreage discrepancy between the Draft Order and DEIR, cited past monitoring data showing no acute toxicity or detections below criteria at many locations, and recommended reducing monitoring to once per year in drainages with no exceedances.

Response: The monitoring and reporting program was developed to capture pollutant concentrations during the periods when discharges are most likely to occur. The monitoring frequency and design documented in the 2018 and 2025 SWAMP studies formed the scientific basis for the Proposed Order's monitoring program.

The Proposed Order was revised to adopt constituent-specific monitoring at each sampling event rather than analyzing all four constituents at every event. Three sampling events occur per year per monitoring station during Major Storm Events in three seasonal windows: Winter (February–March), Spring (April–June), and Fall (October–December). Copper is monitored at all three events. Diuron is monitored at the Winter and Fall events. Imidacloprid is monitored at the Spring and Fall events, and at the Winter event only if fields tributary to the monitoring station are in Adaptive Management. Ethoprop is monitored at the Winter event only. This constituent-specific approach aligns monitoring with pesticide application timing, ensuring each constituent is sampled during the periods most likely to capture discharge, while reducing the total number of laboratory analyses by approximately 25 percent compared to the Draft Order's requirement to analyze all four constituents at every event.

Reducing monitoring to once per year would reduce the statistical power to detect exceedances and track trends and would be inconsistent with NPS Policy Key Element 4 feedback mechanism requirements. However, the Draft Order does provide for adaptive reduction of monitoring frequency as water quality conditions improve.

Regarding the characterization of past monitoring showing no acute toxicity at many streams: While some monitoring locations have not had acute exceedances,

the 2025 SWAMP Report, as revised in part by the Updates Memo, documented exceedances of Water Quality Benchmarks at every downstream monitoring station, including chronic copper toxicity predicted in 100% of Lower Mello Creek samples (2 of 2), 56% of Lower Delilah Creek samples (10 of 18), and 44% of Tillas Slough samples (4 of 9), as well as 13 chronic imidacloprid exceedances concentrated at Lower Delilah Creek and Tillas Slough.

Regarding the acreage discrepancy between the Draft Order and DEIR, see response to CAFB-9 in Section III: Response to Comments on the Draft EIR.

The commenter's related recommendation to reduce surface water monitoring to once per year in drainages without exceedances, and its contention that monitoring and reporting requirements are unreasonable given the scale of the industry, are further addressed in RTC #49: Monitoring Frequency and on the reasonableness of monitoring requirements under Water Code section 13267 (RTC #25).

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Groundwater Requirements

RTC #63: Groundwater Transport

Comment Numbers: ELF-18, HFMA-4, HFMA-15

Two commenters argued that the Draft Order's management practice framework disproportionately focuses on surface runoff while failing to address groundwater transport. ELF noted dry-season detections of imidacloprid and diuron indicating groundwater transport. ELF concluded that only reduction in pesticide use will address groundwater transport. HFMA emphasized that pesticide-loaded water that infiltrates groundwater cannot be removed.

Response: Staff acknowledges that groundwater transport is a documented discharge pathway in the Smith River Plain. The concentrations of imidacloprid and diuron reported for groundwater samples collected by the North Coast Water Board in 2021 were below human health reference levels. However, the detection of these constituents outside the wet season confirms that pesticides applied to lily bulb fields are reaching shallow groundwater, independent of surface runoff during storm events.

The Proposed Order addresses groundwater through a framework that integrates Groundwater Trend Monitoring, Drinking Water Well Sampling and Adaptive Management based on interim action levels and exceedances of Water Quality Benchmarks.

The Groundwater Trend Monitoring establishes whether constituent concentrations in representative monitoring wells are meeting water quality objectives. Because groundwater transport operates on longer timescales than surface runoff, trend

data collected over multiple monitoring cycles provides a more reliable indicator of whether field-level management practices are effectively reducing pesticide loading to the subsurface than any single sampling event. If trend monitoring indicates increasing concentration (over three years), the Proposed Order includes the revision to increase sampling frequency. An exceedance of a Water Quality Benchmark triggers Adaptive Management which includes a Hydrogeological Determination of Groundwater Impacts and a Groundwater Protection Plan which identify the source of the contamination and specifies corrective management practices to reduce or eliminate the discharge to groundwater.

The Drinking Water Well sampling component includes the same interim action levels and requirements for Adaptive Management in response to Benchmark exceedances. In addition, these requirements also serve a direct public health protection function. If sampling results for a domestic well exceed a Water Quality Benchmark, the Proposed Order requires the enrollee to notify users of the affected well and the North Coast Water Board.

Regarding the comment that only reduction in pesticide use will address groundwater transport: North Coast Water Board staff agrees that surface management practices, such as vegetated setbacks and filter strips, are not designed to intercept subsurface transport. The Proposed Order's adaptive management framework addresses this by including pesticide application reduction as a Tier 1 compliance option and by requiring progressively more stringent management practices (including professionally certified Water Quality Management Plans at Tier 2) when monitoring demonstrates that initial practices are not achieving water quality objectives. The Groundwater Monitoring program provides a monitoring-based feedback mechanism to evaluate whether additional groundwater-focused management practices are required.

Regarding the comment that pesticide-loaded water that infiltrates groundwater cannot be removed: The Proposed Order's approach, consistent with Water Code section 13263 authorities, is preventive rather than remedial. It is designed to reduce pesticide loading to groundwater through source control and to detect any developing contamination trends early enough to intervene before concentrations reach levels of public health concern.

RTC #64: Interim Groundwater Monitoring Trigger

Comment Numbers: TDN-21, TDN-22

Commenter proposed numeric groundwater protection standards with a two-tiered trigger system: an early warning trigger at 8 mg/L and a compliance violation trigger at 10 mg/L. Second recommendation was mandating watershed-scale monitoring with annual cumulative nitrogen loading assessments.

Response: The Proposed Order was modified to include an interim action level for Groundwater Trend Monitoring that increases frequency if nitrate exceeds 5 mg/L or a chronic value for pesticides. If a trend in concentration of a parameter increases over 3 years, adaptive management is triggered. See Revisions #8-10 with respect to groundwater monitoring, groundwater monitoring interim action levels, and adaptive management.

RTC #65: Domestic Well Sampling

Comment Numbers: Wade-6, AW-35

Wade demanded mandatory independent well testing within one mile of operations. Williams recommended filtration of irrigation well water and bioswales near discharge sites.

Response: The Order's domestic well sampling framework, informed by past sampling and state precedential requirements, focuses on parcels that currently support lily bulb agriculture activities. In April 2025, North Coast Water Board staff sampled 9 private domestic wells within the current and historic lily bulb cultivation area in the Smith River Plain. In April 2025, North Coast Water Board staff sampled 9 private domestic wells within the current and historic lily bulb cultivation area in the Smith River Plain. In October 2025, North Coast Water Board staff sampled two public water supply wells serving the Smith River Community Services District, well samples were analyzed for 94 pesticide residues utilizing a well sampling program offered by the CA Department of Pesticide Regulation. North Coast Water Board staff worked with the lily bulb growers, the Technical Advisory Group for the Lily Bulb Order development, and local community groups to identify volunteers for well sampling. Within the private domestic wells, pesticides were detected at trace levels in 6 of the 9 wells sampled. Of the eight pesticides detected, all but one – used in forestry and highway rights-of-way – had been applied on lily bulbs between 2012 and 2023. The pesticides detected include diuron, imidacloprid, mefenoxam, napropamide, thiamethoxam, ACET, simazine, and tebuthiuron. Four pesticides (diuron, imidacloprid, napropamide, and mefenoxam) were reported as being used on lily bulbs in the most recent Pesticide Use Reports from 2023. Within the public supply wells, two herbicides (prometon and tebuthiuron) were detected at trace levels and are associated with use in highway rights-of-way and not lily bulbs. Three quarters of all pesticide detections (75%) were reported at trace concentrations28F and none exceeded established human health levels.

The Proposed Order requires sampling of all Drinking Water Supply wells on enrolled parcels for nitrate and the four pesticides that were detected and used on lily bulb agriculture, according to the most recent Pesticide Use Reports. The Proposed Order requires wellhead protection management practices but cannot

dictate method or manner of compliance. Requiring sampling on parcels that do not currently support lily bulb agricultural activities or that are not enrolled is outside the scope of the Proposed Order. The North Coast Water Board retains authority under Water Code section 13267 to require additional monitoring, if warranted.

RTC #66: Groundwater Monitoring Scope

Comment Numbers: Miller-7, Westbrook-16, DNRCD-8, Crockett-10

Grower commenters argued groundwater monitoring requirements are not justified. Miller argued nitrogen management does not apply because no wells exceed 10 mg/L MCL and attributed nitrate to dairy operations. Westbrook requested reduced groundwater monitoring if initial results are clean.

Response: Staff acknowledge that dairy operations are one source of nitrate loading in the Smith River Plain and those discharges are regulated under the North Coast Water Board's Dairy Order. The presence of other nitrate sources does not eliminate the need to characterize and manage nutrient contributions from lily bulb operations. The Proposed Lily Bulb Order's groundwater monitoring and nutrient management requirements are designed to track the contribution of lily bulb operations to groundwater nutrient loading, independent of other sources.

The Proposed Lily Bulb Order was modified with respect to groundwater monitoring and nutrient management. Regarding the request to reduce groundwater monitoring frequency based on results, the Proposed Order was revised to include a reduction of monitoring frequency based on results being less than an interim action level. The Proposed Order was revised to tie nutrient management requirements closer to groundwater monitoring results. These modifications reduce the reporting burden identified by commenters while retaining a commensurate, if not more robust, groundwater protection framework. See Revisions #7-10 for more information on groundwater monitoring.

RTC #67: Nutrient Management and Fertilizer Alternatives

Comment Numbers: AW-20, AW-34, AW-35

Commenter expressed concerns about dairy and beef cattle in the area, and recommended specific alternative practices: poultry litter instead of cow manure, chickens to break up cow droppings, rotating lily bulb fields with marigolds for nematode control, and discontinuing synthetic fertilizers. Commenter cited the SARE factsheet.

Response: Staff thank the commenter for their suggestions. The relationship between nitrate contributions from dairy operations and lily bulb cultivation is addressed through separate regulatory programs. Regarding the specific

alternative practices recommended, the North Coast Water Board notes that Water Code section 13360 prohibits the Board from specifying the particular manner of compliance. However, some of these practices may be appropriate components of an Enrollee's Irrigation and Nutrient Management Plan.

Coalition Structure

RTC #68: Coalition Model

Comment Numbers: ELF-33, ELF-34, ELF-42, ELF-43, HFMA-6, HFMA-14, TDN-20, AW-21, AW-36, AW-60, Miller-2, DNRCD-9, Crockett-12, Harms-1, TDN-10, Pace-4, Hostler-10, CAFB-3

ELF argued the ESJ Order's precedential value is limited because factual conditions are vastly different, making a coalition "absurd" at this scale. ELF argued monitoring must commence immediately upon adoption with no gap during coalition formation. HFMA argued self-monitoring is a conflict of interest. The Tolowa Dee-ni' Nation recommended removing coalition participation entirely. Williams opposed coalitions based on what they characterize as 15 years of grower non-cooperation. The California Farm Bureau argued that the coalition requirements need to be tailored for the unique circumstances of lily bulb production. Unlike other irrigated agricultural WDRs with coalitions managing hundreds of growers and thousands of acres, the small scale (three growers) does not allow for cost-sharing to form a coalition or support individual compliance. Miller argued the coalition requirement needs modification for the limited number of growers. DNRCD and Crockett offered to have monitoring funded through DNRCD or the Easter Lily Research Foundation.

Response: Staff acknowledges that the small number of growers presents unique challenges for coalition formation and that commenters expressed divergent views on the coalition model. The Proposed Lily Bulb Order has been revised to provide additional flexibility for Coalition structure as well as more clarity around individual enrollment as an alternative to coalition participation. Staff agree that a workable, reasonable, and cost-effective approach is needed given the scale of the industry and has structured the Order to accommodate both individual and coalition compliance pathways.

Regarding the comparison to the Eastern San Joaquin (ESJ) or Statewide Precedential Order: Staff acknowledge that the factual circumstances differ significantly. The ESJ Order's coalition framework was designed for thousands of growers across hundreds of thousands of acres, where coalitions serve an aggregation function that individual enrollment cannot practically replicate. The Proposed Lily Bulb Order's coalition provisions have been scaled accordingly. The requirement for coalitions to prepare and submit detailed workplans for North Coast Water Board approval prior to commencing monitoring was removed,

eliminating a significant administrative burden and potential delay between Order adoption and the start of monitoring. The reporting structure was simplified and is aligned to a calendar-year cycle with a March 1 reporting deadline. These revisions substantially reduce the administrative overhead that would otherwise fall on a coalition formed by as few as three growers and ensure that the coalition framework is proportional to the scale of the regulated community.

Regarding concerns about self-monitoring and conflicts of interest: The monitoring required under the Proposed Order follows standardized protocols with specified constituents, sampling methods, laboratories, and quality assurance requirements. Monitoring data is submitted to the North Coast Water Board and is subject to review. Water quality monitoring results are compared against Water Quality Benchmarks established by the North Coast Water Board, not by the coalition or its members. The North Coast Water Board also retains independent authority to conduct its own monitoring and inspections under Water Code sections 13267 and 13383. The coalition does not determine compliance; the North Coast Water Board does.

Regarding the recommendation to remove coalition participation entirely: The Proposed Order retains the coalition option because it provides efficiencies even at small scale — a single entity can coordinate monitoring logistics, contract with laboratories, and submit consolidated reports on behalf of all enrollees, rather than requiring each grower to independently retain technical consultants and manage monitoring programs. However, the Order makes clear individual enrollment as an alternative, and enrollees who elect individual compliance are subject to the same monitoring and reporting requirements without the need to participate in or fund a coalition. The North Coast Water Board does not require coalition participation as a condition of enrollment.

Regarding the offers by DNRCD and the Easter Lily Research Foundation to fund or coordinate monitoring: the North Coast Water Board notes that under its revisions to the Proposed Order, either entity could theoretically serve as or support a coalition under the Proposed Order. The independence concerns raised by other commenters regarding grower-affiliated entities conducting monitoring are addressed by the standardized monitoring protocols, QA/QC requirements, and North Coast Water Board oversight described above.

Reporting

RTC#69: Immediate Exceedance Reporting

Comment Numbers: ELF-30

ELF expressed that exceedances should be reported immediately upon discovery rather than through annual reporting. Williams argued consequences for reporting non-compliance should be specified.

> **Response:** The Proposed Order requires annual reporting of water quality monitoring results, with a reporting deadline of March 1 following the calendar year in which monitoring was conducted. This reporting timeline was designed to align with the Order's three seasonal sampling events (Winter: February–March; Spring: April–June; Fall: October–December). The March 1 deadline allows the full suite of seasonal monitoring data to be compiled, reviewed for quality assurance, and evaluated against Water Quality Benchmarks before adaptive management determinations are made for the next year those fields are planted to lily bulbs.
>
> More rapid reporting of individual results would, in theory, allow management practice adjustments within the same season. However, the practical utility of in-season reporting is limited by the nature of the Smith River Plain's climate and the lily bulb production cycle. Management practice infrastructure such as vegetated buffers, sediment controls, drainage modifications, or certain Tier 1 options (e.g., Watercourse Setbacks) and Tier 2 engineered practices must be constructed during the dry summer months when ground conditions allow. Wet-season construction is neither feasible nor consistent with erosion and sediment control objectives. Accordingly, an exceedance detected during a winter or spring sampling event would not result in a materially different management practice response than one reported at the end of the monitoring year, because the corrective work would occur during the same dry season construction window regardless of when the result was reported.
>
> Note that Drinking Water Supply Well exceedances require notification to the well users within 10 days of learning of the exceedance and a copy of the notice to the North Coast Water Board.

RTC #70: Reporting Noncompliance

Comment Numbers: AW-59

Commenter argued consequences for reporting non-compliance should be specified.

> **Response:** The Findings of the Proposed Order detail potential consequences for non-compliance, including reporting violations. Failure to submit required monitoring reports constitutes a violation of the Order and is subject to enforcement under Water Code sections 13261, 13267, and 13268, which authorize the North Coast Water board to impose administrative civil liability for failure to furnish required technical or monitoring reports.

Section III: Response to Comments on the Draft Environmental Impact Report (DEIR)

This section contains comments from unique comment letters received on the Draft Environmental Impact Report (DEIR) and provides individual responses to those comments. Because the DEIR comments are not summarized and provided verbatim below, there is no corresponding Index to this section (as with the Draft Order comments).Comments are numbered and attributed to commenters and date received in Table 2 below.

Table 2: List of Commenters by Comment Number

Comment Number(s)	Commenter
CAFB-7 – CAFB-21	California Farm Bureau (CAFB)
EPIC-1 – EPIC-22	Environmental Protection Information Center (EPIC)
ELF-31, ELF-32	Environmental Law Foundation et al. (ELF)
CDFW-17	California Department of Fish and Wildlife (CDFW)
CCR-3, CCR-7	Crescent Coastal Research (Craig Strong)
HFMA-13	Humboldt Fishermen's Marketing Association et al. (HFMA)
Dettmar-9, Dettmar-15	Tara Dettmar
St.Clair-1, St.Clair-2	Ethan St.Clair

Comments and Responses

CAFB-7: The commenter alleges that the DEIR constitutes a prejudicial abuse of discretion, that the Regional Board failed to proceed in a manner required by law, and that the DEIR does not comply with CEQA. The commenter argues the Draft Order contains unlawful requirements not supported by substantial evidence that put growers at a competitive disadvantage. The commenter alleges the DEIR is superficial, fails to adequately represent baseline conditions, inadequately analyzes environmental and economic impacts, fails to properly identify and analyze alternatives, fails to adequately address cumulative impacts, and fails to support several conclusions with substantial evidence.

> **Response:** The comment does not specifically identify how Draft Order requirements are unlawful or how they place growers at a competitive disadvantage. Responses to specific comments on the DEIR are addressed below in CAFB-9 through CAFB-19.

CAFB-8: The commenter recites CEQA's statutory framework, objectives, and informational purposes, and alleges the Regional Board failed to comply with CEQA because the DEIR avoids a full environmental analysis through improper conclusions of "speculative" and "less than significant" impacts. The commenter argues the public has been precluded from gaining a full understanding of the environmental consequences of the Draft Order.

> **Response:** This comment by itself does not specifically identify how the conclusions reached by the DEIR are incorrect. Please refer to the following specific responses (CAFB-9 through CAFB-19) for the more detailed concerns presented in these comments.

CAFB-9: The commenter argues the DEIR contains an incomplete and flawed environmental baseline and environmental setting. The commenter identifies an acreage discrepancy between the Draft Order and DEIR, argues the environmental setting omits relevant information including watershed-specific water quality conditions, sediment loads, riparian habitat, and stream temperature conditions, and argues the DEIR fails to convey important features of North Coast agriculture relevant to assessing physical and economic impacts. The commenter cites the ERA Economics Technical Memorandum (prepared for the Central Coast Ag Order 4.0) as applicable to the Lily Bulb Order. The commenter argues the DEIR fails to provide substantial evidence in support of its baseline assumptions and that the DEIR must be revised to include the appropriate project baseline.

Response: Chapters IV through VIII of the DEIR include information on the regulatory and environmental setting for each CEQA resource analyzed. The DEIR includes descriptions of the Smith River Plain's agricultural characteristics, watershed conditions, water quality monitoring data (including the 2018 and 2025 SWAMP Reports), existing management practices under the 2021 Management Plan, and regulatory context. The evidence, resources, and data relied upon are identified in each chapter.

Regarding the acreage discrepancy, the comment characterizes the difference between the acreage figures in the Draft Lily Bulb Order and the Draft EIR as an internal inconsistency. The figures are not inconsistent; rather, they describe different measures of the lily bulb agricultural footprint, derived from different data sources and used for different purposes, as the Draft EIR explains in its analysis of impacts to Agriculture and Forestry Resources.

Three distinct measures are used. First, the figure of approximately 1,000 acres refers to the total acreage of land currently and recently farmed for lily bulbs in the Smith River Plain as of the 2024–2025 growing season (as reported field acres through the 2021 Management Plan), accounting for the crop's three- to five-year rotation with grass-clover pasture. Because lily bulbs are planted on a given field only once per rotation cycle, this rotational footprint is substantially larger than the area planted in any single year. Both the Draft Order and the Draft EIR use this same figure. Second, the figure of approximately 160 acres refers to the area actually planted to lily bulbs in a given year, which is the subset of the rotational footprint in active lily bulb production at any one time. The Draft EIR uses 2023 planted acreage to illustrate this figure. Both documents are internally consistent on these two points, and the Draft EIR states both figures together to distinguish the rotational footprint from the annually planted area.

The comment's perception of a discrepancy arises from a third set of figures used specifically in the Draft EIR's CEQA impact analysis, which intentionally relies on a larger, more conservative measure of the agricultural footprint than the "planted acres" figure. As the Draft EIR explains, this conservative approach is designed to characterize the maximum potential impact to agricultural resources rather than the actual annual planted area. The impact analysis uses two analytical areas. The Baseline Cultivation Area of approximately 2,113 acres (as mapped parcel acres from the 2021 Management Plan grower reporting) or 2,281 acres (from the Del Norte County Department of Agriculture Pesticide Use Reporting dataset for 2019–2024) represents the maximum mapped footprint of whole parcels reported in lily bulb rotation over the prior five years. These parcel-acreage figures exceed both the 1,000-acre rotational footprint and the 160-acre planted figure because they treat the entirety of each reported parcel as potentially available for cultivation, even though only a portion of a given parcel is actually planted. The Potential Cultivation

Area of approximately 7,473 acres represents all land within the Project Area zoned by Del Norte County as prime agricultural land (zoning categories AE, A, A-5, and A-20), used as a proxy because Del Norte County does not participate in the Farmland Mapping and Monitoring Program. This figure represents the theoretical universe of agriculturally zoned land that could support lily bulb cultivation under existing zoning, not land currently in lily bulb production.

The different measures therefore reflect deliberate methodological choices rather than conflicting accounts of the same quantity. The Draft EIR uses the conservative parcel-based and zoning-based measures to ensure that the analysis does not underestimate potential impacts to agricultural resources, and it states expressly that the resulting estimates overestimate the direct impact to the approximately 160 acres of lily bulbs actually planted. Staff have reviewed the figures and confirm that the Order and the Draft EIR are consistent, and that the differences among the figures reflect the distinct purposes for which each measure is used. To the extent the comment suggests the differing figures cast doubt on the adequacy of the environmental baseline, the Draft EIR's use of the larger, more conservative cultivation and zoning footprints is protective of the agricultural resource analysis and is consistent with CEQA's direction to analyze the reasonably foreseeable maximum extent of a project's impacts.

The apparent overstatement is also explained by the CEQA environmental baseline. Under CEQA, the environmental baseline is normally the existing physical conditions as they exist at the time the Notice of Preparation is published. (Cal. Code Regs., tit. 14, § 15125(a); see also § 15126.2(a).) For this project, the Draft EIR establishes the baseline as the physical conditions that existed in summer 2024, consistent with the commencement of environmental analysis, with the Notice of Preparation having been published on October 10, 2024. The acreage figures used in the Agriculture and Forestry Resources analysis are anchored to that baseline and to grower- and county-reported data spanning the 2019–2024 period preceding it. The baseline is fixed at a point in time and does not shift as conditions change during the course of environmental review and Order development.

Because the baseline is fixed as of summer 2024 while the rotational footprint of lily bulb cultivation has continued to decline, the acreage in rotation at the time the Order is adopted is expected to be lower than the figures used in the analysis. The Draft EIR acknowledges this directly: it notes that, as of 2025, growers reported that the overall lily bulb rotational footprint has declined, including fields in the Ritmer Creek and Smith River Ranch areas that have reportedly come out of production since they were reported under the 2021 Management Plan. Consistent with the conservative approach described above, the Draft EIR does not adjust its baseline figures downward to reflect these post-baseline reductions, and it does not rely on annual "planted acres" to evaluate agricultural impacts. The result is that the

approximately 1,000-acre rotational footprint, and the larger parcel-based and zoning-based figures used in the impact analysis, may overstate the acreage actually in lily bulb rotation when the Order takes effect. This further confirms that the analysis does not understate the agricultural baseline or the project's potential impacts to agricultural resources.

Regarding the ERA Economics Technical Memorandum cited by the commenter, see Response to comment CAFB-21 for a discussion of the applicability of the methodologies applied to the scale and scope of lily bulb agriculture on the Smith River Plain. Agricultural Resources baseline and settings are covered in Chapter [V] Agriculture and Forestry Resources. Impacts of the Draft Order are covered in that chapter. The comment does not specifically identify what additional baseline information, if included, would substantially change the DEIR's conclusions.

CAFB-10: The commenter argues the DEIR contains an inadequate assessment of significant impacts and effects on the environment, fails to fully consider significant impacts to the agricultural environment, fails to provide adequate analysis of reviewed impacts, and improperly fails to provide sufficient detail regarding foreseeable and cumulative significant impacts to lily bulb production and pasture lands in Del Norte County. The commenter argues the DEIR's conclusions are not supported by substantial evidence.

Response: Refer to responses to CAFB-9 through CAFB-19 for specific responses to the more detailed concerns presented in these comments.

CAFB-11: The commenter argues the DEIR improperly shifts the burden of proof to the public by concluding that many agricultural impacts are "speculative," citing specific DEIR statements on pages 61, 62, 76, 133, and 135 where the DEIR uses that characterization. The commenter argues the agricultural community provided substantial evidence through oral and written comments to make a "fair argument" that the project may have significant environmental impacts, including economic impacts, impacts to farmland acreage, and impacts from riparian buffer requirements, but the DEIR dismissed these as speculative.

Response: The comment expresses concern that the DEIR's findings that certain factors or impacts are speculative shift the burden of identifying significant environmental impacts from the lead agency to the public in violation of CEQA. The comment cites specific DEIR statements using the word "speculative" on pages [61, 62, 76, 133, 135]. The comment does not identify how the DEIR's findings that certain impacts are speculative would violate CEQA. Rather, CEQA makes clear that a lead agency should not speculate about potential significant impacts (CEQA

Guidelines § 15145). Section 15187(d) of the CEQA Guidelines discusses the analysis required for regional water quality control boards when adopting a rule or regulation: "The environmental analysis shall take into account a reasonable range of environmental, economic, and technical factors, population and geographic areas, and specific sites. The agency may utilize numerical ranges and averages where specific data is not available, but is not required to, nor should it, engage in speculation or conjecture."

The DEIR's conclusions that certain impacts are speculative are consistent with CEQA requirements. The DEIR takes public concerns into account by discussing the possibilities of adverse effects caused by Streamside Management Area requirements and increased costs of compliance, as raised by commenters and the general public. As noted, "CEQA does not require that a lead agency conduct every test or perform all research, study, and experimentation recommended or demanded by commenters." (CEQA Guidelines § 15204(a).) The comment does not provide substantial evidence that the DEIR would find a new previously undisclosed significant impact or a substantially worse impact based on the concerns raised.

CAFB-12: The commenter argues the DEIR is not based on substantial evidence but rather mere speculation, unsupported conclusions, and uncertainty, citing numerous pages where the DEIR uses terms such as "speculative," "could be," "not possible," "unknown," and "may be." The commenter argues the DEIR lacks data on existing watershed conditions and lily bulb production conditions, and that by speculating rather than analyzing actualities, the DEIR draws improper baseline conclusions.

Response: The DEIR uses terms such as "speculative," "could be," "not possible," "unknown," and "may be" to explain impacts where it is not able to provide specific facts or conclusions regarding a particular impact because sufficient information does not exist and therefore the agency will not provide a speculative conclusion. CEQA makes clear that a lead agency should not speculate about potential significant impacts. (See, e.g., Pub. Res. Code § 21080(e)(2), "Substantial evidence is not argument, speculation, unsubstantiated opinion, or narrative…"; Pub. Res. Code § 21159(a), "The agency shall not be required to engage in speculation or conjecture"; CEQA Guidelines § 15145, "If, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact.") The DEIR's conclusions that certain impacts are speculative are consistent with CEQA requirements. Please refer to Response to Comment CAFB-11.

CAFB-13: The commenter argues the DEIR fails to properly analyze the full range of significant impacts to agricultural resources. Specific concerns include: (1) the 160-acre

farmland conversion estimate is too low, particularly due to road systems and turnarounds that would need relocation; (2) the Reduced Setback Alternative analysis is cursory; (3) the DEIR does not analyze substantial economic impacts including production, distribution, consumption, land values, and lease values; (4) the lack of project alternatives is improper; (5) the analysis ignores legislative declarations on agricultural preservation; (6) the analysis is improperly limited to the five Appendix G criteria; and (7) the DEIR includes conclusory statements rather than thorough analysis. The commenter also identifies numerous impact categories not analyzed, including flood and insect vector control from setbacks, land value reductions, reporting burden, economic infeasibility, compliance challenges for smaller farms, multiplier effects on related businesses, and employment reductions.

Response: Regarding the farmland conversion estimate: The DEIR analyzed the potentially significant impacts from implementation of Streamside Management Area requirements (setbacks) and disclosed that the potentially significant impacts are significant and unavoidable. The comment alleges the estimate is low due to road systems and turnarounds that would need relocation, but the Draft Order allows roads and turnarounds to be located in the vegetative buffer portion of the setbacks provided they comply with winter ground cover requirements to prevent and minimize sediment erosion and discharge to surface waters.

Regarding the Reduced Setback Alternative: Alternatives to Streamside Management Area requirements were considered (No Project, Reduced Streamside Area Setback, and Offsite Riparian Restoration). The DEIR includes an alternatives analysis that demonstrates the considered project alternatives would reduce one or more of the significant impacts of the Proposed Project but would not fully achieve Project Objectives.

Regarding economic impacts: The North Coast Water Board considered costs related to potential adverse economic impacts from the Draft Order (see Section I.H of the Findings: Cost Considerations and DEIR Attachment E). With respect to the claims that Order requirements will result in significant economic effects, the North Coast Water Board maintains that these potential effects are speculative. It is not possible to predict which Enrollee will implement which management practices in which locations, and there are several options for individual operations to meet compliance requirements. The specific impacts of any compliance costs would depend on the unique characteristics of individual operations, including their field configurations, proximity to surface waters, soil type, operating costs, and other variable factors. CEQA requires that a lead agency not speculate in conducting its environmental analysis (CEQA Guidelines §§ 15064(d)(3), 15064(f)(5)).

Regarding CEQA legislative declarations on agriculture: The DEIR complies with CEQA by providing a rigorous analysis of the potential environmental impacts of the Proposed Project, including impacts on agricultural resources (see Chapter V,

Agriculture and Forestry Resources). The comment does not provide substantial evidence that additional analysis would find new previously undisclosed significant impacts.

Regarding Appendix G criteria: The DEIR included analyses of the five significance criteria outlined in Appendix G. The DEIR found significant and unavoidable impacts under two of those criteria due to Streamside Management Area requirements. The comment does not identify any specific additional significance criteria that should have been included.

Regarding conclusory statements: Each of the cited examples from the DEIR relates to findings that it would be speculative to determine precise acreage removed from production as a result of increased regulatory costs or certain management practices. The DEIR provides substantial evidence regarding anticipated costs of a range of management practices and regulatory compliance (see DEIR Attachment E). CEQA directs that lead agencies may not speculate about potential significant impacts. The DEIR's conclusions are supported by substantial evidence.

CAFB-14: The commenter argues the DEIR fails to properly quantify and analyze economic impacts, does not evaluate how growers, the agricultural industry, and linked economy would adjust in response to regulatory costs, and does not prepare any economic analysis compliant with Water Code section 13241. The commenter cites the ERA Economics Technical Memorandum and argues standard methods exist to quantify economic impacts regardless of which management practices individual growers adopt. The commenter identifies numerous missing analyses including impacts on jobs, land values, lease rates, multiplier effects, and cumulative regulatory costs.

Response: CEQA requires consideration of economic or social factors only in relation to physical changes in the environment. (Cal. Code Regs., tit. 14, sections 15064, 15131, 15382.) Where a physical change is caused by economic or social effects of a project, the physical change may be regarded as significant in the same manner as any other physical change resulting from the project; alternatively, economic and social effects of a project may be used to determine the significance of physical changes caused by the project. (Cal. Code Regs., tit. 14, sections 15064, subd. (e), 15131(b).)

North Coast Water Board staff considered costs related to potential adverse economic impacts from the Draft Order and acknowledges the concerns related to regulatory costs and proposed requirements (see Section I.H of the Draft Order: Cost Considerations and DEIR Attachment E). Water Code section 13241 requires the North Coast Water Board to consider certain factors, including economic considerations, in the adoption of water quality objectives. Water Code section

13263 requires the North Coast Water Board to take into consideration the provisions of section 13241 in adopting waste discharge requirements. The Water Code requirements do not specify the need for detailed financial analyses; rather, estimates based on available information within the confines of various uncertainties and assumptions are sufficient.

The comment expresses concern that the economic analysis is flawed because it does not evaluate how lily bulb operations would adjust in response to increased regulatory costs. The DEIR provides substantial evidence regarding the anticipated costs of a range of management practices as well as anticipated costs for regulatory compliance (DEIR Attachment E). The DEIR cannot, and does not, predict which management practices each operation may choose to implement, nor can the DEIR predict which operations may cease due to increased regulatory costs.

The comment states that there is a well-established approach to quantify economic impacts and cites the ERA Economics Technical Memorandum, which was prepared for the Central Coast Ag Order 4.0. The North Coast Water Board notes that the scale differences between lily bulb agriculture and Central Coast agriculture significantly affect the applicability of the methodologies described in the memorandum. See response to CAFB-21.

The comment contains a list of factors the commenter believes should have been analyzed. The comment does not present substantial evidence that an examination of these additional factors would result in the determination of a new previously undisclosed significant impact or a substantially worse impact than that disclosed in the DEIR. In short, the DEIR provided a reasonable and good faith evaluation of the economic impacts of the Draft Order under CEQA.

CAFB-15

The commenter argues the DEIR should have fully analyzed impacts on Land Use and Planning and Population and Housing rather than relying on the Initial Study's less-than-significant determination. The commenter argues that converting agricultural land via setback requirements eliminates an obstacle to growth, facilitates land use conversion, could lead to community and economic distress, and could disproportionately impact disadvantaged communities. The commenter requests that the DEIR be revised to include these analyses.

Response: Regarding land use and planning: The DEIR noted that the potential for the Draft Order to conflict with existing zoning for agricultural uses is discussed in Chapter V, Agriculture and Forestry Resources. The DEIR finds that Streamside Management Area setbacks would result in conflicts with zoning for agricultural use due to the potential for conversion of agricultural lands, and finds that impacts would be significant and unavoidable. The comment does not specify which plans are in

conflict or which aspect of the Draft Order would cause conflicts beyond the Streamside Management Area requirements already analyzed.

Regarding growth-inducing impacts: The comment alleges that converting agricultural land via setback requirements eliminates an obstacle to growth, facilitates land use conversion, and could lead to community economic distress. The potential conversion of Important Farmland from Streamside Management Area requirements is limited to strips of land between lily bulb fields and surface waters (the 'no-touch' Riparian Vegetation Area is no more than 25 ft from the waterside edge of vegetation to the Vegetated Buffer). The comment does not make clear how these strips of land would result in conversion of land to a use that would result in economic growth or population changes. The comment does not provide substantial evidence that such analysis would result in identification of new significant impacts beyond those already disclosed.

Regarding socioeconomic impacts on population: The comment alleges setback requirements would cause population reduction due to decreased productive acreage, disproportionately impacting disadvantaged community members. The comment does not provide information on how the strips of land converted under setback requirements would result in impacts to population, housing, or land use patterns.

CAFB-16: The commenter argues the DEIR's mitigation measures are inadequate, citing concerns that some measures are infeasible, exceed the Regional Board's authority under Water Code section 13360, and are uncertain in their triggering. The commenter argues BIO-3 fails to mention farmlands statutorily exempt from regulation under the federal Clean Water Act, and that mitigation costs (cultural resource surveys, biology surveys, wetlands delineation) are not roughly proportional to the likely less-than-significant impacts from management decisions on individual farms. The commenter also argues the DEIR fails to properly identify mitigation measures for the significant and unavoidable farmland conversion impact.

Response: The mitigation measures described in the DEIR would apply to actions and practices implemented to comply with the Draft Order. In most cases, the mitigation measures merely require compliance with existing state law and permitting requirements. Growers are already required to comply with the state and federal Endangered Species Acts; nesting bird protections in the California Fish and Game Code; the California Native Plant Protection Act; the CDFW Lake and Streambed Alteration Program; California Health and Safety Code provisions; and other regulations. Construction of certain management practices involving ground disturbance often requires permits from state and local agencies that include conditions to avoid and minimize impacts. CEQA gives a public agency the authority

to require feasible changes in any or all activities involved in a project to substantially lessen or avoid significant effects on the environment. (CEQA Guidelines § 15041.) The comment does not provide substantial evidence that the mitigation measures would be infeasible.

Regarding BIO-3 and the Clean Water Act farmland exemption: The comment does not explain the relevance of the federal Clean Water Act exemption to the North Coast Water Board's authority to regulate waste discharges to waters of the State, nor does it provide substantial evidence that the exemption would make any mitigation measures infeasible.

Regarding proportionality: The state and federal governments' interests in protecting water quality, endangered species, cultural resources, and other environmental values are well documented through governing statutes and regulations. Each mitigation measure in the DEIR is designed to further one of these interests. The comment does not present substantial evidence that any specific mitigation measure conflicts with constitutional proportionality requirements. (CEQA Guidelines § 15126.4(a)(4)(A).)

Regarding mitigation for the significant and unavoidable setback impact: The DEIR disclosed that no feasible mitigation measures were identified to reduce the significant impact of farmland conversion from setback requirements. The comment does not identify specific feasible mitigation measures that should have been considered.

CAFB-17: The commenter argues the DEIR fails to provide a legally adequate alternatives analysis. Specific concerns include: (1) the analysis of the Reduced Setback and Offsite Riparian Restoration alternatives was limited to 9.5 pages of conclusory statements; (2) both alternatives only vary one component of the Draft Order (vegetative buffers); (3) there was no analysis of a regulatory tiering structure based on risk to water quality; (4) there was no alternative with different monitoring requirements; and (5) the regulatory scope appears predetermined.

Response: CEQA does not require lead agencies to develop any particular number of alternatives, nor does it require lead agencies to identify alternatives that were not suggested as part of the scoping process. CEQA requires that "an EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation." (CEQA Guidelines § 15126.6(a).) Once an alternative is selected, CEQA requires that the EIR "include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." (CEQA Guidelines § 15126.6(d).)

The DEIR describes alternatives to Streamside Management Area requirements in the Alternatives Analysis chapter and provides analysis of each alternative's environmental impacts relative to the Proposed Project. A shortcoming identified for the Reduced Setback and Offsite Riparian Restoration alternatives is a reduction in water quality protections, therefore not fully meeting the Project Objectives. CEQA recognizes that "it is virtually a given that the alternatives to a project will not attain all of the project's objectives." (Watsonville Pilots Assn. v. City of Watsonville (2010) 183 Cal.App.4th 1059, 1087.) The DEIR's analysis acknowledges this and presents the environmental tradeoffs of each alternative.

Regarding the commenter's suggestion of alternative tiering or monitoring structures, see RTC #15 in Section II: Response to Comments on the Draft Order.

CAFB-18: The commenter argues the DEIR's cumulative impacts analysis is cursory and inadequate. Specific concerns include: the DEIR does not analyze the cumulative impact of agricultural land loss statewide, does not analyze impacts related to local groundwater sustainability plans, does not analyze impacts to certain communities, and does not identify all similar projects that could compound cumulative impacts, citing the Vineyard Order, NPDES permits, the Restoration program, and TMDLs.

Response: CEQA does not necessarily require that a cumulative impacts analysis examine cumulative impacts on a statewide basis. The CEQA Guidelines state that "lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used." (CEQA Guidelines § 15130(b)(3).) The DEIR explains that the scope of Draft Order activities would be limited to fewer than 1000 acres of lily bulb production in rotation within the Smith River Plain and describes related projects or activities within the more focused geographic scope within Del Norte County than proposed by the commenter.

Regarding additional programs: CEQA requires a discussion in the EIR of cumulative impacts of a project when the project's incremental effect is cumulatively considerable. (CEQA Guidelines § 15130(a).) An adequate discussion of significant cumulative impacts is guided by standards of practicality and reasonableness and includes either a list of past, present, and future projects producing related or cumulative impacts or a summary of projections contained in a planning document that describes or evaluates conditions contributing to the cumulative effect. (CEQA Guidelines § 15130(b)(1).) Impacts of past projects can often be reflected in the existing environmental setting.

The projects listed by the commenter are outside of the geographic scope considered, concern impacts that do not result in part from implementation of the Draft Order and thus do need not be considered in the cumulative impacts analysis

(e.g., local groundwater sustainability plans), are unidentified and generalized potential projects (e.g., “applicable National Pollutant Discharge Elimination System (“NPDES”) permits and other permit actions), or do not constitute projects for purposes of the CEQA cumulative impacts discussions (e.g., “implementation of total maximum daily loads”). While the commenter notes that reasonably anticipated future projects should be considered, the comment does not identify any specific future projects that should have been considered as part of the cumulative impact analysis.

CAFB-19: The commenter argues the DEIR should have considered social and economic impacts in its cumulative impacts analysis, citing Citizens Association for Sensible Development of Bishop Area v. Inyo. The commenter lists potential impacts including negative economic consequences, loss of agricultural lands, loss of jobs, changes to landscape and land uses, and disproportionate impacts to certain communities. The commenter argues the DEIR contains no cumulative impacts analysis on social and economic resources.

Response: CEQA Guidelines section 15382 states that an “economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.” CEQA Guidelines section 15131 states that “economic or social effects of a project shall not be treated as significant effects on the environment.” CEQA Guidelines Section 15064(e) provides that economic and social changes resulting from a project shall not be treated as significant effects on the environment, but may be used to determine that a physical change shall be regarded as a significant effect. Section 15064(f)(6) also states that evidence of economic and social impacts that do not contribute to or are not caused by physical changes in the environment is not substantial evidence that the project may have a significant effect on the environment. It would need to be shown, with substantial evidence, that increased compliance costs would result in an adverse physical change in the environment. The comment does not provide substantial evidence that such analysis would produce a physical change beyond the impacts already identified and disclosed in the DEIR.

CAFB-20: The commenter requests that the DEIR be revised and recirculated, citing the purposes of CEQA and alleging numerous violations discussed in the commenter’s preceding comments.

Response: The comment does not address substantive contents of the DEIR that have not been addressed in responses to CAFB-9 through CAFB-19 above. CEQA Guidelines section 15088.5 provides that recirculation of an EIR is required when “significant new information” is added after public notice of availability but prior to

certification. Significant new information includes: (1) a new significant environmental impact resulting from the project or a new mitigation measure; (2) a substantial increase in the severity of an environmental impact unless mitigation measures are adopted; (3) a feasible project alternative or mitigation measure that would lessen environmental impacts but was not adopted; or (4) the draft EIR was so fundamentally and basically inadequate that meaningful public review and comment were precluded. The North Coast Water Board has reviewed and considered all comments received on the DEIR and determined that recirculation is not warranted.

CAFB-21: The commenter incorporates by reference the ERA Economics Technical Memorandum, prepared for the Central Coast Ag Order 4.0, arguing it is applicable to the Lily Bulb Order. The memorandum proposes a five-step economic impact assessment framework using agricultural economic models and input-output models.

Response: The memorandum argues that the DEIR fails to include any economic impact analysis and proposes a five-step economic impact assessment framework using agricultural economic models and input-output models (e.g., IMPLAN). The North Coast Water Board acknowledges the ERA Economics memorandum and its methodological recommendations. However, the memorandum was prepared for a fundamentally different regulatory program. The Central Coast Ag Order 4.0 covers tens of thousands of growers growing hundreds of crops across hundreds of thousands of acres in one of the most productive agricultural regions in the world. The Lily Bulb Order covers three growers on fewer than 200 acres growing a single ornamental crop. The scale differences are several orders of magnitude and significantly affect the applicability and proportionality of the methodologies described.

Regarding the memorandum's central argument that standard economic methods exist to quantify impacts: The North Coast Water Board does not dispute that economic modeling tools exist. However, the CEQA Guidelines do not require the application of any particular economic modeling methodology. The DEIR provided a reasonable and good faith evaluation of the economic impacts of the Draft Order, including estimated costs for monitoring, reporting, and management practice implementation (DEIR Attachment E). Water Code section 13241 "does not specify how a water board must go about considering the specified factors. Nor does it require that board to make specific findings on the factors." (City of Arcadia v. State Water Resources Control Board (2010) 191 Cal.App.4th 156, 177.)

Regarding the memorandum's argument about disproportionate impacts on disadvantaged communities: The North Coast Water Board has addressed anticipated water quality impacts in disadvantaged and tribal communities in the

Draft Order's section 13149.2 findings. The three remaining lily bulb operations employ seasonal workers; the North Coast Water Board has considered the employment context in its analysis of economic considerations for the purposes of Antidegradation Findings (see Finding #138 of the Proposed Order).

Regarding cumulative regulatory costs: The North Coast Water Board acknowledges that regulatory costs are cumulative. The Draft Order's cost analysis considers the incremental costs of the Lily Bulb Order requirements. The comment does not present substantial evidence that examination of cumulative regulatory costs from other programs would result in identification of new significant impacts beyond those already disclosed in the DEIR.

EPIC-1: The commenter incorporates by reference the comments on the Draft Order submitted by the Environmental Law Foundation. The commenter argues the Draft EIR is legally insufficient under CEQA because it concludes impacts are less than significant on the basis of regulatory commitments the record shows have not worked, and defers core analytical questions to future adaptive management. The commenter requests the Board revise and recirculate the Draft EIR.

Response: The DEIR appropriately analyzes potential environmental impacts of implementing the Order's requirements measured against existing baseline conditions. Accordingly, it does not analyze the underlying, ongoing land use activities and its associated discharge subject to the regulation, as opposed to physical effects of implementing the Order, including implementation of water quality protection requirements. Moreover, it does not analyze whether the Order is sufficiently protective of water quality, fisheries, or public health. These issues are related to the regional water board's responsibilities under Porter-Cologne, rather than CEQA. The DEIR is not intended as an evaluation of regulatory stringency under Porter-Cologne.

EPIC-2: The commenter argues the DEIR cannot conclude water quality impacts will be less than significant when the record demonstrates persistent exceedances through 2024, including imidacloprid exceedances in 40% of samples and chronic copper exceedances in 100% of Lower Mello Creek samples. The commenter argues that a less-than-significant conclusion premised on the assumption a regulatory framework will function as intended is not supported by substantial evidence where the record shows the framework's antecedents have not worked.

Response: See response to EPIC-1. The DEIR evaluates impacts to CEQA resource categories, using the baseline established in the DEIR of summer 2024. The determination of less-than-significant impacts to water quality were based on

impacts resulting from Order implementation when compared to baseline, rather than impacts to water quality to what the commenter asserts are insufficient management practices, which are addressed separately in subsequent comments that are referred to responses in Section II: Response to Comments on the Draft Order.

EPIC-3: The commenter argues the DEIR does not adequately address sublethal and chronic biological effects on ESA-listed salmonids, citing NOAA's 2014 Recovery Plan and the 2018 NMFS/CDFW Monitoring Report documenting neurobehavioral toxicant effects at levels below the CTR threshold. The commenter argues CEQA requires analysis of the full range of reasonably foreseeable effects including impaired olfaction, reduced reproduction, prey base impacts, and cumulative consequences of repeated pollutant pulses in estuarine rearing habitat.

Response: See response to EPIC-1. Similarly to the comment made in EPIC-2, the analysis with respect to impacts to Biological Resources compared impacts of implementing the Order itself (e.g., management practices required under the Order) against the baseline conditions dated to summer 2024. Alleged insufficiency of the Order requirements to address protection of beneficial uses are relevant to the North Coast Water Board's responsibilities under Porter-Cologne, rather than CEQA. These are addressed broadly in responses in Section II: Response to Comments on the Draft Order.

EPIC-4: The commenter argues the DEIR does not analyze the environmental consequences of continued exceedances during the approximately ten-year adaptive management compliance period, citing CEQA Guidelines section 15126.2's requirement to disclose and analyze impacts during implementation. The commenter characterizes CEQA as a "look before you leap" law and argues the project proposes to "leap for 10 years before looking."

Response: See response to EPIC-1. This is not a CEQA comment. For a response to the issue of a 10-year adaptive management compliance period, see RTC #43 and RTC #18 in Section II: Response to Comments on the Draft Order.

EPIC-5: The commenter argues the DEIR improperly defers core analysis by invoking programmatic uncertainty while simultaneously relying on those same uncertain future practices to conclude impacts are less than significant. The commenter characterizes this as logical circularity rejected by courts as insufficient to constitute substantial evidence, citing Kings County Farm Bureau v. City of Hanford (1990) and Communities for a Better Environment.

Response: See Responses to Comments to CAFB-12 and EPIC-1.

EPIC-6: The commenter argues the DEIR's reliance on vegetated setbacks and filter strips as mitigation is fatally vague under Sierra Club v. County of Fresno (2018) 6 Cal.5th 502, lacking specific performance standards as required by CEQA Guidelines section 15126.4(a)(1)(B)-(C). The commenter argues the DEIR does not address soil type, groundwater connectivity, yearly rainfall, slope, roading and ditch impacts, or whether grazing will be allowed within setbacks.

Response: The comment characterizes the vegetated setbacks and filter strips as CEQA mitigation measures that lack performance standards. This mischaracterizes their role in the Proposed Project. The Streamside Area requirements (a Riparian Vegetation Area and a Vegetated Buffer) and the management practices an Enrollee may use to comply with the Order are components of the Proposed Project itself, not mitigation measures adopted under CEQA to reduce the project's impacts. The Draft EIR analyzes the environmental effects of implementing these requirements; it does not rely on them as mitigation. Indeed, the Draft EIR concludes that the Streamside Area setback requirements result in a significant and unavoidable impact to Agricultural Resources for which no feasible mitigation is available, and it accordingly calls for a Statement of Overriding Considerations rather than treating the setbacks as a measure that reduces impacts to less than significant. The mitigation measures the Draft EIR does adopt include those directed at the Biological Resources impacts that could result from constructing and installing management practices, and they include enforceable performance standards such as construction timing restrictions to avoid sensitive life stages, avoidance of sensitive habitats, design standards for runoff control features, invasive species management, and coordination with resource agencies. These measures reduce the relevant impacts to less than significant.

The Streamside Area requirements that the comment addresses are themselves expressed as enforceable, quantitative performance standards within the Order. The Order establishes minimum Streamside Area widths by waterbody type (for example, a 50-foot total Streamside Area on perennial streams, comprising a 25-foot Riparian Vegetation Area and a 25-foot Vegetated Buffer), a requirement that native riparian vegetation be allowed to establish through natural succession within the Riparian Vegetation Area, and a requirement to maintain at least 90 percent ground cover within the Vegetated Buffer during the wet season (November 1 through May 1). These are fully enforceable conditions of waste discharge requirements within the meaning of CEQA Guidelines section 15126.4(a)(1)(B), and they supply the objective standards the comment contends are absent.

With respect to the specific site factors the comment identifies, the Draft EIR and the Order address them at a level of detail appropriate to a programmatic, regulatory project. The Order's findings discuss the influence of soils, slope, and hydrology on buffer performance. In 2024, Dr. Matthew Hurst, Logan Wolfe, and Preston Selby from California State Polytechnic University, Humboldt released findings from a study which investigated the effectiveness of vegetative barriers in reducing copper and sediment in stormwater runoff from lily bulb fields in the Smith River Plain. The study found that copper primarily leaves fields bound to sediment particles (particulate copper), and that dissolved organic carbon (DOC) in runoff can decrease the bioavailability of copper, with reduced effectiveness in December/January when soils were saturated.[10]

The Order separately requires sediment and erosion control practices on appurtenant farm roads, addressing the roading and ditch concerns the comment raises, and the wet-season ground cover standard is calibrated to the region's precipitation pattern. Questions of groundwater connectivity are addressed through the Order's groundwater monitoring and Irrigation and Nitrogen Management Plan requirements, and the treatment of livestock grazing within Streamside Areas is addressed in the Order's Streamside Area requirements.

The Proposed Project does not prescribe which specific management practices an Enrollee must install at a given field, both because Water Code section 13360 generally prohibits the North Coast Water Board from dictating the manner of compliance and because the practices appropriate to a particular operation depend on site-specific conditions that the Enrollee is best positioned to evaluate, in collaboration with a Qualified Professional where required. Site-specific factors such as the precise soil type, slope, and field configuration at each operation are therefore evaluated when individual management practices are designed and, where applicable, when those practices undergo separate regulatory review. A programmatic analysis of reasonably foreseeable management practices is the appropriate level of CEQA review for this type of regulatory program (CEQA Guidelines, § 15168), and CEQA does not require the Draft EIR to conduct a field-by-field analysis of conditions that cannot be known until Enrollees select their compliance approaches.

Sierra Club v. County of Fresno (2018) 6 Cal.5th 502 requires that an EIR contain sufficient detail to allow decisionmakers and the public to understand the nature and

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[10] Hurst, Wolfe & Selby, *The Effects of Vegetative Barriers on Copper in Runoff from Lily Bulb Fields* (2024) (final report submitted to the CSU Agricultural Research Institute and the Easter Lily Research Foundation of the Pacific Bulb Growers Association).

severity of a project's significant impacts. The Draft EIR satisfies that standard. It discloses the significant and unavoidable impact to Agricultural Resources, quantifies the acreage potentially converted, explains the basis for that conclusion, and identifies the performance standards governing the project's requirements. The level of analysis is commensurate with the programmatic nature of the project and the fact that the Order establishes performance standards rather than prescribing site-specific practices. See also RTC #31 and RTC #36 in Section II: Response to Comments on the Draft Order for responses on vegetated filter strips and Order requirements.

EPIC-7: The commenter argues the Hurst et al. (2024) study — the only site-specific study in the record evaluating management practice effectiveness — demonstrates that 80-foot setbacks did not reduce dissolved copper discharge and that filter strips removed essentially no copper during saturated storm conditions. The commenter argues the DEIR cannot conclude 50-foot setbacks will reduce impacts to less than significant when the record demonstrates they will not.

Response: See RTC #36 in in Section II: Response to Comments on the Draft Order and Response to Comment EPIC-1.

EPIC-8: The commenter argues setbacks do not address groundwater transport pathways, citing dry-season detections of imidacloprid and diuron indicating groundwater transport as a significant contamination mechanism. The commenter argues mitigation that only partially mitigates by failing to address a significant discharge mechanism cannot reduce impacts below a significant level, citing Sierra Club v. County of Fresno.

Response: See RTC #63 in in Section II: Response to Comments on the Draft Order and Response to Comment EPIC-1.

EPIC-9: The commenter argues the DEIR fails to synthesize multiple stressors into a meaningful cumulative analysis, identifying six categories that must be evaluated: (1) habitat simplification from decades of agricultural conversion; (2) ongoing pesticide and copper loading; (3) groundwater contamination in domestic wells; (4) estuarine impairment limiting juvenile coho rearing capacity; (5) climate-driven shifts in runoff timing; and (6) the compounding vulnerabilities of a federally listed salmonid population far below its recovery target of 6,800 spawners. The commenter also argues roading, ditching, and grazing rotation impacts are not addressed.

Response: See Response to Comment EPIC-1.

EPIC-10: The commenter argues the DEIR's alternatives analysis is too narrow, focusing on the No Project Alternative and reduced regulatory scope options. The commenter identifies six specific alternatives that should have been evaluated: zero-discharge, wet-weather prohibition, expanded hydrologically-based buffers, immediate certified WQMPs, independent monitoring, and high-risk field restrictions. The commenter notes the scoping record expressly includes public requests to halt lily bulb cultivation and restore estuarine function.

Response: The DEIR's alternatives analysis presents a reasonable range of alternatives that address the identified significant effects, consistent with CEQA Guidelines section 15126.6. CEQA does not require any particular number of alternatives (CEQA Guidelines § 15126.6(a)), nor does it require evaluation of alternatives that were not suggested during the scoping process and that would worsen the project's significant environmental effects.

CEQA Guidelines section 15126.6 governs the scope of the alternatives analysis. Subsection (a) provides that an EIR shall describe "a range of reasonable alternatives to the project … which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." Subsections (b) and (f) reinforce this standard: "the alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project." The "rule of reason" governing the range of alternatives "requires the EIR to set forth only those alternatives necessary to permit a reasoned choice" (§ 15126.6(f)), and "an EIR need not consider every conceivable alternative to a project" (§ 15126.6(a)). The "project" subject to CEQA review is the adoption of the Lily Bulb Order. The DEIR identified the significant environmental effects of implementing the Order's requirements, most notably the conversion of Important Farmland to non-agricultural use resulting from Streamside Management Area setback requirements, which was determined to be significant and unavoidable.

The purpose of the alternatives analysis is to identify alternatives to the project that would avoid or reduce this significant effect. The DEIR evaluated three alternatives: a No Project Alternative, a Reduced Streamside Area Setback Alternative, and an Offsite Riparian Restoration Alternative. The Reduced Setback Alternative would lessen the farmland conversion impact by reducing setback widths, and the Offsite Riparian Restoration Alternative would allow mitigation of riparian vegetation requirements at an alternative location within the same sub-watershed. CEQA does not require evaluation of alternatives that would make the project more environmentally impactful in the resource categories where significant effects have been identified.

The commenter's proposed alternatives reflect a policy preference for a more stringent regulatory program. The adequacy of the Draft Order's regulatory approach is evaluated under the Porter-Cologne Water Quality Control Act (Water Code §§ 13000, 13241, 13263), which provides the legal framework for balancing beneficial use protection, water quality objectives, and economic considerations. The CEQA alternatives analysis serves a different function: it evaluates whether there are feasible ways to reduce the project's own significant environmental effects while still attaining most project objectives. The substantive concerns raised by the commenter regarding the protective adequacy of the Draft Order, including zero-discharge standards, wet-weather restrictions, expanded buffers, and independent monitoring, are addressed in Section II: Response to Comments on the Draft Order.

EPIC-11: The commenter argues the DEIR's cultural resources analysis focuses on archaeological and site-disturbance resources rather than living cultural practices that depend on salmon, clean water, and the estuarine ecosystem. The commenter argues contamination of juvenile rearing habitat threatens Tribal subsistence, ceremony, and cultural continuity in ways that must be disclosed under AB 52 (PRC § 21080.3.1 et seq.). The commenter requests the EIR be revised to analyze impacts to living Tribal cultural practices, address disproportionate burdens on Tribal communities, and evaluate protections in light of treaty rights and ceremonial uses.

Response: The North Coast Water Board has been in consultation with the Tolowa Dee-ni' Nation regarding this project since 2024. As described in the Order's findings, in April 2024 staff contacted six Tribes identified by the Native American Heritage Commission as having current or historic lands in or near the Project Area, and identified two additional Tribes that could be affected. The Tolowa Dee-ni' Nation requested formal consultation under AB 52 in May 2024, and the North Coast Water Board and the Tolowa Dee-ni' Nation initiated formal consultation in mid-2024. Consultation has continued throughout development of the Order and the DEIR.

The premise of the comment, that the DEIR's cultural resources analysis is limited to archaeological and site-disturbance resources, does not reflect the analysis the DEIR actually contains. The DEIR's Tribal Cultural Resources analysis expressly extends beyond archaeological sites to encompass the Tribal Cultural Landscape, including viewsheds and the animal and plant species that contribute to the significance of that landscape, which are identified as tribal cultural resources. The living cultural practices the comment describes, including those that depend on salmon, clean water, and the estuarine ecosystem, are reflected in the Order's findings, which recognize that the Smith River and estuary serve as crucial environmental trust resources for cultural, ceremonial, and subsistence beneficial uses of the Tolowa Dee-ni' Nation, including fishing, eeling, shellfish gathering,

plant gathering, basketry, food preparation, prayer and ceremony, and medicinal practices. The Order also designates the Tribal Beneficial Use (Native American Culture) as an existing beneficial use and identifies Tribal Cultural Resources, together with Cold Freshwater Habitat, as among the beneficial uses most sensitive to surface water degradation. The protection of these uses is therefore central to the Order rather than peripheral to it.

Significantly, the Tolowa Dee-ni' Nation had an active and direct role in developing the very analysis the comment asks the North Coast Water Board to undertake. Through a subcontract under Montrose Environmental, the Tolowa Dee-ni’ Nation contributed to the tribal cultural resources baseline, the definition of tribal cultural resources used in the DEIR (including the Tribal Cultural Landscape concept that extends the analysis beyond archaeological resources to the living plant and animal species and viewsheds that sustain cultural practice), and the associated mitigation measures. The Tolowa Dee-ni’ Nation's own Tribal Cultural Resources submittal is included as Attachment F to the DEIR. The North Coast Water Board defers to the Tolowa Dee-ni’ Nation's expertise regarding the identification and significance of its tribal cultural resources and the cultural practices that depend on the health of the Smith River Plain, consistent with the purpose of AB 52 consultation. The analysis the comment requests, addressing impacts to living tribal cultural practices and the resources on which they depend, has thus already been incorporated into the environmental analysis, in coordination with the Tolowa Dee-ni’ Nation itself.

The Order's central purpose is to improve and protect water quality in the Smith River Plain, including the cold freshwater and estuarine habitats that support the juvenile salmonid rearing the comment identifies as essential to tribal subsistence, ceremony, and cultural continuity. The requirements of the Order, including receiving water limitations, the Adaptive Management Program, and surface water monitoring, are directed at reducing the pesticide and copper discharges that threaten those resources. The Order is therefore protective of, rather than adverse to, the living cultural practices the comment seeks to safeguard.

For these reasons, revision and recirculation of the DEIR is not warranted. The information the comment requests is already contained in the environmental analysis, developed in consultation with and with the participation of the Tolowa Dee-ni' Nation. Recirculation would delay adoption and implementation of the Order, and that delay would prolong the ongoing discharges and the associated degradation of the water quality and ecosystem resources on which the Tolowa Dee-ni’ Nation's cultural, ceremonial, and subsistence uses depend. Delaying the protections the Order provides would itself further impact Native American cultural uses, contrary to the outcome the comment seeks.

EPIC-12: The commenter argues the DEIR does not adequately analyze environmental justice and community health impacts documented in the scoping record, including reports of acute spray drift exposure, chronic symptoms, contaminated soil, school adjacency concerns, and elevated cancer incidence. The commenter argues CEQA requires disclosure and analysis of credible community health concerns without requiring proof of legal causation.

Response: See Response to EPIC-1. For responses on community health impacts, see RTC #4 and RTC #8 in Section II: Response to Comments on the Draft Order.

EPIC-13: The commenter argues the DEIR does not adequately analyze groundwater transport pathways, citing pesticide and nitrate detections in irrigation and domestic wells and dry-season detections suggesting groundwater transport independent of storm-event surface runoff. The commenter identifies five specific analytical gaps: persistence in soils and shallow groundwater, seasonal lag effects, cumulative loading to aquifers, adequacy of surface-buffer strategies where groundwater is the dominant pathway, and risk to domestic wells.

Response: See Response to EPIC-1 and RTC #63 in Section II: Response to Comments on the Draft Order.

EPIC-14: The commenter argues the DEIR's antidegradation analysis is insufficient because: the BPTC finding is unsupported given that management practices have not eliminated exceedances; the Hurst study demonstrates setbacks are ineffective under local conditions; and the DEIR does not adequately analyze social and environmental costs of continued degradation, including the "incalculable" value of ESA-listed species.

Response: This is not a CEQA comment; rather a comment on the Draft Order's Antidegradation analysis. See RTC #17 in Section II: Response to Comments on the Draft Order.

EPIC-15: The commenter provides a summary of 11 requested DEIR revisions spanning substantial evidence for less-than-significant conclusions, compliance period impacts, cumulative impacts, mitigation analysis, enforcement timeline, alternatives, Tribal beneficial uses, environmental justice, groundwater transport, and antidegradation analysis.

Response: See Responses to EPIC-1-14.

EPIC-16: The commenter argues CEQA Guidelines section 15126.2 requires the EIR to evaluate impacts during the entire project implementation period, not merely after a project is presumed to be successful, and that where a project involves staged compliance with continued interim pollutant loading, the EIR must analyze environmental consequences of that interim period.

Response: The comment correctly states that CEQA Guidelines section 15126.2 requires an EIR to analyze a project's significant environmental effects over the project's implementation, including short-term effects, and not solely the conditions expected after a project is fully implemented. The Draft EIR satisfies this requirement. The comment's underlying premise, however, is that the Proposed Project causes continued pollutant loading that constitutes a project effect requiring separate interim-period analysis. That premise misapprehends how CEQA measures a project's impacts.

Under CEQA, the significant effects of a project are assessed against the environmental baseline, which is the existing physical conditions in the affected area as they exist at the time environmental review commences. (CEQA Guidelines, §§ 15125(a), 15126.2(a).) The baseline for this project is the existing condition of the Smith River Plain, in which Commercial Lily Bulb Operations discharge pesticides, copper, sediment, and nutrients to surface water and groundwater, currently addressed only through the voluntary 2021 Management Plan. The relevant CEQA question is whether the Proposed Project causes a change in those baseline conditions that is adverse to the physical environment.

The Proposed Project does not cause or increase pollutant loading relative to the baseline. It is a regulatory program whose effect is to reduce existing discharges progressively over time through enforceable management practice requirements, receiving water limitations, surface and groundwater monitoring, and the Adaptive Management Program. During the period in which Enrollees implement management practices and proceed through adaptive management, water quality conditions are, at worst, no worse than the existing baseline, and they are expected to improve as controls are implemented and escalated. The continued pollutant loading the comment describes during the compliance period is the continuation of the pre-existing baseline condition, which the Proposed Project works to reduce. It is not a new or increased adverse physical change caused by the Proposed Project. CEQA requires analysis of the changes a project causes relative to baseline; it does not require an agency to treat the incremental, ongoing improvement of a pre-existing condition as a project-caused significant impact, nor does it require an EIR to analyze the environmental consequences of a beneficial project failing to achieve its full benefits instantaneously.

The Draft EIR is consistent with these principles. It does not presume the Proposed Project's success and then analyze only a fully-compliant end state. Rather, it

analyzes the physical changes the Proposed Project would cause relative to baseline. For water quality, those changes are beneficial, and the Draft EIR and Initial Study accordingly found the Proposed Project's effects on Hydrology and Water Quality to be less than significant. For the resource where the Proposed Project does cause a significant adverse physical change, Agricultural Resources, the Draft EIR analyzes that impact as it arises from implementation of the project's Streamside Area requirements, including during the implementation period, and concludes it is significant and unavoidable. The Draft EIR therefore analyzes impacts across the implementation period as section 15126.2 requires.

To the extent the comment is concerned with the possibility that some high-quality waters may experience limited degradation during the period in which Enrollees work toward compliance, that question is addressed through the antidegradation analysis required by the Porter-Cologne Water Quality Control Act and State Water Board Resolution No. 68-16, which is a separate regulatory analysis from CEQA. As set forth in the Order's findings, the North Coast Water Board has analyzed the potential for limited, temporary degradation during the iterative implementation of management practices and has found that any such limited degradation, despite implementation of the measures required by the Order, is consistent with the maximum benefit to the people of the State and is subject to best practicable treatment or control within a defined time schedule.

EPIC-17: The commenter states that commenters have repeatedly suggested management practices that would actually reduce impacts to less than significant, and incorporates the WDR Comments by reference.

Response: This is not a CEQA comment. However, staff appreciate the submission of management practices for the record while noting that under Water Code section 13360(a), the North Coast Water Board may not specify the manner of compliance with its waste discharge requirements. The Board can identify the water quality conditions that must be achieved, set receiving water limitations and performance standards, and require Enrollees to report on the practices they will use to meet them, but it cannot dictate that an Enrollee install any particular management practice. As the courts have framed it, the Board may identify the ‘disease and order it cured, but it may not dictate the cure’. This is why the Order establishes enforceable performance standards and an Adaptive Management framework rather than prescribing specific practices, leaving each Enrollee to select the combination of practices best suited to its site-specific conditions. For a more robust discussion of management practices under the Order, see RTC #29 and RTC #30 and Section II: Response to Comments on the Draft Order.

EPIC-18: The commenter argues the DEIR does not address cumulative impacts from the rotation of lily bulbs and grazing, estuary and riparian grazing impacts, or the contribution of roading and ditching to conveying sediments and chemicals to impaired waterways.

Response: See Response to EPIC-1 and EPIC-16.

EPIC-19: The commenter argues the DEIR's setbacks are not defined and do not address soil type, groundwater connectivity, yearly rainfall, slope, roading and ditch impacts, or whether grazing will be allowed within setbacks, making it impossible to assess their effectiveness.

Response: See Response to EPIC-6 and also see RTC# 31 in Section II: Response to Comments on the Draft Order.

EPIC-20: The commenter cites specific health complaints documented in the scoping record including acute spray drift exposure symptoms and chronic symptoms reported by residents, and notes the scoping summary records concerns about pesticide exposure, chronic illness, contaminated soil, and school adjacency.

Response: See Response to EPIC-12. For responses on community health impacts, see RTC #4 and RTC #8 in Section II: Response to Comments on the Draft Order.

EPIC-21: The commenter argues Water Code section 13149.2 requires programmatic findings on tribal impact, environmental justice, and racial equity when issuing WDRs, and that the Draft EIR must provide the analytical basis for those findings. The commenter argues the Draft Order's section 13149.2 analysis is cursory and insufficient.

Response: See RTC #19 in Section II: Response to Comments on the Draft Order.

EPIC-22: The commenter argues that lead agencies receiving state or federal funding should include a disparate impact analysis in their CEQA analysis under both Cal. Gov. Code section 11135 and Title VI of the Civil Rights Act of 1964, and should include less discriminatory options in any alternatives analysis.

Response: First, neither existing statutory requirements nor case law integrate California Government Code section 11135 or Title VI of the Civil Rights Act into a lead agency's obligations under CEQA. Second, the commenter misconstrues the

scope of the environmental analysis under the Draft EIR. The Draft EIR sufficiently evaluates whether the Draft Order may have a significant environmental effect, identifies alternatives, and discloses possible ways to reduce or avoid possible environmental harm, appropriately taking into account environmental baseline conditions. Agricultural activity in the Smith River Plain and associated discharges are ongoing and part of existing environmental conditions. The purpose of the Draft Order is to provide a regulatory structure to minimize discharges of waste and to prevent adverse impacts to water resources—in protection of beneficial uses of those waters, including tribal uses—from agricultural activities. While the Draft EIR acknowledges potential impacts from implementation of Draft Order provisions, the Draft Order is specifically designed to support improvements to existing water quality conditions impacts by discharges from lily bulb operations. Therefore, even though implementation of the Draft Order could result in the impacts described within the Draft EIR, its primary purpose is to address water quality impacts from ongoing agricultural activities, including impacts to connected disadvantaged and tribal community. Finally, the Proposed Order includes findings pursuant to Water Code section 13149.2, which address anticipated water quality impacts, environmental justice concerns, and measures to address water quality impacts.

ELF-32: The commenter argues the DEIR's alternatives analysis falls short by failing to meaningfully analyze an alternative that would prohibit or phase out lily bulb cultivation in the most sensitive areas of the Smith River Plain, despite scoping comments expressly requesting evaluation of halting lily bulb farming and restoring the estuary.

Response: See Response to EPIC-10. Additionally, the Board's regulatory authority to impose additional prohibitions would apply to the discharge of waste, not the regulated activity itself.

CDFW-17: The commenter, as a state Trustee Agency, agrees the DEIR's assessment of the Order as largely beneficial to biological resources but recommends strengthening. The commenter's only DEIR-specific comment is a refinement of Mitigation Measure BIO-1: rather than advising enrollees to avoid and minimize disturbance, the commenter recommends explicitly restricting new construction to the footprint of existing fields outside Streamside Areas. If construction would encroach into Streamside Areas or extend beyond the footprint of existing fields and appurtenant field roads, the enrollee would have to assess habitat conditions and undertake additional environmental review and permitting, as described in the mitigation measure.

Response: The North Coast Water Board appreciates the California Department of Fish and Wildlife (CDFW) review of the Draft Environmental Impact Report (DEIR) and acknowledges CDFW agreement that the proposed Order is largely beneficial

to biological resources. The Board values the CDFW role as a state Trustee Agency and its input on strengthening protections for sensitive biological resources.

The Board has carefully considered the CDFW recommendation to explicitly restrict new construction of management practices to the footprint of existing fields outside Streamside Areas, rather than the current framework of advising enrollees to avoid and minimize disturbance.

After thorough review, the Board finds that the existing mitigation framework, as drafted, already achieves the protective outcome CDFW seeks and satisfies the CEQA standard requiring mitigation measures to reduce potentially significant impacts to a “less-than-significant level” (Pub. Resources Code § 21002; CEQA Guidelines §§ 15091, 15126.4). Specifically:

Mitigation Measure BIO-1 establishes a comprehensive, tiered avoidance-first hierarchy requiring Enrollees to:

- Avoid and minimize disturbance of riparian, wetlands, and other sensitive vegetation communities as a first-priority measure;
- Avoid and minimize disturbance to areas containing special-status plant or animal species;
- Where construction in areas that may contain sensitive biological resources “cannot be avoided”, conduct an “assessment of habitat conditions”, including potentially retaining a qualified biologist to perform biological assessments and/or wetland delineations;
- For activities proposed during nesting season, perform surveys for nesting birds and avoid nests/young; and
- Where “adverse effects on sensitive biological resources cannot be avoided”, undertake “additional CEQA review” and develop a “restoration or compensation plan in consultation with CDFW” to mitigate the loss of resources.

Mitigation Measure BIO-2 independently requires that for activities affecting lakes, streams, and associated riparian habitat, enrollees must “notify CDFW pursuant to Fish and Game Code section 1600 et seq”, comply with any Lake and Streambed Alteration Agreement issued, and obtain applicable permits from the Regional Water Quality Control Board and Army Corps of Engineers pursuant to the Clean Water Act.

Taken together, BIO-1 and BIO-2 create an integrated protective framework under which any construction that could affect Streamside Areas or sensitive habitats—whether within or beyond existing field footprints—is subject to mandatory avoidance measures, habitat condition assessments, additional CEQA review, CDFW consultation, and applicable Fish and Game Code section 1600 permitting. An enrollee cannot proceed with construction in such areas without first exhausting

avoidance alternatives and, where avoidance is infeasible, completing the full suite of assessment, review, and consultation steps prescribed in these measures.

Under CEQA, mitigation measures need not adopt every specific formulation recommended by commenters, provided the measures as adopted will reduce potentially significant impacts to less-than-significant levels (Pub. Resources Code § 21002; CEQA Guidelines § 15126.4). The Board finds that BIO-1 and BIO-2, as currently drafted, meet this standard and no revisions to the mitigation measures are necessary in response to this comment.

North Coast Water Board staff looks forward to continued coordination with CDFW on implementation of the Order and associated biological resource protections.

CCR-3: The commenter argues the DEIR spends considerable time on agricultural land impacts and sediment and temperature considerations but relatively little on pesticides, with no mention of cumulative impacts on endangered species or water quality from the application of a combination of toxic pesticides.

Response: See Response to Comment EPIC-9 for a discussion on cumulative impacts analysis in the DEIR. See RTC #60: Cumulative/Synergistic Pesticide Toxicity in the Response to Comments on the Order for a discussion on synergistic pesticide toxicity and Water Quality Benchmarks.

CCR-7: The commenter requests written acknowledgment in both the Order and EIR that cumulative impacts from the application of a variety of pesticides are more severe than individual pesticides as measured by the proposed monitoring program.

Response: See Response to Comment EPIC-9 for a discussion on cumulative impacts analysis in the DEIR. See RTC #60: Cumulative/Synergistic Pesticide Toxicity in the Response to Comments on the Order for a discussion on synergistic pesticide toxicity and Water Quality Benchmarks.

HFMA-13: The commenter argues the preferred EIR alternative must include all three Project Objectives if “minimize” is removed from Objective #1, and that Objective #2 (“effectively track and quantify achievement of the stated objectives over a specific, defined time schedule”) cannot be met under the described Monitoring and Reporting Program.

Response: See Response to EPIC-4 and EPIC-10. For a response on the timing of the adaptive management requirements of the Order and its relevancy to the Nonpoint Source Policy, see RTC #43 in Section II: Response to Comments on the Draft Order.

Dettmar-9: The commenter argues the Order and EIR fail to address cumulative impacts from multiple pesticides applied in combination.

> **Response:** See Response to EPIC-9 and RTC #60: Cumulative/Synergistic Pesticide Toxicity in Section II: Response to Comments on the Order for a discussion on synergistic pesticide toxicity and Water Quality Benchmarks.

Dettmar-15: The commenter requests that cumulative pesticide impacts be explicitly acknowledged in both the Order and EIR.

> **Response:** See Response to Comment EPIC-9 for a discussion on cumulative impacts analysis in the DEIR. See RTC #60 in Section II: Response to Comments on the Draft Order for discussion on synergistic pesticide effects.

St.Clair-1: The commenter states that the EIR fails to address the 40-year buildup of toxins in the sediment of our estuary.

> **Response:** See Response to Comment EPIC-9 for a discussion on cumulative impacts analysis in the DEIR. See RTC #60 in Section II: Response to Comments on the Draft Order for discussion on synergistic pesticide effects.

St.Clair-2: The commenter states that the "No Project" alternative is insufficient and demands a Zero-Detection standard and an alternative that mandates the complete elimination of toxic discharges into the Smith River.

> **Response:** See Response to Comment EPIC-10 for a discussion on the “No Project Alternative” in the DEIR. See RTC #38 in Section II: Response to Comments on the Draft Order for discussion on a ‘no discharge’ standard.

Index 1: Comments on the Draft Order and the Draft EIR

Part 1: Comments on the Draft Order

Comment #	Comment Text
AW-1	For clarity the water board should a definition of what it expects staff to adhere to in order to meet the "early as possible" criteria in the permit and policy planning processes. Define the response time that outreach shall begin as "immediately after the meeting or decision is made to begin a new permit or policy." This makes it clear how to prioritize outreach and that it be done immediately from the start of these processes. Getting actual engagement is very difficult. Getting responses and commitments of any stakeholders is also very difficult. As a result, these collaborative community processes are failing.
AW-10	True North is actually a front organization that works directly with Del Norte County and Tolowa governments to roundup and silence potential change agents in our community. True North functions to maintain the status quo of exploitation by the powerful in Del Norte County what the locals call the "Good Old Boys Club". True North profits off of the backs of our disadvantaged and tribal members! This responsibility should stay with waterboard staff in the future.
AW-11	Staff has NOT satisfied outreach requirements in WC 189.7(a). Instead of satisfying water code 189.7(a), waterboard staff pushed this important responsibility onto a dishonest NGO that was recommended by our county supervisor(s). Waterboard staff failed to do the following: WC 189.7 (D) Soliciting community recommendations for future projects to be listed on regional board supplemental environmental project lists. This regional waterboard should NOT contract this vital work out and should instead use their existing staff to ensure satisfactory completion.
AW-12	The public outcry verbal comments on 10/21/2024 were disregarded according to Brenna Sullivan because that was only "an informational meeting". This was not communicated to the public in any way by waterboard staff nor True North, contracted by waterboard staff. This is deceptive and the board and executive staff must change the criteria for public engagement to actually honor public feedback anytime it is received and to direct the public giving oral comments if those comments will not be considered in the development process unless they are submitted in writing or any other information they ought to know regarding their feedback.

AW-13	The three tribes that replied to the notice should be listed explicitly and whether or not they agreed to participate. Note that as a TAG member I did not see or hear any other tribe involvement besides Tolowa Dee-ni'.
AW-14	The Tolowa administration has marital ties to the lily growers as well as financial interests in the lily bulb industry. It is a well-known fact that Rob Miller of Dahlstrom Watt is married to Kara Miller who is a Tolowa member and served on their Tribal Council for over a decade. During which she forbid water testing below the doctor Fine Bridge. Kara Miller is the CFO for Dahlstrom Watt bulbs and their son Kurt Miller is the Director. Kurt Miller is listed as Chair of the Tolowa Natural Resources Harvesting Committee. These inherent conflicts have kept the poisoning of the people and animals of Smith River going. To say that affected Tribal members needs were actually represented by the administrative staff employed by the Tolowa Nation is not accurate.
AW-15	I strongly urge the waterboard to specify in their future approaches that tribes from outside the immediate area be involved to appropriately advocate for indigenous rights and member voices. As a neighbor and advocate for the actual tribe membership, I experienced retaliation by Tolowa staff. Including lies about my speaking on behalf of the administration when I only ever gave voice to the individual members I know and for those who died from the lily bulb pesticide contamination of their homeland. These political conflicts must be acknowledged by the waterboard so corrective actions can be taken to counter this in future processes.
AW-16	The five year time limit for land used for growing bulbs is insufficient because their copper use began many years beforehand and the accumulated copper in these soils poses a long-term threat to salmonids. This toxic soil ends up in the water from stormwater and winds. Therefore, a lily bulb operation should refer to land used for lilies in the past 20 years, not merely 5 years. These soils are toxic to endangered species and copper does not breakdown, copper is a metal that binds to soil. I learned this from conversation and emails with Chemist Matt Hurst – referenced in this order for his field studies.

AW-17	There is an abundance of data that this waterboard has acquired to make the determination that there are site-specific conditions which make a commercial lily bulb operation NOT eligible for coverage under the General Order and thus should issue Site-Specific Individual WDRs to protect water quality. This is evident for fields that drain to the following waterways as explained on page 18 of the Draft; 1) Delilah Creek, 2) Tillas Slough, 3) Rowdy Creek.
AW-18	How will this notice requirement be assured by the waterboard? I recommend that this not be the sole responsibility of the enrollee. The non-enrollee owner/operator should be informed by the waterboard who is the actual enforcement authority of this order. Especially considering the landowner and the operator will be held liable for noncompliance as stated in 37) on page 11. This notice requirement must be the waterboards responsibility.
AW-19	It has been determined by NOAA fisheries since Dec 2018 that the lily growers are violating illegal take provision in the ESA (section 9). Therefore, all growers should be required to obtain authorization for this incidental take PRIOR to construction or operation of the project. This authorization should be a requirement that is met by growers prior to enrollment in this WDR.
AW-2	The way to fix this is to allocate money to actually pay for regular people that are directly affected by the permit or policy activity so that they can engage meaningfully on a consistent basis and therefore adequately contribute to the development of these impactful decisions.
AW-20	The composting and use of cow manure from dairy and beef operations in Smith River is contributing to the high levels of nitrates in our waterways which have a polluting effect. Quick incorporation into the soil is very important to reduce nutrient runoff. This WDR should include the data from studies conducted by SARE Sustainable AG Research & Education, factsheet "Cultural Practices for root knot & Root-lesion nematode suppression in veg. crop rotation". The lily grower's fertilizer practices can directly improve water quality and reduce nematicide pesticide use if they start to use poultry litter instead of cow manure. Local dairy Alexander Farm has chickens for eggs and they can provide poultry litter. The lily growers can begin using chickens themselves for this purpose as well as to rotate after using marigolds in crop rotation which also attract nematodes into their roots and release a nematicidal compound as they grow.

AW-21	I do not support this WDR including Third-party programs that will take even more time to recreate existing compliance mechanisms at the waterboard. The lily growers have demonstrated over the past 15 years that they are not cooperative in taking meaningful action to reduce water pollution. This fact should prohibit any suggestion of a self-governing component such as is being proposed in this section. It is well established that the ongoing delays by the waterboard in developing a proper WDR since 2012 has facilitated continued noncompliance to water quality standards by these growers. Now this section is proposing to allow further delays of no less than 6 months after the enrollment deadline for the benefit of enrollees at the continued cost to the public. This is an emergency order and we face ecosystem collapse because of ongoing, gross preferential treatment of the lily growers! The waterboard must retain all oversight authority in this order.
AW-22	Copper must be banned for use in Del Norte county when there is any possibility for entry into our waterways. The waterboard has failed to utilize its MAA with CDPR or to work effectively with Del Norte county ag commissioner Justin Riggs, to fulfill their mutual agency purposes of protecting the public health and safety and the environment from harm. The waterboard must correct this right away and actually collaborate with CDPR California Dept, of Pesticide regulation in order to properly uphold state law in both agencies of our EPA.

AW-23	This Section should include the grounds and authorities of the CAC to immediately take the steps to ban copper, as follows: The CAC has the authority (FAC section 14006.6) to require a permit for the agricultural use of a non-restricted pesticide. To implement this provision, the CAC must make a determination that the pesticide cannot be used under local conditions without presenting an "undue hazard." Once made, the determination is permanent unless a sunset provision limiting the effective period is included. CH 9.1 Grounds and time frames for immediate suspension: Whenever the CAC has reason to believe that continuance of a permit endangers the public health, safety, or the environment, the CAC, without prior notice, may immediately suspend the permit. Grounds based upon FAC §14006.5: No permit shall be granted if the commissioner determines that: There are demonstrated serious uncontrollable adverse effects; The use is of less public value or greater detriment to the environment than the benefit received by its use; or There is a reasonable, effective, and practicable alternative material or procedure that is demonstrably less destructive to the environment. [About 3 CCR §6444] If it appears that a substantial loss, damage, or injury is likely to result from the continued application of a specific pesticide within the area, the Director or CAC may cancel all permits for applications of that pesticide within the affected area. It is well known that salmonids are endangered in many watersheds in CA and copper is proven to be a critical contributing factor, therefore banning copper statewide should be done as soon as possible.
AW-24	Buffer set-backs must be protective of all pesticides used and Ethoprop label requirements state "do not apply within 800 feet of Brackish water habitats". This is the standard set-back that must be required throughout the Smith River estuary/wetland area. Anything less is a knowing pesticide label violation and is a crime with penalty of 30 days jail and/or $1,000 fine [Statute 7 U.S.C.136l(b)(1)(A)], Regulation 40C.F.R. 152-186. Note that brackish water is the same and is protected habitat regardless of location ie. Pacific vs Atlantic.
AW-25	The BMPs implemented so far by lily growers are not adequate and this order should require proof of increased levels of BMPs being implemented on-site as a requirement to be met before enrollment is approved.

AW-26	Self-reporting in the water code does not prohibit additional monitoring by waterboard staff to ensure implementation and effectiveness. The public have been very strong in expressing the need for this oversight by the waterboard. Please add a specific annual schedule or times per year that staff will conduct inspections and review documents to this section. Eliminate the vague term "periodic".
AW-27	Since this order requires enrollees to use adaptive management to establish individual compliance it is necessary that all enrollees be issued site-specific monitoring and reporting requirements to identify sources of exceedances. Also, this section should include the waterboard to perform edge-of-field monitoring even if the enrollee does not "elect" to do so themselves. We need to be as efficient as possible in identifying sources of exceedances so that we can require effective BMPs be implemented.
AW-28	As already well-established by the waterboard and growers over the years, the fields that are potentially draining to 1)Delilah, 2) Tillas, and 3) Rowdy must require increased Tier BMP implementation before enrollment. These areas do not need further evidence that the current practices are insufficient. Ongoing voluntary Adaptive management by the growers have already identified the need for better BMPs in these surrounding areas. And this fact must be added to this section.
AW-29	CDPR and CAC Riggs are not upholding their responsibilities to protect from pesticide harms. The waterboard is not effectively working with these divisions of our EPA to fulfill the purpose of the MAA created in 2019. This section clearly identifies ongoing death to aquatics from these pesticides: Diuron, Imidacloprid, Permethrin, Copper. Page 18 of the draft lists Ethoprop as well. The necessary steps to ban the use of these pesticides must begin immediately and I have provided the grounds and authority to do so on pages 7 and 8 of my comments. The waterboard has the pertinent data that fulfills the evidence of significant adverse impacts requirement for CDPR and CAC Riggs to meet. Please make this a top priority and please clearly list these facts in this section.
AW-3	Please take steps to implement a standard that stakeholders who do not meet a minimum required level of participation (perhaps 75% of meetings and written comments) be declined participation in future processes.

AW-30	Multiple alternatives are feasible and are proven to be effective. This fact must be included in this section. Alternatives include: • Cultural Practices for Root-Knot and Root-Lesion Nematode Suppression (SARE) • Nematicidal Amendments and Soil Remediation • Constructed ditches for farm pollution filtration • UC ANR Native Grasses for biofilters • Bioretention Cells providing 10-fold reduction of pollutants (American Chemical Society 2023) • Native Plant Selection for Biofilters and Rain Gardens • Biochar for soil remediation (USFS)
AW-31	Two studies conducted by the Easter Lily Foundation for the benefit of the lily growers were given to me by Chelsea Gronchowski at our Del Norte County Agriculture office, and both show successful alternatives were identified, results were published 2011, and 2020. The results were known to lily growers beforehand. In one study (Giraud et al. 2011), these five were successful performers: Meadowfoam seed meal (MF), Quillaja (QU), DiTera (DT), the fungi Paecilomyces lilacinus (PL), Muscodor albus (MA). In the other study (Westerdahl et al. 2020), these four were successful: DuoGard, EF400, EF300, Cinnamite. The fact that the lily growers did not implement a single alternative following the 2011 study identifying FIVE successful alternatives, and did not implement a single alternative following the 2020 study identifying FOUR more successful alternatives, when the stated overall goal of these studies was reducing pesticide use proves the lily growers have engaged in purposeful and malicious negligence of mitigating a known public nuisance. This is a CRIMINAL act.
AW-32	The toxic Copper build-up in the soil is described in this section and supports the ban on copper use in Del Norte County and statewide as mentioned earlier in my comments.

AW-33	This section makes the case for immediate implementation of all available alternatives to pesticides. See facts from 2017 studies review paper on elevated CO2 contributing to acidification in fresh-water and the biological consequences: "The pH of a water body indicates the proportions of dissolved inorganic carbon (DIC) specimens and is linked to the 'bicarbonate buffering system'. Acidification of freshwater can be classified as either strong or weak." "These negative impacts to olfaction may not be exclusive to fish, as invertebrates, such as crayfish also displayed reduced feeding responses due to impaired olfaction following exposure to strong acidification. In addition, freshwater mussels have been found to alter gaping behaviour during periods exposure to weak acidification, which could increase their vulnerability to predation." (Hasler et al. 2017, Hydrobiologia)
AW-34	The prevalence of cattle in this area and their distribution of fresh droppings as they graze – which are not incorporated into soil – the fields in rotation after lily bulbs, is likely contributing to the nutrient runoff. Utilizing poultry to follow cattle in the fields, breaks up cow droppings and contributes poultry droppings for a more balanced, natural fertilizer composition in situ. I highly recommend that this draft specifically list the many benefits of poultry in lily bulb cultivation practices. It is important to include this in BMPs section as well. Synthetic fertilizers should be discontinued because they do not incorporate into soil structures as well as naturally derived composts.
AW-35	The prevalence of confined dairies and beef cattle grazing is the main source of nitrates in Smith River. The dairy order needs to be enforced and management of nitrates need to be improved. For this lily bulb order and the dairy order waste water discharge must have plant filtration like bioswales near the discharge sites so that water levels of nitrates and other contaminates can be filtered out before reaching waterways. Effective filtration of irrigation well water needs to be implemented as well, especially at the three wells that tested high for Public Health standards as referenced on page 23 of the draft.
AW-36	Coalitions do not relieve the waterboard from its responsibility to provide effective oversight and to inspect, test, and verify compliance on a clearly defined schedule, and must be listed explicitly in this WDR.

AW-37	The fact that the lily grower practices have created a large and ongoing public nuisance must be stated in this order. The consequences to the growers if their monitoring results continue to visit these damages to public resources and health, must be clearly listed here or in the enforcement for non-compliance section, or both.
AW-38	This section should also note the fact that our government agencies NOAA, CDFW, USFWS have all failed to take appropriate action in response to this ongoing public nuisance and have continued to fail to uphold the protective laws they are responsible for. The waterboard should also officially request that these agencies finally take action in accordance with the laws in their scope and authority and that this waterboard WDR is not and has not been a valid excuse for them to neglect to take action while so many have suffered and died from pesticide pollution by the lily grower practices.
AW-39	Considering the fact that exceedances have continued for decades and these pesticides have devastated the ecology to such a severe degree, these exceedance benchmarks should NOT be listed two, instead this should be changed to "A single exceedance of…"
AW-4	There are many NGOs/nonprofits that are exploiting problems at the Community level which affect the local people negatively and are not sufficiently contributing to these processes. These groups lie about their actual involvement in these bureaucratic/regulatory processes. These groups enrich themselves with grant money to do work to improve these problems but do not do the work. These groups do not participate by contributing ideas suggestions asking clarifying questions They do not participate in person or when they're on zoom, Instead, they sit back and do not speak! They're lazy, they do not show up consistently, they do not provide written comment consistently. Cal Trout, Smith River Alliance, EPIC, Friends of Del Norte, ELF/Save CA Salmon (petitioned the State Board in 2018 only to do nothing for 6 years while regional staff took no action in-line with the order to develop a WDR permit! Siskiyou Land Conservancy – all talk and long-winded written opinions while taking no official action taken to stop pesticide permit in 25 years.
AW-40	Due to the growers choosing not to plant natives when recommended to for years by multiple experts in this voluntary work with the waterboard, the critical shade needed to cool water temperature needs to be created by laying large tree trunks over waterways to cast their shadow in key locations. This needs to be done urgently as well as planting native trees and shrubs in riparian areas. These are implementable actions that the waterboard must take. Permission for this to occur on lily grower lands must be a requirement of enrollment. Cool water is not optional in order for endangered species to recover.

AW-41	The degradation of the natural resources and beauty of a natural treasure. This has affected the public's enjoyment and this still adversely affects tourism, which is the last real economy left in our rural area. When the waterboard repeatedly came and confirmed testing showing toxic levels of poisons in our water, 1982 / 2002 / 2013 / 2016-2017 this should have been the catalyst for IMMEDIATE ACTION! Death of COHO from pesticides is documented beginning in 1957 when over 2,000 fish perished in Morrison Creek. In 1982-1983 pesticide contamination in Smith River wells was documented, some of which were fifty times higher than EPA's Public Health Goal. AGAIN, in 2002 scientists detected a dozen wells still contaminated with 1,2-D. The fact that periodic outcry over decades by neighbors about the suffering they have been made to endure because of the lily grower ongoing use of pesticides were repeatedly disregarded by the Westbrooks, Crocketts, and the Millers has deeply damaged trust and community culture here.
AW-42	The result is a stagnant county that has persistent loses in population and great difficulties recruiting and retaining employees to fill vital positions needed for residents of all ages to have access to necessary services. The far-reaching effects of this harm and the disregard towards human, animal and environmental health cannot be quantified. It is catastrophic. I sincerely hope that this situation in Smith River wakes up the North Coast Regional waterboard and staff so that you radically change your focus to be to react immediately when people are suffering as a result of water quality issues. Prioritize safety not those with more political power and resources.

AW-43	This WDR must consider the costs and burden visited upon the public and the dire situation that has been created through this waterboard's failure to conduct a meaningful development of a WDR in a reasonable amount of time. The costs to enrollees is no where close to the severe costs to public health, resources and the benefits of these to future residents. The most important consideration is that this WDR be given proper oversight by the enforcement authority in order to actually ensure water quality and safety. Water Code 13260 (d)(1)(B), "The total amount of annual fees collected pursuant to this section shall equal that amount necessary to recover costs incurred in connection with the issuance, administration, reviewing, monitoring, and enforcement of waste discharge requirements." The costs for this lily bulb WDR exceed the amount that is determined in the Tier A Agricultural Lands fees schedule. The waterboard could increase the annual fee for however many years it takes to properly recover the actual costs incurred.
AW-44	State waterboard fees may change from year to year. This WDR requires a request to the State board or proper authority to request a fee alignment that is reasonable to recover the actual costs incurred by the waterboard in its development. The current fee amounts are not reasonable to recover costs from monitoring, reporting, management practices that may be needed pursuant to the order requirements.
AW-45	The fact that NRCS provides multiple monetary resource mechanisms must be listed in this section. The fact that the costs for each of these BMPs are ONE-TIME COSTS must be listed in this section. As well as the fact that there are multiple grant sources and organizations that will provide the labor and materials FOR FREE to the growers if the growers give them permission to do this work must be listed in this section. I verified with Smith River Alliance Grant Werschkull that they have not been given permission to perform any water quality restoration projects on lily grower property – in over 30 years. The fact that the costs to implement these practices are not a burden on the growers, but are paid for through many government and NGO programs absolutely must be stated in this section. So, the costs range estimate statements at the end of each practice must be corrected to start at Zero. This section should prominently acknowledge that these practices yield an overall cost benefit to growers by reducing the costs of chemical inputs.

AW-46	This section must explicitly state specifically how the waterboard will appropriately enforce every violation. The fees collected by these WDR from enrollees are to fund enforcement efforts, so any shortfall the waterboard has in enforcement resources is direct evidence for the need to INCREASE fees collected from enrollees. The waterboard should prioritize reduction of litigation costs by focusing on collaboration efforts with enrollees on the front end to guarantee compliance instead of fighting to correct non-compliance through legal mechanisms that enrich lawyers. Enforcement provisions should be evaluated to identify ways to reduce enforcement costs, specifically by creating prevention processes that are reasonable and feasible for staff to accomplish in partnership with potential enrollees.
AW-47	It is well established that the harms caused by the lily bulb crop requires swift and immediate enforcement response for any further non-compliance. It is staggering the amount of devastation and suffering that has been visited upon the public and the neighbors of these growers.
AW-48	Any instance of noncompliance constitutes a violation of the water code. This section should specify the enforcement action that will follow. It is not reasonable for this order to leave this vital section incomplete with vague statements about determining relative significance of violations to prioritize responses. This section must be clear about the violations from this crop and the high significance of any further violations which therefore justifies swift and immediate enforcement and then list the specific action that will be taken.
AW-49	This section must include the pesticide label requirement of Ethoprop for 800 feet away from brackish water habitat. These labels are state law and must be abided by. Prioritization of installation of large wood to cast shade and cool the waters while native trees and bushes are planted and will take time to grow and cast the necessary shade must be stated in this section.
AW-5	Same problem with government workers–who barely utter a word at meetings, share no ideas, no practical solutions and then only some provide written comment. This is outrageous! NOAA, County Dept of Agriculture, NRCS, CDFW, CDPR the villains lurking in the background on Zoom while life at all levels is being annilated by the products that they promote and profit from when they are supposed to regulate and protect from these harms! Unforgivable.

AW-50	This section must clearly state that adaptive mgmt. has been voluntarily conducted by lily growers for several years and that it has been determined that existing practices are still not sufficient to protect water quality and beneficial uses, therefore enrollees are required to prove implementation of improved practices prior to enrollment. The waterways with the most exceedances make it clear which fields in proximity must meet this requirement. This is mandatory for waterboard compliance with the law and purpose of this WDR order.
AW-51	This option 1 should be eliminated based on the fact that the growers have clearly demonstrated that their choices over the past 14 years have not been sufficient to mitigate water quality exceedances and their poor judgment in the selection of practices to implement. The growers have been repeatedly informed over these 14 years by multiple experts at multiple government and NGO divisions which management actions were vital. In response, the growers disregarded not only these facts but also the free help that has been available to them. These facts of repeated and ongoing bad-faith by the easter lily growers justify the elimination of Option 1 and demands that any WQ Mgmt Plan be certified and be created by a professional specifically in the alternative and regenerative agriculture field of study. This WDR is an EMERGENCY per Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. The time that giving this grower developed WQMP option affords is in direct conflict with the purpose of this regulation.
AW-52	This section must define clearly who is considered a qualified professional. It is important to note that restoration and salmonid recovery plans already developed and ready to utilize include these criteria and are available to the growers right now from NOAA fisheries and Smith River Alliance. NRCS of USDA and FSA also has the resources and plans for sustainable and regenerative agriculture practices. These facts make giving the option to the growers to attempt to recreate the wheel instead of utilizing the ample resources and expertise at their disposal completely outrageous, unreasonable and a violation of the law. Option 1 must be eliminated from this WDR.

AW-53	The pesticides listed here have proven effective alternatives and those should be included in this section instead of presenting these 4 extremely deadly pesticides as being inevitable to grow this crop. Copper, Imidacloprid, Diuron, and Ethoprop are all pesticides that this order should incentivize and direct the phasing out of these extremely toxic/deadly chemicals. This could be done in this section by listing reduced application rates as the benchmark to be achieved and recommend the alternatives that would allow for their reduced use. Can the waterboard please stop pretending that there are no solutions to these deadly chemicals? If we have sufficient surface water provisions they will benefit the groundwater quality too.
AW-54	Self-reporting does not safeguard human health or the environment! 24-hour requirements of reporting already in existence such as Health and Safety Code 105200 for 24-hour pesticide incident reporting medical staff is not adhered to in Del Norte County. This lack of compliance directly contributes to the ongoing hazards because the regulatory entity never gets the info required for them to be aware of and to appropriately respond to safety concerns affecting humans wildlife and our environment.
AW-55	Sutter Coast Hospital staff are grossly incompetent and it took our county Agriculture Commissioner's office employee Chelsea Gronkowski several months to finally get hospital staff to submit the pesticide incident report that should've been reported within 24 hours of the incident on August 15th 2024. The patient told ER staff that she was sprayed with pesticides due to a drift incident from neighboring property on Oceanview Drive in Smith River CA owned by Rob Miller of Dahlstrom Watt Lily bulbs.
AW-56	Required reporting must come from an audit process initiated by the State. State staff should pull data (generate and download reports) from the software that compiles the reasons for patient visits to emergency rooms and medical providers in order to monitor for incidents and identify hazards in the local communities. The Regional Water board staff could conduct similar audits of county level agriculture department staff's surveillance work; whereby state water employees accompany county staff during their surveillance activities on a regular basis. This on-the-ground surveillance and monitoring via audits of the county level databases would actually identify noncompliance or other incidents of violations to this WDR permit and its requirements.

AW-57	At this point no more adaptive management is sufficient to protect from further harms to human health wildlife and our environment. This order must mandate that implementation of all of these alternatives (proven effective as previously described), be a requirement in order to enroll in the Lily bulb WDR permit. Anything less is negligence of the law. If enrollees will not provide evidence of implemented alternatives, then they must be denied enrollment in the permit until which time evidence is provided and verified by water board staff. These requirements are reasonable so the growers have no valid reason to object to them. Because of the ongoing assault of toxic chemicals in Smith River watershed's vital wetland estuary, our ecosystem is on verge of collapse! The waterboard must stop this NOW. Taking ALL reasonable steps to PREVENT this is mandatory.
AW-58	You must cite explicitly which law gives this right of inspection and entry and also specify that no notice needs to be given to enrollees prior to inspection and entry. Also list what specific consequences enrollees will face if they interfere with or deny inspection and entry by state staff.
AW-59	List the consequences for enrollees who do not comply with reporting requirements.
AW-6	Same problem with the Easter Lily growers! The Westbrooks never attended a single meeting, Linda Sutter never spoke a word when she attended three meetings, Rob Miller was the only one to consistently attend meetings and he barely made comments and refused to answer any questions after the meeting. This is not the collaboration that is intended by the technical advisory group and to get all the stakeholders involved together. This is not successful processes to develop permits and policies. Please take steps so that you stop enabling this, the public deserves better.

AW-60	List the legal basis for a public disclosure exemption by what law(s). Also explicitly list the definition of what constitutes a proprietary or trade secret info/data. List what evidence is required from enrollees to prove the proprietary and trade secrets criteria. Public transparency laws exist so that we can be accurately informed and so we can protect and defend our rights and provide government oversight in our vital role of citizen. Our Freedom of Information Act, State and Federal Constitution Provisions cannot be overruled by this WDR permit. An explanation by enrollee is not sufficient - they must be required to provide evidence that proves the exemption is warranted. Explicitly list the qualifiers that water board staff will use to assess the exemption legitimacy. Describe the records that will be kept by water board staff to document that qualified the exemption legitimacy prior to approval.
AW-7	Correct to "which has impacted…" and delete "may impact". Note a list of proof of disadvantaged and tribal community impacts that have and are occurring is given under comments for page 41 119) Social & environmental costs.
AW-8	This is not correct. TrueNorth did not distribute Flyers to the neighbors most likely affected in Smith River. Instead, Smith River resident Marilyn Gray distributed them herself in person throughout Smith River – no one helped her! I confirmed this with a TrueNorth member - Jonnel Covalt. True North generally only distributes Flyers and info to a limited amount of people that are on their email list and on local bulletin boards once in a while.
AW-9	Specifically regarding this water board process, True North suppressed public comment and misled locals to the purpose and impact on the permit of their oral comments given on October 21 2024. True North purposely buried the list of commenters to silence them. Waterboard employee, Brenna Sullivan aided them in doing so – I have the email correspondence of this. True North has refused to help several locals over the years to pursue social justice including regarding this ongoing pesticide poisoning in Smith River.

Baker-1	These comments, on behalf of the Klamath Forest Alliance, urge you strengthen the Draft Waste Discharge Requirements governing commercial lily bulb operations on the Smith River Plain to ensure full protection of water quality, beneficial uses, and the extraordinary ecological resources of the Smith River watershed. The record already shows pesticide detections, copper exceedances, and impaired waterways linked to agricultural runoff. The Board has the authority, ability and legal duty to protect this high-quality river and prevent further degradation. It must require strict enforceable limits with zero exceedances of pollution thresholds to protect water quality, fish, wildlife, and the communities that depend on the Smith River.
Brockington-1	Commenter, writing from Arcata, CA, draws on personal experience with a former bulb farm near the Mad River in Arcata, which she recalls as being 'loved' by the community but ultimately affected by too many pesticides. She urges the Board not to allow pesticides in the Smith River, submitting an informal personal comment that does not follow the standard form letter structure.
Butler-1	Commenter, writing from Freshwater, CA, submits a brief personal plea urging the Board to allow no more pesticide discharge from lily bulb fields in the Smith River drainage and to protect nearby residents and all other living creatures in the lily bulb growing district. Does not use the standard form letter structure.
CCR-1	In reviewing your recent General Waste Discharge Requirements Order (the 'Order') for Commercial Lily Bulb Operations and the associated Environmental Impact Report (EIR), I find two significant areas of violation of 1) the Endangered Species Act of 1973 and succeeding amendments / modifications, and 2) your own stated agency objective "to exercise its full power and jurisdiction to protect the quality of the waters in the state from degradation and to attain the highest water quality which is reasonable..", as well as the federal Clean Water Act.
CCR-2	The first violation is the impacts to and degradation of Critical Habitat for Endangered Species. Coho Salmon and the Tidewater Goby both have Critical Habitat designation in the low flow, low lying tributaries to the Smith River estuary, exactly where lily bulb pollutants impact the most, and which have the highest chances of exceeding the benchmark toxics levels. These are specifically Delilah Creek and Tillas Slough. I was shocked to see (paragraph 6, p. 5) that "in 2026, Delilah Creek was added as impaired for diuron, one of the herbicides used in lily bulb cultivation". This is after 4 years of voluntary adaptive management since the Smith River Plain Water Quality Management Plan (2021), and a glaring illustration that the Plan is not working.

CCR-3	The EIR for this Order spends much time discussing impacts to agricultural lands in the form of removing some acreage from farming due to adaptive management implementation, and also to sediment and water temperature considerations, but relatively little on pesticides, and there is absolutely no mention of cumulative impacts on Endangered Species or water quality from the application of a combination of toxic pesticides. Thus even though exceedance of individual toxins may not be reached, the cocktail of a combination of poisons that fish and wildlife (and people) are exposed to is not addressed at all. Please direct me to any section of the Order or EIR that addresses this if I have missed it.
CCR-4	The second violation is the open ended permission for this hazardous agricultural practice to continue indefinitely and complete reliance on growers implementation of management practices to achieve water quality objectives. Written in the Order (paragraph 158 p. 54-55) is the Progressive Enforcement action of "……culminating in a complaint for civil liability." Or (paragraph 159) "Enforcement and/or termination of coverage for waste discharges under this Order". This is only after there have been two documented exceedances which violate water quality objectives, which will take from 3 to many more years of impacts to listed species, human health, and other beneficial uses. That is many more years of damage to the Beneficial Uses of this water body for the commercial and sport fishery economy, tribal resources, Endangered Species, tourism, human health, and (what would be) the cleanest wild river in California, if not the whole west coast.
CCR-5	When I asked your staff the meaning of 'discretionary enforcement' at your 18 February Regional WQCB meeting, the only answer for a third exceedance was 'additional management practices', in other words, ongoing permission to contaminate surface waters with toxins. What you have done in developing this Order and EIR is to grant lily growers a permit to continue violating the ESA and California's water quality standards. This Order is more aptly called a Pollution Permit.
CCR-6	Given that your demonstrated plan is to continue with adopting and implementing this Order, Regardless of its flaws, my request is that you revise this draft to: 1) have an endpoint where a third exceedance of benchmark concentration of any pesticide or any form of copper results in revocation of the 'pollution permit'.
CCR-7	2) that you acknowledge in writing both in the Order and EIR that there exists a cumulative impact of application of a variety of pesticides that is more severe than individual pesticides as measured by your proposed monitoring program.

CCR-8	This request does not alleviate fact that the Order remains in illegal conflict with the ESA and the Clean Water Act, but it will at least allow for some real enforcement potential and lay the ground work for the necessary cessation of this truly criminal agricultural practice.
CDFW-1	The Smith River is one of the most pristine, undammed river systems in California, renowned for its natural beauty, biological diversity, and ecological importance. The watershed is recognized as a salmon stronghold and considered irreplaceable with respect to population resiliency and biodiversity. Although the upper watershed is protected through public land ownership, the estuary and coastal tributaries are subject to ongoing habitat loss and degradation associated with agricultural use. This lower portion of the watershed, known as the Smith River Plain, provides essential freshwater, estuarine, and wetland habitat for a diverse array of species and life history assemblages. At least 38 species of fish have been documented in the Smith River Plain (Parish and Garwood 2015), including those of cultural, recreational, and commercial importance. Virtually every species uses the estuary, tidal sloughs, and coastal tributaries during at least one life history stage.
CDFW-10	Many existing lily bulb fields have already implemented best management practices and conform to the Streamside Area setbacks as proposed in the Order. However, these practices have clearly been insufficient to curtail toxic conditions. Moreover, a recent study by Hurst et al. (2024) found that simple grass filter strips reduced the discharge of particulate copper by only 20 percent, did little to address dissolved copper, and were quickly overwhelmed during the winter storm season. Although sample size was limited, these results suggest that Streamside Area widths, particularly as proposed, are unlikely to result in significant reductions in copper discharge. Given the climate and hydrology of the Smith River Plain, even wider setbacks, such as those presented in Tier 1 Adaptive Management, may be inadequate as a standalone practice. The most reliable approach is to systematically reduce pesticide application rates in tributary watersheds with exceedances, as the North Coast Water Board originally recommended in its 2025 SWAMP Report. Normalized application rates of copper were highly correlated with predicted chronic copper toxicity, and imidacloprid showed a similar trend (NCRWQCB 2025). CDFW therefore recommends requiring attainment of active ingredient performance standards for all enrollees rather than presenting it as one of several options in Tier 1 Adaptive Management (Recommendation 1). The Order already contains innate delays associated with implementation; the baseline requirements should therefore be sufficiently robust to address water quality degradation on a biologically meaningful timescale.

CDFW-11	Given these regulatory constraints and the hydrology and soil type of the Smith River Plain, CDFW recommends increasing the minimum width of Streamside Areas to 100 feet on perennial streams and 50 feet on intermittent and ephemeral streams, as measured from the top of bank or edge of existing riparian dripline, whichever is greater (Recommendation 2). At least half of this total width should be managed as the Riparian Vegetation Area, as proposed.
CDFW-12	Although a simpler Vegetated Buffer may be appropriate for hydrologically connected ditches, the minimal ten-foot width currently afforded would directly undermine the larger setbacks required for streams. Hydrologically connected ditches should be treated as an extension of the stream system because they collect, concentrate, and expedite agricultural runoff, functioning as conduits for pollutant transport. CDFW recommends increasing the minimum width of Streamside Areas to 30 feet on hydrologically connected undesignated channels (i.e., ditches) (Recommendation 3), as currently proposed in one of several Tier 1 Adaptive Management options.
CDFW-13	Although CDFW understands the purpose of offsite mitigation, it does not support the Riparian Vegetation Area Restoration Alternative because the riparian component is fundamental to improving and protecting water quality and associated fish and wildlife values. A growing body of scientific evidence underscores the importance of riparian shade in lowering stream temperatures (Platts 1979, Bowler et al. 2012, Garner et al. 2017, Fuller et al. 2022), not to mention the myriad benefits associated with pollutant trapping and soil stabilization. Offsite mitigation may be suitable where it provides a net benefit to impacted ecosystems, but in this case, riparian restoration elsewhere in the sub-watershed would have no bearing on the fundamental problem of water quality degradation in core rearing habitat. Allowing offsite mitigation in lieu of meeting the Riparian Vegetation Area minimum widths would subvert the stated goals of the Order. If the North Coast Water Board chooses to retain the Riparian Vegetation Area Restoration Alternative, CDFW recommends requiring enrollees who select this option to first demonstrate attainment of water quality objectives and compliance with receiving water limitations despite reduced riparian setbacks (Recommendation 4).

CDFW-14	The Adaptive Management Program is integral to improving and protecting water quality in the Smith River Plain. CDFW supports the iterative process as well as the decision to enter all fields in tributary watersheds with documented exceedances into Tier 1 Adaptive Management upon enrollment. However, CDFW is concerned about the field-specific approach for all exceedances thereafter (H.5), which may prolong water quality degradation as individual fields rotate through crop production. Current practices have already proven insufficient and fields within a tributary watershed experience similar environmental constraints that may necessitate more advanced controls. With this staggered system, multiple salmonid cohorts could be exposed to toxic conditions in the three- to five-year crop production cycle before more advanced controls finally take effect throughout the watershed. Instead, CDFW recommends a unilateral approach whereby all fields located within the affected tributary watershed shall be subject to the Adaptive Management Program, regardless of crop status at the time of the exceedance (Recommendation 5).
CDFW-15	To account for site-specific conditions and provide a pathway for exemption from Adaptive Management requirements, the North Coast Water Board could allow an enrollee to instead implement edge-of-field sampling to demonstrate attainment of water quality objectives and compliance with receiving water limitations, as described in H (3) (Recommendation 6). A more systematic approach to Adaptive Management cannot undo decades of water quality degradation, but it may compensate for the inevitable delays associated with the initial implementation of the Order.

CDFW-16	The Monitoring and Reporting Program is essential to evaluate the effectiveness of the Order's terms and conditions, assess compliance, and trigger Adaptive Management. The North Coast Water Board's decision to transition from the hardness-based California Toxics Rule (CTR) to the Biotic Ligand Model (BLM) will provide a more sensitive and biologically relevant prediction of copper toxicity, and the addition of two surface water monitoring stations will facilitate a more targeted approach to address benchmark exceedances. However, the proposed sampling frequency may not be sufficient to allow for oversight and meaningful feedback. The most recent SWAMP studies (NCRWQCB 2018, NCRWQCB 2025) included three or more wet season sampling events and at least two dry season sampling events, and occasionally extended almost year-round (e.g., 2022, 2023). The Order would instead reduce sampling frequency to only three times per water year during the wet season, omitting dry season sampling altogether. It would further restrict sampling by changing the definition of "wet season" from October through May to November 1 through April 30. However, storms producing more than an inch of precipitation occur outside that narrower window and could rapidly mobilize agricultural pollutants. Missing the "first flush" of the rainy season due to a mismatch with the prescribed sampling schedule could fail to detect exceedances during a critical period for salmonids. Moreover, there were several exceedances of water quality criteria for imidacloprid and predicted copper toxicity during the period that would now be defined as the "dry season" (NCRWQCB 2018, NCRWQCB 2025). In fact, the only exceedances of imidacloprid in 2024 occurred during the dry season and were not associated with precipitation in the preceding 24 hours – exceedances that would not have been detected under the proposed sampling schedule. To improve the sensitivity of the monitoring program and ensure timely feedback, CDFW recommends adhering to the sampling framework of earlier SWAMP studies, with at least three wet and two dry season sampling events and a schedule that captures the shoulder seasons in October and May (Recommendation 7). Sampling could be pared back in the future if results confirm that reduced sampling would not affect detection probability.

CDFW-17	CDFW agrees with the DEIR's assessment of the Order as largely beneficial to biological resources, though we believe it must be strengthened to effectuate immediate and substantial change. The only comment pertaining to the DEIR is a refinement of Mitigation Measure BIO-1, which addresses potential impacts to biological resources associated with the construction and maintenance of management practices (e.g., grassed swales, detention basins). Rather than advising enrollees to avoid and minimize disturbance to sensitive habitats and special status species, CDFW recommends explicitly restricting new construction to the footprint of existing fields outside Streamside Areas (Recommendation 8). If construction would encroach into Streamside Areas or extend beyond the footprint of existing fields and appurtenant field roads, the enrollee would have to assess habitat conditions and undertake additional environmental review and permitting, as described in the mitigation measure.
CDFW-18	The North Coast Water Board's decision to transition from the hardness-based California Toxics Rule (CTR) to the Biotic Ligand Model (BLM) will provide a more sensitive and biologically relevant prediction of copper toxicity, and the addition of two surface water monitoring stations will facilitate a more targeted approach to address benchmark exceedances.
CDFW-19	CDFW has previously recommended more active planting and management to optimize the capacity of Streamside Areas. However, CDFW understands Streamside Areas are intended to implement the Temperature Policy of the Basin Plan, and the North Coast Water Board cannot prescribe the particular manner of compliance with its orders.
CDFW-2	Coho Salmon (Oncorhynchus kisutch; ST, FT) migrate through the estuary and mainstem river and rear in low-gradient coastal streams and tidal sloughs. Larger tributaries like Rowdy Creek and Morrison Creek also provide spawning habitat (Parish and Garwood 2015, Walkley and Garwood 2017). Although spawning is concentrated in the Mill Creek sub-basin (Garwood and Larson 2014, Walkley and Garwood 2017), a substantial portion of the population depends on natal and non-natal winter rearing habitat in coastal tributaries and sloughs (Parish and Garwood 2015, Parish and Garwood 2016). These low-velocity waters provide refuge and increased foraging opportunities vital to growth and development, as well as transitional habitat for smoltification. The Smith River population is listed as part of the Southern Oregon/Northern California Coast (SONCC) Coho Salmon Evolutionarily Significant Unit (ESU) and is designated as a core, functionally independent population, meaning that it is critical to the recovery of the ESU. Unfortunately, this population is at high risk of extinction and likely below the depensation threshold (NMFS 2014).

CDFW-20	Although CDFW understands the purpose of offsite mitigation, it does not support the Riparian Vegetation Area Restoration Alternative because the riparian component is fundamental to improving and protecting water quality and associated fish and wildlife values. Offsite mitigation may be suitable where it provides a net benefit to impacted ecosystems, but in this case, riparian restoration elsewhere in the sub-watershed would have no bearing on the fundamental problem of water quality degradation in core rearing habitat. The shading and filtering capacity of existing riparian corridors is already limited due to channelization and the suppression and removal of riparian vegetation. Allowing offsite mitigation in lieu of meeting the Riparian Vegetation Area minimum widths would subvert the stated goals of the Order.
CDFW-3	The Smith River is also an important stronghold for other salmonid species, including Chinook Salmon (O. tshawytscha; SSC) and steelhead (O. mykiss irideus; SSC), which migrate through the mainstem and rear in the lower estuary and coastal tributaries. Chinook Salmon spawn below the Fred Haight Bridge, within the area impacted by lily bulb cultivation (J. Walkley, pers. comm.). The entire Smith River watershed hosts a significant population of Coastal Cutthroat Trout (O. clarkii; SSC). The mainstem Smith River is an important migratory corridor for Green Sturgeon (Acipenser medirostris; SSC), Western Brook Lamprey (Lampetra richardsoni; SSC), Eulachon (Thaleichthys pacificus; FT, SSC) and Pacific Lamprey (Entosphenus tridentatus; SSC), while the estuary provides habitat for the northernmost population of Tidewater Goby (Eucyclogobius newberryi; FE, SSC) (Schmelzle 2015).
CDFW-4	CDFW supports the North Coast Water Board's efforts to protect and restore water quality through General Waste Discharge Requirements for commercial lily bulb operations. Years of water quality monitoring have established a clear nexus between lily bulb cultivation and degraded water quality conditions in the Smith River Plain. Copper fungicides are of particular concern due to their neurobehavioral toxicity, though synthetic pesticides like imidacloprid and ethoprop pose similar threats to salmonids and other aquatic life. Concentrations of dissolved copper and synthetic pesticides are consistently elevated at monitoring stations downstream of lily bulb fields, often at levels considered toxic to aquatic life. In 2018, Tillas Slough and Delilah Creek were added to the 303(d) List of Impaired Water Bodies for copper, and in 2026, Delilah Creek was added for diuron.

CDFW-5	Although the most recent Smith River Plain Surface Water Monitoring Report (NCRWQCB 2025) detected fewer exceedances of water quality criteria relative to the 2013-2015 study (NCRWQCB 2018), attributed to voluntary compliance with best management practices and an overall decline in cultivation, there are still consistent and widespread exceedances of copper toxicity thresholds, as well as exceedances of some synthetic pesticides (NCRWQCB 2025). The Smith River population of Coho Salmon is particularly vulnerable to water quality degradation in the lower watershed because it relies on winter rearing habitat in coastal tributaries and sloughs, which are directly impacted by these agricultural pollutants.
CDFW-6	Even at low concentrations, dissolved copper can impair or destroy sensory systems that mediate ecologically important behaviors, such as the ability to detect and evade predators, identify potential mates, and respond to migratory cues (Baldwin et al. 2003, NMFS 2007, Sandahl et al. 2007, McIntyre et al. 2012). Effects manifest within minutes of exposure and persist for days to weeks (Baldwin et al. 2003), and there is no evidence of acclimation or compensation (Sandahl et al. 2007). Ethoprop and imidacloprid affect many of the same behaviors (Chung et al. 2023, Laetz et al. 2013, Sandoval-Herrera et al. 2019) and could result in additive or synergistic toxicity. Collectively, these physiological and behavioral effects render fish less responsive to cues in their environment, placing them at greater risk of predation. A reduction in individual survival and lifetime reproductive success has potential implications for the long-term viability of the Smith River population, particularly if entire cohorts are affected.
CDFW-7	The Smith River Plain is essential to the resiliency and recovery of Coho Salmon and other anadromous fish. There has been significant progress in the restoration of salmon and steelhead habitat, from the removal of fish passage barriers to instream habitat restoration and the reestablishment of ecosystem processes. In addition to projects in the mid- and upper watershed, there are multiple projects in the coastal plain, including Delilah Creek, Rowdy Creek, and Dominie Creek. There are also plans for extensive estuary and floodplain restoration. However, without also improving water quality, we risk undermining these efforts and creating an ecological trap. Prompt, meaningful action is crucial to the continued existence and recovery of the Smith River population of Coho Salmon.

CDFW-8	The Order argues that water quality degradation during initial compliance "is expected to be limited and, in many cases, reversible" (Finding No. 117). There is little data to support this conclusion, and without more stringent controls, the unavoidable delay in implementation is likely to be detrimental to salmonids due to their strict three-year life history. Spikes in toxicity during the winter storm season (NMFS and CDFW 2018, NCRWQCB 2018, NCRWQCB 2025) correspond to critical periods of juvenile growth and development. Every life stage risks exposure, whether as adults passing through the lower estuary during spawning migration or sub-yearlings and smolts rearing in coastal tributaries and sloughs.
CDFW-9	A substantial portion of the copper enters tributaries in its particulate form bound to sediment and dissolved organic matter (Hurst et al. 2022), where it then accumulates in sediment. However, a change in environmental conditions (such as pH) can shift speciation in favor of the toxic dissolved form. Depressed pH associated with storm events was a primary driver of predicted copper toxicity (NCRWQCB 2025), a trend which may reflect chemical speciation shifts in accumulated sediment in addition to increased dissolved copper in agricultural runoff. Although it may be impossible to redress years of copper accumulation, every feasible measure should be taken to prevent or substantially reduce further discharge.
Crockett United Lily-1	The concerns raised by various environmental groups, environmental agencies and the Tolowa Nation appear to be significantly overstated when looking closely at the actual environmental documentation and management of Easter lilies. The actual data indicates a de minimis exceedance of chemical constituents that exceed water quality criterion established by the NCRWQCB.
Crockett United Lily-10	Eliminate or simplify the required Irrigation and Nitrogen Management Plan (INMP) requirements.
Crockett United Lily-11	Delay implementation of the Order by at least one (1) year and allow further adaptive management techniques that have been identified to potentially resolve the issue of soluble copper. We are working with NRCS, USDA and your staff to develop management techniques and costs estimates to incorporate biochar into our production cycle. Biochar has been shown to significantly reduce soluble copper in soils.
Crockett United Lily-12	We recognize the value of monitoring streams 3 times per year and would support the increased monitoring by water quality staff or through funding the Del Norte Resource Conservation District to pay for that level of monitoring.

Crockett United Lily-2	The Smith River Plain Surface Water Monitoring Report 2021-2024 show no water quality exceedances at Morrison Creek, for diuron, ethoprop or imidacloprid and only one exceedance for dissolved copper. Morrison Creek was in near proximity to a few of our lily fields in the past. As a result, our lily fields have been moved away from the Morrison Creek drainage.
Crockett United Lily-3	The issue of soluble copper from lily bulb production requires additional evaluation from the RWQCB prior to adoption of the draft lily order. No evidence has been established that indicates soluble copper from lily production causes detrimental impacts to salmonids. The evidence provided by the fisheries agencies is based solely on laboratory experiments and has not been verified in field trials. The speculation that lily bulb production is negatively affecting fish populations in the Smith River is just that - speculation at best.
Crockett United Lily-4	Ironically, the number of salmonid adults returning to the Smith River has almost tripled in the past three years. While this could be attributed to better ocean conditions, it does not indicate that lily bulb production is causing detrimental impacts to salmonids.
Crockett United Lily-5	Over the past ten (10) years, Crockett United Lily Growers has embarked upon multiple adaptive management activities to effectively reduce the potential environmental impact of growing lily bulbs. These activities include: • Reducing the number of acres in production • Reducing lily bulb field size • Reducing the amount and toxicity of pesticides used in production • Establishing field buffers around active growing areas • Rotating out lily bulb production fields near streams negating the possibility of sediment transfer, irrigation water or storm water discharge to streams. • Integrating multiple field buffers between lily bulb fields to eliminate surface water connections to stream corridors. • Eliminating historical road and field access areas that could potentially cause sediment transfer or stormwater water discharge to surface waters. • Increasing field rotation time-frames from traditional rotations to allow increased regenerative soil recovery • Moving primary lily production areas to higher elevations that are not hydrogeologically connected to any surface waters.

Crockett United Lily-6	These activities have been documented through reports and field observations by your staff. They represent a significant financial and time management commitment by Crockett United Lily Growers to reduce and potentially eliminate environmental impacts associated with lily crop production on our lands. The proposed draft lily order indicates that our adaptive management efforts have been futile as the direction of the Board is to regulate the demise of the lily industry through financial and administrative hardship. The order sets forth regulatory actions that cannot be financially absorbed by Crockett United Lily Growers. Adoption of the order, as proposed, will result in the complete demise of this specialty crop in California. It would appear that this result has been the goal of the Board all along.
Crockett United Lily-7	Of note, the draft Order proposes an additional monitoring site associated with our lily production area. This proposed monitoring site has no hydrogeologic connection to any surface waters and should be eliminated. Twice, this area was observed in the field by your staff who investigated and concluded the area has no connection to a surface stream or river.
Crockett United Lily-8	Reduce Surface Water Monitoring from 3 times per year to 1 time per year.
Crockett United Lily-9	Reduce Surface Water Monitoring Locations to the 4 locations where lily bulb production occurs - Delilah, Morrison, Mello and Kamph Creeks.
CT-1	CalTrout has long advocated for the Smith River, focusing on protecting the Smith River's unique status as California's premiere Salmon Stronghold. The protection of the Smith River, and especially its estuary, is vital to salmonid recovery in this important Salmon Stronghold. All life stages of several salmonid species use the Smith River estuary year-round, and this habitat is critical to their growth and physiological transition from fresh to salt water. We have been engaged in this issue since the initial public working groups began in 2012, and we are relieved to finally receive the North Coast Regional Water Quality Control Board's Draft Lily Bulb Order. We encourage the Board to finally establish regulations as soon as possible to protect water quality beneficial uses in the Smith River.
CT-10	In no case shall other management methods substitute for a reduction in TMDL-listed pesticide, herbicide, or fungicide application rate or the substitution of a TMDL-listed pesticide, herbicide, or fungicide with a lower-risk alternative.

CT-11	Additional sensitive species inhabiting the watershed warrant consideration as well, including Southern Oregon/Northern California Chinook (Oncorhynchus tshawytscha), Coastal Cutthroat Trout (Oncorhynchus clarkii clarkii), eulachon (Thaleichthys pacificus), and green and white sturgeon (Acipenser medirostris; Acipenser transmontanus). The watershed may also provide habitat for longfin smelt (Spirinchus thaleichthys), a species that no longer appears to be present in the Smith River. As documented in the draft order, dissolved copper poses a recognized toxic threat to these fish species as well. See Lily WDR at ¶ 55.
CT-2	CalTrout is concerned that the adaptive management process proposed in the Draft Lily Bulb Order will not lead to the reduction of TMDL listed pollutants below the thresholds set through the Regional Water Board process. As noted in Hurst, 2024, filter strips/vegetated barriers do not effectively manage pollution. Given that pesticide applications occur in an estuary that is frequently inundated, we do not support management practices designed to merely reduce the amount of storm water runoff into waterways; these practices will ultimately be ineffective in the estuary where their ability to meter out pollutants will wane during frequent floods that inundate the entire floodplain.
CT-3	The Draft Lily Bulb Order gives growers the option of using these ineffective methods for several adaptive management cycles (at least 7 years, possibly much longer) before a violation, at which point the Board could choose to grant a waiver. In summary, the adaptive management process as outlined in the order would allow continued exceedances of water quality limits for the foreseeable future as long as the Draft Lily Bulb Order's management practices are implemented.
CT-4	As an alternative to the surface water quality benchmarks proposed in the Draft Order, the RWB should implement a zero-discharge limit for listed TMDL pesticides, herbicides, and fungicides, with surface water discharge monitored at the "edge of field". A zero-discharge limit should reduce the risk of take to listed species and health risks to nearby communities. The RWB should implement a rigorous adaptive management program to ensure zero discharge of TMDL listed pollutants to receiving waters.

CT-5	To best protect receiving waters, all TMDL-listed pesticide, herbicide, and fungicide applications should cease until the water quality standard is met. Once the water quality standard is met, a conservative fraction of the pesticide application rate described in Table II.5: Annual Active Ingredient Application Amount (lbs./year) Performance Standard by Tributary may be applied until monitoring shows no detection/zero discharge in ground and surface waters for a substantive length of time. After monitoring during this period continues to show no detection, TMDL listed pesticides, herbicides, and/or fungicides may be applied at the rates equal to or less than those shown in Table II.5, with continued monitoring demonstrating zero discharge/zero detection. If at any point detections occur, applications of these TMDL-listed pesticides, herbicides, and fungicides will be discontinued until the water quality standard is attained.
CT-6	We support implementation of other management practices such as riparian buffers in addition to a reduction in the application rate. These methods should be applied in addition to limitations on application rate, but in no case shall other management methods substitute for a reduction in TMDL-listed pesticide, herbicide, or fungicide application rate or the substitution of a TMDL-listed pesticide, herbicide, or fungicide with a lower-risk alternative.
CT-7	As the Regional Water Board moves toward issuing the forthcoming Draft Order, it must ensure that any protective measures adopted are adequate to prevent the Taking of listed species within the Smith River. This obligation extends at minimum to the federally threatened Southern Oregon/North California Coast coho salmon (Oncorhynchus kisutch) and the federally endangered tidewater goby (Eucyclogobius newberryi). Additional sensitive species inhabiting the watershed warrant consideration as well, including Southern Oregon/Northern California Chinook (Oncorhynchus tshawytscha), Coastal Cutthroat Trout (Oncorhynchus clarkii clarkii), eulachon (Thaleichthys pacificus), and green and white sturgeon (Acipenser medirostris; Acipenser transmontanus). The watershed may also provide habitat for longfin smelt (Spirinchus thaleichthys), a species that no longer appears to be present in the Smith River.

CT-8	Regulatory frameworks that fail to adequately constrain take expose the Regional Board to liability for vicarious take under the Endangered Species Act. The ESA broadly prohibits not only direct taking but also any attempt, solicitation, or causation of a prohibited act. See 16 U.S.C. § 1538(g). Courts have construed this provision to bar government entities from authorizing activities that foreseeably result in take. The First Circuit articulated this principle in Strahan v. Coxe, holding that the ESA "not only prohibits the acts of those parties that directly exact the taking, but also bans those acts of a third party that bring about the acts exacting a taking." 127 F.3d 155, 163 (1st Cir. 1997), cert. denied, 525 U.S. 830 (1998). There, Massachusetts officials were found liable for licensing commercial fishermen who used gear known to injure listed whale species. The Ninth Circuit has similarly and repeatedly affirmed the doctrine of vicarious take liability.
CT-9	We do not believe that the Draft Order as it is currently written will be effective in protecting beneficial uses, human health, and listed species. We propose a zero-discharge threshold for TMDL listed pesticides, herbicides, and fungicides in place of the receiving water limitations presented in the Draft Order, an adaptive management process that starts with attainment of water quality standards prior to further pesticide application, and a management approach relying on a reduction in TMDL listed pesticide, herbicide, or fungicide applications, or the use of a lower-risk pesticide, herbicide, or fungicide alternative.
Dettmar-1	After reviewing the General Waste Discharge Requirements for Easter Lily Bulb Cultivation ("Bulb Order") and the Draft EIR, I urge the Board to adopt the strictest available protections, implement a zero-tolerance policy on pesticide discharge into the Smith River and its tributaries, and enforce regulations with meaningful consequences.
Dettmar-10	The prescribed monitoring window is unlikely to capture first-flush peak concentration events.
Dettmar-11	The Order's progressive enforcement culminates in civil liability only after two documented exceedances — meaning years of additional harm before any meaningful consequence. When staff was asked at the February 18th Board meeting what would follow a third exceedance, the only answer offered was "additional management practices" — ongoing permission to contaminate. For decades, lily bulb growers have violated regulations with little to no consequence. This Board must not allow this to continue.
Dettmar-12	Adopt a zero-discharge requirement for all pesticides, consistent with Porter-Cologne, the Clean Water Act, and the Basin Plan.
Dettmar-13	Recognize salmon and other living cultural resources as integral to the cultural heritage of the Tolowa Dee-ni' Nation, and apply protections accordingly.

Dettmar-14	Establish a hard trigger so that a third exceedance results in immediate revocation of coverage.
Dettmar-15	Explicitly acknowledge cumulative pesticide impacts in both the Order and EIR.
Dettmar-16	Strengthen monitoring to include automated first-flush sampling and sediment-bound pollutant analysis.
Dettmar-17	Align enforcement with the Cannabis Order's risk-tiered, individually accountable structure.
Dettmar-2	The Smith River Plain is the ancestral homeland of the Tolowa Dee-ni' Nation, and the cultural resources at stake here extend far beyond the archaeological record. The river, its tributaries, and the salmon that return to them each year are living cultural resources of profound and irreplaceable significance. Salmon are not merely a food source for the Tolowa Dee-ni' — they are central to ceremony, spiritual practice, oral tradition, and Tribal identity. The health of the salmon runs is inseparable from the health of the culture itself. Pesticide contamination of the Smith River watershed therefore causes cultural harm that cannot be remediated.
Dettmar-3	The sloughs and wetlands most impacted by lily bulb runoff — including Delilah Creek and Tillas Slough — are not simply water bodies; they are places of deep cultural memory and ongoing Tribal use. The Board's legal and moral obligations include protecting these living cultural resources with the same rigor applied to archaeological sites.
Dettmar-4	A zero-discharge requirement is not only justified — it is legally supported and arguably required. Under the Porter-Cologne Water Quality Control Act, the Clean Water Act, the North Coast Basin Plan, and the State Board's Anti-Degradation Policy (Resolution 68-16), the Board must prescribe requirements sufficient to ensure compliance with water quality standards. The North Coast Basin Plan requires that all waters be maintained free of toxic substances at concentrations producing detrimental physiological responses in human, plant, animal, or aquatic life. Pesticides are toxic by design. The current draft Order relies on best management practices and adaptive management — none of which guarantee compliance or substitute for enforceable prohibitions.
Dettmar-5	I urge the Board to align the Bulb Order with Order WQ 2023-0102-DWQ (the "Cannabis Order"), which provides a stronger model through clear discharge prohibitions, tiered compliance obligations, mandatory monitoring, and explicit enforcement authority.
Dettmar-6	Coho Salmon and Tidewater Goby have Critical Habitat designations in the low-flow tributaries most impacted by lily bulb pollutants — specifically Delilah Creek and Tillas Slough. The failure of voluntary management is not speculative; it is documented. These waterways were listed as impaired for copper in 2018, and in 2026 Delilah Creek was additionally listed as impaired for Diuron, a herbicide used in lily bulb cultivation — five years after the Board directed staff to develop a voluntary management strategy.
Dettmar-7	Granting continued discharge under these conditions is, in effect, issuing a permit to violate the ESA.

Dettmar-8	Copper is applied at alarming rates, frequently causing exceedances after first-flush rainfall events in fall and winter — precisely when ESA-listed juvenile Coho Salmon seek off-channel refugia in the affected sloughs. Low pH from tannic soils further amplifies copper toxicity, as demonstrated by laboratory analysis.
Dettmar-9	The Order and EIR also fail to address cumulative impacts from multiple pesticides applied in combination.
DNRCD-1	Today, lily bulb production in Del Norte County is but a remnant agricultural industry from its heyday of the 70s and 80s with over 25 growers in Northern California and Southern Oregon. There are only three small growers left, comprising less than 200 acres in annual production. These growers have historically, and still are an integral part of the DNRCD, serving on the Board and establishing objectives for the district.
DNRCD-2	These adopted objectives include the need to effectively manage water quality and restore compromised agricultural lands. Specific objectives include: Water Quality: Effectively manage agriculture, forestry and natural resources towards improving water quality including improving drainage, erosion control and productivity on agricultural lands; restoring riparian habitat by establishing native vegetation; advocating on-site nutrient management; establishing buffer areas between tilled agriculture and natural stream corridors; and restoring natural fluvial processes for sediment transport. Agricultural Lands Restoration: Advocate and work with agricultural property owners and renters to restore compromised agricultural lands to increase productivity. Coordinate with the Natural Resource Conservation Service for education and financial assistance, and advocacy towards maintaining and preserving the utilization of historical agricultural lands in the county.
DNRCD-3	Clearly, the DNRCD advocates maintaining and preserving historical lily bulb production in the county. The NCRWQ Order includes multiple regulatory requirements that impose a cost burden on the lily growers which will likely result in the continued demise of the industry. This action is inconsistent with the objectives of the DNRCD to maintain and preserve the utilization of agricultural lands in the county.
DNRCD-4	As you are aware, the lily growers are involved in regenerative adaptive management activities with guidance from your staff. This continued adaptive management approach coupled with the de minimis pesticide residuals noted in the ongoing water quality monitoring results do not justify adopting regulations to eliminate this industry.

DNRCD-5	There are constructive adaptive management and regenerative agricultural approaches that the DNRCD are pursuing with the lily growers. This includes working with the USDA, Agricultural Research group on the integration of biochar into lily production to minimize soluble copper entering surface waters.
DNRCD-6	Reduce Surface Water Monitoring from 3 times per year to 1 time per year.
DNRCD-7	Reduce Surface Water Monitoring Locations to the 4 locations where lily bulb production occurs – Delilah, Morrison, Mello and Kamph Creeks.
DNRCD-8	Eliminate or simplify the required Irrigation and Nitrogen Management Plan (INMP) requirements.
DNRCD-9	The DNRCD recognizes the value of monitoring streams 3 times per year and would support the increased monitoring by water quality staff or through funding to the DNRCD or Easter Lily Research Foundation to pay for that level of monitoring.
Dremann-1	Commenter, a licensed REALTOR in California (Crescent City) and Oregon (Brookings), requests the Board outlaw the use of any pesticides in the Smith River Plain, characterizing it as a very sensitive ecological area where any pesticide use can be detrimental to all aquatic life including salmon.
ELF-1	The Draft Order contains flaws and omissions that we believe will lead to continued unacceptable water quality impacts resulting from lily bulb operations. Most notably, there is a significant disconnect between the extensive, decades-long line of evidence that lily bulb operations have caused and continue to cause significant discharges of harmful pesticides and the extensive timeline for compliance that permits ongoing exceedances for several years. These ongoing exceedances have and will continue to cause unacceptable harm to the Smith River Plain, one of California's crown jewels. The Smith is California's last undammed river, a Wild and Scenic River that should host thriving populations of salmonids, but does not.

ELF-10	The Draft Order's background section does not acknowledge several important events that precipitated the development of a WDR for lily bulb operations. (See Draft Order at pp. 5-8.) The Draft Order does not mention important monitoring showing additional evidence of copper toxicity, nor does it mention the Regional Board's earlier efforts to develop a permit, the abandonment of those efforts in 2018, or the ELF/PCFFA State Board petition that precipitated development of this Draft WDR. First, the Draft Order does not discuss the Smith River Plain Dissolved Copper Monitoring Report issued by the National Marine Fisheries Service (NMFS) and CDFW in 2018. This report found significant toxicity violations in the Smith River Plain waters: Of the 14 water samples collected in waters below lily fields, seven (50%) exceeded the aquatic life criterion to protect freshwater from chronic toxicity impacts. A total of six water samples (43%) exceeded criterion maximum concentration (CMC) for freshwater aquatic life criteria for reproductive and/or acute toxicity. None of the three control samples exceeded CCC or CMC.
ELF-11	The Draft Order also neglects previous recent attempts to develop a permit, which, if it had been considered, underlines the urgency of the request for a shorter timeline and more assertive measures. The Regional Board has been aware of serious pollution resulting from lily bulb farms since at the latest 1982. In 2011, the Regional Board began work on a waiver or WDR for discharges from lily bulb operations. No draft permit was ever released, as the Regional Board directed Staff to cease work on the draft in April 2018 and instead work on developing a purely voluntary Smith River Plain Water Quality Management Plan (2021 Management Plan). In response, ELF, Pacific Coast Federation of Fishermen's Associations, and Institute for Fisheries Resources filed their 2018 Petition with the State Water Resources Control Board in November 2018 pursuant to Water Code section 13320. This decades-long history is necessary context for our request for more assertive restrictions on discharges: the Regional Board is not acting on a blank slate.

ELF-12	The Draft Order concludes that since "implementation of the 2021 Management Plan, in which all lily bulb growers agreed to voluntarily implement a suite of water quality management practices designed to reduce pesticide and nutrient runoff, erosion, and direct discharge of pollutants to surface waters, concentrations of synthetic pesticides and dissolved copper have decreased." Yet this conclusion is not supported by the evidence in the record. The 2025 SWAMP Report does not support a conclusion that concentrations have decreased. The 2025 SWAMP Report itself does not reach this conclusion—or even that concentrations have declined at all, despite having as a stated objective to "Determine water quality/pesticide status and trends in surface waters" and containing a section discussing trends. Yet the discussion of trends makes no mention of decreasing concentrations as compared to the 2018 SWAMP Report.
ELF-13	Pesticide detections in the 2025 SWAMP Report were higher in some cases than those detected by NOAA in its 2018 report, or by the Regional Board in its 2018 SWAMP Report. For instance, maximum diuron concentrations were higher in Morrison Creek in 2025, and ethoprop maximum concentrations were higher in Delilah Creek in 2025. Copper in Morrison and Rowdy Creeks also had higher maximum concentrations in the 2018 SWAMP report than the 2025 report. At the very least, this data shows that concentrations were not declining uniformly throughout the lily bulb production area. And without a robust statistical analysis of all of the data available, it is difficult to see how the Regional Board reached its conclusion that concentrations were decreasing.
ELF-14	In presentations by the Regional Board in March 2026, staff stated that there has been a decrease in planted lily bulb acres over the past several years. Reduction in acreage, not changes in management practices, therefore, could be driving any reduction in pollutant concentrations. It is also possible that reduction in pesticide application could be responsible for any decline in concentrations. But California Department of Pesticide Regulation (DPR) data cited by the Draft Order to show decreases in copper application only covers 2012-2021. This data, therefore, cannot show any effect from the 2021 Management Plan. The data simply does not support an interpretation that the management practices themselves had an impact. The takeaway from the 2025 SWAMP Report is that despite purportedly improving management practices, and despite a reduction in acreage, exceedances are still occurring.

ELF-15	The 2021 Management Plan, and to an extent the Draft Order, rely heavily on imposition of setback requirements between lily fields and waterways. Despite the well-known environmental benefits resulting from protecting riparian areas, the evidence does not show that setbacks alone will control pesticide discharges from lily fields, and, in fact, evidence shows that they will not work without significant reductions in pesticide application. Key Element 2 of the Nonpoint Source Policy requires a Regional Board to find that required management practices will have a "high likelihood" of achieving water quality objectives. Relying heavily on setbacks alone therefore raises a potential violation of the Policy. The reason setbacks do not work in the Smith is because of two factors: the extreme amounts of copper and other pesticides applied to lily bulbs, and the extreme weather. The Smith River Plain is one of the rainiest places in the US, with precipitation averaging 75 inches per year or more.
ELF-16	The only study cited by the Draft Order on the effectiveness of management practices of the type recommended by the 2021 Management Plan (and adopted as components of Tier 1 adaptive management), show that they do not work. The study by Matt Hurst and his team demonstrates that dissolved copper discharge was not reduced by 80-foot setbacks between lily bulb fields and waterways. But even under ideal conditions, the strips removed less than 40% of copper. And when the strips were saturated by heavy rains in December and January, they removed almost no copper. The Hurst study contains numerous pictures of filter strips completely submerged with stormwater. Constructed berms were washed away under heavy rains. Further, reporting conducted under the 2021 Management Plan reveals that growers widely implemented management practices such as "filter strip," "vegetative barrier," "maintain stream setbacks," and "riparian area support". Yet, as demonstrated by the 2025 SWAMP Report, exceedances continued during this period.

ELF-17	The Draft Order requires strips that are even smaller than those studied in the Hurst report. The vegetated strips in the Hurst study were designed to be 80 feet wide, far wider than the 50-foot streamside areas proposed in the Draft Order. It is unclear why the Draft Order relies on setbacks that are smaller than those shown not to function. The Draft Order cites two other studies purporting to demonstrate the effectiveness of setbacks. Yet neither of these studies consider conditions as extreme as in the Smith. And in any event, as the Draft Order points out, the Fischer study recommends buffer widths up to 100 feet, and both studies recommend varying setback widths based on hydrology. The Regional Board should take this recommendation and significantly increase buffer widths.
ELF-18	Setbacks do not address groundwater discharge of pollutants. Setbacks trap sediment and allow any pollutants within that sediment to begin migrating to groundwater. This is especially concerning for persistent pollutants like copper, diuron, and imidacloprid. The 2025 SWAMP Report also notes that levels of imidacloprid and diuron remain detectable even outside of the wet season, indicating that groundwater transport may be responsible for discharge. Management practices such as filter strips and setbacks will not address groundwater transport of these pollutants: only reduction in their use will do so.
ELF-19	The Draft Order creates a new water quality benchmark for copper—the Toxicity Unit (TU)—but the order does not provide a basis for its derivation. The TU benchmark is based on outputs from the Biotic Ligand Model. One violation of the benchmark constitutes an acute violation, and two violations in a year constitute a chronic violation. The Draft Order states that the derivation of the TU is described in Attachment D of the Order. However, Attachment D contains no such definition. As a result, the public may not evaluate the derivation of the TU. And while the Regional Board may establish water quality standards that are more stringent than federal law, it has no authority to set standards that are less protective. (33 U.S.C. § 1370.) Without access to the TU methodology, the public cannot evaluate whether the TU is more or less stringent than relevant standards set by the Basin Plan or federal law. The Regional Board must provide this methodology and an opportunity for the public to comment on it.
ELF-2	We believe that these impacts additionally constitute violations of the Porter Cologne Water Quality Act and binding state water quality policies. They also reflect a failure to give adequate weight to Tribal beneficial uses, environmental justice concerns, and the extraordinary ecological value of the Smith River estuary, all of which the Draft EIR itself recognizes as central to the proposed project.

ELF-20	The Draft Order provides for a complicated, multi-step iterative process that allows growers several tries before subjecting them to potential enforcement. Under the Adaptive Management Program, growers in some watersheds may await a further water quality exceedance, then will be placed in Tier 1 adaptive management. In Tier 1, growers can choose one of several minimally prescriptive options. If a further exceedance is detected, only then does a grower move to Tier 2. And only after a third exceedance does the grower finally become subject to enforcement. By staff's calculations, a violation of the order could not occur for ten years. The Regional Board fails to show—as is its burden—that the 10-year minimum time schedule is as short as practicable. Under the Nonpoint Source Policy, a time schedule for compliance "may not be longer than that which is reasonably necessary to achieve an NPS implementation program's water quality objectives." The Draft Order omits this language from its discussion of its compliance with the Nonpoint Source Policy. And it provides no evidence that immediate compliance (or a much, much shorter time schedule) is not feasible.
ELF-21	While some watersheds start in Tier 1 due to historical exceedances, Tillas Slough is excluded despite experiencing two acute and four chronic exceedances between 2021 and 2024. Likewise, Lower Rowdy Creek is excluded despite having a chronic exceedance during that period. There is no reason to exclude these watersheds from the advanced schedule that the other creeks are on.
ELF-22	There is limited or no evidence that management practices of the types available in Tier 1 will be effective. Key Element 2 of the Nonpoint Source Policy requires a Regional Board to find that required management practices will have a "high likelihood" of achieving water quality objectives. The Regional Board fails to fulfill these requirements here because the evidence in the record and the analysis and findings in the Draft Order do not support the conclusion that the Tier 1 requirements will achieve water quality objectives. Under Tier 1, growers may choose only one of three options to remain in compliance: "Treat and Control Management Practices," "Watercourse Setback," or "Active Ingredient Application Performance Standard." Yet it is not clear from the record that any one of these options (or even all three in combination) will be effective.
ELF-23	There is no evidence that setbacks—even the 100-foot setbacks available as the "Watercourse Setback" option will successfully eliminate exceedances. As a result, this option—by itself—cannot be found to have a "high likelihood" of addressing the pollution problem and thus should not be available as an option by itself.

ELF-24	The pesticide performance standards in the "Active Ingredient Application Performance Standard" are unsupported by analysis that these amounts will result in attainment of water quality benchmarks. While we support firm limits on pesticide application to the fullest extent of the Regional Board's legal authority, those limits must be supported by analysis showing that they will be effective. Further, it is unclear how growers are expected to pro-rate the amount of pesticides applied in the event that more than one grower is operating in the same watershed: setting a limit without a clear method to apportion responsibility is a recipe for confusion at best, violations at worst.
ELF-25	The "Treat and Control Management Practices" are so vaguely defined as to be almost meaningless. The Order must be revised to include specific requirements if this approach is used. Further, the management practices already implemented as part of the 2021 Management Plan have not resulted in eliminating exceedances. If this option is intended to require more or different management practices than those implemented previously without success, the Order must be revised to specify that requirement.
ELF-26	Growers have had decades to develop management practices that could effectively control pesticide discharges. But they have failed to do so on their own initiative, and even under the 2021 Management Plan, exceedances have continued. The Regional Board should begin by requiring all growers to adopt a WQMP immediately that conforms to the requirements of the "Certified WQMP" in the Draft Order. Following imposition of the WQMP, detections of pesticides should lead to immediate imposition of edge-of-field monitoring for all fields in the watershed where the detection occurred. Any further exceedances after the WQMP is imposed should constitute permit violations and subject the grower to immediate investigation and potential enforcement. For too long, beneficial users have borne the burden of degraded water quality while the Regional Board delayed imposing a permit and allowed growers to experiment with failed management practices. The Regional Board must shift the risk onto the growers by conducting enforcement when they occur.

ELF-27	The Draft Order does not include requirements relating to a suite of other pesticides that are commonly used in the Smith, including metam sodium, 1,3-dichloropropene, and permethrin. These pesticides have been detected in surface and ground waters and pose threats to beneficial uses, including human health and aquatic life. Permethrin was detected at a level exceeding aquatic life benchmarks in a sample that had a positive result for toxicity. Water Code section 13263 requires control of discharges of waste via WDRs; and the Regional Board does not have authority to simply ignore certain discharges. The Regional Board should revise this Draft Order to include monitoring for these pesticides and measures to control exceedances. Additional pesticides used in the Smith River Plain include chlorthalonil, napropamide, and phorate, all of which have serious human and environmental risks.
ELF-28	The Monitoring and Reporting Program (MRP) calls for surface water monitoring three times per year at particular locations. We are concerned that this requirement is insufficient and underspecified. Sampling should occur during the dry season to track pesticide transport via shallow groundwater. It should also occur during the "first flush" storm in the fall, even if that storm is before November 1. A sample should also be taken during saturated conditions that tend to occur by December or January, as documented in the Hurst report. Additionally, in dry winters, samples should be taken at regular intervals even if no Major Storm occurs. Monitoring must include the full suite of pesticides regularly applied in the Smith River plain, including 1,3-dichloropropene, permethrin, and metam sodium.

ELF-29	Edge-of-field monitoring must be mandatory when pesticides are detected in order to isolate the causes of detections. Even where pesticides are not detected, edge-of-field monitoring should be implemented on a representative basis. Edge-of-field monitoring should be publicly available and not associated with an anonymous ID. The Regional Board here gives no justification for anonymity for edge-of-field monitoring results. The Nonpoint Source Policy provides that "monitoring programs should be reproducible . . . and be available to the public." The Regional Board should also require independent verification of at least a portion of monitoring results. Key Element 4 of the Nonpoint Source Policy requires "feedback mechanisms" that are capable of ensuring that the program is achieving its stated purposes. Last, the MRP permits an unspecified delay while the Coalition(s) form, develop workplans, and then begin monitoring. The Regional Board should not permit such a lengthy gap: monitoring should commence immediately upon adoption of the Order.

ELF-3	All programs for control of nonpoint source (NPS) pollution must comply with the Nonpoint Source Policy. Any nonpoint source control program must comply with all five of the Policy's mandatory Key Elements. These elements are: KEY ELEMENT 1: An NPS control implementation program's ultimate purpose shall be explicitly stated. Implementation programs must, at a minimum, address NPS pollution in a manner that achieves and maintains water quality objectives and beneficial uses, including any applicable antidegradation requirements. KEY ELEMENT 2: An NPS control implementation program shall include a description of the management practices (MPs) and other program elements that are expected to be implemented to ensure attainment of the implementation program's stated purpose(s), the process to be used to select or develop MPs, and the process to be used to ensure and verify proper MP implementation. KEY ELEMENT 3: Where a RWQCB determines it is necessary to allow time to achieve water quality requirements, the NPS control implementation program shall include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching the specified requirements. KEY ELEMENT 4: An NPS control implementation program shall include sufficient feedback mechanisms so that the RWQCB, dischargers, and the public can determine whether the program is achieving its stated purpose(s), or whether additional or different MPs or other actions are required. KEY ELEMENT 5: Each RWQCB shall make clear, in advance, the potential consequences for failure to achieve an NPS control implementation program's stated purposes.
ELF-30	The reporting schedule allows for annual reporting via an annual compliance form. However, this schedule can allow months to pass before the Regional Board and the public learn of an exceedance. If monitoring reveals an exceedance, that should be reported to the Regional Board immediately so that it can begin taking the next steps.

ELF-31	The lack of evidence supporting the finding that management practices control discharge belies the conclusion of the Draft Order's antidegradation analysis. That analysis concludes that the requirements in the Order constitute BPTC and that "any limited degradation that may occur as a result of Commercial Lily Bulb Operations, despite implementation of measures required by this Order, is consistent with the maximum benefit to the people of the state." Because the finding that management practices will reduce exceedances of water quality objectives is unsupported, the finding that the adaptive management schedule and the Order's other requirements constitute BPTC or are consistent with the maximum benefit to the people of the state are also unsupported and therefore legally insufficient. Failed approaches cannot constitute BPTC. In addition, the Draft Order fails to adequately balance the costs of failing to control pollution. It contains a placeholder in the discussion of social and environmental costs of the ongoing discharge. The Regional Board must fully analyze these impacts and provide a discussion for public comment. The agency must take every precaution to protect water quality for threatened Coho.
ELF-32	The Draft EIR also appears to fall short in its alternatives analysis. CEQA requires the Regional Board to analyze a reasonable range of alternatives that would avoid or substantially lessen the project's significant impacts. Yet the Draft EIR's alternatives discussion focuses on variations of the proposed regulatory approach and the No Project Alternative, while failing to meaningfully analyze an alternative that would prohibit or phase out lily bulb cultivation in the most sensitive areas of the Smith River Plain. That omission is particularly significant here because scoping comments expressly requested evaluation of halting lily bulb farming and restoring the estuary, and because the Draft EIR itself identifies ongoing controversy over whether the proposed project goes far enough to control pesticide and copper pollution.

ELF-33	The Draft Order relies in large part on applying aspects of the 2018 ESJ Order to the Smith River Plain, but the precedential value of the ESJ Order is less than what the Draft Order perceives. Only provisions expressly designated as precedent have binding power. Even so, an enactment's precedential value is "coextensive only" with similar facts. The industry regulated by the ESJ Order is several orders of magnitude larger and more complex than the lily bulb operations regulated by the Draft Order. The Central Valley contains tens of thousands of growers growing hundreds of crops across hundreds of thousands of acres. The Smith River Plain has only a few growers, on a few hundred acres in any given year, growing a single crop. It makes little sense to interpose a new organization—a Coalition—to manage these few operations. The potential for just a few operations to form a coalition that regulate those same operations would be absurd. A coalition structure would only add complexity and cost while robbing the program of transparency. The ability for a single grower to form a coalition to hide its own data gives rise to "risks associated with the fox guarding the henhouse."
ELF-34	The Draft Order does not contain certain components required by the ESJ Order that could aid in protection of beneficial uses, including the precedential requirement that growers prepare Sediment and Erosion Control Plans. These plans must be required, or at the minimum the Regional Board must explain how the Order's requirements are equal to or more protective than the Sediment and Erosion Control Plan requirement in the ESJ Order.
ELF-35	The Draft Order's section 13149.2 analysis is cursory and insufficient. It fails to summarize anticipated water quality impacts in impacted communities, including to tribal communities located in the immediate area or whose fisheries rely on Smith River salmonids, including the Smith River Rancheria and the Tolowa Dee-Ni' Nation. It also fails to acknowledge impacts to low income communities located in or near Smith River who have experienced or are at risk of negative health impacts from proximity to heavy pesticide use in lily bulb operations, groundwater contamination, and surface water contamination. The inadequacy of this discussion is especially stark because the Draft EIR itself identifies "health and environmental justice concerns" as a central area of controversy.

ELF-36	The analysis does not adequately identify measures within the Board's authority to address those impacts. (Wat. Code § 13149.2, subds. (b)(2), (c).) While it alludes to some measures taken in the Draft Order, those measures are not the full suite of the Regional Board's powers. The Regional Board could also impose more stringent time schedules, monitoring, and permit requirements. It could also adopt a basin plan prohibition on any pesticide or other pollutant discharge resulting from the cultivation of lily bulbs outright. Activities that result in discharge are not vested rights, and a Regional Board may prohibit those discharges. (See Wat. Code § 13263, subd. (g).) A compliant analysis must analyze the Regional Board's powers and explain why the Board chose the path that it did.
ELF-37	The Draft Order does not mention or acknowledge that the State and Regional Boards have both adopted resolutions on racial equity. Both resolutions acknowledge that indigenous people, people of color and other disadvantaged groups experience worse environmental outcomes and that displacement of indigenous people has resulted in those people no longer controlling ancestral homes or being able to take advantage of the beneficial uses of water which were theirs historically. And both resolutions commit to the protection of water quality and attainment of beneficial uses for the benefit of disadvantaged groups. Yet these resolutions appear to have been forgotten in the drafting of this Order, despite the clear and present harm to people, salmonids, and other beneficial uses that will persist under its terms.
ELF-38	The Draft Order requires the following revisions, at a minimum, in order to comply with the law and to achieve its stated goals of reaching water quality objectives on the shortest practical timeline: • Revisions to the procedural history and reference to all available monitoring data • Definition of the Toxicity Unit for Copper • Revisions to minimum setback widths to 100 feet • Elimination of Tier 1 of Adaptive Management and revisions to Tier 2 • Additional monitoring requirements • Improved antidegradation analysis • Elimination of data anonymity and the coalition model • Improved A.B. 2108 and racial justice analysis
ELF-39	The Draft Order contains no specific protections or provisions relating to the tidewater goby. This omission only makes sense if the Regional Board believes that its provisions are protective of the species, a conclusion that the Regional Board should make explicit if it has evidence that it is true.

ELF-4	Courts have confirmed that a Regional Board must comply with the Nonpoint Source Policy as it is written. In Monterey Coastkeeper v. State Water Resources Control Board (2018) 28 Cal.App.5th 342, 370, the Court of Appeal held that a waiver of WDRs for agricultural discharges in the Central Coast violated the Policy because it improperly substituted Key Element 3's requirement of specific time schedules for a "vague requirement of 'improved' management practices and a 'conscientious' effort." The Court held that this substitution constituted unlawfully "rewriting—or amending" the Policy.
ELF-40	The Draft Order relies on a report by Dr. Matt Hurst finding that high copper is often associated with high DOC, stating that high DOC levels can be somewhat protective despite high copper levels. But the NMFS Monitoring Report provides evidence that high DOC levels do not always accompany high copper levels, even in the wet season. The Hurst study found a number of data points with both low DOC and high copper. Second, Hurst noted that DOC tends to be lower in the dry season, meaning DOC would give no protection during the summer. Last, the study that the Hurst paper and the Draft Order rely on—McIntyre (2008)—did not consider Chinook or other salmonids. And it explicitly noted that Coho olfaction undergoes significant changes during adaptation to salt water, something that is very likely to be taking place as juvenile Coho take refuge in Smith River Plain tributaries on their way to the ocean.
ELF-41	In its Petition for Review filed with the State Board in November 2018 (2018 Petition), one of the undersigned organizations, Environmental Law Foundation (ELF), provided detailed background information on the history of extensive water pollution stemming from lily bulb operations in the Smith River plain. That letter is attached here with its exhibits and is incorporated by reference.
ELF-42	The MRP permits an unspecified delay while the Coalition(s) form, develop workplans, and then begin monitoring. The Regional Board should not permit such a lengthy gap: monitoring should commence immediately upon adoption of the Order. Growers should be individually responsible for monitoring until such time as Coalitions are prepared to do so and the Workplan is approved; and the Regional Board should act as a backstop to perform monitoring if the growers do not. A better solution, discussed below, would be to remove the Coalition option entirely.
ELF-43	If the Regional Board chooses to stick with the coalition model, it should exercise its discretion to request all data whenever pesticide detections occur—something allowed by the current Draft Order (and the ESJ Order).
ELF-44	Sampling should occur during the dry season to track pesticide transport via shallow groundwater. The 2025 SWAMP Report notes that levels of imidacloprid and diuron remain detectable even outside of the wet season, indicating that groundwater transport may be responsible for discharge.

ELF-5	WDRs must also comply with the Statement of Policy with Respect to Maintaining High Quality Waters in California (Antidegradation Policy), which requires that where a water body was of a higher quality than the water quality objectives as of 1968, that high quality must be maintained unless the state can meet certain narrow exceptions contained in the Policy. In AGUA, supra, 210 Cal.App.4th 1255, the court held that a general WDR for dairy operations was invalid for failure to comply with the Antidegradation Policy. Among other things, it held that a Regional Board must conduct an analysis to determine whether water at issue is high quality. If a Regional Board determines that the waters are high quality and thus that the Policy applies, then before allowing any degradation, it must make a finding that any such degradation is consistent with the maximum benefit to the people of the state. And the Regional Board must impose Best Practicable Treatment and Control (BPTC) and find that any degradation does not result in pollution or nuisance.
ELF-6	In 2022, the Legislature amended Porter-Cologne to add a requirement that when "issuing or reissuing" regional or statewide WDRs or amending state water quality policy, a water board must "make a concise, programmatic finding on potential environmental justice, tribal impact, and racial equity considerations related to the issuance." (Wat. Code § 13149.2, subds. (b), (c).) The Water Board's findings must be based on information in the record, summarize how the permitted activity will impact water quality in disadvantaged or tribal communities as a result of the activity, and identify measures within their authority to address the anticipated impacts from the activity.
ELF-7	In its Petition for Review filed with the State Board in November 2018, ELF provided detailed background information on the history of extensive water pollution stemming from lily bulb operations in the Smith River plain. Lily bulb growers apply extraordinary amounts of pesticides in order to grow their crop. Application rates for copper, imidacloprid, ethoprop, diuron, and other pesticides are among the highest in the state. These pesticides are routinely detected in surface waters throughout the Smith River plain, frequently at levels that violate relevant water quality standards. The creeks and streams feeding the Smith River estuary should provide key rearing habitat for ESA-threatened Coho salmon as well as other salmonids, especially as the upper Smith River is the last major undammed river in the State. Yet populations are consistently low. State and federal wildlife agencies have identified water quality impairment directly caused by lily bulb farming as a key limiting factor for salmonid recovery. That letter is attached here with its exhibits and is incorporated by reference.

ELF-8	Since the filing of that petition in 2018, fisheries on the West Coast have suffered greatly. The California Chinook commercial fishery has been closed since 2022. Chinook escapement in the Smith River reached its lowest number on record in the 2022-2023 season (8,206 individuals), but rebounded somewhat by the 2024-2025 season (27,427 individuals). Likewise, Steelhead escapement reached a low of 4,450 individuals in 2023 and rebounded to 7,689 individuals in the 2024-2025 season. And the report estimates Coho escapement of 2,365 individuals. The recovery goal for Coho in the Smith River is 6,800 spawners.
ELF-9	Scientific research continues to show the importance of estuarine habitats like the Smith River plain for rearing Coho. Estuaries serve as "stopover" habitats where Coho can gain energy and increase body size before venturing into the ocean. And Coho display variable life histories where some individuals migrate from spawning areas earlier than average, and spend additional time in estuaries. Coho juveniles can adapt to brackish estuary water and can even return upstream later in the first year of life to overwinter.
ELRF-1	The Easter Lily Research Foundation (a 501(c)(3) organization established for lily research, signed by President Ezekiel Harms, states it is willing and able to collect acreage fees and submit data to the North Coast Regional Water Board if the Board chooses to use the Foundation for this purpose.
EPIC-1	We incorporate by reference the comments on the Draft Lily Bulb Order submitted separately by the Environmental Law Foundation on behalf of Save California Salmon and co-signatories ("WDR Comments"). These EIR-specific comments focus on the legal sufficiency of the Draft EIR under the California Environmental Quality Act (CEQA) and identify ways in which the document must be strengthened before the Board can lawfully certify it. As detailed in the WDR Comments, the evidence in the record compels a far more assertive regulatory response than the Draft Order provides. The same record-based failures that undermine the Draft Order also undermine the Draft EIR: an EIR that concludes impacts are less than significant on the basis of regulatory commitments that the record affirmatively shows have not worked, and that defers core analytical questions to future adaptive management iterations, cannot satisfy CEQA's informational mandate. For the reasons set forth below, we respectfully request that the Board revise and recirculate the Draft EIR, or at minimum substantially revise it before certification.

EPIC-10	The Draft EIR's alternatives discussion focuses primarily on the No Project Alternative and reduced regulatory scope options, including reduced streamside area setbacks. That is too narrow. The EIR's own scoping record expressly includes public requests to halt lily bulb cultivation in the most sensitive floodplain areas and to restore estuarine function. Yet, no such alternative was considered. At minimum, the revised EIR must evaluate the following alternatives: ● A zero-discharge alternative for synthetic pesticides and copper into fish-bearing waterways and their tributaries. ● A wet-weather prohibition alternative, which would ban pesticide application during defined wet-weather and first-flush periods. ● An expanded, hydrologically-based buffer alternative, with setback widths calibrated to actual hydrologic connectivity and fish-bearing status rather than a uniform 50-foot standard. ● An immediate certified WQMP alternative, which would require all enrollees to submit certified Water Quality Management Plans upon enrollment rather than awaiting Tier 2 adaptive management triggers. ● An independent monitoring alternative, which would replace or supplement coalition-based monitoring with third-party oversight. ● A high-risk field restriction alternative, which would prohibit or phase out lily bulb cultivation in fields with direct hydrologic connectivity to the estuary and its immediate tributaries.

EPIC-11	The EIR's analysis appears to focus on cultural resources in the archaeological and site-disturbance sense, rather than on living cultural practices that depend on salmon, clean water, functioning wetlands, and access to the estuarine ecosystem. Salmon, shellfish and smelt are not merely a biological resource; they are central to Tolowa Dee-ni' subsistence, ceremony, and cultural continuity. Continued contamination of juvenile rearing habitat, estuary habitat, sloughs, nearby coastlines and tributaries threatens those living uses in ways that must be disclosed and analyzed under CEQA. Consideration of these resources was specifically added as a requirement for EIRs following the passage of AB 52 enacted in 2014 and codified in Public Resources Code section 21080.3.1 et seq. Public agencies must, when feasible, avoid damaging effects to any tribal cultural resource. Pub. Res. Code § 21084.3(a). The EIR must be revised to: ● specifically analyze impacts to living Tribal cultural practices that depend on functioning salmonid populations and clean water; ● address the disproportionate burden borne by Tribal communities as a result of degraded water quality and impaired fisheries; and ● evaluate the adequacy of the Project's protections in light of the Tolowa Dee-ni' Nation's treaty rights, subsistence practices, and ceremonial uses.

EPIC-12	The Draft EIR's own scoping summary records specific concerns from residents regarding pesticide exposure, chronic illness, contaminated soil, and the proximity of an elementary school adjacent to lily bulb fields. The public record includes reports of acute spray drift exposure, including burning skin and eyes, tongue swelling, blisters, and difficulty breathing, as well as reported chronic symptoms including: skin rashes, nausea, respiratory issues, headaches, digestive and urinary problems, and concerns about elevated cancer incidence in the community. CEQA does not require proof of legal causation before requiring disclosure and analysis of credible community health concerns. What CEQA requires is that the EIR fairly disclose and analyze the reasonably foreseeable health consequences of the project, including exposure to airborne pesticide drift, groundwater contamination of domestic wells, and the cumulative community health burden of long-term proximity to intensive pesticide use. (CEQA Guidelines §§ 15126, 15126.2; see also Californians for Alternatives to Toxics v. Department of Food & Agriculture (2005) 136 Cal.App.4th 1.) The EIR must be revised to: ● Evaluate potential community exposure pathways, including spray drift from adjacent fields, volatilization of applied pesticides, and surface transport under wind conditions; ● Analyze domestic well contamination risks in light of the 2025 finding that pesticides were detected in six of nine domestic wells sampled; ● Address school adjacency concerns and the potential for children's acute and chronic exposure; ● Evaluate the cumulative health burden on the Smith River community as a low-income rural community with limited access to healthcare; and ● Assess the Project's compliance with the State Water Board's Racial Equity Resolution and the Regional Board's own environmental justice commitments.

EPIC-13	The Draft EIR acknowledges that pesticides and nitrate were detected in irrigation and domestic wells located within current and historical lily bulb cultivation areas. The 2025 SWAMP Report further establishes that imidacloprid and diuron are detectable outside of the wet season, strongly suggesting groundwater transport as a discharge pathway independent of storm-event surface runoff. The EIR's analysis is disproportionately focused on surface runoff pathways and does not adequately evaluate: ● the persistence of copper and pesticide residues in soils and shallow groundwater; ● seasonal lag effects that may result in continued discharge to receiving waters even after surface runoff controls are improved; ● cumulative loading to shallow aquifers over years of intensive cultivation; ● the adequacy of surface-buffer strategies where groundwater transport, rather than overland flow, is the dominant pollutant pathway; and ● the risk that persistent pesticides (including copper, diuron, and imidacloprid) will continue to affect domestic wells even after surface management practices are improved. CEQA requires analysis of the complete range of significant environmental effects, including those that occur through indirect or delayed pathways. The groundwater pathway is neither indirect nor speculative: the record directly documents pesticide presence in wells.
EPIC-14	The Draft EIR's antidegradation analysis cannot satisfy these requirements because: ● the EIR concludes that the Order's requirements constitute BPTC, but the record shows the management practices the Order relies upon have not eliminated exceedances; ● management practices that the Hurst study demonstrates to be ineffective under Smith River conditions cannot, by definition, constitute BPTC; and ● the EIR does not adequately analyze the social and environmental costs of continued degradation during the compliance period, including the "incalculable" value of ESA-listed species that courts have recognized must be given the highest priority. (Tennessee Valley Auth. v. Hill (1978) 437 U.S. 153, 187, 194.) The EIR must be revised to provide a legally sufficient antidegradation analysis that honestly confronts what the record shows.

EPIC-15	Before certifying the EIR, the Regional Board should revise the Draft EIR to: 1. Provide substantial evidence supporting any less-than-significant conclusion, specifically addressing why the Project is likely to achieve water quality objectives given the documented failure of comparable management practices; 2. Analyze the environmental consequences of continued exceedances during the adaptive management compliance period; 3. Strengthen the cumulative impacts analysis to address the interaction of habitat simplification, hydrologic alteration, estuarine impairment, climate-related runoff variability, groundwater contamination, grazing impacts, roading impacts, and ongoing pollutant loading; 4. Revise the mitigation analysis to address the record-documented failure of 80-foot setbacks and acknowledge that surface management practices cannot address groundwater transport pathways; 5. Revise the mitigation analysis to be less vague by requiring specific performance standards; 6. Significantly shorten the 10-year delay of enforcement; 7. Evaluate the full range of feasible alternatives, including zero-discharge, wet-weather prohibitions, expanded buffers, immediate certified WQMPs, independent monitoring, and high-risk field restrictions; 8. Improve the analysis of Tribal beneficial uses and living cultural impacts; 9. Expand the environmental justice and community health analysis; 10. Provide a legally sufficient groundwater transport analysis; and 11. Revise the antidegradation analysis to bridge the analytic gap between ongoing exceedances and the conclusion that BPTC is being applied.
EPIC-16	An EIR's analysis must evaluate impacts during the entire project implementation period, not merely after a project is presumed to be successful. CEQA Guidelines § 15126.2 expressly requires disclosure of significant environmental effects that may occur as a result of phased implementation. Where a project involves staged compliance with continued interim pollutant loading, the EIR must analyze the environmental consequences of that interim period. (See Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 449.)
EPIC-17	EPIC and other commenters have repeatedly suggested management practices that would actually reduce these impacts to less than significant. See WDR Comments.

EPIC-18	The EIR also touches on grazing impacts and nitrogen pollution, but does not address the ongoing cumulative impacts with the rotation of lily bulbs and grazing and the serious impacts of estuary and riparian grazing. The serious impacts of roading and ditching are not addressed as a cumulative impact despite the substantial evidence that roads and ditches are directly responsible for conveying sediments and chemicals to impaired waterways.
EPIC-19	These setbacks are not defined and the board does not address issues such as soil type, groundwater connectivity, yearly rainfall, slope, roading and ditch impacts, or whether grazing will be allowed within these filter strips and set backs. This makes it impossible to assess whether they will be effective.
EPIC-2	The Draft EIR acknowledges that surface water monitoring between 2013 and 2024 documented synthetic pesticides, including diuron, ethoprop, and imidacloprid, and dissolved copper in downstream tributaries and sloughs at levels that periodically exceed U.S. EPA aquatic life benchmarks. The 2025 SWAMP Report confirms that exceedances have persisted through the four years since the adoption of the 2021 Management Plan: imidacloprid exceedances were detected in 40% of samples; copper exceedances of the chronic BLM criterion occurred in 100% of Lower Mello Creek samples and 56% of Lower Delilah Creek samples; and concentrations correlated strongly with application rates and increased markedly downstream of lily bulb operations. These exceedances have been so severe that the Smith River recently was listed for several agricultural chemicals under the state's 303(d) list. These listings can directly be attributed to the years of inaction by this board in creation of this permit. The EIR cannot conclude that water quality impacts will be less than significant when its own cited record demonstrates that the very management practices the Project relies upon have not significantly decreased those impacts over multiple years of implementation. A less-than-significant conclusion premised on the assumption that a regulatory framework will function as intended is not supported by substantial evidence where the record shows the framework's antecedents have not worked.
EPIC-20	The public record includes reports of acute spray drift exposure, including burning skin and eyes, tongue swelling, blisters, and difficulty breathing, as well as reported chronic symptoms including: skin rashes, nausea, respiratory issues, headaches, digestive and urinary problems, and concerns about elevated cancer incidence in the community. The Draft EIR's own scoping summary records specific concerns from residents regarding pesticide exposure, chronic illness, contaminated soil, and the proximity of an elementary school adjacent to lily bulb fields.

EPIC-21	Water Code section 13149.2 separately requires that when issuing or reissuing WDRs, a water board must make programmatic findings on tribal impact, environmental justice, and racial equity considerations, and must identify measures within its authority to address those impacts. As the WDR Comments explain in detail, the Draft Order's section 13149.2 analysis is cursory and insufficient. The Draft EIR, as the foundational environmental document, must provide the analytical basis for those findings. It currently does not.
EPIC-22	Whether viewed from a civil rights disparate impact lens or from a conventional cumulative impact lens, lead agencies that receive state or federal funding should include a disparate impact analysis in their CEQA analysis under both state and federal law (Cal. Gov. Code § 11135; Title VI of the Civil Rights Act of 1964) and further include less discriminatory options in any alternatives analysis.
EPIC-3	NOAA's 2014 Final Recovery Plan for the SONCC coho salmon identifies copper concentrations in the Smith River as potentially causing acute toxic effects and impairing olfaction and reproduction in coho salmon at concentrations far below the California Toxics Rule standard. The 2018 NMFS/CDFW Monitoring Report found that dissolved copper has neurobehavioral toxicant effects on salmonids at levels of 0.18 to 2.1 µg/L above background (levels below the CTR threshold) and that multiple sampling locations in the Smith River Plain exceeded even CTR levels during monitoring events. The Draft EIR does not adequately address these sublethal and chronic biological effects. CEQA requires analysis of the full range of reasonably foreseeable environmental effects to listed species, including sublethal harms to salmonids such as impaired olfactory function and predator avoidance, reduced reproduction, prey base impacts, and the cumulative consequences of repeated storm-driven pollutant pulses in estuarine rearing habitat. Under both the Federal Endangered Species Act and California Endangered Species Act, sub-lethal impacts that otherwise harm a species by interfering with behavior, reproduction, or other essential life pathways may constitute take of an endangered species. Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, 515 U.S. 687 (1995). The EIR's biological analysis must be revised to directly engage the NOAA recovery science and to explain, with evidence, why the Project's chosen pace and structure are sufficient to prevent significant harm to ESA-listed and CESA-listed species and their habitat.

EPIC-4	The Draft Lily Bulb Order's adaptive management structure allows a minimum of approximately ten years before enforcement can be triggered. The Draft EIR does not analyze the environmental consequences of continued exceedances during that decade-long compliance period. CEQA Guidelines § 15126.2 requires disclosure and analysis of impacts during implementation, not merely upon theoretical completion. The reasons for this are obvious. Without this requirement, lead agencies could simply delay consideration of impacts until after the project was completed, thus avoiding the informational and harm avoidance directives of CEQA. CEQA is a "look before you leap" law. This current project proposes to leap for 10 years before looking. The EIR must be revised to evaluate what the record already demonstrates: that if management practices continue to be insufficient, the consequence is continued loading of copper and synthetic pesticides into some of California's most ecologically sensitive and legally protected waters for an extended period, with foreseeable ongoing harm to coho salmon, tribal fisheries, and downstream beneficial uses.
EPIC-5	The Board already possesses specific, detailed information about the nature and extent of pollution: over a decade of surface water monitoring, the 2025 SWAMP Report, the 2018 NMFS/CDFW Monitoring Report, multiple years of management practice reporting, and groundwater monitoring showing pesticide detections in six of nine domestic wells sampled in 2025. Where the existing record contains sufficient information to analyze impacts, an agency may not defer that analysis by invoking programmatic uncertainty. (Communities for a Better Environment, supra, 184 Cal.App.4th at 92-95.) Critically, the EIR cannot simultaneously invoke programmatic uncertainty to justify incomplete analysis while also relying on those same uncertain future practices to conclude that impacts are less than significant. That is the kind of logical circularity that courts have rejected as insufficient to constitute substantial evidence. (See Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 717.) The EIR must be revised to evaluate these impacts now, using the information that the agency already has.

EPIC-6	The Draft EIR relies heavily on vegetated setbacks and filter strips as the primary mitigation mechanism for water quality impacts. These setbacks are not defined and the board does not address issues such as soil type, groundwater connectivity, yearly rainfall, slope, roading and ditch impacts, or whether grazing will be allowed within these filter strips and set backs. This makes it impossible to assess whether they will be effective. Sierra Club v. County of Fresno 6 Cal.5th 502 (2018) (holding that an EIR must provide sufficient detail and analysis to support its mitigation conclusions). Similarly, the CEQA guidelines require mitigation measures to have "specific performance standards… and the means by which the mitigation measure will be achieved and monitored." (CEQA Guidelines § 15126.4(a)(1)(B)-(C)) The mitigation for this project is not supported by substantial evidence, is fatally vague, does not have specific performance standards, and therefore constitutes a legally deficient mitigation finding under CEQA.
EPIC-7	The Hurst study, (the only study in the record that evaluates the effectiveness of management practices specifically designed for Smith River Plain conditions) demonstrates that 80-foot setbacks did not reduce dissolved copper discharge one of the main environmental impacts at issue here. During saturated storm conditions in December and January, filter strips removed essentially no copper. Constructed berms were washed away. The proposed mitigation was therefore ineffective at reducing this significant environmental harm. Despite this, the Draft Order proposes 50-foot setbacks (shorter than the 80-foot setbacks shown to fail in the Hurst study) as a Tier 1 compliance option. The Draft EIR cannot conclude that such setbacks will reduce impacts to a less-than-significant level when the record affirmatively demonstrates they will not. CEQA requires that proposed mitigation measures be supported by substantial evidence that they will actually be effective. (Pub. Res. Code § 21002; CEQA Guidelines § 15126.4(a)(1)(B); Federation of Hillside & Canyon Assns. v. City of Los Angeles (2000) 83 Cal.App.4th 1252, 1261.) Where the only site-specific study in the record contradicts the EIR's mitigation conclusion, that conclusion is not supported by substantial evidence.

EPIC-8	Setbacks do not address groundwater transport pathways. The record establishes that imidacloprid and diuron are detectable outside the wet season, indicating groundwater transport as a significant mechanism for contamination. Even if the setbacks were to capture surface runoff but still allowed persistent pesticide residues to migrate through soils to shallow groundwater and receiving waters, they cannot constitute adequate mitigation for the full scope of identified discharge pathways. Mitigation that only partially mitigates an impact by failing to address a significant mechanism by which that impact occurs cannot be said to mitigate below a significant level. Sierra Club v. County of Fresno 6 Cal.5th 502 (2018)
EPIC-9	The Draft EIR acknowledges that the Smith River Plain has already been extensively modified by diking, tide gates, agricultural conversion, and riparian removal, and that NOAA's recovery documents identify the lower Smith River and estuary as already impaired. Yet the EIR fails to synthesize these stressors into a meaningful cumulative analysis. The EIR also touches on grazing impacts and nitrogen pollution, but does not address the ongoing cumulative impacts with the rotation of lily bulbs and grazing and the serious impacts of estuary and riparian grazing. The serious impacts of roading and ditching are not addressed as a cumulative impact despite the substantial evidence that roads and ditches are directly responsible for conveying sediments and chemicals to impaired waterways. A rigorous cumulative impacts analysis must evaluate the interaction of: (1) habitat simplification and altered hydrology from decades of agricultural conversion; (2) ongoing and documented pesticide and copper loading from lily bulb operations; (3) groundwater contamination detected in domestic wells; (4) estuarine impairment limiting juvenile coho rearing capacity; (5) climate-driven shifts in runoff timing and intensity; and (6) the compounding vulnerabilities of a federally listed salmonid population already operating far below its recovery target of 6,800 spawners, with recent escapement estimates as low as 2,365 individuals. A level of contaminant loading that might be tolerable in a healthy, diverse watershed becomes potentially devastating when overlaid on degraded floodplain structure, constrained tidal exchange, and the biological needs of a listed species under active recovery stress.

Free-1	The draft Lily Bulb Order does not use the best available science or BMPs for mitigating sediment, pesticide, and nutrient delivery based on monitoring and implementation of BMPs during the implementation of the Smith R Water Quality Management Plan. Additionally, the stream side management zones are inconsistent with pesticide labels for protection of aquatic habitat. We recommend a minimum 100 foot no-go zones for perennial streams and 50-foot zones for ephemeral streams and ditches that deliver to fish-bearing streams. We don't understand the larger buffers for wetlands and ponds when compared to ephemeral streams and ditches that deliver to higher-order streams. Finally, the 90% cover requirement for vegetated buffers and allowing activities within these buffers is not scienitfically defensible. The climate of the Smith River almost always results in precipitation and run-off from storms that occur beginning in October and often extends into June. Most permits for other activities that generate sediment and run-off (e.g., bridge construction) are restricted to the October to June 15th time period to account for Northern California precipitation patterns. Also, the purpose of the vegetated buffers is to capture sediment, pesticides, and nutrients and constant disturbance of these areas will simply mobilize these sequestered contaminants.
Free-2	Allowing mitigation for the riparian vegetation requirement outside watershed areas directly affected by lily bulb agriculture is inconsistent with the purpose of the riparian vegetation which is to reduce sediment, pesticide, and nutrient delivery to fish-bearing streams.
Free-3	The monitoring required in the Lily Bulb Order is inadequate to identify potential locations/fields that are discharging pollutants and, therefore, is inadequate for implementing the proposed adaptive management portion of the Order. We recommend that edge of field monitoring is implemented and dry season sampling is conducted.
Free-4	The adaptive management plan proposed in the Order is inadequate to protect state and federally listed coho salmon given the strict 3-year life history of the listed species and the extended feedback from monitoring to action to monitoring loop proposed in the adaptive management plan and the proposed compliance/enforcement of the Order.
Free-5	The proposed Order does not take into consideration the synergistic toxicity of a number of the pesticides/herbicides and water chemistry of the affected streams where sensitive species (e.g., coho salmon) are exposed. We know heavy metals can increase the toxicity of various pesticides (e.g., organochlorides) and vice versa.
Free-6	As proposed, we do not believe that the draft Order will protect the beneficial uses of the Smith R including the conservation and recovery of state and federally listed species and their habitats. Additionally, it does not protect Public and Tribal Trust resources.

Galea-1	Commenter, a Crescent City native who worked for CDFW on salmon work, states he has heard his whole life that living in Smith River is inadvisable due to lily bulb pesticides. Commenter explains that pesticides at the river mouth cause salmon approaching from the ocean to perceive the entire river system as contaminated, causing them to go elsewhere rather than enter their natal stream.
Galea-2	Commenter explains salmon straying science: normally approximately 10% of salmon stray to non-natal streams, which mixes genetics and maintains population health and adaptability. When salmon smell pesticides in their natal stream from the ocean, far more than 10% stray from the Smith River, damaging population genetics and long-term resilience. Commenter requests removal of lily bulb operations from the area.
HFMA-1	The future of California coast-wide Commercial, Sport, and Tribal fisheries is tied to the future of ESA and CESA-listed, threatened coho salmon stocks, and Coastal Chinook, a "species of concern" in the Smith River System. But, all of these fish stocks are 'Off Limits' unless the responsible agencies determine that there is a "harvestable surplus" of salmon, over and above the population levels required for delisting as 'Threatened' or 'Endangered' with extinction. Green Sturgeon and Eulachon are also listed as threatened. Moreover, the regulations limit fishing for unlisted, healthy salmon stocks that mix in the ocean and river in order to protect stocks that are still listed, further compounding the impacts to the economic viability of several coastal communities, many of which are beyond the Smith River Basin.
HFMA-10	It is highly unlikely that the Order will protect water quality standards, prevent degradation of high quality water, or comply with state law, including the Nonpoint Source Policy, the Federal and State Antidegradation Policies, the Porter Cologne Water Quality Act ("Porter-Cologne")(Water Code §§ 13000-16100) or the Basin Plan itself.
HFMA-11	It is necessary and in the public interest to completely stop the contamination of the estuary that all the salmonids that swim to and from these 300+ miles of Wild and Scenic Rivers have to pass through year after year. If the pollution doesn't stop, this amounts to managing the slow but steady decline of these salmon species and the other beneficial uses listed in the North Coast Region Basin Plan.
HFMA-12	For all of the above reasons, we strongly urge the Board to adopt a "cease and desist" order, "cleanup and abatement" orders, and establish a "zero waste discharge limit" for all agricultural chemicals into the Smith River Estuary and its tributaries, just as this Regional Water Board did with the herbicide 245-T used in reforestation plantation development. The RWB has the authority, ability, and "affirmative duty to act", to prohibit any pesticides from reaching this salmon bearing river system.

HFMA-13	Our preferred Alternative in the EIR would have to include all 3 Objectives if you remove "minimize" from Objective # 1; but Objective #2, "Effectively track and quantify achievement of the stated objectives over a specific, defined time schedule" cannot be met under the described Monitoring and Reporting Program.
HFMA-14	The monitoring and reporting are a conflict of interest because the person monitoring and reporting, whether an individual or a "Coalition", has a vested interest in the outcome. This built-in feature of the plan is inconsistent with the basic principle of checks and balances of our governmental system; Then, the response to a violation is also self-regulated, with the violator choosing the fix; Then, the delay in the reporting to the agency means that the agency cannot act in a timely manner to address a problem--even if one is reported accurately!
HFMA-15	Much evidence has been presented to this Water Board on the health risks of contaminated wells for drinking water in the area. Since pesticide-loaded water that infiltrates groundwater cannot be removed, prevention is essential for the health of the community.
HFMA-16	Some additional Beneficial Uses that would need to be included in the DWDR for Smith River are: Wetland Habitat (WET), Groundwater Recharge (GWR), Water Quality Enhancement (WQE), and Flood Peak Attenuation/Flood Water Storage (FLD), along with ones listed in the Order: Estuarine Habitat (EST) and Freshwater Replenishment (FRSH); are all beneficial uses that protect riparian and wetland habitats. (CDFW to Matt St. John, NC Water Board EO, October 6, 2014)
HFMA-17	The RWB has the authority, ability, and "affirmative duty to act", to prohibit any pesticides from reaching this salmon bearing river system.
HFMA-2	The Smith River System has some of the highest quality Recreational and Ecological waters in California according to the State Water Quality Control Board with 375 miles designated for its "Outstandingly Remarkable" values as Wild and Scenic, and is recommended by the State Water Board to be designated "Outstanding National Resource Waters". It is important to bear in mind that each Beneficial Use of water listed in this DWDR, such as Navigation, Commerce, Fishing, Recreation, Aesthetic Value, Domestic Water Supply--has a public and a private benefit; and that no one value should be sacrificed for short term private gain by a few at the expense of long-term socio-economic cohesion and prosperity over time for the rest of us. Our bottom line is the stream channel itself which drains these forest and rangelands and through the wetlands at the bottom, nobody owns the water; we all own it and have a right to the beneficial uses of the water.

HFMA-3	Many beneficial uses are inter-related and critical to the recovery of sensitive and listed fish stocks in the Smith River System. Some additional Beneficial Uses that would need to be included in the DWDR for Smith River are: Wetland Habitat (WET), Groundwater Recharge (GWR), Water Quality Enhancement (WQE), and Flood Peak Attenuation/Flood Water Storage (FLD), along with ones listed in the Order: Estuarine Habitat (EST) and Freshwater Replenishment (FRSH); are all beneficial uses that protect riparian and wetland habitats. (CDFW to Matt St. John, NC Water Board EO, October 6, 2014)
HFMA-4	After reviewing your draft Order we have found many serious problems that need to be addressed. Our members are very concerned that the Order and EIR as written are highly unlikely to achieve the Water Quality Objectives to protect the beneficial uses of water, especially threatened and endangered salmonids that inhabit the Smith River Estuary and its tributaries while spawning and smolting, as required by applicable law. Moreover, much evidence has been presented to this Water Board on the health risks of contaminated wells for drinking water in the area. Since pesticide-loaded water that infiltrates groundwater cannot be removed, prevention is essential for the health of the community.
HFMA-5	The goals of this Order seem appropriate, but the Objectives in the Order are inadequate, because "minimizing and reducing" the pollution will not be enough to prevent further, ongoing damage to the salmon life cycles in the Smith River or protect the other beneficial uses in the Basin Plan. In fact, they do not achieve the Objectives of your own North Coast Basin Plan: "Pesticides. Waters shall not contain any individual pesticide or combination of pesticides in concentrations that cause nuisance or adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations in bottom sediments or aquatic life that cause nuisance or adversely affect beneficial uses." "Toxicity. Waters shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances."

HFMA-6	The monitoring and reporting are a conflict of interest because the person monitoring and reporting, whether an individual or a "Coalition", has a vested interest in the outcome. This built-in feature of the plan is inconsistent with the basic principle of checks and balances of our governmental system; Then, the response to a violation is also self-regulated, with the violator choosing the fix; Then, the delay in the reporting to the agency means that the agency cannot act in a timely manner to address a problem--even if one is reported accurately!
HFMA-7	Compounding this problem, one of the main proposed Management Practices—filter strips or vegetative buffers—have been shown to not be effective in keeping copper, and likely other pesticides, out of the Smith River Estuary. The Management Practices relied on in the Order cannot protect the estuary from copper and other pesticide runoff because the lily crops are grown in a seasonal wetland. (Hurst 2024) Minimizing these chemicals is not adequate to keep them from further damaging sensitive and listed stocks in various stages of their life cycles, such as spawning, egg incubation, and smolting.
HFMA-8	Additionally, the economic reasoning given for merely "minimizing," and not prohibiting release of pesticide pollutants, as well as nitrogen and sediment, does not take into account the economic impacts of threatened, endangered, and declining fisheries, as well as the other beneficial uses listed in the Basin Plan.
HFMA-9	It is important to bear in mind that Section 4 of the ESA states that species can be listed as threatened or endangered if they meet one or more of the following five criteria: Habitat Destruction: The present or threatened destruction, modification, or curtailment of its habitat or range. Overutilization: Overutilization for commercial, recreational, scientific, or educational purposes. Disease or Predation: Disease or predation affecting the species' survival. Inadequate Regulations: The inadequacy of existing regulatory mechanisms to protect the species. Other Factors: Other natural or manmade factors affecting its continued existence. Unfortunately, the stocks that are listed in the Smith already qualify for all five!

Holland-1	Commenter draws the lead/neurological development analogy: dissolved copper impairs salmonid olfactory systems at low concentrations — the sensory basis for homing navigation — at estuary entry before upstream migration begins, rendering a fish's migration meaningless even if it survives acute toxicity. At documented concentrations in the Smith River estuary, no margin of safety remains. Copper levels in estuary tributaries found at nearly 28 times the California Toxics Rule threshold; state scientists documented acute and chronic reproductive toxicity in estuary-feeding streams; 17 pesticides detected in surface waters; 300,000 pounds of highly toxic pesticides applied annually in the floodplain. Note: this letter's structure, arguments, and citations closely mirror Tyler Kharazi's submission, likely from a shared advocacy template.
Holland-2	Commenter notes that NMFS formally notified growers in 2018 of ESA violations for illegal take of coho salmon, characterizing this as a turning point that was not acted upon; that the Smith River flows through Tolowa Dee-ni' ancestral homelands and is a living cultural and spiritual foundation; and requests buffer zones, wet-weather prohibition, Tribal use protections, enforcement with meaningful consequences, and a ban on all further pesticide/copper discharges as the logical conclusion of the evidence.
Hostler-1	I as a resident of smith river and Tolowa indigenous person who deeply cares about the health and safety of the people, plants and all life of the smith river am requesting you to adopt the strongest possible protections from easter lilly pesticides, herbicides, chemicals and management. This area that my people have called home for thousands of years is greatly degraded from this industry. The smith river is one California last wild rivers and should be a ecological refuge where industrial chemical pollution isn't managed but prevented.
Hostler-10	Independent monitoring with transparent public reporting.
Hostler-11	Full protection of Tribal uses, fisheries and drinking water. Traditional and contemporary Cultural use of river water includes bathing and ingestion of water and salmon during first salmon ceremony.
Hostler-12	The protection of this unique and beautiful river is up to you. Future generations are counting on you to give them a better future free of toxic chemicals.
Hostler-2	Permit must have enforceable protections that reflects the realities of this unique watershed.

Hostler-3	There must be no chemicals used during the rainy season or on windy days. I've personally been exposed multiple times as a passerby from these toxic chemicals sprayed on windy days. I've smelled the chemicals, had watery eyes and numb lips after driving by fields being sprayed. I've called the local contact for pollution control in del Norte county and left messages but response was days later. Even as a child at smith river elementary School I remember being exposed to chemicals on adjacent Easter lilly fields.
Hostler-4	No discharge of chemicals including copper into surface and ground water.
Hostler-5	Enforceable pollution limits not ineffective voluntary management practices.
Hostler-6	200-300 foot buffer around fields, waterways, homes and schools. Retire fields adjacent to school.
Hostler-7	Retire and restore lands unsuitable for lilly bulb farming. Especially in estuaries.
Hostler-8	Prioritize non chemical pest control.
Hostler-9	Enforcement penalties must be strictly enforced.
Ihara-1	Commenter, an Arcata, CA resident, notes decades of pesticide discharge by lily bulb farms, describes the Smith River upstream as one of California's most pristine rivers but contaminated as it approaches the ocean. Requests a zero-discharge threshold for all synthetic pesticides, wet-weather spraying prohibition, buffer zones between fields, waterways, residences, and schools to protect children, meaningful enforcement with significant consequences, and guaranteed clean drinking water for the Smith River community.
Johansen-1	Second submission from commenter (who also submitted in Round 1). The email body contains only the subject line as content: states that chemicals used as herbicides and pesticides are 'overwhelmingly poisoning our food our water our clothing our own bodies' and calls for manufacturing with naturally occurring chemicals. Body text reads only 'Sent from my iPhone' — no substantive comment content available.
Jordan-1	Commenter cites Save California Salmon's framing and the perspective of the Tolowa Dee-ni' Nation Natural Resources Director: pesticides from a non-food ornamental crop are washing into creeks and the Smith River, harming salmon and degrading tribal waters. Requests the permitting system mandate prevention of pesticides and other toxins including copper from entering waterways.
Kharazi-1	I am a California resident with no personal connection to the Smith River, but a deep concern for the state's salmon populations. I write to urge the strongest possible protections in the Draft Lily Bulb Order and its accompanying Environmental Impact Report. That California's last truly wild and undammed river is being measurably degraded to support the cultivation of an ornamental flower sold for a single holiday demands serious scrutiny.

Kharazi-10	Enforce the order with meaningful consequences for violations.
Kharazi-11	Disallow any further pesticide discharges, including copper, to waterways—the logical conclusion of the evidence before you.
Kharazi-12	Voluntary compliance has failed this river for forty years. The Board now has an opportunity and a legal obligation to act. I ask that you meet this moment with the full force of your regulatory authority.
Kharazi-2	An analogy may help clarify why copper contamination is so specifically devastating. We understand viscerally what lead does to a child's developing nervous system: it doesn't just poison acutely, it steals the capacity to think, to orient, to navigate the world. Dissolved copper does something remarkably similar to salmon. Even low concentrations impair the salmonid olfactory system—the very sense that guides a salmon home. A salmon's entire life is oriented around a single return journey, sometimes hundreds of miles upriver, navigated by smell. Copper contamination strikes at the beginning of that journey, in the estuary, before the fish has swum a single mile upstream. A fish that survives acute toxicity may complete the journey unable to find its ancestral spawning grounds, its migration rendered meaningless. At the concentrations documented in the Smith River estuary, there is no margin of safety left.
Kharazi-3	Water quality testing found copper levels in estuary tributaries at nearly 28 times the California Toxics Rule threshold, with state scientists documenting acute and chronic reproductive toxicity in streams feeding the estuary—meaning invertebrates forming the base of the salmonid food chain cannot survive or reproduce in these waters.
Kharazi-4	Seventeen different pesticides have been detected in surface waters, along with 10 instances of contamination of the aquatic food chain. To put the scale of this in concrete terms: lily bulb growers apply an annual average of 300,000 pounds of highly toxic pesticides across these fields, concentrated in the floodplain of one of California's most ecologically critical waterways, for an ornamental crop.
Kharazi-5	Most critically, the National Marine Fisheries Service formally notified growers in 2018 of Endangered Species Act violations for illegal "take" of coho salmon. That federal determination should have been a turning point. Instead, voluntary measures and buffer zones that have proven ineffective have been allowed to substitute for real regulation for decades.
Kharazi-6	The Smith River is California's last major undammed river and a stronghold for salmon at a moment when populations across the West are in freefall. It flows through the ancestral homelands of the Tolowa Dee-ni' Nation, for whom it is not merely habitat but a living cultural and spiritual foundation. These ecological and cultural stakes are precisely what the Board's regulatory authority exists to protect.

Kharazi-7	Establish large, effective, and enforceable buffer zones between fields and all waterways, residences, and schools.
Kharazi-8	Prohibit pesticide application during wet weather conditions.
Kharazi-9	Guarantee specific protections for Tribal beneficial uses, imperiled species, and clean drinking water for the community of Smith River.
Miller-1	All of the other regions that have adopted Irrigated Lands Mgmt Programs are dealing with a completely different agricultural system. Here in the Smith River area there are only 3 growers left producing lily bulbs. The production area over the last 20 years has been reduced from about 450 acres to less than 200 today. Because of the limited number of growers there are some specific issues in the order that need modification.
Miller-2	Because of the limited number of growers the forming of a coalition requirement needs to be modified to better fit this area.
Miller-3	The requirements for testing seem too broad. Surface water monitoring locations need to be reviewed. There are 8 locations listed on page 6 of monitoring and reporting program. Some need to be modified or deleted.
Miller-4	The 21-24 swamp report gave results of testing for 3 pesticides. This testing showed very limited number of exceedance of the water quality criteria. Because there were no exceedance in various creeks, the number of tests that growers are required to do should be negotiable in some of the locations. Page 18 & 19 of the 21-24 Swamp Report for Diuron, Ethoprop and Imadecloprid testing shows 69 tests for Diuron with 1 exceedance, 64 tests for Ethoprop and with 1 exceedance, and 109 samples taken for Imadecloprid with 8 exceedences only.
Miller-5	Three samples per year in locations with NO exceedance does not seem reasonable. Yes, a couple locations may require 3 tests, but the majority seems like 1 test during runoff would be acceptable. Yes, testing Copper 3 times per year all locations.
Miller-6	The total expense to comply with reporting seems high. Table 1.11 shows the "coalition" expense for technical reports yearly. Remember there are less than 200 acres for this crop. When costs for reports rise to $10,000, $20,000, $30,000, $40,000 that is $50 - $200 per acre.
Miller-7	Nitrogen management does not seem to apply here. There have not been any drinking water well tests that have exceeded the 10 mg/l MCL (2025 NCRWQC Board staff samples). There is a lot of dairy liquid waste being applied to dairy land in the Smith River valley. Costs to develop plans and show trends seem not to be applicable here especially the need to report on a field by field basis.

Montagne-1	Commenter strongly supports adoption of an effective permit, emphasizing dissolved copper hydroxide as particularly harmful to salmon olfaction and homing. Calls for meaningful enforcement beyond a 'slap on the wrist,' protection of Tribal sovereignty, buffer zones with mandatory pollution control, and guaranteed clean drinking water. Notes additional concurrent stressors on the Smith River: fires upriver, a rapidly shrinking glacier as the river's source, and 6PPD-q contamination from automobile tires on Highway 199. Requests confirmation her comments were received and recorded.
Obrien-1	Humboldt County resident and self-described 'Smith River Lover,' commenter submits an emphatic letter requesting the Board stop pesticide discharges, ban copper from the water, stop pesticide spraying, create buffer zones to protect children, and impose consequences for violations. Requests an EIR that actually protects the public and ecosystem. Uses standard form letter themes but with emotionally urgent language, partially in all caps.
Pace-1	Adopt enforceable water quality limits with no exceedance of thresholds for pesticides, metals, nutrients, sediment, or other pollutants that could harm fish, wildlife, or drinking water.
Pace-10	Provide protections that safeguard Tribal beneficial uses, imperiled species within the estuary, and guarantee clean drinking water for the Community of Smith River.
Pace-11	The regulations and other actions you've taken so far have not worked. Buffers are good but runoff from fields is exiting them via access roads and going into ditches that discharge into the estuary. I've sent you photos and videos of that pollution but you have done nothing to end it. Shame on you all. End the pollution now because it is eminently feasible and not expensive. Stop protecting the lily bulb growers and their profits; protect residents health instead as is your duty.
Pace-12	It is your duty to end those discharges by requiring runoff detention ponds at access road points.
Pace-2	Require storm-event monitoring so pollution during heavy rains or irrigation runoff can be detected and addressed.
Pace-3	Increase monitoring locations in tributaries, wetlands, and drainage channels across the Smith River Plain.
Pace-4	Require independent verification of monitoring data to ensure transparency and accountability.
Pace-5	Require immediate corrective action and enforcement with strict penalties when pollution is detected, including clear timelines for fixing violations.
Pace-6	Disallow any further pesticide discharges to waterways, including copper.
Pace-7	Disallow the spraying of pesticides during wet weather.
Pace-8	Create large and effective buffer zones between fields, waterways, residences, and schools.

Pace-9	Effectively enforce the regulations outlined within the order via significant consequences following order violations.
Powell-1	Commenter, a longtime Southern Oregon Coast resident from Port Orford, OR, explains how copper hydroxide bioavailable dissolved copper from lily bulb fungicides leaches into Smith River estuary tributaries, impairs salmonid olfactory systems, and prevents salmon return to spawning grounds. Commenter encourages lily bulb growers to utilize alternatives to all chemical fertilizers, suggests they consult tribal experts on natural solutions, and argues that going organic is not difficult or more expensive based on personal experience.
Powell-2	Commenter notes the Smith River's protection matters to tribal members up and down the coast and that ecological protection of the river is linked to the interests of salmon populations, native habitats, and indigenous communities throughout the region.
Reeder-1	Commenter, a Crescent City, CA resident, emphasizes the Smith River's unique water quality value for salmon and sturgeon fisheries, estuary and near-shore ecosystem recovery, Del Norte County's increasingly tourism-dependent economy, and the Tolowa tribe's significant investment in coastal ecosystem recovery. Argues the highest and best purposes for water use must protect water quality, and requests zero pesticide/copper discharge, cessation of wet-weather spraying, and large monitored buffers with heavy penalties for violations.
Sargent-1	Commenter requests strict, continuous chemical testing below the Dr. Fine Bridge to measure the true ecological load of bioavailable dissolved copper entering the estuary, and demands that private property lines — specifically Tidewater-associated lands — not be allowed to shield state-mandated downstream water testing, citing Clean Water Act, ESA, Porter-Cologne, and CEQA compliance obligations.
Sargent-2	Commenter requests enforceable safety buffers including strict buffer zones between fields, waterways, and schools, alongside a total ban on pesticide spraying during wet weather to comply with the Clean Water Act, Endangered Species Act, Porter-Cologne Water Quality Control Act, and CEQA.
Sargent-3	Commenter raises a separate municipal infrastructure issue: as a recognized Disadvantaged Community (DAC), Crescent City's City Manager Eric Wier is pursuing a $50 million repair to the failing 1970s coastal wastewater treatment plant located in a tsunami and coastal erosion zone — a facility the City Manager himself has called 'inevitable' to relocate. Commenter argues proposed water and sewer rate increases violate Proposition 218 protections and may be designed to price legacy families out of their homes and force surrender of grandfathered properties to high-density developers. Requests regulatory accountability and financial partnership from the Board in relocating the municipal wastewater facility inland.

Sargent-4	Commenter proposes transforming the closed Crescent City Landfill (a monitored Brownfield site, originally developed through her grandfather Evert Ralph Sargent's investment in the sand dunes that became Del Norte Disposal) into a relocated inland water management utility. Argues this would unlock federal Brownfield revitalization grants, remove volatile industrial waste infrastructure from the coastal shoreline and crabbing habitats, and future-proof the community's sovereign stability rather than perpetuating a failing coastal system.
Scott-1	Commenter, an enrolled tribal member of the Tolowa Dee-ni Nation from Klamath, CA, documents the historical context of indigenous rights being disregarded since California statehood in 1850. States the Tolowa people deserve to protect and restore natural resources for future generations who cannot speak for themselves, and that water is life — without water there can be no life.
Scott-2	Commenter describes the Tolowa people's cultural dependence on clean water: tribal families have been forced to assimilate and relinquish most cultural traditions; the right to subsist by hunting, fishing, and gathering traditional foods from wetlands, coastal rivers, and ocean access points without poisonous chemicals is a fundamental cultural right. Requests the Board consider Tolowa people, future generations, and cultural needs when determining the safest EIR outcome.
Shade-1	Commenter writes with long-standing frustration from multiple years of calls and letters about pesticide pollution of the Smith River estuary. Alleges pesticides are making people sick, harming children at nearby schools, and raising cancer rates in the area. Demands no pesticide discharge be allowed, period — lily farms should go organic or cease operations.
Shade-2	Commenter alleges that a tribal member married to a lily farmer polluter should not be allowed to speak for the rest of the tribes and people affected by decades of pollution. Notes lily bulbs are shipped only two months of the year. Separately raises concern about STAA designation along Highway 199, which commenter alleges would allow the longest oversized interstate big rig trucks into the area, creating accident risk and potential for trucks to fall into the Smith River and cause additional pollution. References Sun Valley Lily's departure from Arcata leaving polluted acreage behind.

St.Clair-3	My name is Ethan St.Clair. I am a Tolowa Tribal Member who would go to the banks of the Smith River, participating in our Naa-dash equinox celebrations. Nii-li is where I go to refuel my soul, to fish for salmon and trout, and uphold the highest respect for the majestic beauty and power of the water. I am writing to formally submit my comments on both the Draft Lily Bulb Order and the associated Environmental Impact Report (EIR). 1. The Moral Fallacy of "Allowable" Poison I cannot fathom that the owners of these companies would want their own families ingesting these poisonous chemicals. While I overstand the logic of "money over life" in a corporate sense, I do not understand how this Board can justify a permit that treats a sacred river as a drainage ditch. If this water is not safe enough for your children or grandchildren to drink, it is not safe enough for our river.
St.Clair-4	Rebuttal of Technical Misinformation The current Draft and EIR rely on industry-friendly fallacies that must be corrected: The Sensory Blindness Lie: Industry claims low copper levels are "safe." Science proves that even 2–5 ppb of dissolved copper destroys the olfactory neurons of our Chinook, Coho, Steelhead, and Cutthroat trout. A salmon that cannot smell is an ancient intelligence being erased.
St.Clair-5	The "Buffer" Myth: 2025 data confirms that water-soluble toxins like Diuron and Imidacloprid bypass vegetative filters and flow directly into our creeks. You cannot "filter" a spirit; you can only protect it or poison it.
St.Clair-6	Failure to Protect Cultural Beneficial Use The State is failing its obligation to protect Native American Culture (NAC) beneficial uses. My right to spiritual refuge and ceremony is violated by the knowledge that the water is carrying a "toxic soup." I speak for our elders—the Green Sturgeon and Pacific Lamprey—and the macroinvertebrates that are the foundation of the river's life.

Taylor-1	I oppose non-organic farming in the Smith River area and non-edible, ornamental crops such as Easter Lillys especially. As you are already aware, the Smith River is a crucial habitat for our native salmon. Salmon are a fatty fish know to absorb the heavy metals in their environment. The bioavailable dissolved copper that is being introduced into the river by these farming operations are toxic to the salmon and interfere with their ability to navigate in order to return their breeding grounds. Also, any heavy metals invested by the Salmon can be injected by humans.I would also point out that the River and wildlife are a sacred part of the ancestral lands of the indigenous population we share our home with. As a property owner and taxpayer in Del Norte County I believe that it is incumbent upon us to alleviate and remediate any damages being caused by these agricultural operations. I am also aware of the health concerns of Smith River residents and know that when I looked at property in Smith River to buy my small 8yr old son found a 5 legged frog by the creek that ran through the property. After looking at the most recent soil reports my wife whose a Doctor of Comparative Pathology and Immunology and I decided that it would be a poor choice to purchase a home there. Please take these concerns seriously as the health of our rivers are important to all of us.
Tays-1	Commenter, an Arcata, CA resident and concerned environmentalist, requests the Board incorporate strict controls on permits for commercial lily bulb operations to protect the Smith River Estuary from improper runoff and release of pesticides, nutrients, and sediment. Specifically names Chinook and Coho Salmon, Tidewater Goby, and Eulachon smelt as priority species for protection due to their endangered and threatened status.
TDN-1	The Tolowa Dee-ni' Nation ("Nation") is a federally recognized tribal nation headquartered in Smith River, CA and governed by a seven-member, duly elected Tribal Council. The Aboriginal Lands of the Nation's territory encompasses the lands and watersheds of Daa-ghestlh-ts'a' Tr'ee-ghii~-li~ (Wilson Creek) to the South, Ts'aa-;,,'Wi.i-chit Taa-ghii~-li~ (Sixes River) to the North, East to Taa-;,,'Uu-me' Tr'ee-ghii~-li~ (Applegate watershed) in the Coastal Range, and West to the Pacific Ocean horizon, all sea stacks including Point St. George Lighthouse, and all usual and accustomed places. The above lands constitute our place of origin and our continued habitation and occupancy, demonstrated by the ancestral villages of our people within these boundaries. Yan'-daa-k'vt ("Yontocket") is the spiritual center of the Nation, and Xaa-wan'k'wvt ("Howonquet") is the seat of the Tolowa government.
TDN-10	The Nation is concerned with the absence of independent audits or third-party technical review, which also exposes the Board to reliance on potentially unreliable data.
TDN-11	The prescribed sampling window is unlikely to capture first-flush and peak concentration events, thereby reducing the reliability of compliance determinations.

TDN-12	To provide a more accurate representation, the following should be considered for implementation, especially due to hydraulic complexity and tidal interference of the Smith River Plain: Automated water samplers, such as ISCO brand, triggered by flow or conductivity sensors, can be deployed to ensure the capture of the critical first flush regardless of the time of day or time-interval compositing could be used in which samplers take aliquots every 15-30 minutes during the rising limb of the hydrograph. This accounts for the high variability in pesticide and nutrient concentrations during the initial surge of water.
TDN-13	Samples should be analyzed for both dissolved and sediment-bound phases. Since many pesticides used in bulb farming (like metam-sodium or copper-based fungicides) have high soil-adsorption rates, analyzing only the water column may lead to a significant underestimation of total pollutant load.
TDN-14	Reliance on manual grab samples, without flow-weighted or automated methods, risks systematic under- or overestimation of pollutant loads.
TDN-15	Attachment D omits standard QA/QC requirements, including field blanks, duplicate samples, calibration records, and reporting of detection limits. These omissions limit data defensibility.
TDN-16	Order WQ 2023-0102-DWQ ("Cannabis Order") is performance-based and enforceable with clear prohibition on discharges causing exceedance of Basin Plan objectives, tiered compliance obligations, mandatory monitoring, and explicit enforcement authority. The draft Order relies on implementation of BMPs, coalition compliance, and adaptive management. BMP implementation alone does not guarantee compliance with water quality objectives and are not a substitute for explicit enforcement actions.
TDN-17	We recommend using the following language to align the Draft Lily Bulb Order with the Cannabis Order structure: "Discharges shall not cause or contribute to exceedance of any applicable Basin Plan water quality objective."
TDN-18	Add a risk-tiered system to include Tier 1: Low-risk parcels, Tier 2: Moderate risk (slope, nitrogen application rates, proximity to creeks), and Tier 3: High-risk (proximity to impaired waters, wetlands, or shallow groundwater).
TDN-19	Include mandatory corrective action triggers such as numeric nitrate threshold exceedance, sediment/turbidity exceedance, and repeated pesticide detections.

TDN-2	The Nation maintains the position that there is no acceptable level of discharge of inorganic or organic pesticides into the river, and urges the Board to consider the long-term impacts of this unregulated industry while working toward swift adoption and immediate enrollment of all cultivators into a phase of adaptive management with resultant enforcement as necessary.
TDN-20	Remove coalition participation and limit to individual discharger liability.
TDN-21	Set groundwater numeric protection standards, i.e. early warning trigger (e.g., 8 mg/L nitrate-N), compliance violation trigger (10 mg/L nitrate-N).
TDN-22	Mandate watershed-scale monitoring requiring cumulative nitrogen loading assessments annually.
TDN-23	The goal of the Order should be to strengthen environmental protection and enforcement; in its current draft, it does not do this. The Cannabis Order provides a stronger regulatory model because it uses risk tiering, links monitoring to enforcement, imposes clear prohibitions, maintains individual accountability, and operates under explicit statewide enforcement authority.
TDN-24	The Nation appreciates the Board's attention to these comments and also intends to continue in formal consultation and with staff-level meetings throughout this process. Questions may be directed to the Nation's Natural Resources Department Director, Rachel McCain, at Rachel.mccain@tolowa.gov or 707.954.8594, or the Nation's Tribal Heritage Preservation Officer, Cynthia Ford, at cynthia.ford@tolowa.gov.
TDN-3	As written, the Order continues to allow exceedances of water quality parameters outlined in the North Coast Basin Plan before encouraging cultivators to adopt adaptive management practices for discrete fields, and only for certain pesticides or compounds.
TDN-4	The Nation acknowledges the limited authority of the Board to broadly address compounded and long-term effects of Easter Lily cultivation on water quality; however there is ample documented authority to address current harms via input of agricultural waste discharges into State and Tribal waterways.

TDN-5	Under the Porter-Cologne Water Quality Control Act, the Clean Water Act, the North Coast Basin Plan, and the State Board's Anti-Degradation Policy (Resolution 68-16), the Board must prescribe requirements necessary to ensure compliance with water quality standards. If pesticide discharge cannot be reliably prevented through best management practices (BMPs) alone, a zero-discharge requirement is legally justified and required. Water Code §13263(a) mandates that Regional Boards "shall prescribe requirements as to the nature of any proposed discharge ... necessary to implement any relevant water quality control plans." A zero-discharge requirement is therefore well within statutory authority. The North Coast Basin Plan states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." Pesticides are toxic by design.
TDN-6	The Porter-Cologne Act mandates the Water Boards to attain the highest water quality which is "reasonable" considering all demands and the total values involved. Currently, the only parties benefiting from ongoing pesticide use and water quality exceedances are three lily bulb growers: Dahlstrom and Watt/Miller Enterprises, Palmer Westbrook, Inc., and Crockett United Lily Growers.
TDN-7	Delilah Creek and Tillas Slough were added to the 303(d) list for copper in 2018. Additionally, in 2026, Delilah Creek was also listed for Diuron, a pesticide used in lily bulb cultivation. This listing came 5 years after the North Coast Water Board directed staff to develop a targeted collaborative (yet voluntary) water quality management strategy.
TDN-8	Copper is applied by growers at an alarming rate, frequently resulting in water quality exceedances after the 'first flush' of rainfall in the fall and winter months. This is a critical time for ESA-listed juvenile coho salmon, who are displaced from the upper watersheds and seek low velocity off-channel habitats for refugia. These wetland and slough areas in the Smith River estuary should be high quality habitats that result in high overwintering survival and growth rates for these fish. In contrast, they are hotspots that vary between acutely and chronically toxic to aquatic organisms.
TDN-9	In addition, water chemistry factors such as low pH (from tannic soils and organic waste runoff) increase the toxic effects of copper on aquatic organisms, as demonstrated in laboratory analysis.
TU-1	I am aware of the detected presence of 17 pesticides, including 1,3D, Phorate, Metam Sodium, Ethoprop, and Copper Hydroxide in the surface waters of the Smith River Estuary. These hazardous chemicals are used in the production of Easter lilies and are deadly to humans and salmonids.
TU-2	The Smith River is one of the last undammed, wild and scenic rivers in the western United States and is home to native salmon and steelhead which depend on cold, clean water to thrive. Its value to your local economy and significance for local Native American tribes is immeasurable.

TU-3	I fully support frequent testing of groundwater, drinking water supply well, and surface water in this area.
TU-4	I fully support rigid enforcement of the Order and all related statutes, rules, and regulations, and harsh penalties for all violations.
TU-5	Because the Smith River watershed is home to endangered Coho and threatened Chinook, strict measures must be taken to regulate pesticides appropriately considering the significant adverse impacts that they present.
TU-6	Additionally, currently unrestricted copper products should be designated as restricted use in Del Norte County and should be banned for any uses in proximity to waterways.
TU-7	It is imperative that our government agencies responsible for the protecting the environment, do just that and be the example of good stewards of the planet. I hope you see the value in protecting this extraordinary environment and use your authority to take appropriate action to protect and preserve it.
TU-N-1	The Smith River, the largest remaining undammed coastal river in California, is the most prized fishery in California for wild salmon and steelhead. The Smith attracts anglers from around the world, and commercial guiding and other fishing-related businesses are important economic drivers for Del Norte County. The Smith River also is one of California's precious few remaining "salmon strongholds," the type of relatively intact freshwater habitat resource prioritized for conservation under Governor Newsom's Salmon Strategy for a Hotter, Drier Future. Fishes of the family Salmonidae (salmon, trout, and char) are highly sensitive to water quality conditions, and cannot thrive in waters whose water quality is chronically comprised by excessive heat or pollution. And as with other coastal stream systems inhabited by salmon and steelhead, the estuaries of these systems are of outsized importance for salmonids -- all life stages of salmonids utilize the Smith River estuary, year-round.
TU-N-10	We recommend the Board consider a zero-discharge threshold for TMDL listed pesticides, herbicides, and fungicides in place of the receiving water limitations presented in the Draft Order, and an adaptive management process that affirms compliance with the water quality standard prior to further pesticide application, and which encourages a reduction in TMDL listed pesticide, herbicide, or fungicide applications.
TU-N-2	Because of the value of the Smith River for wild salmon and steelhead, the unique angling opportunities these species provide, and the known or probable adverse impacts of commercially applied chemicals and synthetic compounds on salmonids, the presence of commercial lily bulb growing operations that use pesticides adjacent to the Smith River estuary is a longstanding concern. Many other parties share this concern, reflected in the Board's previous actions to address this issue.

TU-N-3	TU acknowledges the voluntary efforts to implement best management practices (BMPs) in connection with development of the Smith River Plain Water Quality Management Plan, which was finalized in November 2021. While monitoring results presented at the Board's November 2025 meeting show these efforts appear to have resulted in decreased levels of synthetic pesticides and dissolved copper downstream of cultivated fields, exceedances of thresholds for copper are still being documented.
TU-N-4	In light of this, we share the concern with other fish conservation groups that the adaptive management process proposed in the Draft Lily Bulb Order will not lead to the reduction of TMDL listed pollutants below thresholds established through the Regional Water Board process. Given that pesticide applications occur in an estuary that is frequently inundated, we are not convinced management practices designed to merely reduce the amount of storm water runoff into waterways will prove effective in the estuary, where measures such as filter strips and vegetated barriers will lose efficacy in preventing pollutant discharge during frequent floods that inundate the entire floodplain.
TU-N-5	The Draft Lily Bulb Order provides growers with the option of using these potentially ineffective methods for several adaptive management cycles (at least 7 years, possibly much longer) before a violation, at which point the Board could choose to grant a waiver. (We note that lily bulbs are cultivated on a three-year rotational cycle. A single field cultivated with bulbs in year 1 is then left fallow or pasture in years 2 and 3 before becoming bulbs again in year 4. This rotation requires time to adaptively manage any single field.)
TU-N-6	In summary, we believe the adaptive management process as outlined in the order would likely allow continued exceedances of water quality limits as long as the Draft Lily Bulb Order's management practices are implemented.
TU-N-7	TU strongly supports sustainable agriculture – we work closely with agricultural operators across the western United States to restore and reconnect trout and salmon waters -- but stronger protections for salmonids in the Smith River should be prioritized here. Given the toxicity of the pollutants to be regulated by this Draft Order and their impacts on the estuary, we recommend the following changes to the Lily Bulb Order.
TU-N-8	As an alternative to the surface water quality benchmarks proposed in the Draft Order, the Board should implement a zero-discharge limit for listed TMDL pesticides, herbicides, and fungicides, with surface water discharge monitored at the "edge of field".
TU-N-9	The Board should implement a rigorous adaptive management program to ensure zero discharge of TMDL listed pollutants to receiving waters.

Wade-1	I am submitting this report as a late-file public comment because the health crisis in Smith River cannot wait for another regulatory cycle. While your staff evaluates technical benchmarks for fish and aquatic life, my family and neighbors are evaluating the cost of our lives.
Wade-2	In my home and on my street, cancer is an epidemic. My father, my mother, and my stepfather have all been diagnosed. My aunt has had it. My neighbors across the street and on both sides of me have had it. We are the "Human Benchmarks" of the lily bulb industry's runoff into Rowdy Creek.
Wade-3	Furthermore, Smith River School is surrounded by these fields. We are raising our children in a drift zone of known carcinogens like Telone II (1,3-Dichloropropene) and Chlorothalonil.
Wade-4	I formally demand that the Board: Conduct a Cancer Cluster Investigation for the 95567 zip code in coordination with the State.
Wade-5	Establish a 1-Mile Mandatory No-Spray Buffer around Smith River School and all residential clusters to prevent drift and groundwater leaching.
Wade-6	Implement Mandatory Independent Well Testing for all residents living within a mile of commercial bulb operations.
Wade-7	The voluntary measures of the past have failed us. House by house, we are getting sick. I ask you to prioritize our health over the industry's convenience before this Order is finalized in August.
Westbrook-1	Prior to World War II, Easter lily bulbs were cultivated in Japan and exported to greenhouses throughout the United States in time for the Easter holiday. With the onset of the war, imports from Japan were abruptly halted, even as demand for the flowers persisted. In response, seed companies began searching for American farmers willing to take on the challenge of propagating and producing Easter lily bulbs domestically. The process involved years of experimentation and adaptation, stretching from Portland, Oregon, to San Francisco, California. Ultimately, the Smith River Valley was identified as the ideal location, and it became the final stronghold of Easter lily production in the United States. Today, only three farmers remain in the United States who produce Easter lily bulbs for commercial use, and I am proud to be one of them. This distinction carries a deep personal significance, as I represent the third generation of my family dedicated to growing lilies as a commercial crop.
Westbrook-10	The current proposed draft of the water quality order places nearly all lily production areas directly into adaptive management tier 1. This approach effectively penalizes local agricultural producers, even though they are already following the practices recommended by the water board. Previous water sampling results were collected during periods when best management practices were still being developed and refined. However, there have been no sampling outcomes from the past two growing seasons that would justify requiring lily bulb growers to implement any adaptive management measures.

Westbrook-11	The mountains surrounding the Smith River Valley have a long history as producers of various heavy metals, including copper. It is well documented that copper traces are present above areas used for Easter lily production, indicating that these metals occur naturally and are not solely the result of agricultural activity. In a recent discussion with Chris Watt, Engineer at the North Coast Regional Water Quality Control Board (NCRWQCB), he confirmed that "all water has copper in it." This acknowledgement highlights the reality that copper is found throughout the Smith River plain, independent of any agricultural input.
Westbrook-12	Additionally, Water Quality sampling data has revealed several instances of synthetic pesticides being detected above the areas designated for lily production. These findings may be linked to other forms of agriculture including illegal marijuana cultivation occurring upstream. Despite the documented presence of both copper and synthetic pesticides originating from non-agricultural sources, these contaminants are not accounted for in the draft order addressing water quality regulation for the region.
Westbrook-13	Even though it increases an already burdensome cost baseline testing should be required.
Westbrook-14	According to page 15, #52 of the draft water quality order, the monitoring and evaluation requirements are not intended to determine the individual sources of pollutants that cause an exceedance of a Water Quality Benchmark. Instead, when an exceedance is detected, the order mandates that all Enrollees, or "Easter lily farmers", must implement adaptive management strategies to achieve individual compliance, as outlined in Section II.H. This means that regardless of the actual origin of the pollutant, the responsibility for compliance measures falls on the Enrollee. Such a provision poses significant risks, as it may result in penalizing those who are not responsible for the pollution while potentially absolving those who are. This approach leaves open the possibility that some external sources of pollution may never be identified or properly addressed.
Westbrook-15	The entire water quality program, the essence of this order, is fundamentally based on water sampling conducted by the water board. The effectiveness and ongoing success of the program will be determined exclusively by water sampling results that are now the complete responsibility of the program Enrollees. As currently outlined, the program imposes substantial cost burdens on the small number of remaining lily farmers. Moreover, it does not adequately account for the risks posed by external pollutants, which are outside the control of growers. The cumulative requirements of the sampling process threaten the economic viability of these farms.

Westbrook-16	It is essential to continue baseline water sampling above areas of lily production to safeguard the region's waterways. If initial sampling indicates that certain parameters are met, it should be possible to reduce the frequency of testing below lily production, lessening the burden on farmers. Furthermore, groundwater sampling data has not demonstrated sufficient evidence to warrant the frequency or scope originally proposed.
Westbrook-17	The increasing regulatory and financial pressures may force remaining lily farmers out of business, making it more difficult to find stakeholders willing and able to manage and monitor the Smith River ecosystem. Given the significant influence of sampling requirements and resulting data, it is imperative that the monitoring plan is as thorough and robust as possible. While there is urgency to implement the program, it is important to recognize that a rushed, insufficient plan will not achieve its intended goals.
Westbrook-18	Easter lilies have been cultivated commercially in the Smith River Basin for over 80 years. There are absolutely no exceedances, or detections for that matter, of any pesticides in the main body of the Smith River itself. There have been a few detections and a few less exceedances in some of the surrounding tributaries. A number of these detections occurred above Easter lily production. The draft's listed beneficial uses have all remained ongoing during this period. While the water board has a large and important task to undertake it is very important to keep in mind the fragile state of the beneficial use to this region that will be most adversely affected.
Westbrook-2	The annual cycle of harvesting Easter lilies involves many dozens of field and shed workers, all collaborating in the digging, processing, planting, and packaging of the crop. The camaraderie that develops from this collective effort is unique and not easily found elsewhere. This shared commitment and teamwork are what make the work so meaningful and rewarding.
Westbrook-3	Farmers in California, as well as in other regions, are confronted with a wide array of financial challenges. Property taxes, payroll taxes, fuel taxes, state excise taxes, debt reduction credit taxes, and sales taxes all continue to rise, steadily driving up the cost of necessary inputs for agricultural operations. These increasing expenses make it progressively harder for farmers to maintain profitability and remain competitive in the industry. The regulatory landscape adds further complexity. Farmers must obtain permits for nearly every aspect of their work: building structures, using equipment, making repairs, acquiring new assets, or disposing of old ones. Each permit represents an additional hurdle, both in terms of time and expense, complicating the day-to-day management of a farming business.

Westbrook-4	Labor costs have experienced exponential growth, with the minimum wage more than doubling since 2013. At the same time, overtime exemptions for farm labor have diminished, resulting in even higher payroll expenses. Despite these increased wages, it remains difficult to attract and maintain a reliable labor pool. State policies, particularly those related to taxation, have made it financially advantageous for individuals to remain at home rather than seek agricultural employment. This shortage of workers further strains farm operations.
Westbrook-5	Farmers who persevere through these obstacles must also secure comprehensive insurance coverage for their land, structures, vehicles, equipment, employees, owners, liability, and threats such as fire, flood, earthquakes, and terrorism. Even with robust policies, farmers are exposed to significant legal risks under California employment law. Employees may initiate lawsuits at any time, for any reason, and without providing evidence. The cost of defending such cases often exceeds the cost of settling, and the legal framework tends to favor employees, placing additional pressure on farm owners.
Westbrook-6	The Smith River Valley presents a distinct set of agricultural challenges compared to other regions in California. Its small size and rural character contribute to these unique difficulties. Due to the area's isolation, shipping costs are substantial, requiring higher profit margins to stay competitive. Additionally, the limited available land for agriculture continues to shrink as new regulations require increased setback distances, further constraining farming operations in the region.
Westbrook-7	Easter lilies require a lengthy cultivation period—twelve to fourteen months—making them more susceptible to pests, fungi, and environmental threats than typical crops. Growers mainly use synthetic pesticides and fertilizers designed for larger crops, as the small volume of Easter lilies doesn't justify specialized products. Many of these inputs are approved for multiple crops and some are OMRI-listed for organic farming. Regulatory agencies at federal, state, and local levels strictly monitor all chemical usage to ensure environmental and consumer safety.
Westbrook-8	Our team has been actively engaged with the North Coast Regional Water Quality Control Board to develop a waste discharge permit specifically for Easter lily production in the Smith River Plain. The main objective of this collaboration is to safeguard all beneficial uses of the Smith River basin and estuary. Despite these efforts, there is a strong likelihood that regulations placed on Easter lily farming will become so restrictive that continuing operations may no longer be economically feasible. The protection of other uses of the river system could result in limitations that significantly increase costs for growers.

Westbrook-9	According to the proposed water quality plan on page 30, #94 reads, "Water Quality Benchmarks for surface water and groundwater monitoring pesticide parameters were determined by reviewing all available pesticide water quality values, including U.S. EPA aquatic life benchmarks, and, exercising best professional judgment consistent with scientific evidence, selecting the most protective (i.e., lowest) values for relevant beneficial uses." To me, this sounds like an educated guess that is being used to determine the future of agriculture in the Smith River Valley. I do understand it is of utmost importance to get this order out and in effect. Is it truly taking into account all beneficial uses? It might not be a bad idea to get a better understanding of the parameters within "best professional judgement".
Wilson-1	Commenter, a Del Norte County resident who has monitored groundwater and waterway pollution for over a decade, characterizes the situation as 'money over impact': income from lily bulbs benefits a very limited number of people in Del Norte County while the damage to the natural environment, river, coastal ocean, land, and wildlife is 'HUGE.' She has family, friends, and coworkers in Smith River dependent on contaminated water, and is personally relieved to live further out and not use that water for drinking, bathing, or livestock.
Wilson-2	Commenter requests the permit be publicly posted including on Facebook, where most Del Norte residents get their news, and requests that the environmental impact assessment be conducted by an unbiased, unconnected individual or group with no ties to county government or grant-funded organizations with conflicts of interest.
Wilson-3	Commenter argues that spraying pesticides in wet, rainy, foggy conditions causes pesticides to wash off plants directly into groundwater, soil, and waterways, reducing effectiveness and requiring reapplication — creating a double toxic effect and additional cost to growers. Also characterizes copper as lethal to livestock like sheep, and notes that any animal or fish ingesting elevated copper levels can contaminate meat and dairy products consumed by humans.
Wilson-4	Commenter proposes that violation fines be directed specifically to fund toxin testing for Smith River residents. Anonymized toxin results from people, fish, livestock/wildlife, and groundwater should be published publicly and on Facebook, providing community transparency, serving as a deterrent if human monitoring shows rising toxin levels, and placing growers on notice. Also requests unannounced inspections and frequent monitoring samples in addition to consequences that directly benefit the local Smith River population rather than being spent outside Smith River.

Form Letter 1	Form Letter 1 was submitted by 135 commenters. The letter urged the Board to adopt an effective permit for the Draft General Waste Discharge Requirements for Commercial Lily Bulb Operations in the Smith River Plain and the Draft Environmental Impact Report. The letter made five core requests: 1. Disallow any further pesticide discharges to waterways, including copper. 2. Disallow the spraying of pesticides during wet weather. 3. Create large and effective buffer zones between fields, waterways, residences, and schools. 4. Effectively enforce the regulations outlined within the Order via significant consequences following order violations. 5. Provide protections that safeguard Tribal beneficial uses, imperiled species within the estuary, and guarantee clean drinking water for the community of Smith River. Approximately 20 of the 135 signatories personalized their submissions with additional context, including: • Nancy Nichols (Deadwood, OR): Reported a miscarriage after crossing a newly-planted lily bulb area with fresh pesticide applications while early in pregnancy; characterized the chemicals as "very dangerous." • Sharon Paltin, MD: Family physician with 36 years of service to Mendocino and Humboldt County communities; holds BS in Conservation of Natural Resources from UC Berkeley; noted "human health is a subset of environmental health." • Mary Ann Madej, Ph.D.: River scientist and frequent Smith River swimmer; stated lily bulb production "should not outweigh the benefits of a healthy riverine ecosystem." • Julia Hawkins, PhD: Associate Professor of Classics at Ohio State University; spends significant time in Smith River each summer. • Robert H. Retallick, RN: Smith River area registered nurse (12541 Mouth of Smith River Rd.). • James Warfel: Smith River resident, 82nd Airborne veteran, voter, land steward, and water right holder. • Denise Padgette: Smith River resident for 69 years. • Cari Torres: Argued lily bulbs are not essential food crops, the river and fish are worth more to the community than ornamental flowers, and suggested employment agencies assist displaced workers. • Matt Richardson (San Francisco, CA): UCSB Biology Sciences graduate (1995); aware of long-standing chemical dumping. • John Mertes: Noted decades of pesticide pollution and that healthy salmon populations support Del Norte tourism and fishing economies. • Cinda Johansen: Added a personal paragraph suggesting the Board deny the permit entirely and force closure of lily bulb operations. • Amanda Sears: Expressed frustration that basic environmental protection still requires public advocacy in 2026.

	• Austin Koontz: Research Consultant (M.Sc., Hoban Lab) urging a cautious approach; specifically requested firm unexceedable pollution limits and storm/runoff event monitoring, noting "once water quality is degraded it is difficult to restore." • Rachel Bradley: Modified the form letter language, using "forbid" and "prohibit" instead of "disallow," and "substantial" instead of "large" buffer zones. • Deborah Filipelli, PhD: Identified herself by academic credential. • Scott Douglas Laxier: Urged the Board to make decisions "through the lens of sustainability rather than greed." • Joseph Alvarado: Opened with the legal phrase "Res Ipsa Loquitur, Time is of the Essence." • Jessica Jones: Added personal support for the Tolowa Nation specifically. • Mark Hayden: Emphasized stewardship of lands and waterways. • Laurie Christomos (Centralia, WA): Expressed appreciation for the Smith River's ecological value. Geographic distribution included: Smith River (8), Crescent City (7), Gasquet (3), McKinleyville (3), Brookings OR (2), Gold Beach OR (2), Arcata (2), San Francisco (2), Fort Bragg, Sacramento, Sebastopol, Ashland OR, Belmont, Centralia WA, Deadwood OR, Newport News VA, and numerous locations not specified.

Form Letter 2	Form Letter 2 was submitted by 4 commenters. The letter made five core requests: 1. Adopt enforceable water quality limits with no exceedance of thresholds for pesticides, metals, nutrients, sediment, or other pollutants that could harm fish, wildlife, or drinking water. 2. Require storm-event monitoring so pollution during heavy rains or irrigation runoff can be detected and addressed. 3. Increase monitoring locations in tributaries, wetlands, and drainage channels across the Smith River Plain. 4. Require independent verification of monitoring data to ensure transparency and accountability. 5. Require immediate corrective action and enforcement with strict penalties when pollution is detected, including clear timelines for fixing violations.

Part 2: Comments on the DEIR

Comment #	Comment Text
EPIC-22	Whether viewed from a civil rights disparate impact lens or from a conventional cumulative impact lens, lead agencies that receive state or federal funding should include a disparate impact analysis in their CEQA analysis under both state and federal law (Cal. Gov. Code § 11135; Title VI of the Civil Rights Act of 1964) and further include less discriminatory options in any alternatives analysis.
ELF-32	The Draft EIR also appears to fall short in its alternatives analysis. CEQA requires the Regional Board to analyze a reasonable range of alternatives that would avoid or substantially lessen the project's significant impacts. Yet the Draft EIR's alternatives discussion focuses on variations of the proposed regulatory approach and the No Project Alternative, while failing to meaningfully analyze an alternative that would prohibit or phase out lily bulb cultivation in the most sensitive areas of the Smith River Plain. That omission is particularly significant here because scoping comments expressly requested evaluation of halting lily bulb farming and restoring the estuary, and because the Draft EIR itself identifies ongoing controversy over whether the proposed project goes far enough to control pesticide and copper pollution.
CDFW-17	CDFW agrees with the DEIR's assessment of the Order as largely beneficial to biological resources, though we believe it must be strengthened to effectuate immediate and substantial change. The only comment pertaining to the DEIR is a refinement of Mitigation Measure BIO-1, which addresses potential impacts to biological resources associated with the construction and maintenance of management practices (e.g., grassed swales, detention basins). Rather than advising enrollees to avoid and minimize disturbance to sensitive habitats and special status species, CDFW recommends explicitly restricting new construction to the footprint of existing fields outside Streamside Areas (Recommendation 8). If construction would encroach into Streamside Areas or extend beyond the footprint of existing fields and appurtenant field roads, the enrollee would have to assess habitat conditions and undertake additional environmental review and permitting, as described in the mitigation measure.

Comment #	Comment Text
CCR-3	The EIR for this Order spends much time discussing impacts to agricultural lands in the form of removing some acreage from farming due to adaptive management implementation, and also to sediment and water temperature considerations, but relatively little on pesticides, and there is absolutely no mention of cumulative impacts on Endangered Species or water quality from the application of a combination of toxic pesticides. Thus even though exceedance of individual toxins may not be reached, the cocktail of a combination of poisons that fish and wildlife (and people) are exposed to is not addressed at all. Please direct me to any section of the Order or EIR that addresses this if I have missed it.
CCR-7	2) that you acknowledge in writing both in the Order and EIR that there exists a cumulative impact of application of a variety of pesticides that is more severe than individual pesticides as measured by your proposed monitoring program.
HFMA-13	Our preferred Alternative in the EIR would have to include all 3 Objectives if you remove "minimize" from Objective # 1; but Objective #2, "Effectively track and quantify achievement of the stated objectives over a specific, defined time schedule" cannot be met under the described Monitoring and Reporting Program.
Dettmar-9	The Order and EIR also fail to address cumulative impacts from multiple pesticides applied in combination.
Dettmar-15	Explicitly acknowledge cumulative pesticide impacts in both the Order and EIR.

Comment #	Comment Text
EPIC-1	We incorporate by reference the comments on the Draft Lily Bulb Order submitted separately by the Environmental Law Foundation on behalf of Save California Salmon and co-signatories ("WDR Comments"). These EIR-specific comments focus on the legal sufficiency of the Draft EIR under the California Environmental Quality Act (CEQA) and identify ways in which the document must be strengthened before the Board can lawfully certify it. As detailed in the WDR Comments, the evidence in the record compels a far more assertive regulatory response than the Draft Order provides. The same record-based failures that undermine the Draft Order also undermine the Draft EIR: an EIR that concludes impacts are less than significant on the basis of regulatory commitments that the record affirmatively shows have not worked, and that defers core analytical questions to future adaptive management iterations, cannot satisfy CEQA's informational mandate. For the reasons set forth below, we respectfully request that the Board revise and recirculate the Draft EIR, or at minimum substantially revise it before certification.

Comment #	Comment Text
EPIC-2	The Draft EIR acknowledges that surface water monitoring between 2013 and 2024 documented synthetic pesticides, including diuron, ethoprop, and imidacloprid, and dissolved copper in downstream tributaries and sloughs at levels that periodically exceed U.S. EPA aquatic life benchmarks. The 2025 SWAMP Report confirms that exceedances have persisted through the four years since the adoption of the 2021 Management Plan: imidacloprid exceedances were detected in 40% of samples; copper exceedances of the chronic BLM criterion occurred in 100% of Lower Mello Creek samples and 56% of Lower Delilah Creek samples; and concentrations correlated strongly with application rates and increased markedly downstream of lily bulb operations. These exceedances have been so severe that the Smith River recently was listed for several agricultural chemicals under the state's 303(d) list. These listings can directly be attributed to the years of inaction by this board in creation of this permit. The EIR cannot conclude that water quality impacts will be less than significant when its own cited record demonstrates that the very management practices the Project relies upon have not significantly decreased those impacts over multiple years of implementation. A less-than-significant conclusion premised on the assumption that a regulatory framework will function as intended is not supported by substantial evidence where the record shows the framework's antecedents have not worked.

Comment #	Comment Text
EPIC-3	NOAA's 2014 Final Recovery Plan for the SONCC coho salmon identifies copper concentrations in the Smith River as potentially causing acute toxic effects and impairing olfaction and reproduction in coho salmon at concentrations far below the California Toxics Rule standard. The 2018 NMFS/CDFW Monitoring Report found that dissolved copper has neurobehavioral toxicant effects on salmonids at levels of 0.18 to 2.1 µg/L above background (levels below the CTR threshold) and that multiple sampling locations in the Smith River Plain exceeded even CTR levels during monitoring events. The Draft EIR does not adequately address these sublethal and chronic biological effects. CEQA requires analysis of the full range of reasonably foreseeable environmental effects to listed species, including sublethal harms to salmonids such as impaired olfactory function and predator avoidance, reduced reproduction, prey base impacts, and the cumulative consequences of repeated storm-driven pollutant pulses in estuarine rearing habitat. Under both the Federal Endangered Species Act and California Endangered Species Act, sub-lethal impacts that otherwise harm a species by interfering with behavior, reproduction, or other essential life pathways may constitute take of an endangered species. Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, 515 U.S. 687 (1995). The EIR's biological analysis must be revised to directly engage the NOAA recovery science and to explain, with evidence, why the Project's chosen pace and structure are sufficient to prevent significant harm to ESA-listed and CESA-listed species and their habitat.

Comment #	Comment Text
EPIC-4	The Draft Lily Bulb Order's adaptive management structure allows a minimum of approximately ten years before enforcement can be triggered. The Draft EIR does not analyze the environmental consequences of continued exceedances during that decade-long compliance period. CEQA Guidelines § 15126.2 requires disclosure and analysis of impacts during implementation, not merely upon theoretical completion. The reasons for this are obvious. Without this requirement, lead agencies could simply delay consideration of impacts until after the project was completed, thus avoiding the informational and harm avoidance directives of CEQA. CEQA is a "look before you leap" law. This current project proposes to leap for 10 years before looking. The EIR must be revised to evaluate what the record already demonstrates: that if management practices continue to be insufficient, the consequence is continued loading of copper and synthetic pesticides into some of California's most ecologically sensitive and legally protected waters for an extended period, with foreseeable ongoing harm to coho salmon, tribal fisheries, and downstream beneficial uses.
EPIC-5	The Board already possesses specific, detailed information about the nature and extent of pollution: over a decade of surface water monitoring, the 2025 SWAMP Report, the 2018 NMFS/CDFW Monitoring Report, multiple years of management practice reporting, and groundwater monitoring showing pesticide detections in six of nine domestic wells sampled in 2025. Where the existing record contains sufficient information to analyze impacts, an agency may not defer that analysis by invoking programmatic uncertainty. (Communities for a Better Environment, supra, 184 Cal.App.4th at 92-95.) Critically, the EIR cannot simultaneously invoke programmatic uncertainty to justify incomplete analysis while also relying on those same uncertain future practices to conclude that impacts are less than significant. That is the kind of logical circularity that courts have rejected as insufficient to constitute substantial evidence. (See Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 717.) The EIR must be revised to evaluate these impacts now, using the information that the agency already has.

Comment #	Comment Text
EPIC-6	The Draft EIR relies heavily on vegetated setbacks and filter strips as the primary mitigation mechanism for water quality impacts. These setbacks are not defined and the board does not address issues such as soil type, groundwater connectivity, yearly rainfall, slope, roading and ditch impacts, or whether grazing will be allowed within these filter strips and set backs. This makes it impossible to assess whether they will be effective. Sierra Club v. County of Fresno 6 Cal.5th 502 (2018) (holding that an EIR must provide sufficient detail and analysis to support its mitigation conclusions). Similarly, the CEQA guidelines require mitigation measures to have "specific performance standards… and the means by which the mitigation measure will be achieved and monitored." (CEQA Guidelines § 15126.4(a)(1)(B)-(C)) The mitigation for this project is not supported by substantial evidence, is fatally vague, does not have specific performance standards, and therefore constitutes a legally deficient mitigation finding under CEQA.
EPIC-7	The Hurst study, (the only study in the record that evaluates the effectiveness of management practices specifically designed for Smith River Plain conditions) demonstrates that 80-foot setbacks did not reduce dissolved copper discharge one of the main environmental impacts at issue here. During saturated storm conditions in December and January, filter strips removed essentially no copper. Constructed berms were washed away. The proposed mitigation was therefore ineffective at reducing this significant environmental harm. Despite this, the Draft Order proposes 50-foot setbacks (shorter than the 80-foot setbacks shown to fail in the Hurst study) as a Tier 1 compliance option. The Draft EIR cannot conclude that such setbacks will reduce impacts to a less-than-significant level when the record affirmatively demonstrates they will not. CEQA requires that proposed mitigation measures be supported by substantial evidence that they will actually be effective. (Pub. Res. Code § 21002; CEQA Guidelines § 15126.4(a)(1)(B); Federation of Hillside & Canyon Assns. v. City of Los Angeles (2000) 83 Cal.App.4th 1252, 1261.) Where the only site-specific study in the record contradicts the EIR's mitigation conclusion, that conclusion is not supported by substantial evidence.

Comment #	Comment Text
EPIC-8	Setbacks do not address groundwater transport pathways. The record establishes that imidacloprid and diuron are detectable outside the wet season, indicating groundwater transport as a significant mechanism for contamination. Even if the setbacks were to capture surface runoff but still allowed persistent pesticide residues to migrate through soils to shallow groundwater and receiving waters, they cannot constitute adequate mitigation for the full scope of identified discharge pathways. Mitigation that only partially mitigates an impact by failing to address a significant mechanism by which that impact occurs cannot be said to mitigate below a significant level. Sierra Club v. County of Fresno 6 Cal.5th 502 (2018)

Comment #	Comment Text
EPIC-9	The Draft EIR acknowledges that the Smith River Plain has already been extensively modified by diking, tide gates, agricultural conversion, and riparian removal, and that NOAA's recovery documents identify the lower Smith River and estuary as already impaired. Yet the EIR fails to synthesize these stressors into a meaningful cumulative analysis. The EIR also touches on grazing impacts and nitrogen pollution, but does not address the ongoing cumulative impacts with the rotation of lily bulbs and grazing and the serious impacts of estuary and riparian grazing. The serious impacts of roading and ditching are not addressed as a cumulative impact despite the substantial evidence that roads and ditches are directly responsible for conveying sediments and chemicals to impaired waterways. A rigorous cumulative impacts analysis must evaluate the interaction of: (1) habitat simplification and altered hydrology from decades of agricultural conversion; (2) ongoing and documented pesticide and copper loading from lily bulb operations; (3) groundwater contamination detected in domestic wells; (4) estuarine impairment limiting juvenile coho rearing capacity; (5) climate-driven shifts in runoff timing and intensity; and (6) the compounding vulnerabilities of a federally listed salmonid population already operating far below its recovery target of 6,800 spawners, with recent escapement estimates as low as 2,365 individuals. A level of contaminant loading that might be tolerable in a healthy, diverse watershed becomes potentially devastating when overlaid on degraded floodplain structure, constrained tidal exchange, and the biological needs of a listed species under active recovery stress.

Comment #	Comment Text
EPIC-10	The Draft EIR's alternatives discussion focuses primarily on the No Project Alternative and reduced regulatory scope options, including reduced streamside area setbacks. That is too narrow. The EIR's own scoping record expressly includes public requests to halt lily bulb cultivation in the most sensitive floodplain areas and to restore estuarine function. Yet, no such alternative was considered. At minimum, the revised EIR must evaluate the following alternatives: ● A zero-discharge alternative for synthetic pesticides and copper into fish-bearing waterways and their tributaries. ● A wet-weather prohibition alternative, which would ban pesticide application during defined wet-weather and first-flush periods. ● An expanded, hydrologically-based buffer alternative, with setback widths calibrated to actual hydrologic connectivity and fish-bearing status rather than a uniform 50-foot standard. ● An immediate certified WQMP alternative, which would require all enrollees to submit certified Water Quality Management Plans upon enrollment rather than awaiting Tier 2 adaptive management triggers. ● An independent monitoring alternative, which would replace or supplement coalition-based monitoring with third-party oversight. ● A high-risk field restriction alternative, which would prohibit or phase out lily bulb cultivation in fields with direct hydrologic connectivity to the estuary and its immediate tributaries.

Comment #	Comment Text
EPIC-11	The EIR's analysis appears to focus on cultural resources in the archaeological and site-disturbance sense, rather than on living cultural practices that depend on salmon, clean water, functioning wetlands, and access to the estuarine ecosystem. Salmon, shellfish and smelt are not merely a biological resource; they are central to Tolowa Dee-ni' subsistence, ceremony, and cultural continuity. Continued contamination of juvenile rearing habitat, estuary habitat, sloughs, nearby coastlines and tributaries threatens those living uses in ways that must be disclosed and analyzed under CEQA. Consideration of these resources was specifically added as a requirement for EIRs following the passage of AB 52 enacted in 2014 and codified in Public Resources Code section 21080.3.1 et seq. Public agencies must, when feasible, avoid damaging effects to any tribal cultural resource. Pub. Res. Code § 21084.3(a). The EIR must be revised to: ● specifically analyze impacts to living Tribal cultural practices that depend on functioning salmonid populations and clean water; ● address the disproportionate burden borne by Tribal communities as a result of degraded water quality and impaired fisheries; and ● evaluate the adequacy of the Project's protections in light of the Tolowa Dee-ni' Nation's treaty rights, subsistence practices, and ceremonial uses.

Comment #	Comment Text
EPIC-12	The Draft EIR's own scoping summary records specific concerns from residents regarding pesticide exposure, chronic illness, contaminated soil, and the proximity of an elementary school adjacent to lily bulb fields. The public record includes reports of acute spray drift exposure, including burning skin and eyes, tongue swelling, blisters, and difficulty breathing, as well as reported chronic symptoms including: skin rashes, nausea, respiratory issues, headaches, digestive and urinary problems, and concerns about elevated cancer incidence in the community. CEQA does not require proof of legal causation before requiring disclosure and analysis of credible community health concerns. What CEQA requires is that the EIR fairly disclose and analyze the reasonably foreseeable health consequences of the project, including exposure to airborne pesticide drift, groundwater contamination of domestic wells, and the cumulative community health burden of long-term proximity to intensive pesticide use. (CEQA Guidelines §§ 15126, 15126.2; see also Californians for Alternatives to Toxics v. Department of Food & Agriculture (2005) 136 Cal.App.4th 1.) The EIR must be revised to: ● Evaluate potential community exposure pathways, including spray drift from adjacent fields, volatilization of applied pesticides, and surface transport under wind conditions; ● Analyze domestic well contamination risks in light of the 2025 finding that pesticides were detected in six of nine domestic wells sampled; ● Address school adjacency concerns and the potential for children's acute and chronic exposure; ● Evaluate the cumulative health burden on the Smith River community as a low-income rural community with limited access to healthcare; and ● Assess the Project's compliance with the State Water Board's Racial Equity Resolution and the Regional Board's own environmental justice commitments.

Comment #	Comment Text
EPIC-13	The Draft EIR acknowledges that pesticides and nitrate were detected in irrigation and domestic wells located within current and historical lily bulb cultivation areas. The 2025 SWAMP Report further establishes that imidacloprid and diuron are detectable outside of the wet season, strongly suggesting groundwater transport as a discharge pathway independent of storm-event surface runoff. The EIR's analysis is disproportionately focused on surface runoff pathways and does not adequately evaluate: ● the persistence of copper and pesticide residues in soils and shallow groundwater; ● seasonal lag effects that may result in continued discharge to receiving waters even after surface runoff controls are improved; ● cumulative loading to shallow aquifers over years of intensive cultivation; ● the adequacy of surface-buffer strategies where groundwater transport, rather than overland flow, is the dominant pollutant pathway; and ● the risk that persistent pesticides (including copper, diuron, and imidacloprid) will continue to affect domestic wells even after surface management practices are improved. CEQA requires analysis of the complete range of significant environmental effects, including those that occur through indirect or delayed pathways. The groundwater pathway is neither indirect nor speculative: the record directly documents pesticide presence in wells.

Comment #	Comment Text
EPIC-14	The Draft EIR's antidegradation analysis cannot satisfy these requirements because: ● the EIR concludes that the Order's requirements constitute BPTC, but the record shows the management practices the Order relies upon have not eliminated exceedances; ● management practices that the Hurst study demonstrates to be ineffective under Smith River conditions cannot, by definition, constitute BPTC; and ● the EIR does not adequately analyze the social and environmental costs of continued degradation during the compliance period, including the "incalculable" value of ESA-listed species that courts have recognized must be given the highest priority. (Tennessee Valley Auth. v. Hill (1978) 437 U.S. 153, 187, 194.) The EIR must be revised to provide a legally sufficient antidegradation analysis that honestly confronts what the record shows.

Comment #	Comment Text
EPIC-15	Before certifying the EIR, the Regional Board should revise the Draft EIR to: 1. Provide substantial evidence supporting any less-than-significant conclusion, specifically addressing why the Project is likely to achieve water quality objectives given the documented failure of comparable management practices; 2. Analyze the environmental consequences of continued exceedances during the adaptive management compliance period; 3. Strengthen the cumulative impacts analysis to address the interaction of habitat simplification, hydrologic alteration, estuarine impairment, climate-related runoff variability, groundwater contamination, grazing impacts, roading impacts, and ongoing pollutant loading; 4. Revise the mitigation analysis to address the record-documented failure of 80-foot setbacks and acknowledge that surface management practices cannot address groundwater transport pathways; 5. Revise the mitigation analysis to be less vague by requiring specific performance standards; 6. Significantly shorten the 10-year delay of enforcement; 7. Evaluate the full range of feasible alternatives, including zero-discharge, wet-weather prohibitions, expanded buffers, immediate certified WQMPs, independent monitoring, and high-risk field restrictions; 8. Improve the analysis of Tribal beneficial uses and living cultural impacts; 9. Expand the environmental justice and community health analysis; 10. Provide a legally sufficient groundwater transport analysis; and 11. Revise the antidegradation analysis to bridge the analytic gap between ongoing exceedances and the conclusion that BPTC is being applied.

Comment #	Comment Text
EPIC-16	An EIR's analysis must evaluate impacts during the entire project implementation period, not merely after a project is presumed to be successful. CEQA Guidelines § 15126.2 expressly requires disclosure of significant environmental effects that may occur as a result of phased implementation. Where a project involves staged compliance with continued interim pollutant loading, the EIR must analyze the environmental consequences of that interim period. (See Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 449.)
EPIC-17	EPIC and other commenters have repeatedly suggested management practices that would actually reduce these impacts to less than significant. See WDR Comments.
EPIC-18	The EIR also touches on grazing impacts and nitrogen pollution, but does not address the ongoing cumulative impacts with the rotation of lily bulbs and grazing and the serious impacts of estuary and riparian grazing. The serious impacts of roading and ditching are not addressed as a cumulative impact despite the substantial evidence that roads and ditches are directly responsible for conveying sediments and chemicals to impaired waterways.
EPIC-19	These setbacks are not defined and the board does not address issues such as soil type, groundwater connectivity, yearly rainfall, slope, roading and ditch impacts, or whether grazing will be allowed within these filter strips and set backs. This makes it impossible to assess whether they will be effective.
EPIC-20	The public record includes reports of acute spray drift exposure, including burning skin and eyes, tongue swelling, blisters, and difficulty breathing, as well as reported chronic symptoms including: skin rashes, nausea, respiratory issues, headaches, digestive and urinary problems, and concerns about elevated cancer incidence in the community. The Draft EIR's own scoping summary records specific concerns from residents regarding pesticide exposure, chronic illness, contaminated soil, and the proximity of an elementary school adjacent to lily bulb fields.

Comment #	Comment Text
EPIC-21	Water Code section 13149.2 separately requires that when issuing or reissuing WDRs, a water board must make programmatic findings on tribal impact, environmental justice, and racial equity considerations, and must identify measures within its authority to address those impacts. As the WDR Comments explain in detail, the Draft Order's section 13149.2 analysis is cursory and insufficient. The Draft EIR, as the foundational environmental document, must provide the analytical basis for those findings. It currently does not.
St.Clair-1	Cumulative Desecration: The EIR fails to address the 40-year buildup of these toxins in the sediment of our estuary.
St.Clair-2	Conclusion The "No Project" alternative is insufficient. I demand a Zero-Detection standard and an alternative that mandates the complete elimination of toxic discharges into the Smith River.

California Farm Bureau comments CAFB-7--CAFB-21 appear below as text blocks for readability:

CAFB-7
The North Coast Regional Board DEIR for the Draft Lily Bulb Order or proposed Project constitutes a prejudicial abuse of discretion4 in that the North Coast Regional Board failed to proceed in a manner required by law and its decision is not supported by substantial evidence as the DEIR does not comply with the California Environmental Quality Act ("CEQA") (Pub. Resources Code, §§ 21000 et seq.) The Draft Lily Bulb Order includes significant and prescriptive requirements that unreasonably impact growers and the agricultural industry in the North Coast. Although growers and the agricultural

4 "A prejudicial abuse of discretion occurs 'if the failure to include relevant information precludes informed decision-making and informed public participating, thereby thwarting the statutory goals of the EIR process.'" (Berkeley Keep Jets Over the Bay v. Board of Port Comm'rs (2001) 91 Cal.App.4th 1344, 1355 (quoting Santiago County Water Dist. v. County of Orange (1981) 118 Cal.App.3d 818, 829).)

North Coast growers at a severe disadvantage in a very competitive marketplace. As the state agency tasked to ensure the reasonable regulation of the North Coast's water quality given all the demands made upon the water, it is imperative that the Regional Board comply with all laws, including CEQA, and act appropriately and reasonably when it adopts the Draft Lily Bulb Order. (Wat. Code, §§ 13241; 13260(a); 13263; 13267; 13269; Pub. Resources Code, § 21001.)

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report (except in certain limited circumstances). (See, e.g., Pub. Resources Code, § 21100.) CEQA is designed to inform decision-makers and the public about potential, significant environmental effects of a project. (Cal. Code Regs., tit. 14, § 15002(a)(1), ("CEQA Guidelines").) "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment, but also informed self-government.'" (Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 564.)

In general, the Regional Board failed to properly follow and comply with CEQA in that the analysis in the DEIR is superficial, fails to adequately represent baseline conditions, fails to evaluate the entire project, inadequately analyzes the environmental impacts associated with the project, fails to analyze the economic impacts associated with the proposed Project, fails to properly identify and analyze alternatives, fails to adequately address cumulative impacts, and fails to support several of its conclusions and thresholds with substantial evidence. Due to these inadequacies, the DEIR is not a legally adequate document and cannot be relied upon.

CAFB-8
CEQA was enacted to address concerns about environmental quality in the state of California. CEQA establishes processes and procedures to ensure that California agencies complete an environmental analysis and consider and disclose to the public the environmental impacts of a proposed project. (Pub. Resources Code, §§ 21000 et seq.; Cal. Code Regs., tit. 14, § 15000 et seq.) CEQA's statutory framework clearly sets forth a series of analytical steps intended to promote the fundamental goals and purposes of environmental review—information, public participation, mitigation, and governmental agency accountability. (Cal. Code Regs., tit. 14, § 15002; see also Pub. Resources Code, §§ 21001, 21001.1, 21002, 21003, 21006, 21064.) CEQA's intent and purpose foster informed public participation and decision-making. (Laurel Heights Improvement Assn. v. Regents of University of California (1988) 47 Cal.3d 376, 404 ("Laurel Heights I"); Citizens of Goleta Valley, supra, 52 Cal.3d at p. 564.) As the lead agency for the proposed Project, the Regional Board must comply with CEQA's overall objectives, which are to: 1) inform the decision-makers and public about the potential significant environmental effects of a proposed project; 2) identify ways that environmental damage may be mitigated; 3) prevent significant, avoidable damage to the environment by requiring changes in projects, through the use of alternatives or mitigation measures when feasible; and 4) disclose to the public why an agency approved a project if significant effects are involved. (Pub. Resources Code, § 21080.5(a).)

An attempt to review the environmental impacts of the Draft Lily Bulb Order was included within the DEIR. Unfortunately, a full CEQA review and environmental analysis has been avoided due to the DEIR's improper conclusions of "speculative" and "less than significant" impacts. Without preparing a proper and adequate environmental document, the public has been precluded from gaining a full understanding of the environmental impacts and consequences of the Draft Lily Bulb Order as well as gaining assurance that all consequences have in fact been analyzed to the fullest extent required by law. (See Vineyard Area Citizens for Responsible Growth, Inc., supra, (2007) 40 Cal.4th at pp. 449–450, ["The preparation and circulation of an EIR is more than a set of technical hurdles for agencies and developers to overcome. The EIR's function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been taken into account. [Citation.] For the EIR to serve these goals it must present information in such a

manner that the foreseeable impacts of pursuing the project can actually be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made."], emphasis added.)

As described herein, the Regional Board has failed to comply with the provisions of CEQA as the DEIR prepared for the proposed Project5 fails to satisfy the requirements of CEQA and the CEQA Guidelines, title 14, California Code of Regulations, section 15000 et seq.6 As demonstrated below, the Regional Board's DEIR is flawed and legally inadequate.

CAFB-9
A. The DEIR is Legally Deficient Because It Fails to Properly Identify the Baseline and Environmental Setting

The DEIR contains an incomplete and flawed environmental baseline and environmental setting. (See Cal. Code Regs., tit. 14, §§ 15125(a), (c).) The existing setting omits relevant information, relevant regulations, programs, and plans, and truncates information that is included. Further, the Draft WDR and the DEIR utilize different numbers for the total acres in lily bulb production as well as the annual planted acres, casting doubt on what acreage numbers were used to analyze impacts, including economic impacts, and the adequacy of the existing setting and baseline. (DEIR, pp. 54-55; Draft WDR, pp. 5054.) With this conflict, the environmental setting fails to describe accurately the existing environmental conditions, and thus prevents a proper analysis of significant adverse effects. (Pub. Resources Code, § 21061; Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 428, Neighbors for Smart Rail v. Exposition Metro Line Construction Authority (2013) 57 Cal.4th 439, 447, [An EIR must contain an appropriate environmental baseline and environmental setting in order for a legally proper analysis of any significant effects the project may have on the environment].) "Knowledge of the regional setting [of the project] is critical to the assessment of environmental impacts…The EIR must demonstrate that the significant environmental impacts of the proposed project were adequately investigated and discussed and it must permit the significant effects

5 The term "project" refers to the proposed General Waste Discharge Requirements for Commercial Lily Bulb Operations in the Smith River Plain and all attachments in their entirety.

6 All future references to Guidelines are to the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.) developed by the Governor's Office of Planning and Research and adopted by California's Natural Resources Agency. (Pub. Resources Code, § 21083.) "[C]ourts should afford great weight to the Guidelines except when a provision is clearly unauthorized or erroneous under CEQA. [Citation.]" (Laurel Heights I, supra, (1988) 47 Cal.3d 376, 391, fn. 2).)

of the project to be considered in the full environmental context." (Cal. Code Regs., tit. 14, § 15125(c).) "To make such an assessment, an EIR must delineate environmental conditions prevailing absent the project, defining a "baseline" against which predicted effects can be described and quantified. (Communities for a Better Environment v. South Coast Air Quality Management Dist. (2010) 48 Cal.4th 310, 315.)" (Neighbors for Smart Rail, supra, 57 Cal.4th at p. 447.) Toward that end, the DEIR "must include a description of the physical environmental conditions in the vicinity of the project, from both a local and a regional perspective. This

environmental setting will constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant." (Id. at § 15125(a); Neighbors for Smart Rail, supra, 57 Cal.4th at p. 447.)

For example, the environmental setting fails to convey important features of North Coast agriculture that are relevant for assessing the physical and economic impacts of the Order. The DEIR fails to describe baseline conditions for the covered watersheds, specifically water quality conditions. There is no discussion of existing sediment loads per watershed and sources of those loads, current amounts of riparian habitat in the watersheds, or current stream temperature conditions. Without this information, the DEIR, especially the environmental setting and baseline, does not provide an accurate overview of lily bulb production throughout the North Coast region or the economic factors that affect planting decisions, land retirement, and jobs, and income opportunities for communities in the region. There is no discussion of how implementation of the Draft Lily Bulb Order would impact standard and cultural practices in the North Coast Region, and associated costs of implementing the Order. "Agriculture is fundamentally an economic activity that makes use of, and affects, many aspects of the physical environment. Therefore, understanding the environmental impact of the Order requires that its economic effect on agricultural operations play an important role in the analysis." (Attachment A, ERA Economics, Technical Memorandum, p. 1.)7 The DEIR's use of outdated and limited information fails to appropriately capture and describe the proposed Project's environmental setting.

Additionally, the DEIR fails to provide substantial evidence in support of its assumptions regarding sediment loads and sources, turbidity levels and sources, economics, impacts, agricultural land conversion, etc, within the project boundaries, and therefore fails to accurately reflect and detail existing conditions. This sets up for a false impact analysis as the impacts of the project must be measured against the "real conditions on the ground." (Save our Peninsula Committee, supra, 87 Cal.App.4th at p. 121; see also City of Carmel-by-the Sea v. Board of Supervisors (1986) 183 Cal.App.3d 229, 246; Environmental Planning & Information Council v. County of El Dorado (1982) 131 Cal.App.3d 350, 354; County of Amador v. El Dorado County Water Agency, supra, 76 Cal.App.4th at p. 952; Galante Vineyards v. Monterey Peninsula Water Management Dist., (1997) 60 Cal.App.4th 1109, 1122.)

By choosing a baseline not supported by substantial evidence and merely presenting unsupported conclusions, figures, or references to projects/studies/plans without analysis, the DEIR fails to provide sufficient baseline and environmental setting information for intelligent decision-making and skirts CEQA's requirements. "The court in County of Amador underscored the 'importance of an adequate baseline description, for without such a description, analysis of impacts, mitigation measures and project alternatives becomes impossible.' (Id. at p. 953.) The court concluded that '[a]n adequate EIR requires

7 Although the ERA Economics Technical Memorandum was prepared for the Central Coast Regional Water Board's Ag Order 4.0, the memo's conclusions regarding a proper economic analysis for agricultural waste discharge requirements apply to the Lily Bulb Order.

more than raw data; it requires also an analysis that will provide decision makers with sufficient information to make intelligent decisions.' (Id. at p. 955; see also Guidelines, § 15151.)" (Save Our Peninsula Committee, supra, 87 Cal.App.4th at p. 124; see also County of Amador, supra, 76 Cal.App.4th 931, 955.)

"Even when a project is intended and expected to improve conditions in the long term—20 or 30 years after an EIR is prepared—decision makers and members of the public are entitled under CEQA to know the short- and medium-term environmental costs of achieving that desirable improvement. These costs include not only the impacts involved in constructing the project but also those the project will create during its initial years of operation. Though we might rationally choose to endure short- or medium-term hardship for a long-term, permanent benefit, deciding to make that tradeoff requires some knowledge about the severity and duration of the near-term hardship. An EIR stating that in 20 or 30 years the project will improve the environment, but neglecting, without justification, to provide any evaluation of the project's impacts in the meantime, does not "giv[e] due consideration to both the short-term and long-term effects" of the project (Cal.Code Regs., tit. 14, § 15126.2, subd. (a)) and does not serve CEQA's informational purpose well. The omission of an existing conditions analysis must be justified, even if the project is designed to alleviate adverse environmental conditions over the long term." (Neighbors for Smart Rail v. Exposition Metro Line Construction Authority, supra, 57 Cal.4th at p. 455.)

Accordingly, the DEIR must be revised to include the appropriate project baseline. Without this, the DEIR fails to satisfy CEQA's fundamental requirements.

CAFB-10
B. The DEIR Contains an Inadequate Assessment of Significant Impacts and Effects on The Environment

The CEQA Guidelines define a "significant effect" as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant." (Cal. Code Regs., tit. 14, § 15382; see also Pub. Resources Code, § 21068.) According to Public Resources Code section 21083 and CEQA Guidelines section 15065(a), if any of the following impacts result from a proposed project, the project is considered to have a significant effect on the environment:

(1) "The project has the potential to substantially degrade the quality of the environment; …

(2) The project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.

(3) The project has possible environmental effects which are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of reasonably foreseeable probable future projects.

(4) The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly."

(Cal. Code Regs., tit. 14 § 15065(a).) In determining whether a project will have a significant environmental effect, the lead agency must consider the "whole of the action," which includes all discretionary approvals by governmental agencies, ministerial actions as well as discretionary actions, and all constituent parts of a project. (Cal. Code Regs., tit. 14, §§ 15003(h), 15378.)

The CEQA Guidelines further state that, "An ironclad definition of significant effect is not possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area." (Cal. Code Regs., tit. 14, § 15064.) Appendix G of the CEQA Guidelines describes impacts that the California Resources Agency has determined are normally considered significant. These guidelines require that physical changes in the environment be evaluated based on factual evidence, reasonable assumptions supported by facts, and expert opinion based on fact. (Cal. Code Regs., tit. 14, § 15064(f)(5).) However, potential impacts are not limited to Appendix G nor are questions within Appendix G necessarily thresholds of significance. (CEQA Appendix G.)

Here, the DEIR's analysis of the Draft Lily Bulb Order fails to fully consider many of the proposed Project's significant impacts on the agricultural environment,8 fails to provide adequate analysis of the proposed Project's impacts that are reviewed, and improperly fails to provide sufficient detail regarding the foreseeable and cumulative significant impacts that will arise pursuant to the Draft Lily Bulb Order's requirements on lily bulb production and pasture lands with Del Norte County. The DEIR fails to comply with the requirements of CEQA in that it fails to adequately disclose, analyze and/or mitigate the proposed Project's environmental impacts as required by law, and its conclusions regarding the proposed Project's environmental impacts are not supported by substantial evidence. As a result, the proposed Project will result in significant environmental impacts that the DEIR fails to address or mitigate.

Given that many factors have to be analyzed and significant effects and impacts should be determined on a case-by-case basis, the Regional Board should review and use all data, facts, evidence, and personal knowledge prior to determining the Draft Lily Bulb Order's potential to significantly impact the environment.9 By failing to proceed in this manner, the DEIR does not contain an adequate environmental review for the proposed Project.

8 CEQA defines "environment" broadly to include the agricultural environment. (CEQA Guidelines Appendix G, section II, Agriculture and Forestry Resources; Pub. Resources Code, § 21060.5.) "'Environment' means the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The 'environment' includes both natural and man-made conditions." (Cal. Code Regs., tit. 14, § 15360; see also Pub. Resources Code, § 21060.5.) In other words, the DEIR's Environmental Analysis of Agricultural and Forestry Resources must review of the proposed Project's potential impacts on agricultural environment and analyze any resulting direct, indirect, and/or cumulative impacts that may impact agriculture.

9 Water quality regulations that aim to improve environmental quality can have unintended consequences that harm the environment and natural resources. The reallocation of water from one location to another, to meet water quality regulations, may reduce the well-being of fish and wildlife dependent on the water in the source region. Reduction of use of chemical pesticides that reduce farm

productivity may lead to an increase in utilized land use and expansion of the utilized land base to previously undeveloped areas. Diversion of water resources to meet environmental quality objectives may reduce the capacity to utilize this water in provision of environmental amenities. Thus, proper environmental analysis of significant impacts is needed here.

CAFB-11
1. The DEIR Improperly Shifts the Burden of Proof and Determination Of Significance to the Public

When conducting an environmental review pursuant to CEQA, the burden of proof is on the lead agency to show that the project won't have an impact on the environment. (Cal. Code Regs., tit. 14, § 15064.) Under CEQA, if a project clearly will have an impact on the environment, its proponents, here the Regional Board, must properly identify those impacts and propose mitigations. (Cal. Code Regs., tit. 14, § 15002.) The burden of proof is not on the public to show that an environmental impact may occur. Further, the public does not bear the burden of determining which portions of a project will have a significant impact or effect on the environment. Rather, that is the fundamental duty of the lead agency. (Cal. Code Regs., tit. 14, § 15064.)

The determination of whether a project may have a significant effect on the environment is a critical step in the CEQA process, and one that requires professional knowledge and judgment, as described in California Code of Regulations, title 14, section 15064. The determination should be based on information and evidence in the record and, to the extent feasible, on scientific and factual data. (Ibid.) This determination is made prior to and separate from the development of mitigation measures for the project. During opportunities to provide oral comments on the development of the proposed Project, members of the agricultural community and technical providers provided feedback regarding the Draft Lily Bulb Order's impacts on agricultural resources, including economic impacts, impacts to total farmland acreage and land use, and impacts from riparian buffer requirements.

By providing this feedback, the public provided ample information in the form of substantial evidence to make a "fair argument" that the proposed Project may have a significant environmental impact, especially on the agricultural environment. (Cal. Code Regs., tit. 14, § 15064(g)(1); Friends of B Street v. City of Hayward (1980) 106 Cal.App.3d 988, 1002.) Notwithstanding those comments raised, the DEIR concludes that the majority of impacts to agriculture are speculative in nature or less than significant, thus warranting no additional analysis and resulting in less than significant conclusions. For example, the DEIR states:

"The overall cumulative costs of Management Practice implementation for a specific lily bulb operation are speculative though because, while it is generally known what practices are employed throughout the Smith River Plain through 2021 Management Plan reporting, individual or field-level information was not reported." (DEIR, p. 61.)

"It is also speculative as to which specific Management Practices an Enrollee will implement in the transition from a voluntary program framework to a regulatory one." (DEIR, p. 61.)

"In the unique circumstance where the cost of compliance may be too great or the loss of production of displaced planted areas would make the operation unprofitable, neither scenario would permanently nor irretrievably convert the affected farmland to

nonagricultural use. The land would still be available for non-lily bulb agricultural uses and therefore implementation of Management Practices would be considered a less-than-significant impact."' (DEIR, p 62.)

"During the time that this document was prepared, the specific locations of Proposed Project activities under the General Order of specific Lily bulb operations were unknown." (DEIR, p. 76.)

Regarding the offsite alternative, "However, the extent and severity of this potential impact is speculative because it is unknown which growers in which locations may choose to pursue riparian vegetation removal under this alternative. As such, these potential impacts are not considered significant, and the Reduced Setback Alternative would not be infeasible." (DEIR, p. 133.)

"The extent and severity of this potential impact is unknown and speculative, however, as growers would still have discretion as to whether to retain or remove vegetation in their specific circumstances (i.e., it cannot be determined where and to what extent removal of vegetation may occur)." (DEIR, p. 135.)

By concluding that many agricultural impacts are "speculative," the DEIR attempts to shift the burden of proof to the public and thus avoiding the issue entirely. (Cal. Code Regs., tit. 14, § 15064.) Given this, the conclusions within the DEIR regarding agricultural resources and project impacts are improper and contrary to law.

CAFB-12
2. The DEIR Is Not Based on Substantial Evidence but Rather Mere Speculation

Prior to approving a project, public and decision-makers must be provided with the fullest extent of information available upon which to base their decision. (Cal. Code Regs., tit. 14, § 15151; Pub. Resources Code, § 21005(a); Santiago County Water Dist. v. County of Orange, supra, 118 Cal.App.3d at p. 829, ["[T]he ultimate decision of whether to approve a project, be that decision right or wrong, is a nullity if based upon an EIR that does not provide the decision-makers, and the public with the information about the project that is required by CEQA."].) This determination is based upon whether it can be fairly argued, given the substantial evidence in light of the whole record, that a project may or may not have a significant effect on the environment. "Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by fact." (Cal. Code Regs., tit. 14, § 15064(f)(5).)

The DEIR, especially in Section V. Agriculture and Forestry Resources, Section IX. Cumulative Impacts, and Section X. Alternatives Analysis is not based on substantial evidence but rather mere speculation, unsupported conclusions, and uncertainty. The DEIR is replete with the terms "speculative" "could be," "not possible," and "unknown," and "may be." (DEIR pp. 5, 43, 44, 45, 46, 60, 61, 62, 75, 76, 78, 87, 88, 104, 123, 148, 163, 168, 171, 172, 173, 182; see also Section II. B. 1., The DEIR Improperly Shifts The Burden of Proof and Determination Of Significance To The Public, ante.) Additionally, the DEIR lacks information such as data on the existing conditions of the watershed, sediment loads, and existing conditions of lily bulb production.

As evidenced in the small selection of examples referenced above, the DEIR is based upon speculation, uncertainty, and inaccurate conclusions rather than substantial evidence. "Like an EIR, an initial study or negative declaration 'must focus on impacts to the

existing environment, not hypothetical situations.' (County of Amador v. El Dorado County Water Agency, supra, 76 Cal.App.4th at p. 955, 91 Cal.Rptr.2d 66.)" Community For A Better Environment v. South Coast Air Quality Management Dist., supra, 48 Cal.4th at p. 322.) By speculating on what could happen, rather than on actualities, an improper environmental baseline and resulting conclusions regarding potential significant agricultural and economic impacts have been drawn. (Ibid., ["By comparing the proposed project to what could happen, rather than to what was actually happening, the District set the baseline not according to 'established levels of a particular use,' but by 'merely hypothetical conditions allowable' under the permits. (San Joaquin Raptor Rescue Center v. County of Merced, supra, 149 Cal.App.4th at p. 658, 57 Cal.Rptr.3d 663.)," emphasis original].) Mere statements of uncertainty or deflections to avoid a proper analysis regarding impacts to agricultural resources or economic impacts do not meet CEQA burdens, and the DEIR fails to satisfy the requirements of CEQA.

CAFB-13
3. The DEIR's Analysis of Agriculture and Forest Resources Is Improper And Flawed

In order to preserve agriculture and ensure a healthy farming industry, the Legislature has declared that "a sound natural resource base of soils, water, and air" must be sustained, conserved, and maintained. (Food & Agr. Code, §§ 802(g); 821(c) see also id. § 12786(a), ["The continued viability of the agricultural economy is of paramount importance to the people of California."]; id. at § 12786(c), ["The ability of the state to control, detect, exclude, and eradicate pest infestations is necessary to continue the preeminent position of this state as the leading farm state and is essential for the continuing supply of foodstuffs."].) Agriculture is one of the foundations of this state's prosperity, providing employment for many Californians and a variety and quantity of food products that both feed the region, state, and nation, and a significant source of exports. (Food & Agr. Code, § 566.) In addition to substantially impacting the state's and local counties' economy, agriculture also provides substantial benefits to the state's employment force. California agriculture provides "one out of 10 jobs in California." (Food & Agr. Code, § 566.)

In order for agriculture to remain and thrive in the North Coast, farmers and ranchers must be able to continue to be farm, especially since changes, even small ones, in agricultural production sets in motion a series of "ripple effects," which collectively cause changes in output (economic production) throughout the economy. Prior to negatively impacting agricultural lands, decision-makers must consider the impacts to the agricultural industry, the state as a whole, and "the residents of this state, each of whom is directly and indirectly affected by California agriculture." (Food & Agr. Code, § 803.)

Here, the DEIR fails to properly analyze the full range of significant impacts to agricultural resources, including the conversion of agricultural lands to non-agricultural uses and economic impacts. Although the DEIR appropriately concludes that the conversion of Prime, Farmland of Statewide Importance, and Unique Farmland to non-agricultural use due to the streamside management area setback requirements is a significant and unavoidable impact, the analysis itself is flawed. (See DEIR, pp. 50-62.) First, the amount of agricultural land estimated to be converted is significantly low and a fair argument based on substantial evidence exists that additional acreage will be taken out of production due to the setbacks. Impact AG-1 discusses the conversion of prime farmland, unique farmland, or farmland of statewide importance as defined by the CA Department of Conservation. The Draft Lily Bulb Order requires streamside area setbacks and therefore it was calculated that approximately 160 acres of Important Farmland (sum of all

farmland definitions above) would be taken out of production. (DEIR, p. 130.) The possible 160-acre conversion is listed as being less than 1% of important farmland planted as lily bulbs. (DEIR, p. 57.) The conversion is justified for the purported purposes of achieving reductions in sediment discharge and implementing site-specific potential shade goals in the Draft Lily Bulb Order. A Reduced Setback Alternative was looked at but dismissed because although it reduced environmental impacts to agricultural resources, it did not achieve the Setback Alternative was looked at but dismissed because although it reduced environmental impacts to agricultural resources, it "would not achieve the same level of reductions in sediment discharges and temperature impacts compared to the Proposed Project and would not fully comply with Riparian Management provisions of the North Coast Water Board's Policy for the Implementation of the Water Quality Objectives for Temperature." (DEIR, p. 60.) However, the analysis of the Reduced Setback Alternative is cursory, especially the economic feasibility and impacts. (DEIR, p. 132-133.) The public is not given a full analysis of impacts (or lack thereof) to agricultural resources under the Proposed Project or Reduced Setback Alternative. Further, alternatives to the proposed Project were not considered to mitigate impacts to agricultural resources, so conversion impacts for setback requirements in the proposed Project were listed as significant and unavoidable.

Second, the DEIR does not include an analysis on the substantial economic impacts, including the production, distribution, and consumption of goods and services, valuation damage, and lost property values/lease values due to imposed setbacks. Instead, the DEIR simply concluded that the overall cost of compliance with the Draft Lily Bulb Order would have a less than significant impact on the conversion of farmland. (DEIR, p. 62, "North Coast Water Board does not find that the anticipated increased costs due to compliance with this Order alone would be large enough to necessarily cause any existing lily bulb operation to go out of business, render it economically unviable, or otherwise choose to abandon their operations.")

Third, a fair argument based on substantial evidence also exists that the proposed Project will cause additional significant impacts resulting in additional agricultural lands to be directly converted to non-agricultural use and/or conversion due to cost of compliance and economic infeasibility. Since individual sites may implement practices best suited for their operations, there was no calculation of potential acreage that may be converted to other uses. However, it was assumed that this conversion would not result in a significant number of acres being taken out of production and therefore the impact was considered less than significant. Without performing a comparative GIS analysis, it is difficult to say if the assumption that the Draft Lily Bulb Order could convert 160 acres of farmland for streamside area setback requirements is truly accurate. (DEIR, p. 57.) It is assumed that this is an underestimate due to not only the removal of current planted acreage that will be required but also potential road systems and turnarounds that will be forced to be relocated which will remove additional acreage. This underestimate will make the degree of impact more significant than stated for the preferred project. Fourth, the lack of project alternatives is improper. (DEIR, pp. 165-182; see Section II. E., The DEIR Fails to Provide a Legally Adequate Alternatives Analysis, post.)

Additionally, the environmental impacts analysis of agricultural lands ignores the legislative declarations embedded in CEQA. CEQA is a vehicle to preserve agricultural lands, prevent significant impacts to agricultural lands, and prevent conversion of agricultural lands. (See Masonite Corp. v. Cnty. of Mendocino (2013) 218 Cal. App. 4th 230, 238, 241, [discussing conserving agricultural land as a mitigation measure for CEQA projects]; see also Cal. Code Regs., tit. 14, § 15387 Appendix. G [listing the conversion of farmland as a potentially significant effect on the environment].) "The California legislature has indicated that the CEQA process is an

important mechanism for preserving agricultural land." (Masonite Corp., supra, 218 Cal. App. 4th at p. 241.) Specifically, the legislature declared it is the policy of the state to:

(a) "Develop and maintain a high-quality environment now and in the future, and take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state."

(Pub. Resources Code, § 21001(a).) The DEIR's environmental analysis overlooks Public Resources Code section 21001(a) because it ignores that agriculture is an environmental resource of the state that should be protected and enhanced "now and in the future." (Pub. Resources Code, § 21001(a); Pub. Resources Code, § 21060.5; Cal. Code Regs., tit. 14, § 15360; CEQA Guidelines Appendix G, section II, Agriculture and Forestry Resources.) Further, the environmental analysis ignores environmental benefits from agricultural lands, such as soil retention, pollination, biological control, sustainable management of natural resources, biodiversity preservation, and contribution to the socioeconomic viability of rural areas, among others. The DEIR should have recognized that North Coast agriculture provides economic, environmental, and socio-cultural benefits, as well as food and fiber, and included analysis of resulting impacts to these agricultural benefits.

In conducting its impact analysis, the DEIR relies solely on the five significant criteria for agricultural resources listed in Appendix G of the CEQA Guidelines to determine if the proposed Project impacts agricultural resources. (DEIR, p. 51.) Although the five significant criteria listed in Appendix G are valuable, additional criteria should have been used to analyze impacts to agriculture. (CEQA Appendix G.) Upon a quick review of the Agricultural Element of Appendix G, a "fair argument," supported by substantial evidence in the record, can be made that the proposed Project may result in significant environmental impacts to agriculture since the project will not only: a) covert prime farmland and unique farmland to non-agricultural use, b) fails to meet policy consistency analysis by conflicting with existing zoning for agricultural land use and Williamson Act contracts currently on the agricultural lands throughout the Project site, and c) will involve other changes in the existing environment will could result in conversion of farmland to non-agricultural use, but will also result in many other significant impacts, and as such, analysis should not be limited to the significance criteria laid out in the DEIR. (DEIR, p. 42; CEQA Appendix G, ["Substantial evidence of potential impacts that are not listed on this form must also be considered."]; Sundstrom v. County of Mendocino (1988) 202 Cal.App.3d 296, 311, ["CEQA places the burden of environmental investigation on government rather than the public," and if "the local agency has failed to study an area of possible environmental impact, a fair argument may be based on the limited facts in the record."].)

Rather than conducting a thorough analysis10 of all potential impacts to agricultural lands, agricultural vitality, agricultural production, agricultural resources, related regional economic sectors including employment and wages, processing, shipping, and retail industries, and socioeconomic impacts to North Coast communities, the DEIR includes conclusory statements, such as:

10 The Impact Analysis for Agriculture and Forestry Resources is limited to 14 pages. (DEIR pp. 50-64.)

"While Prime Farmland could be taken out of production under the Lily Bulb Order due to the Streamside Area setback requirements, it is important to note that it would be converted to riparian vegetation (which is generally considered beneficial for water quality and the ecosystem) and not urban land uses." (DEIR, p. 60.)

"In the unique circumstance where the cost of compliance may be too great or the loss of production of displaced planted areas would make the operation unprofitable, neither scenario would permanently nor irretrievably convert the affected farmland to non-agricultural use. The land would still be available for non-lily bulb agricultural uses and therefore implementation of Management Practices would be considered a less-than-significant impact." (DEIR, p. 62.)

"In the unique circumstance where the cost of compliance may be too great or the loss of production of displaced planted areas would make the operation unprofitable, neither scenario would permanently nor irretrievably convert the affected farmland to non-agricultural use. The land would still be available for non-lily bulb agricultural uses and therefore implementation of Management Practices would be considered a less-than-significant impact." (DEIR, p. 62.)

"As a result, that the overall cost of complying with the proposed Lily Bulb Order would not indirectly contribute to a significant conversion of prime farmland to a nonagricultural use; this impact would be less than significant." (DEIR, p. 62.)

"However, it is not anticipated that the implementation of Management Practices will result in a significant number of acres being taken out of production. Therefore, this impact is speculative and less than significant." (DEIR, p. 62.)

CEQA's informational purposes are not satisfied by an EIR that simply ignores impacts, potential alternatives, and assumes only one approach is suitable for the regulation of potential discharges to waters of the state from agricultural lands. (Citizens Association for Sensible Development of Bishop Area v. County of Inyo, supra, 172 Cal.App.3d at p. 167.) Rather, decision-makers and the public must be presented with sufficient facts to evaluate the pros and cons of requirements in the form of the Draft Lily Bulb Order. (Cal. Code Regs., tit. 14, §§ 15002(a), 15121; Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova, supra, 40 Cal.4th 412; Santa Clarita Organization for Planning the Environment v. County of Los Angeles (2003) 160 Cal.App.4th 715.) Further, conclusory comments in support of environmental conclusions are generally inappropriate. (Laurel Heights I., supra, at p. 404.) "Mere conclusions simply provide no vehicle for judicial view." (Citizens Assn. for Sensible Development of Bishop Area, supra, at p. 171.) By failing to appropriately analyze all evidence that provides a "fair argument" of an impact, the DEIR fails to comply with CEQA. (Ibid., ["Section 1094.5, subdivision (b), states that '[abuse] of discretion is established if the respondent has not proceeded in the manner required by law, the order or decision is not supported by the findings, or the findings are not supported by the evidence.' (Topanga Assn. for a Scenic Community v. County of Los Angeles (1974) 11 Cal.3d 506, 515; Sundstrom v. County of Mendocino, supra, 202 Cal.App.3d at p. 311; Friends of B Street v. City of Hayward, supra, 106 Cal.App.3d at p. 1002.)

These conclusory statements within the DEIR provide "no basis for a comparison of the problems involved with the proposed project and the difficulties involved in the alternatives." (People v. County of Kern (1974) 39 Cal.App.3d 830, 841-842, quoting Silva v. Lynn (1973) 482 F.2d 1282, 128; see also Laurel Heights I, supra, at p. 404, ["but neither can we countenance a result that would require

blind trust by the public, especially in light of CEQA's fundamental goal that the public be fully informed as to the environmental consequences of action by their public officials" (emphasis added)]; City of Redlands v. County of San Bernardino (2002) 96 Cal.App.4th 398, 415, ["The County's conclusory evaluation of the amendments fail to support its decision to adopt a negative declaration."].) Even if a full discussion leaves some uncertainty regarding actual impacts of the anticipated project, CEQA requires discussion of probable impacts, project alternatives, mitigation measures, and the environmental consequences of those contingencies. (Vineyard Area Citizens for Responsible Growth, Inc., supra, 40 Cal.4th at p. 432.) Such discussion must also be supported by substantial evidence and allow for public participation and review.11 (Pub. Resources Code, § 21091(d)(2); Cal. Code Regs., tit. 14, §§ 15088, 15121, 15384.)

The proposed Project includes expanded requirements for irrigation and nutrient management for both surface and groundwater, (Draft Lily Bulb Order, pp. 24-26), expanded pesticide management for surface water and groundwater, including specified surface water monitoring, (Draft Lily Bulb Order, pp. 13-14, 17-18, 54-56), improper riparian setbacks (Draft Lily Bulb Order, pp. 52-53), expanded riparian habitat management requirements that would require retiring productive farmland and developing setback areas, and planting native riparian vegetation (Draft Lily Bulb Order, pp. 51-53), expanded sediment and erosion management for surface water, (Draft Lily Bulb Order, pp. 48-54), and increased reporting and compliance requirements in surface water and groundwater reporting areas with new or updated reporting forms. However, these impacts were not adequately addressed; impacts were either ignored or deemed speculative, and thus, were not analyzed sufficiently within the DEIR.

Of particular importance, the DEIR fails to account for loss of farmland attributable to riparian habitat management requirements that would require retiring productive farmland, developing setback areas, and planting native riparian vegetation, fails to account for impacts of fallowing on small farming operations; fails to address flood and insect vector control related to setback requirements; fails to analyze decreases in overall land value and reductions of rental income due to loss of agricultural production area; fails to take into account increased reporting management due to the overwhelming increase in data collection points related to nutrient management and monitoring; fails to analyze economic infeasibility; fails to analyze compliance issues for smaller farms and the need for professional expertise to comply with monitoring and reporting; fails to adequately analyze land fallowing; fails to analyze significant costs of meeting surface water monitoring, groundwater monitoring, and edge of field surface water quality monitoring; fails to analyze the economic or agronomic feasibility of the requirements; fails to analyze ripple or "multiplier" effects on other agricultural related businesses and employment; and fails to analyze reductions in employment in North Coast communities due to reduced production land area. Further, the inclusion of mandatory riparian setbacks are arguably requirements that mandate a specific management action. These implementation costs, including costs associated with mandated riparian setbacks, can affect land use, land retirement, and agricultural-related jobs in the North Coast. However, the existing analysis did not evaluate these factors.

11 By relying on conclusory language, lack of evidence, unidentified and unsubstantiated claims, and unlike comparisons to support its findings of less than significant environmental impacts or significant impacts with no possible mitigation will occur, the public's ability to provide input, to collaborate with, and to aid in finding solutions to maintain and/or improve water quality is largely restricted and makes it impossible for the public, many of whom have actively asserted a keen and sophisticated interest in the development of

revised/new discharge requirements, to fully participate in the assessment of project impacts and alternatives associated with the project. (See Mountain Lion Coalition v. Fish & Game Comm. (1989) 214 Cal.App.3d 1043, 1051.)

By not including a meaningful review of the proposed Project's impacts on agricultural resources, the DEIR is fundamentally and basically inadequate and conclusory in nature, precluding meaningful public review and comment. (Mountain Lion Coalition, supra, at p. 1051; Laurel Heights I, supra, at p. 404; Cal. Code Regs., tit. 14, § 15063(c); see Cal. Code Regs., tit. 14, § 15088.5].) By failing to identify and analyze probable impacts and merely concluding that impacts are speculative or less than significant, the DEIR is improper, and the error is prejudicial. (See Section II.B. 2., The DEIR Is Not Based on Substantial Evidence But Rather Mere Speculation, ante.)

CAFB-14
C. The DEIR Lacks A Proper Economics Analysis

The DEIR fails to properly quantify and analyze the economic impacts of the proposed Project. Agriculture is fundamentally an economic activity that makes use of, and affects, many aspects of the physical environment. Therefore, understanding the environmental impact of the Draft Lily Bulb Order requires that its economic effect on agricultural operations play an important role in the analysis. The DEIR analysis, significance determination, and associated findings for the Draft Lily Bulb Order did not quantify important economic impacts that can be reasonably quantified. As a result, the analysis was unable to assess potential effects of the economic impacts on the physical environment and could not incorporate these linkages into significance determinations. The Draft Lily Bulb Order increases monitoring and reporting requirements and would impose significant management costs for growers to comply with mandated management practices (ground cover), riparian setbacks, prohibition on certain normal farming activities during the winterization period, intensive edge of field monitoring, and expansive surface and groundwater monitoring. The DEIR and Draft Lily Bulb Order do not evaluate how growers, the agricultural industry, and linked economy (socioeconomic impacts) would adjust in response to these substantial regulatory costs. In other words, the DEIR does not prepare any economic analysis, especially one compliant with Water Code section 12341. Rather than a proper analysis, the DEIR contains cursory statements:

"The Regional Water Board analyzed potential costs associated with the Proposed Project – see Attachment E. The overall cumulative costs of Management Practice implementation for a specific lily bulb operation are speculative though because, while it is generally known what practices are employed throughout the Smith River Plain through 2021 Management Plan reporting, individual or field-level information was not reported." (DEIR, p. 61.)

"The North Coast Water Board understands that profit margins may be slim for some business owners in the lily bulb industry and any increased administrative/regulatory costs could adversely affect profitability. However, the potential effects of increased costs would depend specific to an individual operation as well as current and future markets forces. The North Coast Regional Board does not find that the anticipated increased costs due to compliance with this Order along would be large enough to necessarily cause any existing lily bulb operation to go out of business, render it economically unviable, or otherwise choose to abandon their operations." (DEIR, p. 62.)

"In the unique circumstance where the cost of compliance may be too great or the loss of production of displaced planted areas would make the operation unprofitable, neither scenario would permanently nor irretrievably convert the affected farmland to non-agricultural use. The land would still be available for non-lily bulb agricultural uses and therefore implementation of Management Practices would be considered a less than significant impact." (DEIR, p. 62.)

The DEIR's conclusory statements about the speculative impacts to agriculture provide no opportunity for comparison of the proposed Project to alternatives and require "blind trust" by the public of the potential environmental impacts of the Project. (People v. County of Kern, supra, 39 Cal.App.3d at pp. 841-842; Laurel Heights I, supra, at p. 404; City of Redlands v. County of San Bernardino, supra, 96 Cal.App.4th at p. 415.) Further, many of the conclusory statements, such as not being able to ass knowing which management practices growers will use, are incorrect. "Analyzing economic impacts of increasing regulatory costs does not require knowing what management practice would be adopted by any given grower. If this was the standard, there would never be any economic impact assessment developed. The purpose of an economic impact analysis is to establish likely impacts, disclose those impacts, and inform development of the regulations based on those impacts. Moreover, besides the economic impact requirements associated with CEQA, the California Water Code mandates that the [regional board] consider economics in adoption of the Order. (See Water Code sections 13263 and 13241.)" (Attachment A, ERA Economics, Technical Memorandum, pp. 5-6.) A proper economics analysis is needed especially since "[a]n increase in cost affects the supply for agricultural products produced in the" North Coast region. (See id. at p. 6.) "This has a resulting effect on the relative profitability of crops, land use decisions, ability to continue farming, and employment and other input purchases. In addition, the economic analysis should evaluate effects on farming risk and competitiveness" of North Coast agriculture. (See id. at p. 6.)

Although the DEIR includes estimates of some costs, mostly in the form of direct costs of monitoring, implementation of various management practices, and reporting, most costs to agriculture are not analyzed or are analyzed improperly. (See DEIR, Attachment E.) The DEIR presents some example accounting costs but does not use those costs to quantify potential economic impacts to growers, linked industries (processing, shipping, etc.), communities, and the region as a whole.

The DEIR failed to analyze the economic impacts on jobs, land use, and agricultural resources if the proposed Project is adopted; failed to quantify, discuss, or analyze various regulatory components that may make current practices economically or agronomically infeasible, which would result in substantial economic impacts (e.g., precipitous drop in land values and property taxes, and lease rates); failed to analyze the resulting effects of implementing riparian setbacks which will automatically result in land-idling and land use changes because commercial crop production is prohibited in such areas; failed to analyze changing management practices, inputs, rotations, and land uses to comply with requirements; failed to adequately analyze land use changes / taking land out of production to comply with riparian setback requirements; and opportunity cost of management time for compliance paperwork, training, and other administration.

Regarding compliance with the streamside area setback requirements, Attachment E is missing an analysis of the costs that will be incurred for the removal of productive land as well as associated costs from the removal and relocation of roads and turnarounds. Within the DEIR, a GIS analysis was performed to calculate the removal estimate of 160 acres of farmland for streamside area

setback requirements, so there could have been some calculations to show the potential impacts on various parcels with different setback mandates based on water course type. Looking at annual crop reports, one can calculate productive land values, annual harvest figures, and losses in land value for the amount taken out of production. This number can then be analyzed within the DEIR to present an adequate representation of impacts to agricultural lands.

Further, regulatory costs are cumulative. (Attachment A, ERA Economics, Technical Memorandum, p. 7.) In addition to the Draft Lily Bulb Order, North Coast growers are managing the implementation of other regulations. Accordingly, the DEIR must be revised to include an appropriate economics analysis. Without this, the DEIR fails to satisfy CEQA's fundamental requirements.

CAFB-15
D. The DEIR Failed to Adequately Disclose, Analyze and/or Mitigate the Proposed Project's Land Use and Planning and Population and Housing Impacts

The DEIR contains a small section on growth inducing impacts and no sections on population/housing and land use/planning due to reliance on the 2024 Initial Study's determination that the impacts to population/housing and land use/planning were less than significant. A fair argument exists that such areas should be fully analyzed within the DEIR as the proposed Project could result in potential significant effects.

The DEIR dismisses analyzing land use and planning as "[t]he General Order would not involve construction of any new large structures or establish new impassible land uses that would substantially inhibit wildlife movement." (DEIR, p. 89.) Land use and planning are not limited to the "construction any new large structures," but rather refers to how land is used. (Ibid.; Gov. Code, § 65302(a), ["A land use element that designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, greenways, as defined in Section 816.52 of the Civil Code, and other categories of public and private uses of land."].) The DEIR should have analyzed whether the Draft Lily Bulb Order would conflict with any applicable land use plan, policy, or regulation for any local jurisdiction with land use authority within areas covered by the Draft Lily Bulb Order.

CEQA also requires that an EIR discuss the ways in which a project could directly or indirectly foster economic or population growth or the construction of new housing in the surrounding environment. (Pub. Resources Code, § 21100(b)(5); Cal. Code Regs., tit. 14, § 15126.6(d).) A project has growth inducing impacts if it would (1) foster economic or population growth or additional housing; (2) remove obstacles to growth; or (3) facilitate other activities that cause significant environmental effects. (Cal. Code Regs., tit. 14, § 15126.2(d).) An EIR must discuss growth-inducing effects even though those effects will result only indirectly from the project. (Napa Citizens for Honest Government v. Napa County Board of Supervisors, supra, 91 Cal.App.4th at p. 368; see City of Antioch v. City Council, supra, 187 Cal.App.3d at p. 1335-1337; Friends of "B" Street v. City of Hayward, supra, 106 Cal.App.3d 988, 998-999.) Such discussion must describe the growth-accommodating features of the project that may remove obstacles to population growth.

(Ibid.) Population growth resulting from a project can indirectly lead to further development by taxing existing community service facilities, which could require construction of new facilities. (Cal. Code Regs., tit. 14, § 15126.2(d).)

Here, the DEIR concludes that the Project is not growth inducing or growth reducing since it "would have a very small overall effect on job creation" and "construction would be short term." (DEIR, p. 138.) Although the proposed Project itself will not require housing, it does have the potential to impact the existing population, housing, and employment conditions. The proposed Project does eliminate an obstacle to growth as it will take agricultural lands out of production, which can result in growth inducement, facilitate land use conversion to other land uses besides agriculture, accelerate conflicts with local general plans, lead to community and economic distress due to lack of jobs, etc. (See Cal. Code Regs., tit. 14, § 15126.2(e); Pub. Resources Code, § 21100(b)(5); DEIR, p. 183.) This may lead to the demise of the many viable small farms in the area as has happened elsewhere in the state.

In addition to the possibility of growth-inducing impacts with the conversion of lands out of agricultural production, the project could also have a socioeconomic impact on the population, potentially leading to population reduction due to decrease in productive acreage, which would then have an environmental impact on towns throughout the region, disproportionately impacting specific disadvantaged members of the community.

Because the proposed Project converts agricultural land to other uses, thereby impacting a large economic and job sector in the region, the DEIR should contain population and housing and land use and planning sections in which the proposed Project's potential impacts on these areas can be analyzed. Accordingly, the DEIR must be revised to include the environmental impact analysis of these sections. Without this, the DEIR fails to satisfy CEQA's fundamental requirements.

CAFB-16
E. The DEIR's Mitigation Measures Are Inadequate

CEQA mandates a lead agency to adopt feasible alternatives or feasible mitigation measures that can substantially lessen the project's significant environmental impacts. (Pub. Resources Code, § 21002; Cal. Code Regs., tit. 14, §§ 15002(a)(3), 15126.4; Sierra Club v. Gilroy City Council (1990) 222 Cal.App.3d 30, 41.) For that reason, "[t]he core of an EIR is the mitigation and alternatives sections." (Citizens of Goleta Valley v. Board of Supervisors, supra, 52 Cal.3d at p. 564.) "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." (Pub. Resources Code, § 21002.1(a); see also Pub. Resources Code, § 21061.) Mitigation measures must be feasible, legally enforceable, and consistent with constitutional standards liming exactions by public agencies, including "nexus" and "rough proportionality." (Cal. Code Regs., tit. 14, § 15126.4.) Proposed mitigation measures must be consistent with the agency's existing powers under existing law because CEQA does not grant an agency any new powers. (Cal. Code Regs., tit. 14, § 15040.) Here, in addition to an improper and inadequate alternatives analysis, the DEIR's evaluation of mitigation measures is also inadequate and certain required mitigation measures are improper. (See Section II. E., The DEIR Fails to Provide a Legally Adequate Alternatives Analysis, post.)

The DEIR identifies mitigation measures that apply to growers who seek regulatory coverage under the Draft Lily Bulb Order. (See DEIR, pp. 5-6, 48, 59-64.) Some of the measures logically require that any modifications of a farming operation that cause impacts be performed in accordance with existing law. (Ibid.) However, some of the identified mitigation measures are infeasible and may exceed the Regional Board's authority. (Ibid.; see Wat. Code, § 13360(a).) First, how these measures would be triggered is uncertain. The measures appear to apply to routine farming management and operational decisions that normally would not involve regulatory approval by a public agency. If a grower chooses to implement a farm management method for reasons independent of the Draft Lily Bulb Order, it appears that the mitigation measure could still be triggered, subjecting the grower to a level of regulatory approvals and expense that otherwise would not apply. Further, even if the grower chooses to implement a management practice because of the Lily Bulb Order, the Regional Board still would not have authority to approve that individual management decision. Yet, in this scenario, the grower might be deemed in violation of the Lily Bulb Order, if he or she did not implement the measure, even if he or she has not actually discharged waste into waters of the state.

Second, the measures seek to dramatically expand the Regional Board's authority over normal farming activities beyond what is otherwise required or allowed by state and federal law. (See Wat. Code, § 13360(a).) Growers are already required to comply with applicable federal and state laws, such as endangered species laws, with certain operations on their property. Yet, various mitigation measures add a new and expanded level of regulation, and potential further CEQA review, to normal management activities that are not subject to discretionary public agency approvals. For example, BIO-3 discusses impacts to state or federally protected wetlands but fails to mention farmlands that are otherwise statutorily exempt from such regulation under the federal Clean Water Act. (See 33 C.F.R. § 328.3(a)(8).) Finally, by imposing expanded regulations on normal farm management decisions, beyond what is required by other federal and state environmental laws, the measures do not satisfy constitutional limitations. (Cal. Code Regs., tit. 14, § 15126.4.) The excessive cost of cultural resource surveys, biology surveys, and wetlands delineation and mitigation on individual fields is not roughly proportional to the likely less than significant impact from management decisions on a single farm. Nor can the Regional Board establish a rational nexus between the expanded regulation and cost imposed in the measures and the as yet unidentified impacts from any of these potential management practices. Thus, various mitigation measures must be revised or deleted.

In addition to including improper mitigation measures, the DEIR fails to properly identify mitigation measures for significant impacts from the proposed Project. Specifically, when concluding that setback requirements will be a significant effect due to taking agricultural land out of production, the DEIR also concluded that the impact is unavoidable because no feasible mitigation measures exist. (DEIR, pp. 6, 61.) Unfortunately, the DEIR fails to adequately identify, discuss, and analyze potential mitigation measures. (See Masonite Corp. v. Cnty. of Mendocino (2013) 218 Cal. App. 4th 230.) Conversion of farmland to non-agricultural uses (e.g., land retirement) would result in additional socioeconomic impacts that are not disclosed in the DEIR. Such errors compound and prevent proper identification of significant effects and discussion of the manner in which those significant effects can be mitigated or avoided. (See Masonite Corp., supra, 218 at pp. 238, 241.)

Accordingly, the DEIR must be revised to include the appropriate mitigation measures. Without this, the DEIR fails to satisfy CEQA's fundamental requirements.

CAFB-17
F. The DEIR Fails to Provide a Legally Adequate Alternatives Analysis

Section 15126.6(a) of the CEQA Guidelines states that "an EIR shall describe a range of reasonable alternatives to the project or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."12 (Cal. Code Regs., tit. 14, § 15126.6(a); Pub. Resources Code, § 21061; County of Inyo, supra, 71 Cal. App.3d at p. 200, ["An EIR must describe all reasonable alternatives to the project."].) The EIR is to consider a "reasonable range" of alternatives to foster informed decision-making and public participation. (Cal. Code Regs., tit. 14, § 15126.6(a).) CEQA requires the EIR to identify alternatives to the proposed project that will feasibly attain most of the project's basic objectives while avoiding, or at least lessening, significant impacts associated with the project. (Cal. Code Regs., tit. 14, § 15126.6(a); Citizens of Goleta Valley v. Board of Supervisors, supra, 52 Cal.3d at p. 566, ["CEQA review must consider a reasonable range of alternatives to the project, or to the location of the project, which: (1) offer substantial environmental advantages over the project proposal (Pub. Resources Code, § 21002); and (2) may be "feasibly accomplished in a successful manner" considering the economic, environmental, social and technological factors involved. (Pub. Resources Code, § 21061.1; Guidelines, § 15364; Goleta I, supra, 197 Cal.App.3d 1167, 243 Cal.Rptr. 339.)]".)

A fundamental mandate of CEQA is that "public agencies should not approve projects as proposed if there are feasible13 alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of the project." (Pub. Resources Code, §§ 21002, 21081.) Therefore, as part of the decision-making process for projects involving the preparation of an EIR, governmental agencies are required under CEQA to consider alternatives to proposed actions affecting the environment. (Pub. Resources Code, § 21001(g).) One of the purposes of an EIR is to identify alternatives to a proposed project and evaluate the comparative merits of feasible alternatives. (CEQA Guidelines Section 15126.6(d).) By examining a range of alternatives, the Lead Agency can demonstrate that it has taken a "hard look" at the project objectives to select alternatives that allow for meaningful comparison. (Residents Ad Hoc Stadium Com. v. Board of Trustees (1979) 89 Cal.App.3d 274, 287; Wildlife Alive v. Chickering (1976) 18 Cal.3d 190, 197, [A major function of an EIR is "to ensure that all reasonable alternatives to proposed projects are thoroughly assessed by the responsible official" or board.].)

12 Alternatives, in the context of CEQA, are optional ways that the project proponent could achieve most of the project objectives, while also reducing or eliminating the environmental impacts of the proposed project. (Pub. Resources Code, § 21002; Cal. Code Regs., tit. 14, § 15126(a); Citizens of Goleta Valley, supra, 52 Cal.3d at pp. 564-566.) Alternatives typically involve changes to the location, scope, design, extent, intensity, or method of construction or operation of the proposed project.

13 CEQA defines "feasible" as follows: "'Feasible' means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors." (Cal. Code Regs., tit. 14, § 15364; see also Cal. Code Regs., tit. 14, § 15126.6(f)(1).)

Further, EIRs "must produce information sufficient to permit a reasonable choice of alternatives." (San Bernardino Valley Audubon Society, Inc., supra, 155 Cal.App.3d at p. 750.) Here, the DEIR failed to consider and analyze a reasonable range of alternatives. (Cal. Code Regs., tit. 14, § 15126.6; Pub. Resources Code, § 21100(b)(4).) The alternatives to be evaluated within the EIR must be true "alternative" proposals and not abstract concepts. In order to allow for an evaluation on its merits that the alternative "may be 'feasibly accomplished in a successful manner' considering the economic, environmental, social and technological factors involved" and to allow for a robust comparison to the preferred project, alternatives must be detailed, complete, and comprehensive proposals. (Pub. Resources Code, § 21061.1; Guidelines, § 15364; Goleta I, supra, 197 Cal.App.3d 1167, 243 Cal.Rptr. 339.)" (Citizens of Goleta Valley supra, 52 Cal.3d at p. 566.) After all, "evaluat[ion] of the comparative merits of the alternatives" cannot be done if the alternatives are cursory documents. (CEQA Guidelines, § 15126.6(a).)

Here, the DEIR included a no project alternative, a reduced streamside area setback alternative, and an offsite riparian restoration alternative. (DEIR, p. 169.) However, the analysis for the reduced streamside area setback alternative and an offsite riparian restoration alternative was limited to 9.5 pages, consisting mostly of conclusory statements and speculation. (DEIR, p. 132-133, ["The Reduced Setback Alternative would potentially be less costly to implement than the Proposed Project;" "The Reduced Setback Alternative could potentially increase removal of existing riparian vegetation and habitat, which could in turn have adverse effects on biological resources and water quality;" "However, the extent and severity of this potential impact is speculative because it is unknown which growers in which locations may choose to pursue riparian vegetation removal under this alternative."].) The offsite riparian restoration alternative concludes "[t]he Offsite Alternative would be less beneficial to water quality than the Proposed Project" and "the Reduced Setback Alternative may not achieve the same level of reductions in pollutant discharges and protection of beneficial uses compared to the Lily Bulb Order due to the lesser control of sediment discharges and temperature impact." (DEIR, pp. 132-133.) However, no explanation is given for such conclusions. How will the off-site alternative not achieve pollutant reductions?

By using cursory concepts, a true analysis between project alternatives is thwarted. The two alternatives within the DEIR only looked at changes to one component of the Draft Lily Bulb Order—vegetative buffers. There was no analysis of an alternative program containing a regulatory tiering structure based on risk to water quality or an alternative with different water quality monitoring requirements.

As evidenced in the DEIR, the "project," the Draft Lily Bulb Order, appears to be predetermined in regulatory scope which runs afoul of CEQA: "The full consideration of environmental effects CEQA mandates must not be reduced '"to a process whose result will be largely to generate paper, to produce an EIR that describes a journey whose destination is already predetermined."'" (Save Tara v. City of West Hollywood (2008) 45 Cal.4th 116, 135–136, citing Natural Resources Defense Council, Inc. v. City of Los Angeles (2002) 103 Cal.App.4th 268, 271, internal citations omitted.) This failure to include the full reasonable range of alternatives in the environmental analysis directly contrasts with the explicit intent and heart of CEQA. (Watsonville Pilots Association v. City of Watsonsville (2010) 183 Cal.App.4th 1059, 1086-1088.) CEQA places the burden on the approving agency, here the Regional Board, to affirmatively show that it has considered the project alternatives as well as identified means of lessening or avoiding the project's significant effects, and to explain its decision to proceed with or reject alternatives and mitigation measures. (Cal. Code

Regs., tit. 14, § 15126.6.) "The writing of a perfect EIR becomes a futile action if that EIR is not adequately considered by the public agency responsible for approving a project. Indeed, it is almost as if no EIR was prepared at all . . ." (Resource Defense Fund v. Local Agency Formation Com. (1987) 191 Cal.App.3d 886, 898.) Additionally, using cursory draft documents as alternatives prohibits rather than fosters meaningful public participation and informed decision-making. (Cal. Code Regs., tit. 14, § 15126.6(a).)

Further, the Regional Board's job in the DEIR's alternatives analysis to craft alternatives that could feasibly reduce significant impacts, even if the alternatives will not accomplish all of the project's objectives. (Watsonville Pilots Assn. v. City of Watsonville, supra, 183 Cal.App.4th at p. 1087, ["It is virtually a given that the alternatives to a project will not attain all of the project's objectives.]; Cal. Code Regs., tit. 14, § 15126.6(c).) By simply evaluating cursory alternatives with speculative feasibility and impact conclusions, the Regional Board's alternatives preparation and analysis failed. (Cal. Code Regs., tit. 14, § 15126.6.)

CAFB-18
G. The DEIR's Cumulative Impacts Analysis is Cursory and Inadequate

The CEQA Guidelines define cumulative effects as "two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts." (Cal. Code Regs., tit. 14, § 15355; Cal. Code Regs., tit. 14, § 15130(a)(1), ["[A] cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts."].) The CEQA Guidelines further state that the individual effects can be the various changes related to a single project or the changes involved in a number of other closely related past, present, and reasonably foreseeable future projects. (Cal. Code Regs., tit. 14, §§ 15355(a), (b).) Additionally, "[c]umalative impacts can result from individually minor but collectively significant projects taking place over a period of time. (Cal. Code Regs., tit. 14, § 15355(b).)

Within the DEIR, the cumulative impacts analysis fails to provide an adequate analysis of impacts to agricultural resources. The DEIR does not analyze the cumulative impact of loss of production agricultural lands across the state, although it recognizes that the proposed Project will contribute to the statewide reduction in agricultural lands. (See DEIR, p. 125.) The DEIR does not analyze the proposed Project's contribution of loss of agricultural land in context with the statewide trend of loss of agricultural land, does not analyze impacts related to local groundwater sustainability plans, does not analyze impacts to certain communities, and lacks a discussion of the cumulative impacts of the proposed Project when taken within the context of regional growth patterns. (See Section II. B. 3., The DEIR's Analysis of Agriculture and Forest Resources Is Improper And Flawed, ante; see Section II. C., The DEIR Lacks an Economics Analysis, ante.)

Additionally, the DEIR does not identify all "projects or programs adequately similar in nature, location, and type to result in a meaningful comparative analysis" that are known or should be known to the Regional Board that can lead to compounding cumulative impacts with the implementation of the proposed Project. Other programs and projects that have the potential to compound or increase other environmental impacts, especially to agricultural resources, include, but are not limited to, the Vineyard Order, applicable National Pollutant Discharge Elimination System ("NPDES") permits and other permit actions, the Regional Board's Restoration program, and implementation of total maximum daily loads. All of these, as well as additional, similar pending14 and

existing programs and projects, have the potential to create cumulative impacts on agricultural and other environmental resources, and, thus, require analysis along with the proposed Project.

14 Current projects along with "reasonably anticipated future projects" should be considered in the DEIR and discussed in a cumulative analysis. (See Laurel Heights Improvement Assn. v. Regents of University of California, supra, 47 Cal.3d 376, 394 and Citizens Assn. for Sensible Development of Bishop Area v. County of Inyo, supra, 172 Cal.App.3d 151, 168.) As noted in Citizens Assn. for Sensible Development of Bishop Area, "[r]elated projects currently under environmental review unequivocally qualify as probable future projects to be considered in a cumulative analysis. [Citation.] In addition, even projects anticipated beyond the near future should be analyzed for their cumulative effect. [Citation.]" (Citizens Assn. for Sensible Development of Bishop Area v. County of Inyo, supra, 172 Cal.App.3d 151, 168.)" (City of Santee v. County of San Diego (1989) 214 Cal.App.3d 1438, 1452–1453.)

CAFB-19
H. The DEIR Fails to Consider the Significance Of Social And Economic Impacts And Cumulative Effects

Although impacts that are solely economic in nature do not constitute "significant effects on the environment," economic or social impacts that will or have the potential to cause a physical change should be considered. (Cal. Code Regs., tit. 14, §§ 15064(e), 15131, 15382.) The term "significant effect on the environment" is defined in Section 21068 of CEQA as meaning "a substantial or potentially substantial adverse change in the environment." (Pub. Resources Code, § 21068.) This focus on physical changes is further reinforced by sections 21100 and 21151. (See discussion following Cal. Code Regs., tit. 14, § 15131.) Despite the implication of these sections, CEQA does not focus exclusively on physical changes, and it is not exclusively physical in concern. (Ibid.) Thus, in certain situations such as the adoption of an expansive regulatory irrigated lands discharge program, economic and social effects of the project must be used to determine the significant effects on the environment. (Citizens Assn. for Sensible Development of Bishop Area, supra, at p. 170, ["The lead agency shall consider the secondary or indirect environmental consequences of economic and social changes."].) Since such effects were not properly considered in the DEIR, the document is incomplete and flawed.

In Citizens Association for Sensible Development of Bishop Area v. Inyo, the court held that "economic or social change may be used to determine that a physical change shall be regarded as a significant effect of the environment. Where a physical change is caused by economic or social effects of a project, the physical change may be regarded as a significant effect in the same manner as any other physical change resulting from the project. Alternatively, economic and social effects of a physical change may be used to determine that the physical change is a significant effect on the environment."15 (Ibid.)

15 See also Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal.App.4th 1184, 1205: "'CEQA is not a fair competition statutory scheme.' (Waste Management of Alameda County, Inc. v. County of Alameda (2000) 79 Cal.App.4th 1223, 1235, 94 Cal.Rptr.2d 740.) Therefore, the economic and social effects of proposed projects are outside CEQA's purview. (Guidelines, § 15131, subd. (a).) Yet, if the forecasted economic or social effects of a proposed project directly or indirectly will lead to adverse physical changes in the environment, then CEQA requires disclosure and analysis of these resulting physical impacts. (Friends of Davis v. City of Davis (2000) 83 Cal.App.4th 1004, 1019, 100 Cal.Rptr.2d 413 (Friends of Davis); Citizens for Quality Growth v. City

of Mt. Shasta (1988) 198 Cal.App.3d 433, 445–446, 243 Cal.Rptr. 727 (Mt. Shasta).) Subdivision (e) of Guidelines section 15064 provides that when the economic or social effects of a project cause a physical change, this change is to be regarded as a significant effect in the same manner as any other physical change resulting from the project. (See, e.g., El Dorado Union High School Dist. v. City of Placerville (1983) 144 Cal.App.3d 123, 131, 192 Cal.Rptr. 480 [potential of increased student enrollment in an already overcrowded school resulting from construction of the proposed apartment complex was an environmental effect that required treatment in an EIR because it could lead to the necessity of constructing at least one new high school].) Conversely, where economic and social effects result from a physical change that was itself caused by a proposed project, then these economic and social effects may be used to determine that the physical change constitutes a significant effect on the environment. (See, e.g., Christward Ministry v. Superior Court (1986) 184 Cal.App.3d 180, 197, 228 Cal.Rptr. 868 [when a waste management facility was proposed next to a religious retreat center, CEQA required study whether the physical impacts associated with the new facility would disturb worship in the natural environment of the retreat center].)"

The Draft Lily Bulb Order will result in dramatic and severe impacts on the agricultural industry, particularly an industry down to three remaining operations, which will have a significant effect on the economic and social environment of the region. Such impacts include negative economic consequences, the possibility of eliminating agricultural lands in the area, possible loss of jobs, loss of food supply, changes to the landscape and land uses, loss of wildlife habitat, loss of groundwater recharge areas, disproportionate impacts to certain communities, as well as other social and economic impacts. In addition to direct impacts and indirect impacts and consequences, these cumulative16 social and economic consequences are reasonably foreseeable and must be analyzed.

Realizing that the second and third sentences of section 15382 can cause confusion, the discussion portion of the section provides:

"The second and third sentences pose a problem of interpretation that has caused controversy for many years. The controversy centers around the extent to which CEQA applies to the economic and social effects of projects. In determining whether an effect is significant, however, Section 21083(c) of CEQA requires an effect to be found significant if the activity would cause an adverse effect on people."

(Discussion following Cal. Code Regs., tit. 14, § 15382, emphasis added.) As indicated during public testimony, Regional Board workshops, and in written comments submitted on the Draft Lily Bulb Order, the proposed Project will have an adverse effect on the agricultural community in many ways. These economic and social impacts will adversely affect people within the North Coast and the state.

Notwithstanding substantial evidence pointing to significant impacts, the DEIR contains no cumulative impacts analysis on social and economic resources impacted by the proposed Project. This is an error. Accordingly, the DEIR should be revised to evaluate the resulting social and economic effects of the proposed Project.

CAFB-20
I. CONCLUSION

CEQA's statutory framework sets forth a series of analytical steps intended to promote the fundamental goals and purposes of environmental review—information, public participation, mitigation, and governmental agency accountability. (Cal. Code Regs., tit. 14, § 15002.) Specifically, the basic purposes of CEQA review include: informing governmental decision-makers and the public about the potential significant environmental effects of proposed activities; identifying ways that environmental damage can be avoided or significantly reduced; requiring changes in projects through the use of alternatives or mitigation measures when feasible; and disclosing to the public the reasons why a project was approved if significant environmental effects are involved. (See Pub. Resources Code, §§ 21001, 21001.1, 21002, 21003, 21006, 21064.) Adopting a project without complying with the above requirements violates CEQA.

Given the numerous violations contained within the DEIR discussed herein, the appropriate remedy for the Regional Board is to conduct an appropriate environmental review of the proposed Project, revise the DEIR, and recirculate it accordingly.

CAFB-21
Attachment A



DRAFT ENVIRONMENTAL IMPACT REPORT
FOR
GENERAL WASTE DISCHARGE REQUIREMENTS
FOR
COMMERCIAL LILY BULB OPERATIONS IN THE SMITH RIVER PLAIN

North Coast Regional Water Quality Control Board
5550 Skylane Blvd., Ste. A
Santa Rosa, CA 95403

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

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Draft Environmental Impact Report

GWDRs for Commercial Lily Bulb Operations in the Smith River Plain

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I. Executive Summary

The California Regional Water Quality Control Board, North Coast Region (North Coast Water Board) is responsible for protecting water quality within the North Coast Hydrologic Region, including the Smith River Plain**.** As of the 2024–2025 growing season**,** approximately 1,000 acres of agricultural land in the Smith River Plain Hydrologic Subarea and coastal terraces between Pyramid Point and the Oregon border are commercially farmed for easter lily bulbs (See Figure 1). About 160 acres are planted in any given year (See Figure 2 for fields planted to lily bulbs in 2023). The crop is grown in a 3- to 5-year rotation with grass-clover pasture, supporting some livestock operations. The watershed is ecologically sensitive, providing habitat for threatened and endangered species such as coho salmon, tidewater goby, and eulachon, with tributaries and estuarine areas critical for juvenile salmonid rearing and recovery. The most sensitive beneficial uses of water targeted for protection include cold freshwater habitat, tribal beneficial uses and municipal/domestic supply, the latter sensitive to nitrate contamination.

North Coast Water Board staff intend to recommend that the North Coast Water Board adopt General Waste Discharge Requirements (hereafter referred to as the “Lily Bulb Order” or “Proposed Project”) for Commercial Lily Bulb Operations located in the Smith River Plain and coastal terraces between Pyramid Point and the Oregon border, hereafter the “Proposed Project Area” as shown in Figure 1. The Draft Lily Bulb Order is included as Attachment A.

Commercial Lily Bulb Operations have the potential to discharge wastes (including pesticides) to surface waters and groundwater and to affect other related controllable water quality factors such as riparian shade. For the purposes of this Draft Environmental Impact Report and the Draft Lily Bulb Order, the term Commercial Lily Bulb Operations includes all fields cultivated for lily bulbs or similar bulb crops anytime within a sequential five-year period, and appurtenant field roads, greenhouses, and pesticide mixing areas.

The Lily Bulb Order would regulate discharges from Commercial Lily Bulb Operations with one or more of the following characteristics and which meet any of the following criteria: (1) The landowner or operator holds a current Operator Identification Number/Permit Number for pesticide use reporting; (2) The crop and/or its product is sold, including but not limited to: (a) an industry cooperative, (b) harvest crew/company, or (c) a direct marketing location, such as Certified Farmers Markets; or (3) the federal Department of Treasury Internal Revenue Service form 1040 Schedule F Profit or Loss from Farming is used to file federal taxes. The Lily Bulb Order would establish a regulatory mechanism, in the form of General Waste Discharge Requirements with requirements, prohibitions, and provisions that would require: (1) enrollment and payment of fees; (2) implementation and adaptation of management practices; and (3) monitoring and reporting.

The Lily Bulb Order would be consistent with the State Water Resources Control Board

(State Water Board) 2004 Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program (NPS Policy), which requires that all sources of nonpoint source (NPS) pollution that could affect water quality be regulated through waste discharge requirements (WDRs), waivers of WDRs, and/or prohibitions. The Lily Bulb Order would regulate discharges from Commercial Lily Bulb Operations in order to implement the plans, policies, and requirements set forth in the Water Quality Control Plan for the North Coast Basin (Basin Plan) and the State Water Board Irrigated Lands Regulatory Program objectives and precedents. Compliance with the Lily Bulb Order would implement goals identified in the Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region and the Policy for the Implementation of the Water Quality Objectives for Temperature in the North Coast Region adopted by the North Coast Water Board on November 29, 2004, and November 20, 2012, respectively.

The North Coast Water Board prepared this Draft Environmental Impact Report (Draft EIR) to provide a transparent and comprehensive evaluation of the environmental effects that could occur from implementing the Proposed Project. The Draft EIR has been prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended) and the CEQA Guidelines (Title 14, California Code of Regulations Section 15000 et seq.).

A. Project Objectives

Objective #1 - Protect and restore beneficial uses and achieve water quality objectives specified in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations by:

- Minimizing or preventing sediment, nutrient, and pesticide discharges surface water.
- Minimizing or preventing nitrate and pesticide discharges to groundwater.
- Minimizing or preventing temperature impacts to surface water from loss of riparian shade.

Objective #2 - Effectively track and quantify achievement of the stated objectives over a specific, defined time schedule.

Objective #3 - Comply with the State Nonpoint Source Policy, the State Antidegradation Policy, the precedential language in the Eastern San Joaquin Agricultural Order, the North Coast Basin Plan, and other relevant statutes and water quality plans and policies, including the Temperature Implementation Policy, the Sediment TMDL Implementation Policy, and TMDLs in the North Coast Hydrologic Region.

B. Summary of Environmental Effects and Proposed Mitigation Measures

The analysis provided within this Draft EIR considers reasonably foreseeable Management Practices as examples of how the Lily Bulb Order could be implemented

and the associated potential impacts to the environment. However, the analysis does not constitute an absolute outcome or certainty in the determinations made. Some impacts may not be identified or mitigated through the Lily Bulb Order, because it is not possible to exactly predict who will take action in response to the Lily Bulb Order, or what action(s) they will take. Therefore, this analysis is set at a programmatic level and is more general in nature to consider impacts from implementing reasonably foreseeable Management Practices. The types of actions that would be undertaken on Commercial Lily Bulb Operations which could be subject to the Lily Bulb Order would be consistent with Management Practices commonly employed on current Commercial Lily Bulb Operations. In some cases, implementation of Management Practices might be subject to another regulatory process which would entail identification and mitigation of any significant environmental effects. Therefore, other regulatory mechanisms can be expected to provide additional opportunities for minimizing and avoiding significant environmental effects. In some cases, it may not be possible to mitigate impacts of the Lily Bulb Order to a less-than-significant level.

The Draft EIR identifies the following principal environmental effects and proposed mitigation measures associated with implementation of the Proposed Project.

Agricultural Resources

Implementation of Streamside Areas requirements, which include a riparian vegetation area and a vegetated buffer to implement the Policy for Implementation of the Water Quality Objectives for Temperature (Temperature Policy), could result in the conversion of Prime Farmland to non-agricultural use. These impacts are identified as significant and unavoidable, consistent with prior North Coast Water Board findings related to riparian buffer implementation. Through adoption of the Temperature Policy (Resolution R1-2014-0006), the North Coast Water Board found the potential conversion of Prime Farmland to a non-agricultural use and the potential conflict with existing zoning for agriculture use or a Williamson Act contract from implementing riparian buffers as significant and unavoidable.

No feasible mitigation measures are available that would fully avoid these impacts while still achieving applicable Basin Plan water quality objectives and temperature requirements. As a result, adoption of the Proposed Project would require consideration of a Statement of Overriding Considerations.

Biological Resources

Potential impacts to sensitive aquatic and riparian species may result from implementation of management practices, construction of runoff control features, or vegetation management activities. The Draft EIR identifies mitigation measures requiring timing restrictions, avoidance of sensitive habitats, design standards for runoff controls, invasive species management, and coordination with resource agencies. With implementation of these measures, impacts to biological resources would be reduced to less than significant.

Cultural and Tribal Cultural Resources

Ground-disturbing activities associated with management practice implementation could affect previously unidentified cultural or tribal cultural resources. The Tribal Cultural Landscape, including viewsheds and animal and plant species that contribute to the significance of the Tribal Cultural Landscape are also considered a tribal cultural resource. Mitigation measures include tribal consultation, inadvertent discovery protocols, avoidance or treatment procedures consistent with CEQA and state law, mitigation measures requiring timing restrictions, avoidance of sensitive habitats, design standards for runoff controls, invasive species management, and measures that reduce impacts to viewsheds. With mitigation, impacts would be less than significant.

Other Resource Areas

The Draft EIR concludes that impacts to hydrology and water quality, air quality, greenhouse gas emissions, noise, transportation, public services, and other CEQA resource topics would be less than significant or have no impact, due to the regulatory nature of the Proposed Project and requirements for Management Practice implementation and monitoring.

C. Project Alternatives

The Draft EIR evaluates a reasonable range of alternatives to the significant and unavoidable impacts to Agricultural resources, including:

No Project Alternative, under which existing regulatory mechanisms would remain in place and no new General Waste Discharge Requirements would be adopted. This alternative would avoid agricultural land conversion impacts, but would not meet project objectives related to water quality protection and restoration.

Reduced Regulatory Scope Alternatives, under which modified requirements to Streamside Areas would reduce the size of the riparian buffer. The Reduced Setback Alternative would reduce or eliminate one or more significant environmental impacts of the Proposed Project but does not completely support all objectives of the Proposed Project.

The Draft EIR concludes that no alternative would fully avoid the significant and unavoidable impacts to agricultural resources while meeting the core project objectives.

D. Areas of Controversy

During the CEQA Scoping period, the North Coast Water Board received many public comments on the Proposed Project. These comments are documented in Section II.E of the Draft EIR, and generally include:

- Appropriateness and extent of riparian buffer and setback requirements, particularly their effects on agricultural viability and land use.

- Adequacy of pesticide and copper controls, with differing perspectives on

whether the Proposed Project goes too far or not far enough.

- Reliance on adaptive management and self-reporting, versus calls for third-party or independent monitoring.
- Health and environmental justice concerns, raised by community members regarding long-term exposure, cumulative effects, and public health protections.
- Consistency with other regulatory frameworks, including the Coastal Act, Endangered Species Act, and agricultural protection policies.

E. Issues to Be Resolved

Key issues that remain to be resolved by the North Coast Water Board prior to project approval include:

- Whether to approve the Proposed Project as drafted or adopt modifications to requirements or implementation timelines.
- How to balance unavoidable impacts to agricultural resources against the need to protect high-quality waters and sensitive beneficial uses.
- Whether additional or modified mitigation measures or implementation flexibilities are warranted.
- Whether a Statement of Overriding Considerations is appropriate and, if so, the basis for those findings.

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II. Introduction

The California Regional Water Quality Control Board, North Coast Region (North Coast Water Board has prepared this Draft Environmental Impact Report (Draft EIR) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the Proposed Project: General Waste Discharge Requirements for Discharges from Commercial Lily Bulb Operations in the Smith River Plain (Lily Bulb Order).

The Lily Bulb Order would regulate non-point source discharges from Commercial Lily Bulb Operations. The Lily Bulb Order would establish a regulatory mechanism, in the form of General Waste Discharge Requirements with requirements, prohibitions, and provisions that would require: (1) enrollment and payment of fees; (2) implementation and adaption of Management Practices; and (3) monitoring and reporting.

The Proposed Project involves adoption of an order governing the discharge of waste (to surface waters and groundwaters) from Commercial Lily Bulb Operations (Enrollees) in the Smith River Plain (see Proposed Project Area in Figure 1). In accordance with North Coast Water Board authority and mandates under the California Water Code, the purpose of the Proposed Project is to improve water quality conditions and protect and restore beneficial uses in the region by preventing or minimizing discharges of waste (including controllable water quality factors[1]) from Commercial Lily Bulb Operations.

The Proposed Project does not address site development activities associated with the establishment of new Commercial Lily Bulb Operations. Impacts associated with the development of new Commercial Lily Bulb Operations would be subject to project-specific CEQA analysis, conclusions, and development of mitigation measures by local land use authorities and other public agencies. New Commercial Lily Bulb Operations would be expected to comply with conditions of the Lily Bulb Order upon enrollment and this Draft EIR examines impacts that may occur related to compliance with the Order.

This Draft EIR has been prepared in compliance with the California Environmental Quality Act of 1970 (CEQA (as amended; California Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (Cal. Code Regs. tit. 14, section 15000 et seq.). The primary purpose of this Draft EIR is to provide comprehensive and transparent discussion and analysis of the Proposed Project's environmental impacts.

A. General Overview

California Water Code Section 13260 requires a person discharging waste or proposing to discharge waste that could affect the quality of waters of the state to file a report of waste discharge with the North Coast Water Board. Based on review of the report of waste discharge, the North Coast Water Board prescribes waste discharge requirements (WDRs) for the protection of water quality (California Water Code Section

[1] Controllable water quality factors are those actions, conditions, or circumstances resulting from man's activities that may influence the quality of the waters of the State and that may be reasonably controlled.

13263) that implement applicable water quality control plans (e.g., Basin Plans) and take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose, and the need to prevent nuisance. In certain circumstances, a North Coast Water Board may waive the requirement to file a report of waste discharge or waive the prescription of WDRs. The State or North Coast Water Boards may issue WDRs or a waiver of WDRs to individual Enrollees in an individual order.

The State or North Coast Water Boards may also adopt general orders to authorize certain types of similar discharges from many Enrollees, based on the proposed discharge meeting certain criteria and conditions. The issuance of WDRs or a waiver of WDRs through either an individual or general order is considered a permit action.

The Proposed Project is necessary to protect high-quality waters and restore impaired and degraded waters in the Smith River Plain from non-point source discharges of waste from Commercial Lily Bulb Operations. Commercial lily bulb farming in the Smith River Plain involves soil disturbance and use of agricultural chemicals, both of which can generate discharges of waste (e.g., sediment, nutrients, pesticides , and temperature). If not properly managed, these discharges can degrade water quality, cause or contribute to pollution and nuisance conditions, and adversely affect beneficial uses of waters of the state. These effects can occur through the loss of riparian shade (a controllable factor) and discharges from stormwater runoff flowing from agricultural lands, percolation, and runoff resulting from operational spills.

Section 303(d) of the federal Clean Water Act requires that states identify water bodies that do not meet water quality standards, and the pollutants that impair them. In 2018, Tillas Slough and Delilah Creek (tributaries to the Smith River estuary) were added to the 303(d) list as impaired for copper.

Surface water monitoring conducted between 2013 and 2024 by the North Coast Water Board's Surface Water Ambient Monitoring Program (SWAMP) documented the presence of synthetic pesticides and dissolved copper in tributaries and sloughs downstream of commercial lily bulb cultivation areas in the Smith River Plain. Exceedances of U.S. EPA aquatic life benchmarks were observed periodically, primarily during major storm events when runoff from cultivated fields was highest. Modeling using the Biotic Ligand Model indicated potential for chronic copper toxicity under low-pH and stormflow conditions.

Groundwater monitoring conducted in 2015 and 2025 by the North Coast Water Board and the California Department of Pesticide Regulation detected low-level concentrations of pesticides and nitrate in irrigation and domestic wells located within current and historical lily bulb cultivation areas. Detected concentrations were below state and federal drinking water standards for pesticides and metals, and nitrate concentrations ranged from below detection to slightly above the drinking water Maximum Contaminant Level in a limited number of irrigation wells. These monitoring results indicate that surface water and groundwater in the Smith River Plain exhibit measurable influences from agricultural activities, with constituent concentrations and toxicity responses

varying by season, hydrologic conditions, and proximity to cultivated fields.

B. Overview of Activities

The Proposed Project would involve adoption and implementation of General Waste Discharge Requirement for Commercial Lily Bulb Operations in the Smith River Plain. Refer to Attachment A for the Draft Lily Bulb Order. Key elements of the Lily Bulb Order include the following:

1) Pesticide, Sediment and Erosion Management for Surface Water Protection,

2) Streamside Area Requirements for Surface Water Protection,

3) Irrigation and Nutrient Management for Groundwater Protection,

4) Monitoring and Reporting Requirements, and

5) Adaptive Management

The Proposed Project would not require specific Management Practices to protect and restore surface water and groundwater quality but rather would allow Enrollees flexibility to implement practices that are appropriate for their specific situation to comply with requirements in accordance with the time schedules therein. For the purposes of this document, “Management Practices” refers to any number of actions, facilities, or practices that Commercial Lily Bulb Operations may undertake, construct/install, or implement to reduce their discharges. Examples include swales, vegetative filter strips, retention/detention basins, and road drainage disconnection. Refer to the Project Description Chapter for discussion of the reasonably foreseeable Management Practices that may be implemented in compliance with the Lily Bulb Order. A list of reasonably foreseeable Management Practices is included as Attachment B.

C. Overview of CEQA Requirements

The basic purposes of CEQA is to:

1) Inform governmental decision-makers and the public about the potentially significant environmental effects of proposed activities.

2) Identify the ways that environmental damage can be avoided or substantially reduced.

3) Prevent significant, avoidable damage to the environment by requiring the implementation of feasible mitigation measures or alternatives that would substantially lessen any significant effects that a project would have on the environment.

4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose, if significant environmental effects are involved.

As described in the CEQA Guidelines (Cal. Code Regs., tit. 14, section 15121 (a])), an environmental impact report (EIR) is an informational document that assesses potential environmental effects of a proposed project and identifies mitigation measures and alternatives to the project that could reduce or avoid potentially significant environmental impacts. Other key CEQA requirements include developing a plan for implementing and monitoring the success of the identified mitigation measures and carrying out specific public notice and distribution steps to facilitate public involvement in the environmental review process. As an informational document, an EIR is not intended to recommend either approval or denial of a project. An EIR does not expand or otherwise provide independent authority for the lead agency to impose mitigation measures or avoid project-related significant environmental impacts beyond the authority already within the lead agency's jurisdiction. The North Coast Water Board is the lead agency under CEQA for preparation of the EIR for adopting the Lily Bulb Order that regulates discharges of waste from Commercial Lily Bulb Operations.

D. Scope and Intent of this Document

Adoption of an order constitutes a "project" subject to CEQA (see Cal. Code Regs., tit. 14, section 15378 (a)(3)). The North Coast Water Board will use the analysis presented in this Draft EIR, public and regulatory agency comments received on the Draft EIR, and the entire administrative record to evaluate the Proposed Project's environmental impacts, as well as to inform and support North Coast Water Board modifications, approval, or denial of the Proposed Project.

E. Public Involvement Process

CEQA mandates two periods during the EIR process when public and agency comments on the environmental analysis of a proposed project are to be solicited: during the scoping comment period and during the review period for the Draft EIR. CEQA and the CEQA Guidelines also allow for lead agencies to hold public outreach meetings or hearings to obtain scoping comments and review both the draft and final versions of an EIR. Brief descriptions of these milestones, and other opportunities for public involvement/input afforded by the North Coast Water Board, are provided below, as they apply to this document.

1. Notice of Preparation, Initial Study, and Initial Scoping Notice & Meetings

On October 10, 2024, the North Coast Water Board sent a Notice of Preparation (NOP), which included an Initial Study, to public agencies and persons with potential interest in the project. Copies of the NOP and Initial Study were available for review at the North Coast Water Board Santa Rosa office. Additionally, the NOP and attached Initial Study were posted at the North Coast Water Board's webpage (http://www.waterboards.ca.gov/northcoast/) and an announcement of its availability was sent to individuals that subscribed to electronic mailing lists relevant to the proposed Lily Bulb Order. The NOP and the attached Initial Study are available online at: https://ceqanet.lci.ca.gov/2024100484

On October 22, 2024, the North Coast Water Board held a hybrid scoping meeting to

solicit input from agencies and interested parties on issues to be addressed in the EIR. The scoping meeting included a description of the meeting purpose, proposed requirements, presented an overview of the environmental review process and preparation of the EIR, and included a public comment period.

During the scoping period, eleven timely written comment letters were received from the following persons and entities:

1) Northcoast Environmental Center

2) California Farm Bureau

3) California Department of Fish and Wildlife

4) California Coastal Commission

5) Save California Salmon

6) Lily Bulb Growers: Rob Miller, Matthew Westbrook, Don Crockett

7) Sharon Tanner and Brian McNaughton

8) Native American Heritage Commission

9) Phoebe Lenhart

10) Richard Blair

11) Alicia Williams

During the scoping meeting, the following persons and entities provided oral comments:

1) Gil Vargas

2) Carl Page, Smith River resident

3) Sharon Tanner

4) John Roberts, Smith River resident

5) Alicia Williams, Crescent City resident

6) Janelle Kobalt

7) Josefina Barrantes, Environmental Protection Information Center (EPIC)

8) Regina Chichizola, Save California Salmon

9) Andrew Orahoske

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10)Katie Rian, California Department of Fish and Wildlife

11)Candice Vargas, Smith River resident

Table II.1 summarizes primary comments and concerns expressed in written scoping comment letters and during the public outreach meeting.

Table II.1: Summary of CEQA Scoping Comments

Commenter	Summary of Comments
North Coast Environmental Center	• The Draft EIR needs to assess the feasibility of halting the use of all EPA-registered pesticides and all lily bulb farming activities and restoring the Smith River Plain as the primary alternative to the current operations. • The Draft EIR needs to assess the impacts to all potentially threatened and endangered species and include assessments for restoring their habitat for promoting sustainable and urgently necessary population growth. • The Draft EIR needs to assess the historic and ongoing impacts to Tribal Cultural Resources within the Smith River Plain Hydrologic Subarea due to the Commercial Lily Bulb Operations. The assessment needs to include consultation with the affected tribal government(s), as well as make substantial efforts for outreach and receiving input from tribal community members. • The Draft EIR needs to assess the historic and ongoing health impacts to community members and residents of the Smith River Plain
California Coastal Commission	The implementation of management practices required by the General Order within the Coastal Zone may require Coastal Development Permits (CDPs) from the California Coastal Commission if they meet the Coastal Act's definition of "development."
Sharon Tanner and Brian McNaughton	Concern expressed related to pesticide exposure since moving to Smith River.
Native American Heritage Commission	Instructions related to the need and process for tribal consultation, and recommendations for cultural resources assessments.

Commenter	Summary of Comments
Phoebe Lenhart	Smith River estuary is an important natural resource and lily bulb farming should cease immediately.
Richard Blair	Revoke the lily bulb farming permit.
Alicia Williams	The Water Board has a duty to prohibit all discharge from lily bulb operations and is overdue in addressing water quality concerns. Future outreach to the community should be more inclusive.
California Farm Bureau	• The EIR must properly assess all direct, indirect, and cumulative effects on the agricultural environment resulting from the proposed project. All components of feasibility in the Project's requirements and mitigations (time, available technology, economics, etc.) must be fully analyzed. • The North Coast Water Board must comply and conform with Porter-Cologne's "reasonableness standard"; and evaluate if the activity or control limit will reasonably protect the beneficial uses. • The EIR must clearly state that the Lily Bulb WDR cannot dictate which management practices are utilized by growers. The use of Management Practice lists should acknowledge that compiled practices provided may be out of date and may not be applicable to the unique conditions of the area/field. • In the Background and Settings section, the EIR should include relevant information, including but not limited to, applicable regulations, programs, and plans, and should rely upon recent data to describe environmental conditions, baseline market conditions, cropping rotations, cropping practices, costs, and the interplay with surface water, riparian areas, and groundwater zones. • The environmental analysis should incorporate the Farmland Mapping and Monitoring Program Maps as a basis for its analysis of farmland that will be converted and/or impacted. Recommend that any agricultural impact discussion for areas outside existing Important Farmland Map boundaries be based on the agricultural land definition in the Williamson Act.

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Commenter	Summary of Comments
California Farm Bureau (cont'd.)	• The North Coast Water Board must identify and rigorously examine all reasonable alternatives for the scope and contents of the Lily Bulb WDR. The range of alternative requirements must be feasible and must avoid or substantially lessen the project's significant environmental effects even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly. All feasible mitigation measures that are analyzed in the environmental review documents need to address the impacts to agricultural resources, must be fully described, and must mitigate for the impacts. • The EIR should estimate the percentage of the potentially productive land barred from cultivation and the dollar value of the agricultural landowners' or operators' cost for compliance with the Lily Bulb WDR. • The EIR should analyze potential conflicts the Lily Bulb WDR may have with local, state, and federal laws and agreements, such as, but not limited to, county ordinances (including zoning ordinances), and local and regional requirements due to the Sustainable Groundwater Management Act.

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Commenter	Summary of Comments
Save California Salmon	• Some areas of the Smith River estuary is unsuitable for lily bulb agriculture, and none of the Smith River estuary area is suitable for wet weather chemical use. Recommend allowing zero waste discharges under developing WDRs. Recommend riparian buffers and restricted areas for applying pesticides and growing lily bulbs. • Disagree with the 'less than significant' or 'no impact' determination on the following resource categories: Biological Resources, Geology and Soils, Hazards and Hazardous materials, Hydrology and Water Quality, and Land use and Planning. • Recommends a list of specific management practices to be incorporated into the Order. Copper use has negative impacts on sensitive species and there should either be a prohibition or strict TMDL-based allowance on its discharge. • CEQA analysis should incorporate Tribal Uses of Water as a Beneficial use. The Project should include a best Management Plan for the discovery of TCR's, including the presence of a tribal/cultural preservation officer at any construction sites that are known areas for possible discovery of archeological resources. • This Project should be analyzed through Coastal Act requirements and staff should work with the Coastal Commission to this end

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Commenter	Summary of Comments
California Department of Fish and Wildlife	• Description of significance of lower Smith River watershed to sensitive and endangered species such as the Coho salmon, Chinook salmon, tidewater goby, and steelhead. Coho population in the Smith River is critical to recovery of the species and this population is at risk of extinction. • Description of the ecological significance of riparian corridors in the Smith River Plain for non-fish species such as migratory birds, raptors, and amphibians. • **Order Recommendations**: ○ Riparian buffers start at the top of bank or edge of riparian drip-line, whichever is greater, and riparian buffer widths of no less than 100 ft on fish-bearing streams. ○ Minimum, non-negotiable Riparian Vegetation Area on all streams, not just perennial streams and applicable even if Restoration Alternative is sought. ○ Exclude livestock grazing within Riparian Vegetation Areas. ○ The decision to allow mitigation (Streamside Area Restoration Alternative) should be based on demonstrated ability to meet water quality objectives. ○ Increase surface water monitoring locations, particularly in Delilah Creek and Tillas Slough tributaries. Timing and frequency should capture significant rainfall events, pesticide application, and spring and summer applications. ○ Adaptive management start at enrollment for all lily bulb fields and higher adaptive management for fields draining to Delilah Creek and Tillas Slough due to surface water monitoring results showing presence of pesticides and exceedance of water quality benchmarks.

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Commenter	Summary of Comments
California Department of Fish and Wildlife (cont'd.)	• **CEQA Mitigation Recommendations:** ○ Enrollees should be required to notify CDFW for any existing or proposed surface water diversions and other activities that fall within scope of CDFW's permitting authority, such as stream crossings. ○ Runoff management features should be designed and routinely maintained to minimize the spread and propagation of invasive species, such as reed canary grass (Phalaris arundinacea). ○ Require testing of accumulated sediments in control features prior to removal, with disposal at an appropriate facility, if warranted.
Gil Vargas	Self-monitoring is unacceptable. Monitoring should be conducted by neutral, independent parties and verified by community observers. Third-party oversight would legitimize findings and help the community advocate for environmental health. The CEQA meeting is a positive step but not enough to protect public well-being.
Carl Page	Copper in runoff could potentially be mitigated with plants that chelate metals in riparian buffers. Meetings are not accessible; they should be held in Smith River, after work hours, and at tribal venues like Howonquet Hall to ensure tribal and local participation.
Sharon Tanner	Chemicals in soil and water may persist indefinitely, raising concerns about long-term exposure. A buffer zone has compromised property use and gardening. Contact with contaminated soil is a health risk. Neighbors have multiple chronic illnesses that may be linked to pesticide drift. Water quality reports are not automatically distributed. Personal health conditions, including thrush and COVID complications, may be worsened by environmental exposure. Economic or political considerations should not outweigh public health protections.
John Roberts	The qualifications of the board reviewing this order are unclear. Settling ponds may allow pollutants to persist unless properly lined or remediated. Chemicals may remain hazardous for decades or longer. Copper detected in homes may originate from plumbing rather than lily fields. Chemists and biologists are not yet involved in the investigation. Stream courses have been historically altered for agriculture and should be restored to natural alignments. The environmental impact of pollutant-filled ponds must be evaluated.

Commenter	Summary of Comments
Alicia Williams	Synthetic nitrogen use can be replaced with local manure and legume cover crops. Buffer zones can filter toxins, beautify landscapes, and support beneficial insects to reduce pesticide reliance. Residents need raised beds and clean soil to safely garden. A community health tracking system should be created. Residents should be asked directly what assistance they need. The cleanup timeline for contaminated soil is unclear. Available mitigation methods must be supported by research and timelines.
Janelle Kobalt	Data showing that existing buffer zones reduce chemical pollution is not available. If buffers are expanded and mitigation is required, the mitigation must also reduce pesticide pollution rather than serve unrelated purposes.
Josefina Barrantes	The permit should include a zero-discharge requirement for chemicals and nutrients, along with drift control and seasonal spraying restrictions. Estuary restoration is essential to protect sensitive species and improve conditions for nearby residents.
Regina Chichizola, Save California Salmon	Winter and storm-related spraying must be prohibited due to high rainfall and runoff. Small buffer zones do not prevent pollution during heavy storms. Larger buffers are necessary, especially on sloped land. Farms that cannot comply with non-discharge policies should be removed from production or bought out. Chemical use is harming human health, fisheries, and traditional food sources. Zero discharge policies are required to protect endangered species and the Smith River watershed.
Andrew Orahoske	The Smith River Plain is stolen land and should be restored to wetlands. Regulatory action has been delayed since 2012. The proposed timeline to release a draft order in 2026 is unacceptable. The state is allowing pesticide use that likely violates the Endangered Species Act. Regulatory agencies have failed in enforcement, oversight, and protection of public health. Monitoring based on grab samples is inadequate; long-term passive samplers should be used. Political influence compromises regulatory agencies. CEQA requirements are being circumvented by premature planning decisions.
Katie Rian (CDFW)	The basis for buffer distances and where setbacks begin is unclear. The order may allow further encroachment into riparian areas, leading to habitat loss. Mitigation decisions lack transparency, including who determines suitability and on what basis. Existing riparian areas may be reduced under the proposed plan.
Candice Vargas	Past agency efforts were dropped or abandoned when the process became difficult. No guarantees exist that this effort will continue to completion. Organic farming should be required to eliminate pesticide-related risks and ensure safe living conditions.

2. Public Involvement in Preliminary Draft Regulatory Requirements

The North Coast Water Board's efforts to address potential impacts of lily bulb agricultural discharges in the Smith River Plain began in 2011 with a series of stakeholder meetings to inform the development of a region-wide Agricultural Lands Discharge Program. In 2013, the Board shifted to a commodity- and subregion-specific regulatory approach and directed staff to conduct water quality monitoring in the Smith River Plain to guide the next steps for regulating lily bulb agricultural discharges. A Surface Water Ambient Monitoring Program (SWAMP) study conducted from 2013–2015 found pesticide concentrations—including copper fungicides—in surface waters that exceeded EPA aquatic life benchmarks. (Smith River Plain Surface Water and Sediment Monitoring Report 2013-2015, issued January 2018 (2018 SWAMP Report))[2].

In response, the North Coast Water Board directed staff to develop a targeted, collaborative water quality management strategy. The Smith River Plain Water Quality Management Plan (2021 Management Plan)[3] was developed and finalized in 2021 by a Watershed Stewardship Team composed of the lily bulb growers, regulatory agencies (e.g., NOAA Fisheries, CDFW, CDPR), local stakeholders (e.g., Del Norte RCD, Agricultural Commissioner), academic partners, the Smith River Alliance, and the Tolowa Dee-ni' Nation. The 2021 Management Plan outlines voluntary grower participation in annual management practice reporting, North Coast Water Board inspections, ongoing surface water quality monitoring, and an adaptive management framework to guide iterative improvement based on monitoring data. The main objectives of the 2021 Management Plan were to better understand surface water quality conditions and to help inform development of the Lily Bulb Order.

Development of the Lily Bulb Order was initiated in 2023 with the formation of a Technical Advisory Group (TAG). Between July 2024 and November 2025 the TAG met every other month in Del Norte County to review provisional regulatory language and provide feedback. TAG meetings were open to the public and included agendized time for public input at every meeting. TAG membership includes all Management Plan Watershed Stewardship Team members with additional environmental nonprofit groups, partnering agencies, community organizations, and interested members of the public.

In addition to 7 public TAG meetings, staff held 3 additional public meetings in Del Norte County to inform the community on the Lily Bulb Order and hear community concerns. On October 21, 2024, staff presented an Order development update and heard public input at a community meeting in Smith River, California, which was attended by over 80 people. On October 22, 2024, staff presented similar information to the Del Norte County Board of Supervisors at a regular Board of Supervisors meeting.

[2] https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/pdf/180116/180101-FINAL%20SWAMP%20REPORT_Smith%20River.pdf
[3] https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2021/smithmgmttplan.pdf

Many community concerns expressed to staff during the course of 10 public meetings between July 2024-October 2025 extended beyond the North Coast Water Board's regulatory purview, staff referred these concerns (e.g., pesticide application practices and air quality concerns) to the appropriate CalEPA agencies, including the Office of Environmental Health Hazard Assessment and the CA Department of Pesticide Regulation. Through a Management Agency Agreement established in 2019, the North Coast Water Board has also drawn on the CA Department of Pesticide Regulation's expertise to help develop science-based recommendations for the Lily Bulb Order. In parallel, staff have coordinated with NOAA Fisheries, the CA Department of Fish and Wildlife, the CA Coastal Commission, and the US Fish and Wildlife Service through a natural resource agency workgroup to address technical questions related to Order development.

On October 10, 2024, the North Coast Water Board published a Notice of Preparation and an Initial Study to begin soliciting input related to environmental review for the California Environmental Quality Act (CEQA), in preparation for developing a draft Environmental Impact Report (EIR). A 30-day public comment period was held for the Notice of Preparation and Initial Study. On October 22, 2024, North Coast Water Board staff held a public CEQA scoping meeting in person and virtually. Input received during the public comment period and public scoping meetings has been considered in the development of the draft EIR.

On October 8, 2025 the North Coast Water Board held an information item in Crescent City to present findings from the Smith River Plain Surface Water Monitoring Study 2021-2024 (2025 SWAMP Report[4]) and provide an update on development of the Lily Bulb Order. Following the staff presentation, the Board heard public comment. Flyers for this meeting were developed in English, Spanish, and Hmong and distributed throughout the community. This live interpretation in Spanish was available.

3. Draft EIR Public Review and Comment Period

The North Coast Water Board is now circulating this Draft EIR for public review and comment. The North Coast Water Board issued a notice of availability of an EIR to provide agencies and the public with formal notification that the Draft EIR is available for review. The notice of availability was sent to all trustee agencies, any person or organization requesting a copy, and to the county clerk office in Del Norte County for posting. A legal notice was also published in a number of general-circulation newspapers. The North Coast Water Board also submitted the notice of availability and a notice of completion (NOC) to the State Clearinghouse.

Publication of the notice of availability initiated a 45-day public review period, during which the North Coast Water Board will receive and collate public and agency

[4] Smith River Plain Surface Water Monitoring Study 2021-2024 https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2025/25_SWAMP_MR_SRPWM.pdf

comments on the Proposed Project and the Draft EIR. During the public review period, North Coast Water Board staff will host a public workshop in Crescent City, Del Norte County, as indicated in the notice of availability. The purpose of the Draft EIR circulation and the public outreach meetings is to provide public agencies, other stakeholders, and interested individuals with opportunities to comment on the content of the Draft EIR.

4. Preparation of the Final Environmental Impact Report

CEQA requires the lead agency to prepare a final environmental impact report (FEIR), which addresses all substantive comments received on the Draft EIR, before approving a project. The FEIR must include a list of all individuals, organizations, and agencies that provided comments on the Draft EIR and must contain copies of all comments received during the public review period along with the lead agency's responses.

Written and oral comments received in response to this Draft EIR will be addressed in a FEIR. The FEIR will be a responses-to-comments document that, together with the Draft EIR and any related changes to the substantive discussion in the Draft EIR, will constitute the EIR in its entirety. In turn, the EIR (when certified by the North Coast Water Board) will inform the North Coast Water Board's exercise of its discretion as a lead agency under CEQA in deciding whether to approve, approve with modifications, or deny the Proposed Project.

If the North Coast Water Board chooses to approve the Proposed Project, and if significant impacts are identified in the Draft EIR that cannot be mitigated, a statement of overriding considerations must be included in the record of project approval and mentioned in the notice of determination (NOD). The statement of overriding considerations would describe the North Coast Water Board's reasons for approving the Proposed Project despite its significant impacts. If the Proposed Project is approved, the NOD will be filed with the California Governor's Office of Planning and Research and at the offices of the relevant county clerks (Cal. Code Regs., tit. 14, section 15093 (c)).

F. Organization of this Draft EIR

The Draft EIR is organized into the following chapters so the reader can easily obtain information about the Proposed Project and its specific environmental issues:

- Chapter I: Executive Summary. Presents a summary of the Draft Lily Bulb Order, a description of impacts and mitigation measures presented in a table format, and impact conclusions.

- Chapter II: Introduction. Introduces the Proposed Project; discusses the relevant CEQA requirements, the public outreach and review process, and the purpose and organization of the Draft EIR.

- Chapter III: Project Description. Describes the Proposed Project, including the location, purpose, and Project Objectives; proposed Lily Bulb Order requirements; the reasonably foreseeable Management Practices that could be implemented under

the Lily Bulb Order; and the intended uses of the EIR.

- Chapter IV: Environmental Analysis. Discusses assumptions, parameters, and methodology used for analyzing potential impacts.

- Chapters V through VIII: Discusses environmental factors provided in the CEQA Guidelines Environmental Checklist. Each of these chapters describes environmental settings, a range of potential impacts, including significant environmental effects and unavoidable significant environmental effects that would result from the Lily Bulb Order, and potential mitigation measures.

- Chapter IX: Cumulative Impacts. Summarizes cumulative impacts when combined with those of other past, present, and probable future projects; and the potential for the Proposed Project to result in growth-inducing impacts.

- Chapter X: Alternatives Analysis. Presents project alternatives (including the No-Project Alternative) and provides an evaluation of each alternative in comparison with the project.

- Chapter XI: Other CEQA Required Sections. Presents growth-inducing impacts, significant irreversible environmental effects, and significant and unavoidable environmental impacts of the proposed project.

- Appendix I Abbreviations, Acronyms, and Definitions.

- Appendix II: Figures

- Appendix III: References

- Appendix IV: Report Preparation

- Attachment A: Draft General WDRs for Commercial Lily Bulb Operations in the Smith River Plain

- Attachment B: Management Practices

- Attachment C: Plans and Policies Relevant to the Proposed Project

- Attachment D: Special Status Species

- Attachment E: Estimated Cost of Compliance with Lily Bulb Order

- Attachment F: Tolowa Dee-Ni’ Nation Tribal Cultural Resources Submittal

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G. Submittal of Comments

The purpose of circulating the Draft EIR is to provide agencies and interested individuals with opportunities to comment on or express concerns regarding the Draft EIR's contents and analysis. During the public review period, the North Coast Water Board will hold a public workshop in Del Norte County which will have the same purpose. The date, time, and location of the public workshop will be provided on the North Coast Water Board website (https://www.waterboards.ca.gov/northcoast/).

For those interested, written comments or questions concerning this Draft EIR should be submitted (preferably via email in Microsoft Word or Adobe PDF format) and directed to the following:

Attention: Brenna Sullivan

North Coast Regional Water Quality Control Board
5550 Skyland Blvd, Suite A
Santa Rosa, CA 95403-1072

Email: NorthCoast@waterboards.ca.gov
Email subject line: Comments on Lily Bulb Order Draft EIR

This CEQA document is available for review at the North Coast Water Board website (see above). In addition, hard copies can be reviewed at the North Coast Water Board office in Santa Rosa, California. To arrange to view documents during business hours, call (707) 576-2220. This Draft EIR also can be reviewed electronically at libraries throughout the North Coast Region.

Written comments received in response to the Draft EIR during the public review period will be addressed in the Responses to Comments chapter of the FEIR. Comments submitted to the North Coast Water Board, and the commenter's name, are considered public information.

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III. Project Description

The California Regional Water Quality Control Board, North Coast Region (North Coast Water Board) is responsible for the protection of water quality in the North Coast Hydrologic Region, including the Smith River Plain Hydrologic Subarea (Smith River Plain). There were 160 acres cultivated for easter lily bulbs in the Smith River Plain during the 2024-2025 growing season. Approximately 1,000 acres of agricultural land is commercially farmed for easter lily bulbs in a 3- to 5-year seasonal rotation in the Smith River Plain and coastal terraces between Pyramid Point and the Oregon border. The North Coast Water Board does not currently regulate all commodities under a singular Irrigated Lands Regulatory Program (ILRP) and intends to regulate non-point source discharges from Commercial Lily Bulb Operations in the Smith River Plain through general waste discharge requirements (GWDRs) hereafter referred to as the Lily Bulb Order (or the Proposed Project) and included as Attachment A.

The North Coast Water Board prepared this Draft Environmental Impact Report (Draft EIR) to provide a transparent and comprehensive evaluation of the environmental effects that could occur from implementing the Proposed Project. The Draft EIR has been prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended) and the CEQA Guidelines (Title 14, California Code of Regulations Section 15000 et seq.).

The Lily Bulb Order would regulate discharges from Commercial Lily Bulb Operations with one or more of the following characteristics and which meet any of the following criteria: (1) The landowner or operator holds a current Operator Identification Number/Permit Number for pesticide use reporting; (2) The crop and/or its product is sold, including but not limited to: (a) an industry cooperative, (b) harvest crew/company, or (c) a direct marketing location, such as Certified Farmers Markets; or (3) the federal Department of Treasury Internal Revenue Service form 1040 Schedule F Profit or Loss from Farming is used to file federal taxes. The Lily Bulb Order would establish a regulatory mechanism, in the form of General Waste Discharge Requirements with requirements, prohibitions, and provisions that would require: (1) enrollment and payment of fees; (2) implementation and adaptation of management practices; and (3) monitoring and reporting.

This section provides: a description of background and need for the proposed project, Proposed Project Area; project objectives; the requirements of the Lily Bulb Order; project characteristics; agencies that will use this document; and anticipated conditions following adoption of the Lily Bulb Order.

A. Need for the Proposed Project

The North Coast Water Board has a statutory obligation under the Federal Clean Water Act (Federal CWA) and the State's Porter-Cologne Water Quality Control Act (Porter-Cologne Act) to regulate discharges of waste to waters of the state, restore water quality in impaired waters, and maintain existing high-quality waters. The State Water Resources Control Board's (State Water Board) Non-Point Source Management Plan

and the Policy for Implementation and Enforcement of the Non-Point Source Pollution Control Program (NPS Policy) explain how non-point source (NPS) discharges are to be addressed (e.g., through WDRs, waivers of WDRs or prohibitions), thus fulfilling the requirements of the Federal CWA and Porter-Cologne Act.

The Proposed Project is intended to protect the high-quality waters of the Smith River Plain and to restore areas where water quality has been impaired or degraded by nonpoint source discharges from commercial lily bulb operations. Lily bulb cultivation in the Smith River Plain involves significant soil disturbance and the use of agricultural chemicals, both of which can generate discharges of waste such as sediment, nutrients, pesticides, and heat. Without proper management, these discharges can degrade water quality, cause or contribute to pollution and nuisance conditions, and adversely affect the beneficial uses of waters of the state. Water quality impacts may result from controllable factors such as the loss of riparian shade, stormwater runoff from cultivated lands, percolation to groundwater, and surface runoff associated with operational spills.

Surface water monitoring conducted by the North Coast Water Board's SWAMP Program between 2013 and 2017 identified periodic water quality impacts in the Smith River Plain associated with commercial lily bulb cultivation. Synthetic pesticides and dissolved copper, were frequently detected in tributaries and sloughs downstream of cultivated fields. Occasional exceedances of US EPA Aquatic Life benchmarks were documented, primarily during major storm events when runoff from agricultural areas was greatest.

A follow-up study conducted between 2021-2024 confirmed that synthetic pesticides such as diuron, ethoprop, and imidacloprid continue to be detected in downstream waters, with US EPA Aquatic Life Benchmark exceedances generally limited to Delilah Creek and Tillas Slough. Modeling of copper bioavailability through the Biotic Ligand Model indicated potential for chronic toxicity under certain low-pH and stormflow conditions. Overall, data from 2013 through 2024 indicate that surface water quality in the Smith River Plain is periodically influenced by agricultural activities, particularly during major storm events that mobilize pesticides and copper from cultivated fields.

Groundwater monitoring conducted by the North Coast Water Board in 2015 and 2025 found generally good water quality in the shallow aquifer system beneath the Smith River Plain. Pesticides and dissolved metals were detected infrequently and at concentrations well below state and federal drinking water standards. Nitrate levels were elevated in a few irrigation wells but remained within regulatory limits for drinking water sources. These results indicate that, while localized impacts to groundwater may occur, overall groundwater quality in the Smith River Plain remains high.

Toxicity testing using the freshwater invertebrate *Ceriodaphnia dubia* indicated that eight of twenty-seven samples produced statistically significant reductions in reproduction, suggesting chronic toxicity, while two samples showed acute toxicity, including one with complete mortality. Subsequent Toxicity Identification Evaluations identified confounding results. Additional analysis found that the low water hardness and conductivity characteristic of Smith River Plain tributaries contributed to the

observed toxic responses, which may have produced false positive results rather than true toxicity from contaminants. The findings suggest that background water chemistry conditions can influence toxicity test outcomes and must be considered when interpreting results for low-hardness systems.

From 2021 to 2024, the North Coast Water Board continued surface water monitoring as part of the Smith River Plain Water Quality Management Plan. Analytes were selected based on their use in lily bulb production and their relevance to the U.S. EPA's Biotic Ligand Model, which evaluates site-specific metal bioavailability. Synthetic pesticides including diuron, ethoprop, and imidacloprid were detected at all downstream monitoring locations, with exceedances primarily at Lower Delilah Creek and Tillas Slough. Dissolved copper concentrations predicted potential toxicity in approximately forty percent of downstream samples, driven largely by elevated copper and low pH conditions during storm events. Overall, data from 2013 through 2024 indicate that surface water quality in the Smith River Plain is periodically influenced by agricultural activities, particularly during major storm events that mobilize pesticides and copper from cultivated fields.

Groundwater monitoring conducted by the North Coast Regional Water Quality Control Board in 2015 found only detections of dissolved copper and 1,2-dichloropropane, all well below state and federal drinking water standards. A separate 2015 evaluation of nitrate concentrations found elevated levels in irrigation wells, with some exceeding the Maximum Contaminant Level (MCL) for nitrate. All domestic wells sampled were below the nitrate MCL. In 2025, the Water Board conducted additional groundwater monitoring in coordination with the California Department of Pesticide Regulation, sampling nine private domestic wells in current and historical lily bulb cultivation areas. Pesticides were detected in six of the nine wells, but all detections were at trace concentrations and none exceeded established human-health thresholds. Nitrate concentrations measured during this event were generally lower than those recorded in 2015 and none exceeded the nitrate MCL. Continued periodic monitoring is recommended to verify these conditions and identify potential long-term trends.

B. Existing Physical Conditions

The Smith River Plain is a coastal plain located at the lower end of the Smith River watershed near the Smith River Estuary in northwestern California (See Figure 1). To the north, a narrow four-mile stretch of coastal terrace supports approximately 100 acres currently farmed for lily bulbs. The Smith River Watershed encompasses approximately 762 square miles across the northwestern corner of California and the southwestern corner of Oregon, with much of the drainage area situated within the Klamath and Siskiyou Mountains. The Smith River Plain itself forms a broad, sub-rectangular emerged marine terrace of low relief at the base of these mountain ranges. It covers about 63 square miles and receives an average of 75 inches of annual precipitation, with the majority of rainfall occurring between November and March. The climate is characterized by cool summers, mild winters, and high seasonal rainfall.

The primary groundwater-bearing formations in the basin consist of Quaternary alluvial

fan, floodplain, terrace, and Battery Formation deposits. Several small tributaries, including Tillas Slough, No Name Creek, Ritmer Creek, Delilah Creek, Dominie Creek, Rowdy Creek, Morrison Creek, Mello Creek, and Yontocket Slough, cross the plain and drain into the Smith River. The mainstem of the Smith River bisects the plain, dividing it into northern and southern halves. The regulatory framework established under this General Order focuses on the northern portion of the plain where commercial lily bulb cultivation occurs.

Land Use and Cultural Setting.

The Smith River Plain lies within the ancestral lands of the Tolowa Dee-ni' Nation, which today includes approximately 1,750 enrolled members. The town of Smith River, with a population of about 900, is also located within the plain. Current land uses include lily bulb cultivation, cattle ranching, dairy operations, and aggregate mining. To support these uses, the region's hydrology and habitats have been extensively modified through activities such as diking, tide-gate operation, agricultural conversion, and the removal of riparian vegetation and woody debris from stream channels. These modifications have altered natural hydrologic connectivity and habitat complexity across the plain. At least 26 fish species have been documented in the Smith River Plain and estuary, including commercially important species such as Chinook salmon, Pacific herring, and anchovies, as well as steelhead and cutthroat trout.

Agricultural Practices.

Commercial lily bulb cultivation in the Smith River Plain typically follows a two- to five-year crop rotation. Fields are planted to forage or hay for one to four years and then to lily bulbs for one year, with additional field preparation occurring prior to bulb planting. The principal plant health concerns include nematodes, root and bulb rot, and Botrytis blight (gray mold), as well as aphid infestations during the spring and summer months. Growers use a combination of mechanical and chemical methods to manage these pests and diseases. Certain cultivation activities—such as field preparation, pesticide or fertilizer application during wet or windy conditions, overspray, and direct discharge of stormwater or irrigation runoff—have the potential to affect water quality in nearby surface waters.

C. Relevant Policies and Orders

Several existing policies and orders govern the Proposed Project. The North Coast Water Board must implement the precedential requirements of State Water Board Order WQ 2018-0002 (Eastern San Joaquin Agricultural Order or ESJ Order), which established certain precedential elements that must be included in irrigated lands regulatory programs throughout the state. Additionally, the North Coast Water Board must comply with the State's Non-Point Source Policy, Antidegradation Policy, and the Order must be consistent with the Basin Plan, including the Sediment and Temperature Policies of the North Coast Basin Plan and the Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program.

1. Nonpoint Source Policy

The federal Clean Water Act (CWA) requires states to develop a program to protect the quality of water resources from the adverse effects of NPS water pollution (SWRCB 2019). The NPS Policy is the State Water Board framework for addressing NPS pollution and requires each of the nine Regional Water Quality Control Boards (North Coast Water Boards) to regulate NPS pollution, including agricultural discharges. The NPS Policy states that North Coast Water Board implementation programs for NPS pollution control must include five key elements (SWRCB 2004), as follows:

- Key Element 1: An NPS control implementation program's ultimate purpose shall be explicitly stated. Implementation programs must, at a minimum, address NPS pollution in a manner that achieves and maintains water quality objectives and beneficial uses, including any applicable antidegradation requirements.

- Key Element 2: An NPS control implementation program shall include a description of the Management Practices and other program elements that are expected to be implemented to ensure attainment of the implementation program's stated purpose(s), the process to be used to select or develop Management Practices, and the process to be used to ensure and verify proper MP implementation. The North Coast Water Board must be able to determine that there is a high likelihood that the program will attain water quality requirements. This will include consideration of the Management Practices to be used and the process for ensuring their proper implementation.

- Key Element 3: Where the North Coast Water Board determines it is necessary to allow time to achieve water quality requirements the NPS control implementation program shall include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching the specified requirements.

- Key Element 4: An NPS control implementation program shall include sufficient feedback mechanisms so that the North Coast Water Board, Enrollees, and the public can determine whether the program is achieving its stated purpose(s) or whether additional or different Management Practices or other actions are required.

- Key Element 5: Each North Coast Water Board shall make clear, in advance, the potential consequences for failure to achieve an NPS control implementation program's stated purposes.

2. Eastern San Joaquin Agricultural Order Precedential Requirements

The California Regional Water Quality Control Board, Central Valley Region (CVWB) adopted WDRs for agricultural discharges in the eastern San Joaquin River watershed in 2012. The State Water Board reviewed the CVWB WDRs and subsequently adopted its own order modifying the CVWB-adopted WDRs in February 2018. The State Water Board Order (WQ 2018-0002) is referred to as the Eastern San Joaquin Order, or ESJ Order. The State Water Board designated portions of the ESJ Order as "precedential"

and directed the North Coast Water Boards to revise their irrigated lands regulatory programs within the next five years to be consistent with the precedential direction in the ESJ Order (CVWB 2019). Key elements of the ESJ Order deemed precedential are listed in Table III.1.

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Table III.1: Key ESJ Elements

Topic / Element	Precedential Language	Page No. in ESJ Order
Outreach	"The requirement for participation by all growers in outreach events shall be precedential for irrigated lands regulatory programs statewide."	28
Management Practice Reporting	"The requirement for submission by all growers of management practice implementation information shall be precedential for irrigated lands regulatory programs statewide…"	29
Field Level Management Practice Implementation Data	"The requirement to submit grower-specific field-level management practice implementation data to the North Coast Water Board shall be precedential statewide."	32
Field Level Data	Individual field-level data will support analyses to identify "effective and ineffective management practices."	32
Sediment and Erosion Control Practices	"The requirement for implementation of sediment and erosion control practices by growers with the potential to cause erosion and discharge sediment that may degrade surface waters shall be precedential for irrigated lands regulatory programs statewide…"	32
Irrigation Management	"The requirement for incorporation of irrigation management elements into nitrogen Management Planning shall be precedential for irrigated lands regulatory programs statewide."	35
Irrigation Management	"The requirement for all growers to submit summary data from the plans shall be precedential statewide."	36
Nitrogen Applied and Nitrogen Removed Reporting	"The requirement for field-level AR data submission to the North Coast Water Board consistent with the data sets and analysis of those data sets described in this section shall be precedential for irrigated lands regulatory programs statewide."	51

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Topic / Element	Precedential Language	Page No. in ESJ Order
Nitrogen Applied and Removed Reporting	"The requirement for calculation of annual and multi-year [nitrogen applied] A / [nitrogen removed] R ratio and A-R difference parameters for each grower by field shall be precedential for irrigated lands regulatory programs statewide…"	40
Removal Coefficients	"The requirement for use of coefficients for conversion of yield to nitrogen removed values shall be precedential for irrigated lands regulatory programs statewide."	42
AR Outlier Follow Up	"The requirement for the third party to follow up with and provide training for AR data outliers and for identification of repeated outliers as set out above shall be precedential for irrigated lands regulatory programs statewide…"	53
Exemption from Nutrient Management Requirements	"We recognize that there may be categories of uniquely-situated growers for whom the specific nitrogen management requirements made precedential in the following sections of this order are unnecessary because applied nitrogen is not expected to seep below the root zone in amounts that could impact groundwater and is further not expected to discharge to surface water. Any category of Members (such as growers of a particular crop or growers in a particular area) seeking to be exempted from the precedential nitrogen management requirements in the following sections of this order shall make a demonstration, for approval by the relevant North Coast Water Board, that nitrogen applied to the fields does not percolate below the root zone in an amount that could impact groundwater and does not migrate to surface water through discharges, including drainage, runoff, or sediment erosion. These criteria for determining categories of growers that may be exempted from the nitrogen management requirements shall also be precedential statewide."	34-35
Recordkeeping	"Recordkeeping requirement [for third-party programs to maintain required reports and records for ten years and to back up certain information in a secure offsite location managed by an independent entity]	53

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Topic / Element	Precedential Language	Page No. in ESJ Order
Drinking Water Well Sampling	"The requirement for on-farm drinking water supply well monitoring, in accordance with the provisions described above, shall be precedential for ILRP statewide."	62
Groundwater Trend Monitoring	"The requirement for groundwater quality trend monitoring shall be precedential for irrigated lands regulatory programs statewide…"	64
Groundwater Protection Formula, Values and Targets	"The development of the Groundwater Protection Formula, Values, and Targets shall be precedential for the third parties that proposed the methodology. Even if the programs do not require [groundwater quality monitoring plans], all of the North Coast Water Boards shall apply this methodology or a similar methodology, designed to determine targets for nitrogen loading within high priority townships or other geographic areas, for the remaining irrigated lands regulatory programs in the state." "The Groundwater Protection Formula, Values, and Targets are subject to Executive Officer approval following public review and comment."	66

3. Antidegradation Policy

The Anti-Degradation Policy (SWRCB Resolution No. 68-16) requires that the North Coast Water Boards maintain high quality waters of the state unless they determine that any authorized degradation is (1) consistent with maximum benefit to the people of the state, (2) will not unreasonably affect present and anticipated beneficial uses, and (3) will not result in water quality less than that prescribed in state and regional policies (SWRCB 1968). Authorized waste discharges to high quality waters must meet waste discharge requirements that result in the best practicable treatment or control of the discharge necessary to ensure nuisance or pollution will not occur and the highest water quality consistent with the maximum benefit to the people of the state will be maintained. The Lily Bulb Order must be consistent with the Anti-Degradation Policy.

5. Sediment TMDL Implementation Policy

The Sediment TDML Implementation Policy was adopted as an amendment to the Basin Plan and describes actions the North Coast Water Board shall take to address sediment waste discharges. The following are relevant to the Proposed Project:

1) Rely on the use of existing permitting and enforcement actions. These actions are consistent with the NPS Policy.

2) Rely on the use of existing prohibitions, including any future amendments.

6. Policy for the Implementation of the Water Quality Objectives for Temperature

The Temperature Implementation Policy was adopted as an amendment to the Basin Plan and describes actions the North Coast Water Board shall take to achieve temperature objectives and implement temperature TMDLs, including USEPA-established TMDLs. The following are relevant to the Proposed Project:

1) Restore and maintain riparian shade, as appropriate, through nonpoint source control programs.

2) Continue to implement the Sediment TMDL Implementation Policy as a means of addressing elevated water temperature associated with excess sediment discharges. Implement sediment controls consistent with the approach articulated in the Sediment TMDL Implementation Policy to address temperature concerns associated with sediment in areas not impaired by sediment.

3) Examine and address temperature impacts when developing and implementing orders or programs for nonpoint source activities. Consider and implement, where applicable, all available measures to prevent and control the elevation of water temperatures in order or program development. Such measures shall include, but are not limited to, sediment best management practices and cleanups, memoranda of understanding or agreement with other agencies, prohibitions against waste discharges, management of riparian areas to retain shade, and control and mitigation of tailwater and impoundments. Where appropriate, include monitoring requirements for incorporation into permits, programs, and other orders to confirm management actions required to prevent or reduce elevated temperatures are implemented and effective.

4) Address factors that contribute to elevated water temperatures when issuing CWA Section 401 certifications, National Pollutant Discharge Elimination System permits, WDRs, or waivers of WDRs, or prohibitions.

5) Use other regulatory, executive, and enforcement tools, as appropriate, to address elevated water temperatures and preserve existing cold-water resources.

6) Support and encourage restoration projects that are designed to eliminate, reduce, or mitigate existing sources of temperature impairments. Administer, encourage, and support the use of grant funds to facilitate projects that address elevated water temperature concerns. Pursue non-regulatory actions with organizations, landowners, and individuals to encourage the control of elevated water temperatures, watershed restoration, and protection activities.

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The Substitute Environmental Document[5] prepared for the Temperature Implementation Policy analyzed potential environmental impacts of the Policy. Impacts on Agricultural Resources include the potential conversion of Important Farmland to a non-agricultural use from riparian buffers which are considered compliance measures to preserve and maintain shade.

D. Project Location

The Proposed Project Area (See Figure 1) is located within the current and historic lily bulb farming areas of the Smith River Plain Hydrologic Subarea and includes the coastal terraces between Pyramid Point and the Oregon border. This document refers to the Proposed Project Area as the "Smith River Plain" which includes lily bulb cultivation areas and the lower coastal tributaries of the greater Smith River Watershed.

The Smith River Watershed encompasses 762 square miles in the northwest corner of California and southwest corner of Oregon with much of the watershed located in the Klamath and Siskiyou Mountains. The Smith River is the largest undammed river in California and provides high quality habitat for salmonids and other aquatic and riparian species. The Smith River Plain, site of the Proposed Project Area, is a low gradient coastal plain of about 63 square miles and is drained by the lower Smith River corridor, tributaries, estuarine sloughs, and estuary.

As of the 2024-2025 growing season, there are approximately 1,000 acres of land currently farmed for lily bulbs in the Smith River Plain (as shown in Figure 1) with the potential to discharge wastes to surface waters and groundwater and to affect related controllable water quality factors such as riparian shade. Cultivation of lily bulbs is typically part of a three to five-year rotation with grass-clover, which is used as grazing forage and for hay crops. The fields are used as forage for livestock for two to four years and for lily bulbs for one year. Some field preparations are done in the year prior to planting bulbs. Accounting for this crop rotation, about 160 acres are planted to lilies each year, with another 160 acres in a given year acres in a state of transition in preparation to receive the following year's plantings. This sub-set of fields that are planted to lily bulbs in any given year is represented by Figure 2, which shows the planted fields in 2023.

E. Existing Management Plans

The Smith River Plain Water Quality Management Plan (2021 Management Plan)[6], finalized in November 2021, was developed in response to water quality monitoring results indicating pesticide concentrations in surface waters draining agricultural lands,

[5] Staff Report Supporting the Policy for the Implementation of the Water Quality Objectives for Temperature and Action Plan to Address Temperature Impairment (https://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/140516_temp/140327_Temp_Policy_Staff_Report_ADOPTED.pdf).

[6] See Smith River Plain Water Quality Management Plan https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2021/smithmgmttplan.pdf

particularly lily bulb operations, exceeded U.S. Environmental Protection Agency (USEPA) aquatic life benchmarks. The North Coast Water Board initiated the plan following the Surface Water Ambient Monitoring Program (SWAMP) results presented in 2018, which documented elevated levels of pesticides such as copper, imidacloprid, diuron, permethrin, and tebuconazole in tributaries to the Smith River. Additional concerns included nitrate exceedances in groundwater and degraded riparian buffers with direct hydrologic connections from fields to surface waters. To address these issues, the North Coast Water Board, in collaboration with key stakeholders including lily bulb growers, NOAA Fisheries, California Department of Fish and Wildlife (CDFW), Tolowa Dee-ni' Nation, Smith River Alliance, Del Norte County Agricultural Commissioner, Del Norte Resource Conservation District (RCD), California Department of Pesticide Regulation (CDPR), and a researcher from Humboldt State University, formed the Watershed Stewardship Team. This Team is charged with collaboratively implementing the Plan through science-based adaptive management to restore and protect water quality in the Smith River Plain.

Under the 2021 Management Plan, all lily bulb growers agreed to voluntarily implement a suite of water quality management practices designed to reduce pesticide and nutrient runoff, erosion, and direct discharge of pollutants to surface waters. These practices fall into three general categories: source reduction, source control, and pollutant interception. Source reduction includes Integrated Pest Management (IPM) plans, selection of low-risk pesticides, pesticide sampling and analysis, pesticide mixing/loading setbacks, and timing applications considering weather forecasts to minimize runoff potential. Source control practices include soil amendments to bind pesticides, use of cover crops, contour farming, precision land forming to improve drainage, and maintenance of vegetated filter strips and riparian buffers. Pollutant interception involves practices such as field isolation—directing runoff onto pastures or filter strips—and installation of flow dissipaters and grade stabilization structures to reduce erosion.

Operation-wide practices, reported once annually, include IPM plans, pesticide application adjustments (e.g., nozzle pressure, droplet size), road erosion control, wellhead protection, irrigation water management, and compliance with pesticide regulations. Field-specific practices, reported per field each year, include filter strips, field size reduction, cover cropping, soil amendments, stream setbacks, riparian area support, and livestock management measures such as stream crossings and fencing to limit riparian access.

Growers self-monitor and report on the implementation and effectiveness of these practices through an annual reporting program. Reporting forms include documentation of fields under lily bulb production, operation-wide practices, field-specific practices, and certification of four required visual inspections per year: pre-wet season readiness, post-storm events (minimum two), and post-wet season assessments. The inspections target the functionality of management practices and streamside protections, with growers noting any needed maintenance or adjustments. North Coast Water Board staff conduct periodic on-farm inspections and review grower documentation to verify compliance and provide feedback.

Annual reports compile data on practice implementation across fields and operations. The North Coast Water Board compiles and publicly posts this aggregated data, including maps of field rotations and management practices, to track progress and spatial distribution of implemented practices.

Adaptive management is central to the stated goals of the 2021 Management Plan, allowing for iterative improvements based on monitoring results, reporting, and stakeholder input. From 2022-2024, the Watershed Stewardship Team met annually to evaluate water quality data, grower reports, and inspection findings.

Water quality monitoring under the 2021 Management Plan focused on twelve sites encompassing upstream and downstream locations relative to lily bulb cultivation areas. Monitoring parameters included pesticides prioritized through risk assessment (permethrin, ethoprop, diuron, imidacloprid, tebuconazole), dissolved copper (analyzed using the Biotic Ligand Model to account for site-specific bioavailability), and supporting field measurements (e.g., pH, temperature, dissolved oxygen). Monitoring occurred during the wet and dry season. A SWAMP Report for data collected under the 2021 Management Plan between 2021-2024 was released in September 2025. Findings and recommendations from the 2025 SWAMP Report[7] were used to develop adaptive management and monitoring requirements in the Lily Bulb Order.

F. Project Purpose and Objectives

The purpose of the Lily Bulb Order is to:

Objective #1 - Protect and restore beneficial uses and achieve water quality objectives specified in the Basin Plan for areas of the Smith River Plain Hydrologic Subarea planted to lily bulbs by:

1) Minimizing or preventing pesticide, nutrient, and sediment discharges surface water.

2) Minimizing or preventing nitrate and pesticide discharges to groundwater.

3) Minimizing or preventing temperature impacts to surface water from loss of riparian shade.

Objective #2 - Effectively track and quantify achievement of the stated objectives over a specific, defined time schedule.

Objective #3 - Comply with the State Nonpoint Source Policy, the State Antidegradation Policy, the precedential language in the Eastern San Joaquin Agricultural Order, the North Coast Basin Plan, and other relevant statutes and water quality plans and policies, including the Temperature Implementation Policy, and the Sediment TMDL

[7] 2025 SWAMP Report_Smith River Plain Surface Water Monitoring Report 2021-2024 https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2025/25_SWAMP_MR_SRPWM.pdf

Implementation Policy.

G. Summary of the Lily Bulb Order

The Proposed Project would involve adoption of the Lily Bulb Order, which would initiate the regulatory program and establish Waste Discharge Requirements (WDRs) for Commercial Lily Bulb Operations in the Smith River Plain Hydrologic Subarea. Refer to Attachment A for the proposed Draft Lily Bulb Order. Refer to Attachment B for a list of reasonably foreseeable Management Practices. Key elements of the Lily Bulb Order include the following:

1) Pesticide, Sediment and Erosion Management for Surface Water Protection,

2) Streamside Area Requirements for Surface Water Protection,

3) Irrigation and Nutrient Management for Groundwater Protection,

4) Monitoring and Reporting Requirements, and

5) Adaptive Management

1. Pesticide, Sediment and Erosion Management for Surface Water Protection

Enrollees would be required to implement Management Practices to prevent, minimize, or eliminate the discharge of sediment and pesticides to surface waters. The Lily Bulb Order includes minimum requirements to implement Management Practices necessary to prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads but does not mandate specific practices. Reasonably foreseeable Management Practices with the greatest potential for environmental impacts (i.e., those involving ground disturbance during construction or installation) include:

1) Runoff management features: This includes vegetated riparian buffers, filter strips, contour farming, vegetated treatment areas, and grassed swales. Construction/installation of these features may include light disking, use of a “no till” or grass drill for seeding the proposed vegetated area, soil amendments, and associated transport of materials and equipment. Minor excavation and off-haul of soils may be required for construction of swales. Maintenance of runoff management features may include general vegetation management (e.g., mowing, weeding, etc.)

2) Retention/Detention basins: This includes basins constructed from an embankment or excavation to capture and retain/detain stormwater runoff. Construction of basins requires use of heavy equipment, such as dozers, hydraulic excavators, trenchers, dump trucks, scrapers, etc. Engineered fill material may need to be imported to the site for construction of the embankment and/or excavated material may need to be hauled off from the site and disposed of at a landfill. Maintenance activities may include periodic inspections of the basin, removal of accumulated sediment, removal of debris/trash, replacement of damaged parts, and vegetation management.

Enrollees would be required to implement sediment and erosion control Management Practices on appurtenant farm roads generally consisting of drainage improvements. The reasonably foreseeable Management Practices with the greatest potential for environmental impacts (i.e., those involving ground disturbance during construction/installation) include the following:

1) Rolling Dips: Shallow, rounded dip in the road where road grade reverses for a short distance and surface runoff is directed in the dip or trough to the outside or inside of the road. Rolling dips are drainage structures used primarily on gravel surfaced, out-sloped roads designed to drain the road surface and constructed to remain effective while allowing passage of motor vehicles at normal or slightly reduced road speed.

2) Critical Dips: A dip in the roadbed at a culverted stream crossing, preferably at the down-road hinge line of the fill, that prevents stream diversion. The dip is designed to act as an overflow structure if the main culvert were to plug and ponded water overtopped the fill. Although somewhat like a rolling dip, it must have sufficient capacity (width and depth) to carry flood flows from the stream without itself overtopping and diverting down the road.

3) Out-sloping: converting an in-sloped road to an out-sloped road. Out-sloping can also refer to the act of excavating the fill along the outside of the road and placing and grading it against the cut-bank, thereby creating an out-sloped surface where the roadbed once existed. In road decommissioning, partial or full out-sloping (recontouring) are two methods for providing permanent drainage dispersal from the former roadbed.

2. Streamside Management Area for Surface Water Protection

Enrollees would be required to implement Streamside Management Area requirements including setbacks based on type of waterbody. Table III.2 includes setback requirements by water body type. Refer to Section II of the Draft Lily Bulb Order (Attachment A) for descriptions and definitions of each waterbody type. Requirements include allowing natural succession of riparian vegetation and possibly installing vegetative buffers.

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Table III.2: Streamside Area Minimum Horizontal Width (feet) as Measured from Waterside Edge of Vegetation

Streamside Area component	Perennial Stream	Ephemeral/ Intermittent Stream	Hydrologically Connected Undesignated Channel	Unfarmed Wetland	Hydrologically-Connected Lake, Pond, or On-Stream Reservoir
Riparian Vegetation Area	25	15	N/A	N/A	N/A
Vegetated Buffer	25	10	10	50	50
Total Streamside Area width	50	25	10	50	50

3. Irrigation and Nutrient Management for Groundwater Protection

Enrollees would be required to implement irrigation and nutrient Management Practices to minimize and control discharges of nitrate to groundwater. The Lily Bulb Order would not specify or prescribe specific Management Practices that enrollees must undertake to reduce discharges. Enrollees would have the flexibility to implement the Management Practices that are most suitable for their specific situation or otherwise choose how they would comply with discharge prohibitions of the Lily Bulb Order. General agricultural Management Practices implemented in other Regional Irrigated Lands Orders offer a good indication of the reasonably foreseeable types of irrigation and nitrogen efficiency practices that may be implemented under the Lily Bulb Order. These could include, but are not limited to micro-irrigation (e.g., drip), cover crops, use of soil moisture probe or evapotranspiration (ET) to schedule irrigation, foliar nitrogen application, fertigation, and petiole tissue testing. Enrollees would be required to prepare and implement an Irrigation and Nitrogen Management Plan (INMP) for each field which budgets all sources of nitrogen applied and removed during the growing season and harvest. INMP reporting drives adaptive management of irrigation and nutrient practices on the farm level by identifying statistical outliers of nitrogen application vs. removal. Enrollees designated as statistical outliers would be required to obtain nitrogen management training or work with a nitrogen Management Planning specialist for certification of their next INMP.

4. Monitoring and Reporting Requirements

Enrollees would be required to implement a comprehensive Monitoring and Reporting Program (MRP) individually or through an approved Coalition. The MRP includes: (1) annual surface and groundwater monitoring; (2) annual compliance reporting and (3)

water quality trend monitoring reporting every five years.

Receiving Surface Water Monitoring includes monitoring dissolved copper, pesticides, and other parameters downstream from lily bulb operations five times per Water Year (three wet season, two dry season), with adaptive management triggered by exceedances of specified benchmarks.

Groundwater monitoring includes: (1) Groundwater Trend Monitoring: annual sampling of representative monitoring wells for nitrate and pesticides to evaluate groundwater quality trends and detect exceedances; and (2) Drinking Water Supply Well Monitoring: annual sampling of all private drinking water wells located on enrolled parcels for nitrate and pesticides applied in the previous five years. Notification to well users is required if concentrations exceed Water Quality Benchmarks.

Enrollees would be required to report relevant Management Practices relating to sediment and erosion control, pesticide management, streamside area management, irrigation and nutrient management and adaptive management annually. Water quality monitoring results would be reported annually and evaluated every five years for trends. Management Practice and water quality monitoring reporting would be used to evaluate the impact of lily bulb practices on water quality conditions and inform regulatory decisions over time.

5. Adaptive Management

Enrollees would be required to implement adaptive management in response to exceedances of certain Water Quality Benchmarks established as narrative translations of applicable Basin Plan water quality objectives in the Lily Bulb Order. Specific actions or Management Practices are not prescribed; instead Enrollees would be required to implement iterative practices that fall into one or more of the following categories:

Adjust Pesticide Use: Enrollees may have to reduce or optimize pesticide application rates to meet performance standards protecting water quality.

Implement Treatment/Control Practices: This may include installing or improving stormwater runoff treatments such as vegetated buffers, retention basins, infiltration trenches, or other engineered controls designed by qualified professionals.

Implement Watercourse Setbacks: Enrollees may elect to implement a wider vegetated buffer from watercourses to attenuate pollutants. Because the Watercourse setbacks are one of three choices (i.e., Enrollees may choose an alternate Adaptive Management compliance option), this Draft EIR does not evaluate the impacts to Prime Farmland from this option, if implemented.

Develop Certified WQMPs: Enrollees may be required to prepare detailed, professional plans that include site-specific management practices, quantitative assessments, and schedules to reduce pollutant discharges effectively.

Conduct Edge-of-Field Monitoring: Enrollees may need to carry out monitoring at discharge points to verify management practice effectiveness and compliance with benchmarks.

Improve Irrigation and Nutrient Management: For groundwater nitrate issues, Enrollees must optimize irrigation and nitrogen application to reduce leaching, attend relevant outreach, and possibly implement additional management practices as described in certified plans.

The reasonably foreseeable Management Practices with the greatest potential for environmental impacts (i.e., those involving ground disturbance during construction/installation) include practices identified for sediment and erosion control as well as the following:

1) Treatment Systems for capturing and treating pollutant-laden storm runoff could include the construction of stormwater capture basins which are typically are constructed to retain runoff for a sufficient length of time to allow the treatment system to be effective. Heavy equipment is required for construction of such basins, such as dozers, hydraulic excavators, trenchers, dump trucks, scrapers, etc. Engineered fill material may need to be imported to the site for construction of the embankment, and/or excavated material may need to be hauled off from the site and disposed of at a landfill. Maintenance activities include periodic inspections of the basin, removal of accumulated sediment, debris/trash removal, replacement of damaged parts, and vegetation management.

H. Activities that Could Occur Under the Lily Bulb Order

A wide array of Management Practices could be implemented under the Lily Bulb Order to prevent and minimize nonpoint source impacts from Commercial Lily Bulb Operations in the Smith River Plain. Management Practices that could be implemented are listed in Attachment B: Management Practices and are based on review of Management Practices implemented through existing regulatory and voluntary programs in these watersheds.

I. Intended Use of this EIR

The North Coast Water Board will use this EIR to inform its decision as to whether to adopt and implement the Proposed Project (Lily Bulb Order) requirements. In addition, the EIR may be used by other agencies to support their issuance of permits or approvals in relationship to activities conducted pursuant to Lily Bulb Order compliance. Agencies that may use this EIR include, but are not limited to, the following:

1) County of Del Norte

2) California Air Resources Board

3) California Department of Fish and Wildlife

4) California Department of Forestry and Fire Protection

5) California Department of Pesticide Regulation

6) California Office of Historic Preservation

7) California State Lands Commission

8) State Water Resources Control Board

9) U.S. Army Corps of Engineers

10) National Marine Fisheries Service

11) California Coastal Commission

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IV. Environmental Analysis

This Draft EIR presents the North Coast Water Board's analysis of potential impacts on the physical environment that may result from adoption and implementation of the Proposed Project. Project impacts are related to the potential environmental impacts resulting from actions that Enrollees are expected to take to comply with the Lily Bulb Order.

The Lily Bulb Order would require actions to minimize or prevent control water quality impacts from Lily bulb operations in the Smith River Plain Hydrologic Subarea. Such actions may include the implementation of the following:

1) Pesticide, Sediment and Erosion Management for Surface Water Protection,

2) Streamside Area Requirements for Surface Water Protection,

3) Irrigation and Nutrient Management for Groundwater Protection,

4) Monitoring and Reporting Requirements, and

5) Adaptive Management

The Draft EIR also identifies potential mitigations that could feasibly be implemented to alleviate, minimize, or avoid any significant environmental impacts.

A. Scope of Analysis

This section provides introductory information related to the evaluation of environmental impacts associated with the California Regional Water Quality Control Board, North Coast Region's General Waste Discharge Requirements for Discharges from Commercial Lily Bulb Operations in the Smith River Plain (Proposed Project or "Lily Bulb Order"). It describes the overall approach to the impact analyses, including key terminology and a description of how the significance of environmental impacts is evaluated. It also discusses resource topics eliminated from detailed analysis in the Draft EIR. Subsequent sections in this chapter describe and evaluate potential impacts to environmental resources from the Proposed Project.

1. Introduction to the Resource Sections

Chapters V through VIII are topical sections that describe the environmental resources and potential environmental impacts of the Proposed Project. Each Chapter contains the following information about each respective resource topic:

- A description of the regulatory setting related to the resource topic.

- A description of the environmental setting and background information related to the resource topic, to help the reader understand the resources that could be affected by the Proposed Project.

- A discussion of the thresholds used in determining the significance of the Proposed Project's potential environmental impacts.

- A discussion of the potential environmental impacts of the Proposed Project on the resource, including the significance of each potential impact.

- A description of any mitigation measures to be adopted by the North Coast Water Board that would avoid or minimize impacts.

2. Significance of Environmental Impacts

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) define a threshold of significance for each impact that may occur on the physical environment. A threshold of significance, or significance criterion, is an identifiable quantity, quality, or performance level of a particular environmental effect. In general, potential impacts are identified as either significant (i.e., above threshold) or less than significant (i.e., below threshold).

Under CEQA, the impacts of a proposed project are assessed relative to the environmental baseline, which is defined as the existing physical conditions in the affected area as they existed at the time the notice of preparation (NOP) was published (Cal. Code Regs., tit.14, section 15126.2 (a)). Impacts of a proposed project are limited to changes in the baseline physical conditions of the environment (State CEQA Guidelines Section 15125[a]) that would result directly, indirectly, or cumulatively from the proposed project. CEQA does not require the lead agency to consider impacts that are speculative (State CEQA Guidelines Section 15145).

For the purposes of this Draft EIR, significance criteria are generally drawn from the State CEQA Guidelines, Appendix G: Environmental Checklist Form. The State CEQA Guidelines including Appendix G were updated in January 2022, which was subsequent to the publication of the NOP (August 2022). This Draft EIR uses the updated Appendix G criteria adopted in January 2022.

3. Environmental Baseline of Analysis

Lily bulb operations in the North Coast Region are not currently covered by an Irrigated Lands Regulatory Program or GWDRs. However, a voluntary program has been implemented by all lily bulb growers in the Smith River Plain. The Smith River Plain Water Quality Management Plan (2021 Management Plan), finalized in November 2021, was developed by the North Coast Water Board in collaboration with agricultural producers and resource agencies to address water quality impacts associated with commercial lily bulb cultivation.

Under the 2021 Management Plan, lily bulb growers voluntarily implement a suite of management practices to minimize the discharge of pesticides, nutrients, and sediment to surface waters. Practices are grouped into three main categories:

- **Source Reduction**, including Integrated Pest Management (IPM) planning, selection of low-risk pesticides, weather-based application timing, mixing and loading setbacks, and pesticide sampling and analysis.

- **Source Control**, such as soil amendments to bind pesticides, contour farming, precision land forming, use of cover crops, and maintenance of vegetated filter strips and riparian buffers.

- **Pollutant Interception**, including directing runoff onto pastures or filter strips, and installing flow dissipaters or grade stabilization structures to reduce erosion.

Operation-wide measures, reported annually, include IPM documentation, irrigation and nutrient management, road erosion control, and wellhead protection. Field-specific measures, reported by parcel, include filter strips, cover cropping, soil amendments, livestock exclusion fencing, and riparian buffer maintenance. Growers self-monitor through four required visual inspections each year—pre-wet season, post-storm events, and post-wet season—and document maintenance and corrective actions as needed.

The impact analysis in this Draft EIR focuses on the increment of change that would result from implementation of the Lily Bulb Order, considering both ongoing and new compliance activities. For example, the extent to which the Lily Bulb Order may require lily bulb operations to implement additional Management Practices, which could result in environmental impacts through their implementation, and therefore could result in new environmental impacts as a result of the Proposed Project. Any ongoing environmental effects associated with voluntary actions through the 2021 Management Plan are considered part of the baseline.

While the NOP was issued in October 10, 2024, the environmental analysis for the Proposed Project is considered to have commenced in summer 2024. Therefore, the baseline for this Draft EIR analysis is the physical environmental conditions that existed in summer 2024. In some cases, more or less recent data or information is used in this Draft EIR, as appropriate and based on data availability. As an example, it is appropriate to use a larger period of time for water quality data to account for seasonality and the dynamic nature of environmental data rather than one day. The baseline may differ for each resource topic and is described in the “Environmental Setting” section within each topical resource section.

B. Identifying Impact Significance

The analysis first determines the extent to which each of the resources could be affected by the Lily Bulb Order. The analysis then applies a set of specific significance criteria (Thresholds of Significance) based on the CEQA Guidelines Appendix G Environmental Checklist Form. The “threshold of significance” for a given environmental effect is that level at which the lead agency finds effects of the project to be significant. The threshold can be defined as a quantitative or qualitative standard, or a set of criteria, pursuant to which the significance of a given environmental effect may be determined.

The range of potential impacts is as follows:

> No Impact – where the Lily Bulb Order is not expected to create a physical adverse change in the environment or the project would result in only a beneficial impact.
>
> Less-Than-Significant Impact – where the Lily Bulb Order would not create a substantial adverse change in the environment and for which no mitigation measures are required.
>
> Less than Significant Impact with Mitigation Incorporated– where the Lily Bulb Order is anticipated to create a substantial adverse effect on the environment but feasible mitigation measures are available to reduce it to a less- than-significant level.
>
> Potentially Significant Impact – where the Lily Bulb Order is expected to create a substantial adverse effect on the environment and for which there are no feasible mitigation measures available to reduce it to a less-than-significant level.

Because the Lily Bulb Order would apply to both existing lily bulb operations as well as new lily bulb operations that might in the future enroll for coverage under the Lily Bulb Order, this EIR also assesses the impacts that would occur from a new operation's compliance with the Lily Bulb Order.

C. Impacts Determined to be Less Than Significant

On October 10, 2024, The North Coast Water Board transmitted an NOP, which included an attached Initial Study to public agencies and persons with potential interest in the project available at: (https://ceqanet.lci.ca.gov/2024100484). The Initial Study identified impacts that were determined to be less than significant including all impacts to: Aesthetics, Air Quality, Biological Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation, Utilities and Service Systems, and Wildfire..

During the CEQA Scoping period and in subsequent outreach, California Department of Fish and Wildlife and the California Coastal Commission identified potentially significant impacts to Biological Resources related to the construction of reasonably foreseeable management practices. This Draft EIR describes changes to the Proposed Project and additional analysis which reduced impacts to Biological Resources to Less than Significant or Less than Significant with Mitigation.

Accordingly, the above resource topics, except for Biological Resources, are not discussed in detail within this Draft EIR.

D. Mitigation Measures

Where significant adverse impacts are identified for the Lily Bulb Order, the EIR must

“describe feasible measures which could minimize” those impacts to a less-than-significant level (Cal Code Regs., tit.14, section, 15126.4). For each significant impact, mitigation measures are identified. In some cases, the EIR includes a list of alternative mitigation measures, which could reduce the impact to a less-than- significant level, or contribute to doing so. Where multiple measures are required to reduce an impact to a less-than-significant level, the discussion clearly identifies which combination or permutation of measures would be necessary to achieve the appropriate level of mitigation.

Where measures are available that can reduce the magnitude of a potential significant impact of the Lily Bulb Order, but not to a less-than significant level, these are also identified. The EIR strives not to include measures that are clearly infeasible. Under CEQA, “feasible means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors” Cal Code Regs., tit.14, Section 15364).

If, even with imposition of mitigation measures, the project will generate unavoidable significant effects, the North Coast Water Board can only approve the project if it makes a written Statement of Overriding Considerations and finds that benefits of the project outweigh the occurrence of those unavoidable effects (Cal Code Regs., tit.14, Sections 15092,15093).

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V. Agriculture and Forestry Resources

This section presents the regulatory and environmental settings, and an overview of potential impacts of the Proposed Project related to agricultural and forestry resources. This section focuses on potential impacts to agricultural and forestry resources related to the CEQA Appendix G significance criteria, which includes potential for direct conversion of agricultural lands to non-agricultural use due to Proposed Project activities, conflicts with existing zoning for agricultural use or Williamson Act contracts, or changes to the environment that could result in conversion of agricultural use.

A. Regulatory Setting

1. Federal Laws, Ordinances, Regulations, and Policies

No federal laws, regulations, policies, or programs are applicable to agriculture and forestry resources and the Proposed Project.

2. State Laws, Ordinances, Regulations, and Policies

To evaluate effects to agricultural resources, PRC 21060.1 provides the following definition of "agricultural land":

> "(a) 'Agricultural land' means prime farmland, farmland of statewide importance, or unique farmland, as defined by the United State Department of Agriculture land inventory and monitoring criteria, as modified for California.
>
> (b) In those areas of the state where lands have not been surveyed for the classifications specified in subdivision (a), 'agricultural land' means land that meets the requirements of 'prime agricultural land' as defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code."

Gov't Code 51201(c)(1)-(4) in turn defines "prime agricultural land" as follows:

> (1) All land that qualifies for rating as class I or class II in the Natural Resource Conservation Service land use capability classifications.
>
> (2) Land which qualifies for rating 80 through 100 in the Storie Index Rating.
>
> (3) Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture.
>
> (4) Land planted with fruit- or nut-bearing trees, vines, bushes, or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than two hundred dollars ($200) per acre.

a. Farmland Mapping and Monitoring Program

The California Department of Conservation (CDOC), Division of Land Resource Protection, established the Farmland Mapping and Monitoring Program (FMMP) in 1982 to provide a consistent analysis of agricultural land use and land use changes throughout California (CDOC, DLRP, No Date(a)).

Land defined as Agricultural Land (collectively Important Farmland) (Public Resources Code, Section 21060.1(a)) is mapped as one of the following three categories, with the FMMP mapping a fourth category for land of local importance for the purposes of CEQA analysis (CDOC, DLRP, No Date(b)).

1. **Prime Farmland.** Farmland that has the best combination of physical and chemical features to sustain long term agricultural production. This land has the soil quality, growing season, and moisture content needed to sustain high yields and long-term agricultural production. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

2. **Farmland of Statewide Importance.** Farmland that is similar to Prime Farmland but has minor shortcomings, such as greater slopes or lower moisture content. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

3. **Unique Farmland.** Farmland with lesser quality soils but still used for the production of the state's leading agricultural crops. This land is usually irrigated but may include land that supports non-irrigated orchards or lily bulb operations, as found in some climatic zones in California. The land must have been used for crop production at some time during the four years prior to the mapping date.

4. **Farmland of Local Importance.** Land that is important to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.

Del Norte County does not participate in the FMMP mapping program, so the classification of the above categories are not available to be used for the purposes of this Draft EIR's analysis. See below discussion on the analysis of 'prime farmland' through the Del Norte County General Plan, consistent with the above statutory definitions.

b. Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, typically referred to as the Williamson Act (Gov. Code Sections 51200–51297.4), enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. Landowners participating in these contracts receive a 30 percent reduction in property tax assessments because they are based upon farming and open space uses rather than full market value.

In 1998, an option was added in the Williamson Act Program to create Farmland

Security Zones, which are areas within an agricultural preserve that offer private landowners a greater property tax reduction than the regular Williamson Act assessment. The Farmland Security Zone option was passed by California legislature to guarantee long-term preservation of farmland throughout the State. A board, on behalf of a landowner currently under a Williamson Act contract, may apply for Farmland Security Zone status by entering into a contract with a city or county. The Farmland Security Zone classifications renew annually for a minimum 20-year period. In return for an additional 35 percent reduction in the taxable value of the land and improvements (in addition to Williamson Act tax benefits), the owner of the property agrees not to convert the property to non-agricultural uses (Gov't Code Sections 51200–51297.4).

Del Norte County does not offer Williamson Act contracts. However, as noted above, Del Norte County designates "prime agricultural lands" through its General Plan and zoning, so impacts from the Proposed Project that "conflict with existing zoning for agricultural use or Williamson Act contracts" are analyzed through the Del Norte County agricultural zoning.

3. Local Laws, Ordinances, Regulations, and Policies

a. Del Norte County General Plan

General plans are long-range comprehensive plans developed for cities and counties to govern growth and development. Many county General Plans include goals and policies to preserve agricultural land and forest resources through a variety of mechanisms, such as creation of urban growth boundaries, designation of agricultural overlay zones, requirement of buffers between agricultural and other uses, and mitigation fees for conversion of agricultural land associated with development.

Del Norte County's General Plan emphasizes the protection and promotion of agricultural lands, especially prime agricultural lands of 20 acres or more. The County supports conservation easements, a right-to-farm ordinance protecting agricultural operators from nuisance complaints, and discourages conversion of prime agricultural lands except under specific conditions aligned with the Coastal Act. Relevant goals, objectives, and policies of the Del Norte County General Plan are included as Attachment C.

Del Norte County does not participate in the FMMP mapping program and does not offer Williamson Act contracts. The Del Norte County General Plan policies relevant to the analysis in this Draft EIR define 'prime farmland" in the following ways:

> 1.G.1. The County defines prime agricultural lands as those which meet both of the following criteria:
>
> > a. Land of high agricultural value: Lands "actively used" (lands may be considered "actively used" even though they lie idle for up to ten years) for agricultural production such as nursery crops, pasture crops, dairy products, and/or livestock, or; Lands which qualify for rating 80 through 100 in the Storie Index.

b. A minimum of 20 acres in contiguous ownership.

Del Norte County incorporates land use capability classifications (e.g., “prime farmland” through the zoning categories Agricultural Exclusion [AE], Agriculture [A], Agriculture-5 [A-5] and Agriculture-20 [A-20]. For the purposes of analysis with respect to “prime farmland,” these classifications were used. See Figure 3 for Del Norte County “prime agricultural land” zoning categories in the Project Area.

Del Norte County's General Plan strongly supports conserving commercial timberlands through the TPZ program, maintaining minimum parcel sizes (20 acres), and requiring buffers to prevent conflicts with other uses. It encourages multiple-use forest management, cooperative relationships with National Forests, and controlled timberland conversion tied to approved development. The plan seeks to protect timber resources economically and environmentally while minimizing land use conflicts. The Proposed Project is not expected to impact timber lands or forestry resources due to the location of the Proposed Project Area in relation to zoned TPZ lands. However, relevant goals, objectives, and policies of the Del Norte County General Plan are included in Attachment C.

b. Del Norte County Local Coastal Program

The Del Norte County Local Coastal Program (LCP) designates setbacks and protective measures for riparian corridors, wetlands, estuaries, and other environmentally sensitive habitat areas (ESHAs) to maintain biological productivity, water quality, and habitat functions.

The LCP policies require maintenance of riparian vegetation buffers along streams and waterways, generally recommending a minimum buffer of 100 feet from wetlands and riparian habitat, with flexibility for smaller buffers only when no adverse effects occur and in consultation with the California Department of Fish and Game (Policy 1.E.21) Development within these areas must incorporate feasible mitigation measures to minimize impacts such as sedimentation, increased runoff, and vegetation loss (Policies 1.C.3, 1.E.29, and 1.E.30).

Furthermore, the LCP restricts activities such as mining, diking, filling, or dredging within estuaries and riparian corridors unless consistent with the Coastal Act and accompanied by mitigation (Policies 1.A.15, 1.E.19, 1.E.23). The Resource Conservation Area zoning imposes additional limitations on land use to protect these habitats, generally prohibiting new residential construction and emphasizing conservation-oriented uses.

Overall, the setbacks from riparian areas, wetlands and other ESHAs under the Local Coastal Program reinforce protections for streamside and riparian habitats but may also constrain agricultural and forestry resource uses adjacent to these water bodies. Relevant goals, objectives, and policies of the Del Norte County LCP are included in Attachment C.

B. Environmental Setting

1. Lily Bulb Baseline Cultivation Area

For purposes of environmental baseline, which was set as of summer 2024, the lily bulb cultivation area in the Smith River Plain is located primarily north of the Smith River, generally west and south of Highway 101, with a few isolated fields on the coastal terrace between Pyramid Point and the Oregon border (see Figure 4, Baseline Cultivation Area). Historical lily bulb production extended south of the Smith River within the broader Proposed Project Area (see Figure 1).

Lily bulb cultivation typically occurs within a three- to five-year crop rotation, in which fields are used for forage or livestock for two to four years and planted to lily bulbs for approximately one year. Consistent with this rotation, growers reported that approximately 1,000 acres were in rotation for lily bulb production as of the 2023–2024 growing season, with approximately 160 acres planted to lily bulbs in 2023-2024 (see Figure 2). As of 2025, growers reported that the overall lily bulb rotational footprint has declined, including fields in the Ritmer Creek and Smith River Ranch areas that have reportedly come out of production since they were reported under the 2021 Management Plan.

The entirety of a parcel may not be planted in lily bulbs, contributing to a difference between acres planted to lily bulbs and the total acreage of parcels planted with lily bulbs. Over the 2021 Management Plan reporting period (2019–2024), growers reported approximately 2,113.12 unique parcel acres as being in rotation for lily bulb cultivation. Over the same period, Pesticide Use Reporting (PUR) through the Del Norte County Department of Agriculture records 2,280.78 parcel acres in lily bulb agriculture.

In many cases, the existing field-level footprint of lily bulb cultivation already meets the Streamside Area setback requirements proposed in the Draft Lily Bulb Order through voluntary compliance with the 2021 Management Plan, which promotes management practices such as vegetated filter strips and riparian buffers to reduce the discharge of sediment, nutrients, and pesticides to adjacent surface waters. Partially as a result of these voluntary practices, the widespread presence of invasive Himalayan blackberry along riparian corridors has resulted in vegetated areas between cultivated fields and surface waters.

Agricultural zoning categories (hereafter Prime Farmland) within the Proposed Project Area are shown on Figure 3 and are generally constrained to the same coastal alluvial plain areas as the current and historic lily bulb farming areas.

2. Prime Farmland

The Proposed Project Area contains approximately 7,473 acres of Prime Farmland (defined for the purposes of this Draft EIR as areas zoned AE, A, A-5, or A-20) with around 1000 acres (or ~13% of total prime farmland) in rotation to cultivate lily bulbs and 160 acres of lily bulbs planted as of 2024 (see Figure 3). As noted above, as of summer 2024, the entirety of lily bulb farming occurs north of the Smith River within the

Project Area. The analysis in this Draft EIR calculates the impacts to the above noted Baseline Cultivation Area as well as the theoretical impact of the Proposed Project on all Prime Farmland within the Project Area. As such, it should be noted that the total impact to Agriculture and Forestry Resources (analyzed within the Baseline Cultivation Area and all Prime Farmland in the Project Area) will overestimate the direct impact to the estimated 160 acres of planted lily bulbs in 2024, and the estimated 160 acres of planted lily bulbs in 2025.

3. Forestry Resources

Forestry resources are located throughout the Del Norte County, however, there are typically limited forestry resources within the Proposed Project Area. Forest lands do not typically contain planted lily bulbs and would not be subject to the Lily Bulb Order. Any potential development of these lands would be required to go through a separate CEQA analysis with another state agency or local jurisdiction acting as the Lead Agency.

C. Impact Analysis

1. Impact Analysis Methods

The analysis of potential effects of the Proposed Project on Agricultural and Forestry Resources was quantitative in nature. Because the Proposed Project includes defined Streamside Area setback requirements, North Coast Water Board staff conducted a spatial analysis to estimate the extent of Prime Farmland within the Project Area that could be removed from lily bulb agricultural production as a result of implementing those requirements.

Although this Draft EIR evaluates impacts to all prime farmland regardless of whether it is currently used for lily bulb production, the Proposed Project applies specifically to commercial lily bulb operations. Accordingly, the North Coast Water Board separately evaluated lands that have been reported to be used for lily bulb cultivation over the past five years (Baseline Cultivation Area) to characterize the maximum potential impact on the existing farming activity. Therefore, the Agriculture and Forestry Resources analysis considers potential acres that could be removed from agricultural production in both (1) lands used for lily bulb cultivation within the past five years (hereafter, the Baseline Cultivation Area as shown in Figure 4), and (2) all agricultural lands potentially available for future cultivation under existing zoning and land use designations (hereafter the Potential Cultivation Areas shown in Figure 3).

Analytical Assumptions and Conservative Approach

The quantitative analysis was intentionally designed to be conservative in order to capture the maximum potential extent of impacts. As described in the Environmental Setting, the Baseline Cultivation Area used in the analysis exceeds the actual rotational footprint of lily bulb cultivation reported between 2019 and 2024. This Draft EIR does not adjust the Baseline Cultivation Area to reflect reductions in lily bulb farming areas (e.g., removal of fields in Ritmer Creek or the Smith River Ranch area) reported since summer 2024, nor does it rely on annual “planted acres” to evaluate agricultural impacts

under the Proposed Project. Instead, the analysis is intentionally conservative and is designed to characterize the maximum potential impact to agricultural lands. The analysis treats the entirety of each parcel within the Baseline Cultivation Area as potentially available for lily bulb cultivation, subtracting the proposed Streamside Area geometry. This means that entire acreage of each parcel within the Baseline Cultivation Area was analyzed, even though smaller portions within each parcel may actually be planted and some parcels within the Baseline Cultivation Area may have been removed from lily bulb production as of 2025. As a result, the estimates of potential acreage converted to a non-agricultural use in the Baseline Cultivation Area (Figure 4) may be overestimated. Similarly, the Potential Cultivation Areas (Figure 3) may also be overestimated, as the analysis assumes that all agriculturally-zoned lands within the Project Area could theoretically support lily bulb cultivation, without accounting for site-specific conditions or suitability.

The Streamside Area requirements under the Draft Lily Bulb Order consist of a Riparian Vegetation Area, where native vegetation must be allowed to naturally establish, and a Vegetated Buffer, which requires maintenance of at least 90 percent ground cover between November 1-May 1. Although certain agricultural activities would be allowed within the Vegetated Buffer (such as equipment turn-around and discing, mowing, or other cultivation activities between May 1-October 31), the analysis conservatively assumed that the full Streamside Area geometry would be unavailable for planting and cultivation of the crop. This assumption reflects the wet-season ground cover requirements and ensures that the estimated impacts represent the maximum potential acreage that could be removed from production.

It is further noted that existing fields in certain watersheds may already meet or exceed portions of the Streamside Area geometry due to field configuration or established riparian vegetation. Depending on row orientation, many lily bulb headlands currently meet proposed Vegetated Buffer geometry, and extensive Himalayan blackberry growth along stream corridors—particularly in the Delilah, Ritmer, and Tillas Creek watersheds—has resulted in de facto riparian vegetation zones in many locations due to voluntary compliance with the 2021 Management Plan. However, these existing conditions were not credited in the analysis to avoid underestimating potential impacts.

Table V.1 summarizes the Streamside Area widths applied in the analysis.

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Table V.1: Streamside Area Minimum Horizontal Width (feet) as Measured from Waterside Edge of Vegetation

Streamside Area component	Perennial Stream	Ephemeral/ Intermittent Stream	Hydrologically Connected Undesignated Channel	Unfarmed Wetland	Hydrologically-Connected Lake, Pond, or On-Stream Reservoir
Riparian Vegetation Area	25	15	N/A	N/A	N/A
Vegetated Buffer	25	10	10	50	50
Total Streamside Area width	50	25	10	50	50

Baseline Cultivation Area

The quantitative analysis of impacts to the Baseline Cultivation Area in Figure 4 utilized field information that the lily bulb growers reported to the North Coast Water Board through the voluntary Smith River Plain Water Quality Management Plan (2021 Management Plan). All fields reported between 2019-2024 were mapped. This information was supplemented with spatial data maintained by the Del Norte County Department of Agriculture identifying lily bulb fields reported through the Pesticide Use Reporting program between 2019-2024. Lily growers reported approximately 2,113.12 unique parcel acres as being in rotation for lily bulb cultivation through the 2021 Management Plan. Over the same period, the PUR spatial dataset identified 2,280.78 parcel acres reported as lily bulb agriculture. The North Coast Water Board integrated these datasets to create a composite spatial layer (see Figure 4). For purposes of this Draft EIR, the area shown in Figure 4 is referred to as the Baseline Cultivation Area and it represents the maximum mapped footprint of parcels used for lily bulb production between 2019-2024.

Watercourse widths within the Baseline Cultivation Area were characterized using field observations and measurements collected during surface water monitoring conducted under multiple Surface Water Ambient Monitoring Program (SWAMP) studies between 2013 and 2021. Channel width data for principal tributaries within the Project Area were obtained from the California Environmental Data Exchange Network (CEDEN) and averaged across upstream and downstream monitoring locations to establish representative channel dimensions. All principal tributaries within the lily bulb cultivation area (e.g., Tillas Slough, East Tillas Slough, Ritmer Creek, Delilah Creek, Rowdy Creek,

Morrison Creek, Mello Creek, and Kamph Creek) were analyzed using the perennial Streamside Area width (50 ft.).

Although many lily bulb fields within the Baseline Cultivation Area may already meet Streamside Area requirements due to voluntary implementation of the 2021 Management Plan or existing riparian vegetation, the analysis assumes that all Streamside Area setback zones intersecting the Baseline Cultivation Area could be actively farmed in the absence of regulatory requirements. This approach reflects the voluntary nature of the 2021 Management Plan and ensures that estimated impacts represent the maximum potential acreage that could be potentially removed from production under the Proposed Project. The estimated Baseline Cultivation Area acreage intersecting Streamside Area setbacks is presented in Table V.1.

Potential Cultivation Areas

This Draft EIR also evaluates all agricultural lands within the Proposed Project Area that could potentially be farmed in the future under existing land use regulations. While lily bulb growers have reported a decreasing trend in acres planted to lily bulbs through 2021 Management Plan reporting, the analysis conservatively evaluates potential impacts to lands designated by Del Norte County as “prime farmlands” through its General Plan.

To identify agricultural lands potentially suitable for future lily bulb cultivation, the analysis relied on the Del Norte County Coastal Zoning spatial dataset to identify parcels zoned for agricultural use. Because Del Norte County does not designate Prime Farmland categories through the California Department of Conservation’s Farmland Mapping and Monitoring Program, agricultural zoning categories AE, A, A-5, and A-20 were used as a proxy for Prime Farmland (see Figure 3).

Watercourse classifications used in this portion of the analysis were derived from the National Hydrography Dataset (NHD) to identify perennial and ephemeral/intermittent streams. Additional hydrology datasets maintained by the North Coast Water Board were used to identify hydrologically-connected undesignated channels and other drainage features. The resulting estimate of Prime Farmland intersecting Streamside Area setbacks is also presented in Table V.1.

Table V.1 presents acres intersecting the Riparian Vegetation Area (no agricultural activities allowed) and the total Streamside Area, which includes a Vegetated Buffer area allowing limited agricultural activities, as described in further detail in the Impacts Analysis portion of this Chapter.

Table V.1. Baseline Cultivation Area and Prime Farmland intersecting Streamside Area Setbacks (Riparian Vegetation Area and total Streamside Area)

Agricultural Resource	Total Acres	Acres Intersecting Riparian Vegetation Area	Acres Intersecting Total Streamside Area
Baseline Cultivation Area	2,113.12	11.48 (0.54% of total)	28.05 (1.33% of total)
Potential Cultivation Area (Prime Farmland)	7,473.24	69.90 (0.94% of total)	132.50 (1.77% of total)

2. Thresholds of Significance

For the purposes of this analysis, based on Appendix G of the CEQA Guidelines, the Proposed Project would result in a significant impact if it would:

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural uses.

2) Conflict with existing zoning for agricultural use, or a Williamson Act contract.

3) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

4) Result in the loss of forest land or conversion of forest land to non-forest use.

5) Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

3. Impacts and Mitigation Measures

Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use. (*Significant and Unavoidable*)

Conversion Due to Streamside Management Area Setback Requirements

As shown in Table V.1 above, and described in Attachment A, the Lily Bulb Order would require lily bulb operations to implement Streamside Area setbacks from planted

areas (including lily bulb fields and perimeter farm roads) based on the type of waterbody. Implementing setback requirements under the Lily Bulb Order may result in conversion of Prime Farmland as defined by the Del Norte County General Plan to non-agricultural use. Around 28 acres of the Baseline Cultivation Area and 132 acres of Potential Cultivation Areas in the Project Area could potentially be converted to non-agricultural uses (e.g., riparian vegetation and vegetated buffer) due to the Streamside Area requirements. This equates to a potential conversion of around one percent of the Baseline Cultivation Area and less than two percent of the Potential Cultivation Area to non-agricultural uses.

The majority of agricultural land conversion would occur to allow natural succession of riparian vegetation to provide shade, reduce discharges of sediment and nutrients to surface waters, and reduce stream bank erosion. While Prime Farmland could be taken out of production under the Lily Bulb Order due to the Streamside Area setback requirements, it is important to note that it would be converted to riparian vegetation (which is generally considered beneficial for water quality and the ecosystem) and not urban land uses.

Through Resolution No. R1-2014-0006 Amending the Water Quality Control Plan for the North Coast Region to include the Policy for the Implementation of the Water Quality Objectives for Temperature, and Action Plans to Address Temperature Impairments in the Mattole, Navarro, and Eel River Watersheds, the North Coast Water Board made CEQA findings under California Code of Regulations, title 14, section 15091 (a)(3) that certain compliance measures such as riparian buffers as having a potentially significant and unavoidable impact on agricultural resources from conversion of Important Farmland to a non-agricultural use and/or a conflict with Williamson Act contracts, and adopted a statement of overriding considerations pursuant to California Code of Regulations, title 14, section 15093.

The North Coast Water Board considered alternative methods for reducing potentially significant impacts associated with the setback requirements, including the No Project alternative and the Reduced Streamside Area Setback alternative (the Alternatives Analysis Chapter). The Reduced Setback Alternative (50 percent reduction in setbacks) would reduce but not eliminate the environmental impact to Agricultural Resources, but it would not achieve some of the Proposed Project's water quality protections. The Reduced Setback Alternative would not achieve the same level of reductions in sediment discharges and temperature impacts compared to the Proposed Project and would not fully comply with Riparian Management provisions of the North Coast Water Board's Policy for the Implementation of the Water Quality Objectives for Temperature (Temperature Implementation Policy) to implement site-specific potential effective shade.

Site-specific potential effective shade is equal to the shade provided by topography and full potential vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire. The establishment of riparian buffers for temperature protection is an effective and important management measure for the control of some types of sediment discharges. Maintenance of a vegetated buffer

provides a control on the discharge of sediment mobilized by surface erosion. Also, the retention of mature trees (and their roots) along a stream bank provides bank stability, reducing the discharge of sediment associated with stream bank landslides and debris flows. Maintenance of a vegetated buffer along streams also can ensure a supply of large woody debris to the stream channel, which is critical for metering of sediment, channel forming processes, and fish habitat.

An Offsite Restoration Alternative is proposed for inclusion in the Lily Bulb Order to mitigate potential impacts to agricultural resources. Under this alternative, lily bulb operations could avoid converting the full Streamside Area to non-agricultural use by mitigating only the incremental difference between existing riparian conditions and the Riparian Vegetation Area required under the Proposed Project. Mitigation would occur through the restoration and long-term protection of riparian vegetation at an alternative location within the same HUC-12.

While the flexibility of Streamside Area setback compliance options could be helpful for some existing operations, it is not possible to predict with any certainty whether the considered alternatives would sufficiently mitigate the agricultural land conversion that could occur under the Proposed Project. The alternatives and mitigations considered would not fully achieve objectives of the Proposed Project and/or would not be sufficient to reduce the impact to Agricultural Resources to less than significant. As such, no feasible mitigation was identified to reduce these adverse effects. Therefore, this impact would be ***significant and unavoidable.***

The reasons for proposing the Project despite this significant and unavoidable impact are discussed in Chapter XI.3: Significant and Unavoidable Environmental Impacts.

Conversion Due to Economic Impacts of Compliance Costs

In addition to agricultural land conversion from Streamside Management Area setbacks, there is also potential for indirect conversion of agricultural lands due to the economic costs and impacts associated with complying with the Lily Bulb Order.

The North Coast Water Board analyzed potential costs associated with the Proposed Project – see Attachment E. The overall cumulative costs of Management Practice implementation for a specific lily bulb operation are speculative though because, while it is generally known what practices are employed throughout the Smith River Plain through 2021 Management Plan reporting, individual or field-level information was not reported. It is also speculative as to which specific Management Practices an Enrollee will implement in the transition from a voluntary program framework to a regulatory one. Additionally, there will be costs associated with the Adaptive Management Program, which may be the most significant as some Adaptive Management Program options require engineered or constructed Management Practices, reductions in pesticide applications, and certified Water Quality Management Plans. The Enrollee chooses an Adaptive Management option based on the configuration of their farm, economic factors, and other site-specific conditions. Attachment E summarizes these potential costs of compliance. Monitoring and Reporting costs are expected to be relatively

similar to other irrigated lands regulatory programs.

The North Coast Water Board understands that profit margins may be slim for some business owners in the lily bulb industry and any increased administrative/regulatory costs could adversely affect profitability. However, the potential effects of increased costs would depend specific to an individual operation as well as current and future markets forces. The North Coast Water Board does not find that the anticipated increased costs due to compliance with this Order alone would be large enough to necessarily cause any existing lily bulb operation to go out of business, render it economically unviable, or otherwise choose to abandon their operations.

In the unique circumstance where the cost of compliance may be too great or the loss of production of displaced planted areas would make the operation unprofitable, neither scenario would permanently nor irretrievably convert the affected farmland to non-agricultural use. The land would still be available for non-lily bulb agricultural uses and therefore implementation of Management Practices would be considered a less-than-significant impact. Furthermore, successful implementation of Management Practices could enhance agricultural productivity by strengthening erosion control methods already in place, resulting in a beneficial impact through the increased retention of topsoils. Attaining and sustaining stream temperatures that support the cold freshwater habitat beneficial use, the beneficial use most sensitive to temperature, is also vital to supporting the socioeconomic and cultural background of the region due to the role that cold freshwater streams play in supporting recreational, commercial and subsistence fishing. These benefits are not only supportive of several threatened and endangered species, but also of the local economy, community, and culture of Del Norte County and the Tolowa Dee-Ni' Nation.

As a result, that the overall cost of complying with the proposed Lily Bulb Order would not indirectly contribute to a significant conversion of prime farmland to a non-agricultural use, this impact would be ***less than significant.***

Conversion Due to Implementation of Management Practices

Certain Management Practices (apart from Streamside Management Area setbacks) also could result in some amount of agricultural land to non-agricultural uses. For example, installation of sediment retention basins or vegetated filter strips could require that a lily bulb operation take a portion of their field(s) out of production to make room for these new features. The amount of land that could be taken out of production would depend on the specific layout and the design of specific Management Practices. Because the Lily Bulb Order would not specify the manner of compliance, it is speculative to determine which operations will implement which Management Practices in which locations. As a result, it cannot be determined how many acres of agricultural land may be taken out of production due to implementation of Management Practices (other than Streamside Area buffers). However, it is not anticipated that the implementation of Management Practices will result in a significant number of acres being taken out of production. Therefore, this impact is speculative and ***less than significant.***

Conclusion

Overall, due to the anticipated potential conversion of Prime Farmland resulting from compliance with the Streamside Management Area setbacks and the lack of feasible mitigation to lessen these impacts, this impact would be ***significant and unavoidable***.

Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract. (*Significant and Unavoidable*)

As described in Impact AG-1, the Proposed Project effect on agricultural land may result in the conversion of farmland to non-agricultural (i.e., riparian habitat) uses from implementation of the proposed Streamside Area setback requirements. The requirements would only apply to lily bulb operations that are adjacent to streams or other waterbodies and would vary based on the adjacent watercourse classification.

While Del Norte County does not offer Williamson Act contracts, much of the land that could be converted as a result of the Lily Bulb Order is zoned for agricultural use by Del Norte County. Agricultural zoning districts encourage conservation of agricultural lands and continuation of agricultural uses. Riparian vegetation/habitat is not a use that would typically be specifically prohibited in an agricultural zoning district, but it also would not further the purpose of the district by conserving agriculturally productive lands. As such, this impact is considered to be potentially significant. For the reasons stated under Impact AG-1, no feasible mitigation is available to reduce these potential effects. Therefore, this impact would be ***significant and unavoidable***.

Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. (*No Impact*)

The Proposed Project would only apply to lily bulb cultivation within the Proposed Project Area. No lands currently zoned for forest land, timberland, or timberland zoned Timberland Production are anticipated to be subject to the Lily Bulb Order and conversion of such lands is not a requirement of the Proposed Project. As such, ***no impact*** would occur.

Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use. (*No Impact*)

As described in Impact AG-3, the Lily Bulb Order does not apply to forest lands because the Lily Bulb Order would only apply to lily bulb operations and conversion of forest lands to lily bulb operations is not a requirement of the Proposed Project. Therefore, it would have no potential to result in the loss of forest land or conversion of forest land to non-forest use. ***No impact*** would occur.

Impact AG-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. (*Less than Significant*)

The Proposed Project would not result in any other changes in the existing environment (apart from the effects described in Impact AG-1 and AG-2). The Proposed Project would be limited to lily bulb operations and would not include any new urban or residential development, or any other land uses or infrastructure which could directly or indirectly result in agricultural land conversion. As such, this impact would be ***less than significant***.

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VI. Biological Resources

This section presents the environmental setting and potential impacts of the Proposed Project related to biological resources. Biological resources considered in this section include special-status plant, wildlife, and fish species; sensitive natural communities, including jurisdictional wetlands and other waters; and wildlife movement corridors.

A. Regulatory Setting

This section describes the Federal, State, and local plans, policies, and laws that are relevant to biological resources.

1. Federal Laws, Regulations, and Policies

Endangered Species Act

The Endangered Species Act (ESA) (16 U.S.C. § 1531 *et seq*.; 50 C.F.R. Parts 17 and 222) provides for conservation of species that are endangered or threatened throughout all or a substantial portion of their range, as well as protection of the habitats on which they depend. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) share responsibility for implementing the ESA. In general, USFWS manages terrestrial and freshwater species, whereas NMFS manages marine and anadromous species.

Section 9 of the ESA and its implementing regulations prohibit the "take" of any fish or wildlife species listed under the ESA as endangered or threatened, unless otherwise authorized by federal regulations. The ESA defines the term "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 U.S.C. § 1532). Section 7 of the ESA (16 U.S.C. § 1531 *et seq*.) outlines the procedures for federal interagency cooperation to conserve federally listed species and designated critical habitats. Section 10(a)(1)(B) of the ESA provides a process by which non-federal entities may obtain an incidental take permit from USFWS or NMFS for otherwise lawful activities that incidentally may result in "take" of endangered or threatened species, subject to specific conditions. A habitat conservation plan (HCP) must accompany an application for an incidental take permit.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C., Chapter 7, Subchapter II) protects migratory birds. Most actions that result in take, or the permanent or temporary possession of, a migratory bird constitute violations of the MBTA. The MBTA also prohibits destruction of occupied nests. USFWS is responsible for overseeing compliance with the MBTA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. § 668; 50 C.F.R. Part 22) prohibits take of bald and golden eagles and their occupied and unoccupied nests. USFWS administers the Bald and Golden Eagle Protection Act.

Clean Water Act

Clean Water Act (CWA) Sections 10 and 404 regulate the discharge of dredged and fill materials into waters of the U.S., which include all navigable waters, their tributaries, and some isolated waters, as well as some wetlands adjacent to the aforementioned waters (33 C.F.R. § 328.3). Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial waterbodies such as swimming pools, vernal pools, and water-filled depressions (33 C.F.R. Part 328). Areas meeting the regulatory definition of waters of the U.S. are subject to the jurisdiction of U.S. Army Corps of Engineers (USACE) under the provisions of CWA Section 404. Construction activities involving placement of fill into jurisdictional waters of the U.S. are regulated by USACE through permit requirements. No USACE permit is effective in the absence of state water quality certification pursuant to Section 401 of CWA.

Section 401 of the CWA requires an evaluation of water quality when a proposed activity requiring a federal license or permit could result in a discharge to waters of the U.S. In California, the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) issue water quality certifications. Each RWQCB is responsible for implementing Section 401 in compliance with the CWA and its water quality control plan (also known as a Basin Plan). Applicants for a federal license or permit to conduct activities that may result in the discharge to waters of the U.S. (including wetlands or vernal pools) must also obtain a Section 401 water quality certification to ensure that any such discharge.

2. State Laws, Regulations, and Policies

Porter-Cologne Water Quality Control Act

The SWRCB works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny projects that could affect waters of the state. Their authority comes from the CWA and the State's Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The Porter-Cologne Act broadly defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state." Because the Porter-Cologne Act applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of waters of the United States (U.S.). For example, Water Quality Order No. 2004-0004-DWQ states that *shallow w*aters of the state include headwaters, wetlands, and riparian areas. Where

riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of bank.

On April 2, 2019, the SWRCB adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. In these new guidelines, riparian habitats are not specifically described as waters of the state but instead as important buffer habitats to streams that do conform to the State Wetland Definition. The Procedures describe riparian habitat buffers as important resources that may both be included in required mitigation packages for permits for impacts to waters of the state, as well as areas requiring permit authorization from the RWQCBs to impact.

Pursuant to the CWA, and as described above, projects that are regulated by the USACE must also obtain a Section 401 Water Quality Certification (WQC) from the RWQCB. This WQC ensures that the proposed project will uphold state water quality standards. Because California's jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on waters of the state require WQC even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements even if the USACE does not, for example for riparian habitats which are buffers to waters of the state. Under the Porter-Cologne Act, the SWRCB and the nine RWQCBs also have the responsibility of granting CWA National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for certain point-source and non-point discharges to waters.

Any activities within the Proposed Project Area that affect waters of the U.S. or waters of the state would require Section 401 Water Quality Certification and/or Waste Discharge Requirements from the RWQCB. Waters within the Project site are considered both waters of the United States and waters of the state.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) and CEQA Guidelines provide guidance in evaluating impacts of projects to biological resources and determining which impacts would be significant. CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." Under CEQA Guidelines Section 15065, a project's effects on biotic resources are deemed significant where the project would:

> "substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or reduce the number or restrict the range of a rare or endangered plant or animal."

In addition to the Section 15065 criteria that trigger mandatory findings of significance, Appendix G of CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact.

Section 15380(b) of CEQA Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in the FESA and the CESA and the section of the California F&G Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either USFWS or CDFW or species that are locally or regionally rare.

CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists." Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review in accordance with CEQA Guidelines Section 15380(b).

The California Native Plant Society (CNPS), a non-governmental conservation organization, has developed ranked lists of plant species of concern in California using the California Rare Plant Ranks (CRPRs). Vascular plants included on these lists are defined as follows:

- CRPR 1A: Plants considered extinct
- CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2: Plants rare, threatened, or endangered in California but more common elsewhere
- CRPR 3: Plants about which more information is needed - review list
- CRPR 4: Plants of limited distribution - watch list

The CRPR listings are further described by the following threat code extensions:

.1—seriously endangered in California
.2—fairly endangered in California
.3—not very endangered in California

Although CNPS is not a regulatory agency and plants on the CRPR lists have no formal regulatory protection, plants appearing on CRPR lists are, in general, considered to meet the CEQA Guidelines Section 15380 criteria and adverse effects on these species may be considered substantial.

California Fish and Game Code

The California Fish and Game Code (Fish & G. Code) includes various statutes that protect biological resources, including the Native Plant Protection Act of 1977 (NPPA)

and the California Endangered Species Act (CESA). The NPPA (Fish & G. Code § 1900-1913) authorizes the Fish and Game Commission to designate plants as endangered or rare and prohibits take of any such plants, except as authorized in limited circumstances.

CESA (Fish & G. Code § 2050–2098) prohibits state agencies from approving a project that would jeopardize the continued existence of a species listed under CESA as endangered or threatened. Section 2080 of the Fish & G. Code prohibits the take of any species that is state listed as endangered or threatened, or designated as a candidate for such listing. California Department of Fish and Wildlife (CDFW) may issue an incidental take permit authorizing the take of listed and candidate species if that take is incidental to an otherwise lawful activity, subject to specified conditions.

Fish & G. Code sections 3503 and 3513 protect native and migratory birds, including their active or inactive nests and eggs, from all forms of take. In addition, sections 3511, 4700, 5050, and 5515 identify species that are fully protected from all forms of take. Section 3511 lists fully protected birds, section 5515 lists fully protected fish, section 4700 lists fully protected mammals, and section 5050 lists fully protected amphibians.

California Coastal Act

The California Coastal Act (CCA) of 1976, is a state law designed to protect California's coastal resources. The California Coastal Commission (CCC) oversees implementation, reviews local coastal programs, and ensures consistency with the Act, and local governments develop Local Coastal Programs (LCPs), which must be certified by the Commission. The Act's core principles include maximizing public access and recreation, protecting and restoring coastal resources, ensuring orderly development, prioritizing coastal-dependent uses, and preserving scenic qualities.

Goals (Section 300001.5)

(a) Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
(b) Ensure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
(c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.
(d) Ensure priority for coastal-dependent and coastal-related development over other development on the coast.
(e) Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

(f) Anticipate, assess, plan for, and, to the extent feasible, avoid, minimize, and mitigate the adverse environmental and economic effects of sea level rise within the coastal zone.

3. Local Laws, Regulations, and Policies

Local Ordinances and General Plans

Within the Proposed Project Area, there are two main local policies for the protection of biological resources. The Del Norte County General Plan and the Local Coastal Program Land Use Plan are relevant to the protection of biological resources within the Proposed Project Area. Refer to Attachment C for Del Norte County general plan goals and policies potentially applicable to the Proposed Project.

B. Environmental Setting

1. Study Area

This section describes the biological resources associated with the Smith River Plain in Del Norte County. The study area (Proposed Project Area) of the Easter lily bulb operations are located in the Smith River Plain (Figure 1), a coastal plain located in unincorporated Del Norte County. The Smith River Plain is situated in the northwest corner of California (adjacent to Oregon border), covers 40,450 acres (63 square miles), and the plain is an emerged low-relief marine terrace that is shaped by floodplain deposits, sand dunes and river terraces. The Smith River is the primary watercourse and crosses the main portion of the Smith River Plain, contributing to the floodplain dynamics.

Del Norte County is in the northwestern corner of California, approximately 350 miles north of San Francisco and 330 miles southwest of Portland, Oregon and is bounded by Siskiyou County on the east, Curry and Josephine Counties (State of Oregon) to the north, Humboldt County to the south, and the Pacific Ocean to the west. The county contains one incorporated city (Crescent City), six unincorporated communities (Smith River, Gasquet, Klamath, Fort Dick, Bertsch-Oceanview, and Hiouchi), and four federally recognized Tribal entities (Yurok Tribe, Resighini Rancheria, Tolowa Dee-ni' Nation and Elk Valley Rancheria).

2. Physical Conditions

Del Norte County is comprised of approximately 1,070 square miles, making it one of the smaller counties in California. Del Norte County's geography ranges from conifer forests of the Klamath Mountain Providence to dunes and sand beaches within the Pacific coastal plain. Del Norte County is characterized by varied elevations that range between sea level to over 6,400 feet in the Klamath Mountain range and a varied geography that consists of extensive coastline to the west and mountainous terrain with dense redwood forests to the east. Del Norte County is known for its vast old-growth redwood forests.

3. Biological Conditions

Land Cover Types

Generalized land cover/habitat types found within the Proposed Project boundary are described below[8]. Land cover/habitat type descriptions were developed by conducting a crosswalk of the California Department of Forestry and Fire Protection's CALFIRE Fire and Resource Assessment Program, FVEG classifications (Wildlife Habitat Relationship classes)[9], USFS physiognomic unit classifications, Anderson Level 1 classifications and California Wildlife Habitat Relationships System classifications[10]. Figure 6 shows the land cover types found in the Smith River Plain region. Land cover types most directly related to the Proposed Project are described below.

(a) Agricultural: The agricultural land cover/habitat type includes areas that are dominated by cultivated croplands and animal farming operations. Crops known to occur within Del Norte County are field crops (hay, pasture for irrigation, etc.) vegetable crops (fruits and vegetables), and nursery crops (Easter lily bulbs, decorative flowers, ornamentals, seedlings, bedding plants, etc.). Animal farming operations include livestock (cattle, calves, sheep, and lambs) and livestock products (market milk, and manufacturing milk honey, silage, hogs, goats, eggs, and other products) (Del Norte County Crop Report, 2016). Specifically, within the Smith River Plain, lily bulb cultivation is a major agricultural land crop in the study area.

In general, agricultural land does not support habitat for special-status species, and commercial crop fields are typically managed to exclude wildlife to the extent possible. Nevertheless, some agricultural land or pasture lands may support rodent populations that could provide foraging opportunities for raptors.

(b) Barren/Other: Barren land is of limited ability to support special-status species as this type of land cover/habitat supports little to no vegetation or other cover. If vegetation is present, it is widespread and scrubby. Typically, barren land consists of an area of thin soil, sand or rocks. Categories of barren land are dry salt flats, beaches, sandy areas, bare exposed rock, strip mines, quarries, gravel pits, transitional areas, and mixed barren land (USDA 2015). As defined in the California Wildlife Habitat Relationships System (CWHRS), barren land in marine and estuarine environment includes rocky outcroppings, open sandy beaches and

[8] The conifer forest, conifer woodland, hardwood forest, and hardwood woodland land use cover types are covered under the Forest Land description.
[9] FVEG is a spatial dataset that depicts the distribution of vegetation types across California. It integrates multiple sources of vegetation data into a standardized classification system, primarily using the California Wildlife Habitat Relationships (CWHR) system.
[10] Land cover/habitat type descriptions discussed in this document are very generalized and should not be used as stand-alone assessments of what is actually present where Proposed Project activities will occur. Additional assessments (for example, on-the-ground surveys) will need to be conducted to determine a more accurate description of land cover/habitat types in areas where there is potential for the Proposed Project to impact biological resources.

mudflats. Along rivers, barren habitat includes vertical riverbanks and canyon walls. In desert habitats, barren land cover is defined when vegetation is widely spaced. Within alpine areas, barren habitat includes exposed parent rock, glacial moraines, talus slopes and any surface permanently covered with snow and ice. Urban areas where there is pavement and buildings may be classified as barren as long as they do not meet the percentage cover thresholds for vegetated habitats (CDFW 2014).Although there may be little to no vegetation within the barren land cover/habitat type, non-vegetated substrate could offer nesting and foraging habitat for many common species including hawks, falcons, as well as special-status species such as western snowy plover (*Charadrius alexandrinus nivosus*), willow flycatcher (*Empidonax traillii*), bank swallows (*Riparia riparia*), and bats. Rare, local, and special-status plants species occurring within the coastal plain are Wolf's evening primrose (*Oenothera wolfii*), sand dune phacelia (*Phacelia argentea*), Langsdorf's violet (*Viola langsdorffii*), and the federally endangered western lily (*Lilium occidentale).*

(c) Conifer and Hardwood Forest: The forest land cover/habitat type in the County of Del Norte is mainly comprised of coniferous forests and hardwood forest. Categories of trees within the forest and hardwood land cover/habitat type include deciduous (hardwood), evergreen (conifer), and mixed (deciduous and evergreen). Del Norte County features a mix of conifer and hardwood forests, shaped by its coastal climate and rugged terrain. The region includes coniferous trees such as coast redwoods (*Sequoia sempervirens*), Douglas-fir (*Pseudotsuga menziesii*), Sitka spruce (*Picea sitchensis*), tanoak (*Notholithocarpus densiflorus*), and California bay laurel (*Umbellularia californica*). Mixed deciduous trees such as California black oak (*Quercus kelloggii*) and big leaf maple (*Acer macrophyllum*), and coniferous trees such as ponderosa pine (*Pinus ponderosa*) sugar pine (*Pinus lambertinana*) and incense cedar (*Calocedrus decurrens*), can be found in the forests throughout the region. Mixed forest land includes all forested areas where both evergreen and deciduous trees are growing, and neither is predominant (Anderson et al. 1976). The forest and hardwood land cover/habitat type contains habitat for a wide variety of species. Redwood groves can provide nesting habitat for special-status species such as the northern spotted owl (*Strix occidentalis*) and marbled murrelet (*Brachyramphus marmoratus*). Canopy cover and understory vegetation provide valuable habitat for special-status species such as foothill yellow-legged frog (*Rana boylii*), Coastal giant salamander (*Dicamptodon tenebrosus*) and for common species such as North American porcupine (*Erethizon dorsatum*), fisher (*Pekinia pennanti*), and Pacific marten (*Martes caurina*). Special-status fish species and other common anadromous fish can be found in the Smith River Plain, such as Coho Salmon (*Oncorhynchus kisutch*), Chinook salmon (*Oncorhynchus tshawytscha)*, coastal rainbow trout/steelhead trout (*Oncorhynchus mykiss irideus*), Coastal cutthroat trout, and Chum salmon (*Oncorhynchus clarkii clarkii*).

(d) Scrub: The shrub land cover/habitat type is characterized by shrubs totaling greater than or equal to 10 percent canopy cover, where a shrub is defined as a woody plant that generally has several erect, spreading, or prostrate stems which give it a bushy

appearance (USDA 2016). Shrub species are generally less than 20 feet tall and can consist of both evergreen and deciduous species of true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions (USDA 2015). There are many shrub-dominated habitats that occur within the shrub land cover/habitat type within the Del Norte County and Smith River Plain. Northern coastal scrub vegetation often intergrades with coastal prairies, forming a mosaic across the marine terrace landscape interrupted by oak woodlands, conifer and hardwood forests, and fresh and saltwater marshes (Ford & Hayes 2007). Coastal bluff and scrub habitats are discontinuous in northern California, existing in a relatively narrow zone along the coast within preserves, ranchlands, and commercial/residential areas (EcoAdapt, 2019). In Del Norte County coastal bluff and scrub land cover/habitat type include thimbleberry (*Rubus parviflorus*), salmonberry (*Rubus spectabilis*), salal, and California blackberry. Coyote brush (*Baccharis pilularis*) is another dominant species in these shrubland areas. Other common species include yellow bush lupine (*Lupinus arboreus*), blue blossom ceanothus, coffeeberry, salal, bush monkeyflower, poison-oak and wooly sunflower, bracken fern and sword fern are dominant in the understory; common cow parsnip, Indian paintbrush, yerba buena and California oatgrass are typically present (Heady et al. 1977). The shrub land cover/habitat type provides nesting and foraging habitat for including hawks, and falcons and serves as habitat to many common species such as mule deer (*Odocoileus hemionus*), bobcat (*Lynx rufus*), western fence lizard (*Sceloporus occidentalis*), and others.

(e) Herbaceous: The herbaceous land cover/habitat type consists of herbaceous vascular plants that total greater than or equal to 10 percent canopy cover. These types of herbaceous vascular plants are defined as vascular plants without perennial aboveground woody stems with perennating buds borne at or below the ground surface (USFS 2016). Herbaceous dominated habitats include annual and perennial grassland, wet meadow, fresh and saline emergent wetland, and pasture. A description of the wetland land cover/habitat type are further described below. Plant species found within annual grasslands consist mainly of introduced annual grasses such as wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), and ripgut brome (*Bromus diandrus*). Perennial grasslands in Del Norte county are dominated by species such as California oatgrass (*Danthonia californica*), sweet vernal grass (*Anthoxanthum odoratum*), Pacific hairgrass (*Deschampsia cespitosa*), California oat grass, American dune grass (*Leymus mollis*), California goldfields (*asthenia californica*), Kentucky bluegrass (*Poa pratensis*), and western bracken fern (*Pteridium aquilinum*) (Heady et al. 1977). Many wildlife species utilize the herbaceous land cover/habitat type for foraging and breeding. Common reptiles that can be found in this land cover/habitat type include western fence lizard (*Sceloporus occidentalis*), and common garter snake (*Thamnophis sirtalis*) (Basey and Sinclair 1980). Typical common mammals that can be found include black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beecheyi*), and Botta's pocket gopher (*Thomomys bottae*).

(f) Urban: Urban or built-up land is comprised of areas of intensive use with much of the land covered by structures and includes cities, towns, villages, strip developments along highways, transportation, power, and communication complexes, and institutions that may, in some instances, be isolated from urban areas (USDA 2016). The urban land cover type falls under the developed habitat type (CDFW 2014). Urban vegetation is defined by five types of vegetative structure: tree grove, street strip, shade tree/lawn, lawn, and shrub cover (CDFW 2014). Some wildlife species typical of the urban land cover/habitat type include rock dove (*Columba livia*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), raccoon (*Procyon lotor*), plain titmouse (*Baeolophus inornatus*), black-tailed deer (*Odocoileus hemionus*), gopher snake (*Pituophis catenifer*), and western fence lizard *(Sceloporus occidentalis*).

(g) Aquatic: The aquatic land cover/habitat type includes open water (i.e., lakes and ponds) and riverine (i.e., streams and drainages) habitats. Riverine features in the Smith River Plain such as creek, streams/drainages are characterized by highly seasonal flow patterns, in accordance with the seasonal precipitation pattern, with higher flows from roughly November to April and lower flows from July to October. Some streams/drainages in the region experience very low or no flow during the dry summer months. Larger waterbodies in the region (e.g., Smith River and its tributaries) exhibit flow year-round and may act as migratory corridors for fish species and other animals. The Smith River is the northern most coastal watershed of California that is located 3.7 miles south of the Oregon border, and the Smith River plain encompasses 63 square miles. The Smith River crosses the northern portion of the plain near the town of Smith River and is the major watercourse in the area. The Smith River extends from the Six Rivers National Forest to the Pacific Ocean at the northwestern corner of the county. Two major rivers occupy Del Norte County; the Smith River, which extends from the Six Rivers National Forest to the Pacific Ocean at the northwestern corner of the county, and the Klamath River, which extends from Klamath Lake in Oregon through the Six Rivers National Forest and to the Pacific Ocean at the southwestern corner of the county. Aquatic and special-status species with the potential to occur in rivers, streams and drainages in the Smith River Plain include northern red-legged frog (*Rana aurora*), foothill yellow-legged frog, western pond turtle (*Emys* [=*Actinemys*] *marmorata*), Coho Salmon, Chinook salmon, coastal rainbow trout/steelhead trout, Coastal cutthroat trout, Chum salmon, and tidewater goby (*Eucyclogobius newberryi*). Open water habitat is characterized by a water depth that is great enough (over 6.6 feet) to attenuate sunlight and prevent aquatic or emergent plant growth. Such habitat may support any number of common resident or wintering bird species, such as western grebe (*Aechmophorus occidentalis*), double-crested cormorant (*Phalacrocorax auritus*), Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), common merganser (*Mergus merganser*), northern shoveler (*Anas clypeata*), lesser scaup (*Aythya affinis*), and bufflehead (*Bucephala clangula*). Common amphibian species that may be found in lacustrine features include the American bullfrog (*Lithobates catesbeianus*), California newt (*Taricha torosa*), and California toad (*Anaxyrus boreas halophilus*). Some of these tributaries within the Smith River Plain includes

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Jordan Creek, Talawa Slough, and other unnamed seasonal streams that feed into the lakes.

(h) Wetland: In general, wetlands are areas that are seasonally or perennially inundated or saturated; i.e., where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season (USEPA 2021). Water saturation (hydrology) largely determines how the soil develops and the types of plant and animal communities living in and on the soil. The prolonged presence of water creates conditions that favor the growth of specially adapted plants (hydrophytes) and promotes the development of characteristic wetland (hydric) soils (USEPA 2021). Different types of wetlands may include different specific species assemblages, but all types support facultative[11] plant species and provide potential breeding and foraging habitats for birds, amphibians, and other animals. The Smith River Plain contains several areas that include wetland areas that support a diverse wildlife, migratory birds, elk herds and salmon populations. Some notable wetland areas include Lake Earl and Lake Talawa, Yontocket slough that is connected to Tryon creek, and the Smith River Estuary.

Habitat and Corridor Connectivity

A habitat connectivity corridor is a linkage needed to allow movement of wildlife across the landscape. CDFW's Terrestrial Connectivity, Areas of Conservation Emphasis (ACE), classifies habitat and corridor connectivity using a hexagonal grid map overlay. The hexagonal grid is scaled to 2.5 square miles per hexagon (approximately 1,600 acres). CDFW's ACE areas are a compilation and analysis of the best-available statewide spatial information within California based on biodiversity, significant habitats, connectivity and wildlife movement, and climate vulnerability (CDFW 2025a).

CDFW classifies the majority of the General Order's Proposed Project Area with an ACE rank of 1, "limited connectivity opportunity" (CDFW 2025a). The secondary Ace rank within the General Order's Proposed Project Area falls under an Ace rank of 2, "Large Natural Habitat Areas". This ACE rank is only within a small western portion of the Proposed Project Area and is directly adjacent to State Protected Areas (protected for open space purposes) that can include State, regional parks, Preserves, wildlife areas, urban parks, etc. Large Natural Habitat Areas are classified as relatively undeveloped and minimally fragmented by roads, urbanization, or agriculture, and are composed of natural vegetation types, such as forests, shrublands, grasslands, and wetlands (CDFW 2025a).

The Proposed Project Area is not located within an established wildlife corridor, additionally during the time that this document was prepared, the specific locations of Proposed Project activities under the General Order of specific Lily bulb operations

[11] Facultative plants are those species that have an equal likelihood of occurring in wetlands and non-wetlands.

were unknown.

Special-status Species and Sensitive Natural Communities

During the time that this document was prepared, the specific locations of Proposed Project activities under the General Order of specific Lily bulb operations were unknown; The proposed General Order would cover approximately 18.91 m^2 (Figure 1) to regulate discharges from Commercial Lily Bulb Operations.

Therefore, it was not possible to determine the potential for individual special-status species to occur within the specific area coverage for the General Order's Proposed Project Area and whether suitable habitat exists for these species. As noted above in the land cover types, various special-status species have the potential to occur in the Smith River Plain and proximity of Easter lily bulb operations that may be affected by the Proposed Projects implementation of management practices for the compliance with Water Quality Protection Requirements from General Waste Discharge Requirements for Commercial Lily Bulb Operations in the Smith River Plain. A comprehensive list of special-status species lists is provided in **Appendix D**. The determination of potential for such species to occur was based on databases from the California Native Plant Society (CNPS), CDFW, USFWS, and NMFS lists of special-status species that have been historically reported to occur within the general project vicinity (CDFW 2025b; Crescent City, Smith River, High Divide, and Hiouchi quadrangles); within one mile of Proposed Project Area and/or whether suitable habitat for the species is reasonably likely to occur within or in immediate proximity to Proposed lily bulb operations under the General Order within the Smith River Plain. However, on-the-ground habitat assessments and surveys would be needed to confirm potential of special-status species and suitable habitat in areas where impacts to biological resources could occur as described.

For the purposes of this assessment, special-status plant and wildlife species refers to those species that meet one or more of the following criteria:

- Species that are listed as threatened or endangered under the federal Endangered Species Act (ESA) (50 Code of Federal Regulations [CFR] Section 17.12 for listed plants, 50 CFR Section 17.11 for listed animals);
- Species that are candidates for possible future listing as threatened or endangered under ESA (76 Federal Register [FR] Section 66370);
- Species that are listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 California Code of Regulations [CCR] 670.5);
- Plants listed as rare under the California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.);
- California Rare Plant Rank (CRPR) List 1 and 2 species; and

- Animals fully protected in California (Fish and Game Code Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]) or species designated as "Species of Special Concern" by CDFW.

The following sources were consulted to identify special-status species with the potential to occur in the vicinity of the Project:

  - U.S. Fish and Wildlife Service (USFWS), Information for Planning and Conservation (IPaC) list of federally endangered and threatened species (USFWS 2024a);
  - USFWS's Critical Habitat Portal (USFWS 2024b);
  - National Marine Fisheries Service (NMFS) California Species List (NMFS 2024); and
- USFWS list of federally listed endangered and threatened species that occur within the vicinity of the proposed project (USFWS 2025);
- California Natural Diversity Database (CNDDB) queries for the U.S. Geological Survey (USGS) 7.5-minute quadrangle containing the Proposed Project Area and the quadrangles immediately adjacent to it: Crescent City, Smith River, High Divide, and Hiouchi; and
- California Native Plant Society's (CNPS's) *Inventory of Rare and Endangered Plants of California* (CNPS 2025) and CRPR listing.
  - **Rank 1A** plants are presumed extinct in California;
  - **Rank 1B** plants are considered rare, threatened, or endangered in California and elsewhere; and
  - **Rank 2B** plants are rare, threatened, or endangered in California but more common elsewhere.

Critical Habitat

As discussed in the Draft Lily Bulb Order (Attachment A to this Draft EIR), the Smith River Plain provides habitat to numerous threatened and endangered species including coho salmon, eulachon, tidewater goby, and longfin smelt. The National Marine Fisheries Service (NMFS) has classified the Smith River population of coho salmon as a core, functionally independent population, which is considered at a high risk of extinction and likely below the depensation threshold. The 2014 Coho Salmon Final Recovery Plan from NOAA identified Rowdy Creek, Ritmer Creek, Delilah Creek, Yontocket Slough, and Morrison Creek in the Smith River Plain as some of the highest intrinsic potential habitat for coho salmon in the 762 square mile Smith River watershed. These tributaries are designated essential fish habitat (EFH) under the Magnuson-Steven Fishery Conservation and Management Act (MSFCMA) for Pacific salmon (Chinook and coho) and the estuary is designated EFH for Pacific salmon and Pacific

groundfish. EFH is designated for species managed in Fishery Management Plans and is defined as the habitat necessary for managed fish to complete their life cycles. Estuaries, including the Smith River Estuary, are considered Habitat Areas of Particular concern and are high priorities for EFH conservation. Preserving high-quality water and improving degraded water quality in the Smith River Plain is essential to the support and recovery of threatened and endangered species.

4. Effects of Management Practices for Water Protection under the General Order on Biological Resources

Under existing conditions, discharges of waste (e.g., sediment, nutrients, pesticides, and temperature) from agricultural activities associated with lily bulbs and other similar bulb crops (Commercial Lily Bulb Operations) on private lands within the Smith River Plain Hydrologic Subarea and coastal terraces between Pyramid Point and the Oregon Border (Smith River Plain) are adversely affecting water quality and biological resources in the Smith River Plain. If not properly managed, these discharges can degrade water quality, cause or contribute to pollution and nuisance conditions, and adversely affect beneficial uses of waters of the state. These effects can occur through the loss of riparian shade (a controllable factor) and discharges from agricultural drainage structures, irrigation return flows or tailwater, percolation, tile drain water, stormwater runoff flowing from agricultural lands, and runoff resulting from operational spills.

As described in Chapter I, *Executive Summary,* the Project objective #1 - Protect and restore beneficial uses and achieve water quality objectives specified in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations by:

- Minimizing or preventing nutrient and pesticide discharges surface water;
- Minimizing or preventing nitrate and pesticide discharges to groundwater;
- Minimizing or preventing sediment discharges to surface water; and
- Minimizing or preventing temperature impacts to surface water from loss of riparian shade.

Objective #2 - Effectively track and quantify achievement of the stated objectives over a specific, defined time schedule.

Objective #3 - Comply with the State Nonpoint Source Policy, the State Antidegradation Policy, the precedential language in the Eastern San Joaquin Agricultural Order, the North Coast Basin Plan, and other relevant statutes and water quality plans and policies, including the Temperature Implementation Policy, the Sediment TMDL Implementation Policy, and TMDLs in the North Coast Hydrologic Region.

Compliance with the proposed General Order is expected to result in an increase in the implementation of management practices already being implemented (as described in the Smith River Plain Water Quality Management Plan; 2021 Management Plan) to prevent and minimize sediment erosion, nutrient, and pesticide discharges.

General Order Management Practice Requirements

Irrigation, Nutrient, and Pesticide Management Surface Water Protection

As described in Chapter III, *Project Description,* under Summary of the Lily Bulb Order the Commercial Lily Bulb Operations would be required to implement management practices to prevent and minimize their discharges of pesticides and sediment to surface waters. The reasonably foreseeable management practices with the greatest potential for environmental impacts (i.e., those involving ground disturbance during construction/installation) include the following:

- Runoff management features: This includes vegetated riparian buffers, filter strips, contour farming, vegetated treatment areas, and grassed swales. Construction/installation of these features may include light disking, use of a "no till" or grass drill for seeding the proposed vegetated area, soil amendments, and associated transport of materials and equipment. Minor excavation and off-haul of soils may be required for construction of swales. Maintenance of runoff management features may include general vegetation management (e.g., mowing, weeding, etc.).
- Retention/Detention basins: This includes basins constructed from an embankment or
  excavation to capture and retain/detain stormwater runoff. Construction of basins requires use of heavy equipment, such as dozers, hydraulic excavators, trenchers, dump trucks, scrapers, etc. Engineered fill material may need to be imported to the site for construction of the embankment and/or excavated material may need to be hauled off from the site and disposed of at a landfill. Maintenance activities may include periodic inspections of the basin, removal of accumulated sediment, removal of debris/trash, replacement of damaged parts, and vegetation management.

Riparian Zone Management Area for Surface Water Protection

As described in Chapter III, *Project Description,* under Summary of the Lily Bulb Order the Commercial Lily Bulb Operations would be required to implement Streamside Management Area requirements including setbacks based on type of waterbody. Requirements include allowing natural succession of riparian vegetation and possibly installing vegetated buffers.

Irrigation, Pesticide, and Nutrient Management for Groundwater Protection

As described in Chapter III, *Project Description,* under Summary of the Lily Bulb Order, Commercial Agricultural Operations would be required to implement irrigation and nutrient management practices to prevent and minimize discharges of nitrate to groundwater implement irrigation and nutrient management practices to prevent and minimize discharges of pesticides and nitrates to groundwater. General agricultural management practices implemented in other regional irrigated lands water quality

orders offer a good indication of the reasonably foreseeable types of irrigation and nitrogen efficiency practices that may be implemented under the Lily Bulb Order.

These could include, but are not limited to, nutrient application at agronomic rates, application timing based on precipitation forecasts, soil testing, irrigation water testing, and use of cover crops. Commercial Agricultural Operations would be required to prepare and implement an Irrigation and Nitrogen Management Plan (INMP) that budgets all sources of nitrogen applied and removed during the growing season and harvest for each parcel. INMP reporting drives adaptive management of irrigation and nutrient practices on the farm level by identifying statistical outliers of nitrogen application versus removal. Commercial Agricultural Operations designated as statistical outliers would be required to obtain nitrogen management training or work with a nitrogen Management Planning specialist for certification of their next INMP.

Monitoring and Reporting Requirements

As described in Chapter III, *Project Description,* under Summary of the Lily Bulb Order the Project objective Commercial Agricultural Operations would be required to either individually or through a Grower Coalition implement the Monitoring and Reporting Program. The proposed Monitoring and Reporting Program is expected to consist of (1) receiving surface water and groundwater monitoring; (2) Drinking Water Well sampling; (3) annual compliance reporting and (4) water quality trend monitoring reporting every five years.

C. Impact Analysis

The following sections provide an analysis of the impacts of the resources discussed above that may result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines. Where applicable, the text prescribes mitigation measures that would reduce or avoid potentially significant impacts to less than significant with mitigation.

1. Methodology

The analysis considered the potential impacts of reasonably foreseeable activities resulting from the Proposed Project (as described in Chapter II, Introduction) on biological resources. As discussed throughout this Draft EIR, to a certain extent, these impacts are speculative, as the specific locations and types of activities that may be conducted under the Proposed Project are not known. The proposed lily bulb operations under the General Order within the Smith River Plain would not require specific Management Practices to protect and restore surface water and groundwater quality but would allow individual lily bulb growers Enrollees of General Order considerable discretion in how to comply with applicable requirements and adaptive management practices related to sediment and erosion control; irrigation, pesticide, and nutrient management; and Streamside Area setbacks. The General Order provides Enrollees flexibility in selecting management practices and requires Enrollees to monitor and

report discharges and implement management practices to minimize or prevent discharges of waste.

As such, this analysis is qualitative in nature and makes reasonable assumptions regarding the potential for impacts and includes conditional mitigation measures that may be applicable depending on the location and type of activity.

2. Significance Criteria

For the purposes of this analysis, based on Appendix G of the State CEQA Guidelines, the Proposed Project would result in a significant impact related to biological resources if it would:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species;
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community;
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
f. Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP.

3. Environmental Impacts of the Proposed Program/General Order

Impact *BIO*-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species

The Proposed Program is expected to have a beneficial effect on biological resources, including special-status species and habitat. Among the primary objectives is to protect and restore surface water and groundwater quality in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations (see Project Objective #1. in Chapter 1, Executive Summary). Compliance with General Order, through Irrigation, Nutrient, and Pesticide Management for Surface Water Protection; Riparian Zone Management for Surface Water Protection; Sediment and Erosion Control for Surface Water Protection; Irrigation, Nutrient, and Pesticide Management for Groundwater Protection; and Monitoring and Reporting Requirements will reduce ongoing discharges of pollutants from irrigated agricultural lands and correct existing impacts on water quality and aquatic habitats. Additionally, installing and/or maintaining vegetated buffers would allow the natural establishment and abundance of native riparian vegetation to minimize and prevent discharge of sediment, nutrients, excess

temperature, and pesticides to surface water, riparian habitat and vegetation in the region, which will benefit any number of special-status species that may use these areas. The implementation of Management Practices would support beneficial uses to biological resources and aquatic habitats and (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

Despite these largely beneficial effects, there is potential for some adverse effects to occur from the Proposed Project Implementation of the Management Practices for Water Protection under the Lily Bulb Order. These effects include construction-related effects from installation of certain management practices. Examples include grassed swales that involve installing a shaped or graded channel with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet or sediment control basin. Additionally, the installation of Riparian Vegetation Areas can include removal of riparian vegetation as part of necessary maintenance of existing watercourse crossings and linear utilities, control of invasive species, and permitted surface water diversions. The Lily Bulb Order would regulate the removal and degradation of riparian vegetation resulting in the loss or degradation on instream beneficial uses.

With respect to construction impacts, if special-status plant or animal species were to occur within areas where construction of certain management practices (i.e., those involving ground disturbance) were to take place, this could result in direct impacts to those species (e.g., mortality or injury of individuals by being crushed by vehicles and/or heavy equipment or loss of an active nest or burrow). In general, it is assumed that most construction activities associated with the Proposed Project would occur within existing irrigated agricultural lands. These commercial production areas are generally maintained to be free of plants and animals (other than intended crops) and it is considered unlikely that special-status plant or animal species would be present in these areas. Additionally, existing commercial agricultural lands are subjected to repeated disturbance and human activities (e.g., tilling, harvesting, etc.) and thus any plants or animals that may be present in such areas would be accustomed to such disturbance.

For certain types of management practices, it is possible that areas outside of existing agricultural lands could be disturbed. For example, grassed swales or sediment control basins could potentially be installed on the periphery of fields (downgradient) such as to capture runoff. Depending on the nature of the land cover/vegetation immediately adjacent to specific Commercial lily bulb operations where these facilities would be installed, special-status plant or animal species could potentially be present in these areas and could be substantially and adversely affected by construction activities. This would be a potential significant impact. **Mitigation Measure BIO-1** would require individual lily bulb growers Enrollees of General Order to evaluate their specific situation and use the least impactful management practices to meet the water quality requirements of the Proposed Project General Order. If potentially impactful practices are necessary, implementation of additional avoidance and minimization measures would be required. Where adverse effects on sensitive biological resources cannot be avoided, undertake additional CEQA review and develop a restoration or compensation plan in consultation with the California Department of Fish and Wildlife to mitigate the

loss of the resources. Implementation of this mitigation measure would reduce this potential impact to a level that is less than significant.

In addition to potentially causing direct injury or mortality to special-status species that may be present in areas where management practices may be constructed, Proposed Project construction activities also could indirectly affect species through erosion and sedimentation, or accidental releases or improper management of hazardous materials. Proposed Project construction activities could loosen soils and allow for erosion and off-site discharge of sediments to occur (e.g., a precipitation event washing away loose soils/sediments to nearby waterbodies) if proper precautions are not taken. **Mitigation Measure HWQ-1** would require construction best management practices (BMPs) for erosion control for those activities not subject to a grading permit or a Construction General Permit, which would reduce this potential impact. Further, **Mitigation Measure HAZ-1** would require implementation of spill prevention, control, and countermeasures, which would avoid or minimize any potential impacts to special-status species from accidental releases of hazardous materials used in construction or management activities.

Implementation of the requirements from the Streamside Area Requirements for Riparian Vegetation Area based on type of waterbody from the Riparian Zone Management for Surface Water Protection could result in short-term adverse construction effects (e.g., erosion, sedimentation, hazardous materials impacts) through the removal of riparian vegetation as part of necessary maintenance of existing watercourse crossings and linear utilities, control of invasive species, and permitted surface water diversions; however, these would be minimized through implementation of **Mitigation Measures HWQ-1** and **HAZ-1**. Depending on Commercial lily bulb operations existing operations, construction activities for installation of the Riparian Vegetation Areas and setback/Vegetation Buffer Areas may also require authorization from CDFW (e.g., if construction activities were to occur within the bed and bank of a stream or sensitive natural community). In this case, CDFW may impose requirements for the protection of biological resources and water quality during the construction activities. Additionally, implementation of **Mitigation Measure BIO-1** would avoid or minimize impacts to biological resources during implementation of the setbacks.

Given the compliance with existing laws and regulations, including obtaining any needed permits from other agencies, as well as implementation of applicable mitigation measures, this impact would be **less significant with mitigation.**

Mitigation Measure BIO-1: Avoid and Minimize Impacts on Sensitive Biological Resources

Where construction/installation, maintenance and/or management practices could impact sensitive vegetation communities (e.g., riparian habitat or wetlands adjacent to the construction area) and special-status species, as defined and listed in Section VII and Appendix D, Enrollees must use the least impactful effective management practice to avoid impacts to such species and habitat. Enrollees of the General Order must

implement the following measures to reduce potential impacts to levels that are less than significant.

- Avoid and minimize disturbance of riparian, wetlands, and other sensitive vegetation communities.

- Avoid and minimize disturbance to areas containing special-status plant or animal species.

- Where construction in areas that may contain sensitive biological resources and aquatic resources cannot be avoided through the use of alternative management practices, conduct an assessment of habitat conditions, and the potential for presence of sensitive vegetation communities (e.g., riparian and wetland habitat) or special-status plant and animal species prior to construction. This may include the hiring of a qualified biologist to identify riparian and other sensitive vegetation communities (e.g., conduct a biological assessment, and/or wetland delineation), and/or habitat for special-status plant and animal species.

- When conducting maintenance or repair on facilities such as sediment basins, or other facilities that may provide habitat for species, ensure that such activities will not disturb any special-status species that may be present. If conducting maintenance or repair activities during the nesting season (generally February 1 to September 15), inspect the facilities to ensure that nesting birds are not present within or adjacent to areas where such activities will occur. If nests or young are identified in such areas, conduct the activities outside of the nesting season.

- Where adverse effects on sensitive biological resources cannot be avoided, undertake additional CEQA review and develop a restoration or compensation plan in consultation with the appropriate regulatory agencies to address the loss of the resources.

Mitigation Measure HWQ-1: Implement Construction Best Management Practices for Erosion Control

Enrollees must implement the following measures during construction activities for the implementation of the Proposed Project Management Practices for Water Protection under the General Order, or must implement alternative measures that are demonstrated to be equally or more effective:

- Implement practices to prevent erosion of exposed soil and stockpiles, including watering for dust control, establishing perimeter silt fences, and/or placing fiber rolls.

- Minimize soil disturbance areas.

- Implement practices to maintain water quality, including silt fences, stabilized construction entrances, and storm drain inlet protection.

- Runoff management features should be designed and routinely maintained to minimize the spread and propagation of invasive species, such as reed canary grass (*Phalaris arundinacea*).

- Where feasible, limit construction to dry periods.

- Revegetate disturbed areas.

The performance standard for these erosion control measures is to use the best available technology that is economically achievable. These measures may be included in SWPPP requirements, as appropriate.

Mitigation Measure HAZ-1: Hazardous Materials Spill Prevention, Control, and Counter-Measures for Land Disturbance Activities

General Order enrollees or their contractors must maintain/implement the following:

- A list of hazardous materials present on site during construction, to be updated as needed along with product safety data sheets and other information regarding storage, application, transportation, and disposal requirements;

- A hazardous materials communication plan, which lists contacts for emergency services, hazardous materials spill response agencies, and wildlife agencies, as well as protocols for communication in the event of a spill;

- Standards for secondary containment of hazardous materials stored on site.

- Spill response procedures based on product and quantity. The procedures must include spill response/clean-up materials to be used, location of such materials within the construction site, and disposal protocols.

- Test accumulated sediments in control features prior to removal, with disposal at an appropriate facility, if warranted.

Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community

As discussed above in Impact BIO-1, the primary objectives under the General Plan is to protect and restore surface water and groundwater quality in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations (see Project Objective #1. in Chapter I, *Executive Summary*). Additionally, the Proposed Project would have a beneficial impact on biological resources by reducing discharges of pollutants from agricultural activities associated with lily bulbs and other similar bulb crops (Commercial Lily Bulb Operations).

The Riparian Vegetation Area requirements would result in the creation/maintaining riparian habitat adjacent to agricultural lands from Commercial Lily Bulb Operations throughout the Smith River Plain. Additionally, the Riparian Vegetation Area and Vegetated Buffer would result in an impact on agricultural resources, these setback areas would be planted with vegetation and would benefit biological resources by providing riparian habitat.

Additionally, installing and/or maintaining vegetated buffers would allow the natural establishment and abundance of native riparian vegetation to minimize and prevent discharge of sediment, nutrients, excess temperature, and pesticides to surface water, riparian habitat and vegetation in the region, which will benefit any number of special-status species that may use these areas. The implementation of Management Practices would support beneficial uses to biological resources and aquatic habitats (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

While the majority of activities under General Order would take place within existing cultivated areas of Lily Bulb Operations, it is possible that that certain management practices (e.g., sediment control basins, grassed swales, graded channel with suitable vegetation, constructing an embankment, etc.) could be installed on the periphery of agricultural fields where riparian vegetation or other habitat may exist[12]. In these cases, some existing habitat could be displaced; however, **Mitigation Measure BIO-1** would reduce potential impacts by requiring that Enrollees avoid sensitive resources to the extent feasible. The total amount of riparian habitat or other habitat lost through displacement by management practices would likely be more than compensated by the riparian habitat that would be created/maintained through the Riparian Vegetation Area and/or Vegetated Buffers requirements of General Order.

During construction of management practices involving ground disturbance, there would be potential for adverse effects on biological resources, including riparian habitat, through erosion and sedimentation caused by operation of heavy construction equipment and/or accidental releases or improper management of hazardous materials used during construction (e.g., fuel, oil, lubricants, etc.). If eroded soils or leaked hazardous materials were to wash off site to riparian areas or sensitive natural communities adjacent to agricultural areas, this could adversely impact these biological resources.

Management practices that would disturb more than 1 acre of land, such activities would be subject to the Construction General Permit, including preparation and implementation of a stormwater pollution prevention plan (SWPPP), which would include erosion control and hazardous materials management measures. Depending on

[12] Irrigated agricultural land is typically bordered by ruderal or grassland vegetation that tolerates the routine vegetation disturbance associated with irrigated agricultural management. Ruderal vegetation and grassland subject to routine disturbance are typically characterized by non-native herbaceous and grasses, and they are not considered sensitive natural communities (CDFW 2019).

the amount of cut and fill involved, certain management practices also may be subject to local grading ordinances, which would typically require erosion control measures. For construction activities that are not subject to either the Construction General Permit or local grading ordinances, implementation of **Mitigation Measures HWQ-1** and **HAZ-1** would avoid or minimize potential impacts to water quality and biological resources by requiring erosion control and hazardous materials spill prevention, control, and countermeasures.

Overall, the Implementation of the General Order's Management practices effect on riparian habitat and sensitive natural communities would be largely beneficial, as it would result in the creation/management of riparian habitat adjacent of existing cultivated areas of Lily Bulb Operations and would provide greater separation between agricultural activities and existing sensitive natural communities (e.g., riparian areas, wetlands). Construction activities for certain types of management practices would have potential to cause adverse impacts on riparian habitat and sensitive natural communities, but compliance with existing laws and regulations and/or implementation of applicable mitigation measures would reduce these potential impacts. Therefore, this impact would be **less than significant with mitigation.**

Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

One of the primary objectives of the Lily Bulb Order the Commercial Lily Bulb Operations would be required to implement management practices to prevent and minimize their discharges of pesticides and sediment to surface waters. As described in Chapter I, *Executive Summary,* the Project objective #1 - Protect and restore beneficial uses and achieve water quality objectives specified in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations by: Minimizing or preventing nitrate and pesticide discharges to groundwater; Minimizing or preventing nutrient and pesticide discharges surface water; Minimizing or preventing sediment discharges to surface water; and Minimizing or preventing temperature impacts to surface water from loss of riparian shade. As discussed above in Impact BIO-1 and BIO-2, the Implementation of the General Order's Management practices would accomplish this through implementation of the Riparian Vegetation Area requirements, setback/Vegetation Buffer requirements, which would provide greater separation between agricultural activities and existing riparian or wetland areas and would likely result in the creation/maintaining of additional riparian habitat relative to baseline conditions.

As such, the Implementation of the General Order's Management practices effect on existing state or federally protected wetlands that may occur within or adjacent to agricultural lands of Commercial Lily Bulb Operations in the Smith River Plain would be largely beneficial. In general, the General Order would have a beneficial effect on these existing wetlands by increasing the setback/vegetation buffer distance of agricultural activities from these features, thus reducing potential discharges of agricultural

pollutants (intervening vegetation in setback areas can provide passive filtration and detention of pollutants).

The Management Practices under the General Order would not result in the direct removal or filling of any wetlands; however, it is possible that some hydrological interruption/modification could occur to certain wetlands, depending on site-specific characteristics at individual General Order Enrollee agricultural areas. Although the setback/Vegetation Buffer Area requirements are designed to protect aquatic areas and wetlands, the size of some existing wetlands within Lily Bulb agricultural areas could potentially be reduced. Wetlands located immediately adjacent to existing agricultural fields may no longer receive the same level of surface flows from agricultural runoff. While this would likely benefit water quality within these wetland areas, it could reduce their size to some degree, depending on certain site-specific factors (e.g., existing level of inflow from irrigated areas, local topography and soils, etc.).

The General Order provides Enrollees flexibility in selecting management practices and requires Enrollees to monitor and report discharges and implement management practices to minimize or prevent discharges of waste. Implementation of certain management practices under the General Order could result in reduced flows/runoff to adjacent waterbodies, including wetlands. However, the magnitude of this potential effect, however, is dependent on a number of site-specific and variable factors that cannot be known at this time. All of this suggests that indirect hydrological effects of reduced flows/runoff on state or federally protected wetlands as a result of the Proposed Project are speculative and likely less than significant.

As discussed above in Impact BIO-1 and BIO-2, the construction/installation of certain management practices involving ground disturbance (e.g., sediment control basins, grassed swales, graded channel with suitable vegetation, constructing an embankment, etc.) could result in adverse effects on biological resources, aquatic areas, including wetlands, due to erosion/sedimentation and improper management of hazardous materials. Compliance with existing laws and regulations and implementation of **Mitigation Measures HWQ-1** and **HAZ-1** would reduce these potential impacts to a level that is less than significant.

Overall, this impact would be **less than significant with mitigation**.

Impact BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

River and streams, associated adjacent wetlands, and riparian habitat are important fish and wildlife movement corridors, as they provide water and food sources, cover refugia, prey hunting opportunities, and other benefits to aquatic and terrestrial species. Several common and special-status fish species rely on streams within the Smith River Plain, many of which run adjacent to irrigated agricultural lands, as migration corridors and for spawning habitat, seasonal movements, or the completion of critical lifecycle stages.

The Implementation of the General Order's Management practices would largely benefit these important areas through the implementation of the Riparian Vegetation Area requirements, setback/vegetation buffer requirements. This would reduce the potential for human activities (e.g., operation of farm equipment) to disturb migratory fish or wildlife species that may be passing through the adjacent habitat areas. Further, the additional vegetation that would be established in Riparian Vegetation Areas and setback/Vegetation Buffer areas would provide habitat for migratory wildlife species and allow for improved use of migratory wildlife corridors.

The reduced pollutant discharges afforded by the General Order through the setback requirements and compliance with reducing discharges of pollutants from agricultural activities associated with lily bulbs operations would benefit water quality in river, streams and wetlands that may serve as wildlife corridors. In particular, the requirements related to pesticide discharges, sediment and erosion, including Irrigation and Nitrogen Management Plan (INMP), would reduce potential ongoing impacts to spawning habitats (e.g., through discharge of fine sediments) in streams and rivers adjacent to agricultural areas. Additionally, the General Order likely would minimize and prevent discharge of sediment, nutrients, excess temperature, and pesticides to surface water, riparian habitat and vegetation in the region that will benefit any number of special-status species that may use these areas. Implementation of Management Practices would support beneficial uses to biological resources and aquatic habitats (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

The General Order would not involve construction of any new large structures or establish new impassible land uses that would substantially inhibit wildlife movement. Construction activities for certain management practices (e.g., sediment control basins, grassed swales, graded channel with suitable vegetation, constructing an embankment, etc.), depending on the location of such facilities on Enrollee agricultural areas, could temporarily impact wildlife movement (e.g., wildlife species could avoid construction areas and associated human activity), but this potential impact would be less than significant. Implementation of **Mitigation Measures HWQ-1** and **HAZ-1** would prevent adverse impacts on spawning habitat in adjacent waterbodies due to discharge of fine sediments or hazardous materials during construction activities.

This impact would be **less than significant with mitigation.**

Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Numerous regional, county ordinances and policies exist for the protection of biological resources within the Smith River Plain and Coastal Region. Examples include ordinances and local zoning that specify define Environmentally sensitive habitat areas (ESHAs) as defined in Policy 1.E.12 in the County's general plan (2003), are coastal wetland, coastal dunes, coastal estuary, and riparian vegetation. Additional policies include Local Coastal Program Land Use Plan (1983) standards for the management of

wildlife, habitat and vegetation in the County.

The Riparian Vegetation Area requirements would result in the creation/maintaining riparian habitat adjacent to agricultural lands from Commercial Lily Bulb Operations throughout the Smith River Plain. Additionally, the Riparian Vegetation Area and Vegetated Buffer would result in an impact on agricultural resources, these setback areas would be planted with vegetation and would benefit biological resources by providing riparian habitat. Additionally, installing and/or maintaining vegetated buffers would allow the natural establishment and abundance of native riparian vegetation to minimize and prevent discharge of sediment, nutrients, excess temperature, and pesticides to surface water, riparian habitat and vegetation in the region, which will benefit any number of special-status species that may use these areas. The implementation of Management Practices would support beneficial uses to biological resources and aquatic habitats (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

The implementation of Management Practices and requirements included General Order may affect trees and other biological resources that are protected through local policies or ordinances. However, the activities that could occur under the General Order are expected to generally align and be consistent with such local ordinances and policies. Further, the implementation of the Riparian Vegetation Areas and setback/Vegetation buffer requirements is expected to result in improved habitat values, functions, and potential increase of numbers of trees and buffers would allow the natural establishment and abundance of native riparian vegetation. Compliance with existing laws and regulations and implementation of **Mitigation Measures BIO-1, HWQ-1** and **HAZ-1** would reduce these potential impacts to a level that is **less than significant**.

Impact BIO-6: Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP

No HCP, natural community conservation plan, or other approved local HCP applies to the Proposed Project Area of the General Order; therefore, **no impact** would occur.

DRAFT

VII. Cultural Resources

A. Introduction

This section provides a background discussion of the regulatory setting, the environmental setting, an impact analysis, and mitigation measures for cultural resources. Section 15064.5(a)(3) of the CEQA Guidelines defines cultural resources as objects, buildings, structures, sites, areas, places, records or manuscripts that are determined historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Relative to the Proposed Project, these resources can be further described as pre-contact (sometimes referred to as prehistoric) Native American archaeological sites, post-contact historic-era archaeological sites, historic buildings and structures, landscapes, districts, and linear features. Pre-contact archaeological sites are places where Native Americans lived or carried out activities prior to the arrival of colonists, which is generally prior to the early 1800s for the project region. Post-contact, or historic-era, archaeological sites reflect the activities of people after initial exploration and settlement in the region by fur traders beginning in the 1820s, and later by others. Native American sites can also reflect the historic era. Pre- and post-contact sites may contain artifacts, cultural features, subsistence remains, and human burials.

B. Regulatory Setting

1. Federal Laws, Regulations, and Policies

No federal laws, regulations, or policies are applicable to cultural resources and the Proposed Project, reasonably foreseeable distribution components, and alternatives.

2. State Laws, Regulations, and Policies

California Environmental Quality Act

Section 21083.2 of CEQA (Public Resources Code Section 21000 et seq.) requires that the lead agency determine whether a project may have a significant effect on unique archaeological resources. A unique archaeological resource is defined in CEQA as an archaeological artifact, object, or site about which it can be clearly demonstrated that there is a high probability that it:

Contains information needed to answer important scientific research questions, and there is demonstrable public interest in that information;

Has a special or particular quality, such as being the oldest of its type or the best available example of its type; or

Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Measures to conserve, preserve, or mitigate and avoid significant effects on these resources are also provided under CEQA Section 21083.2. CEQA Guidelines Section

15064.5 also provides criteria and processes/procedures for identifying and minimizing harm to historical resources.

California Health and Safety Code Section 7050.5

Section 7050.5 of the Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be a Native American, the Coroner must then contact the Native American Heritage Commission (NAHC).

California Register of Historical Resources

The California Register of Historical Resources (CRHR) is established in PRC Section 5024.1. The register lists all California properties considered to be significant historical resources, including all properties listed in, or determined to be eligible for listing, the National Register of Historic Places (NRHP). Resources listed in, or eligible for listing in, the CRHR are referred to as *historical resources.* The criteria for listing in the CRHR include resources that:

1. Are associated with the events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Are associated with the lives of persons important in our past;

3. Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

4. Have yielded, or may be likely to yield, information important in prehistory or history.

California Code of Regulations (CCR) Section 4852 sets forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

C. Environmental Setting

This section provides a background discussion of the pre-contact period background, references ethnographic background information provided by the Tolowa Dee-ni' Nation, post-contact historic period background, protohistoric period background of the region, the geoarchaeological sensitivity of the area for buried archaeological remains, and known cultural resources within the Proposed Project Area.

Pre-Contact Archaeological Background

The *Taa-laa-wa Dee-ni'* (Tolowa People) Genesis account, *Tax-ne Nes-ya~,* and the archaeological record demonstrate the long-lasting connection the *Taa-laa-wa Dee-ni'*

have with the landscape within and around the Proposed Project Area. Archaeological research in the North Coastal Region of California indicates that the area has been occupied for many thousands of years (Hildebrandt 2007:83-97) (Table CR-1). The earliest known human inhabitants of the region likely lived in small, highly mobile bands. Referred to as the Post Pattern, fluted points and chipped stone crescents are indicative of this period, although evidence with good stratigraphic context is rare within the region. The Post pattern was followed by the Borax Lake Pattern, taking place 8,000 to 2,500 years before present (BP). Artifacts associated with this pattern include wide-stemmed projectile points, milling slabs, hand stones, serrated bifaces, edge-flaked spall tools, and ovoid flake tools. The Borax Lake artifact assemblages suggest subsistence and settlement patterns based on foraging with little emphasis on storage activities. The one well-defined Borax Lake site along the coast in Humboldt County lacks marine components and suggests short-term, seasonal occupation.

The unstable nature of geomorphic processes and/or the xeric climatic conditions during the Middle Holocene may have contributed to the scarce presence of archaeological data representing that period. The Mendocino Pattern has been documented in the archaeological record between 3,000 cal BC and cal AD 500 along the northwest coast of California and spans the Middle and Late Holocene periods. Common components of the Mendocino Pattern consist of side-notched, corner-notched, and concave-based dart points, handstones and millingslabs, various types of flake tools, and cobble tools. Sites consistent with the Mendocino Pattern suggest temporary settlements and terrestrial foraging subsistence patterns.

By cal AD 500, a high degree of structurally complex sedentism with an emphasis on exploitation of marine resources had developed along the northern coast. This Gunther Pattern displays evidence of adaptions to the abundance of marine and riverine resources available along the coastal plain and coastal redwood zone. Archaeological sites from this period show evidence of continuing population growth and density, and intensified use of lowland resources such as fish and acorns. Greater emphasis was placed on processing and storing foods for the winter. Artifacts characteristic of this period include Gunther barbed projectile points, concave-based points, ground and polished stone artifacts with artistic elaboration, flanged pestles, mauls, notched net sinkers, steatite bowls, clubs, stone adze handles, mortars and pestles, and various bone and antler spears, harpoons, and hooks.

Table CR-1. Cultural Sequence for the Northwest California Coast

Period	Approximate Dates	Associated Pattern
Pleistocene-Holocene Transition	11,500-8,000 cal BC	Post Pattern
Early Holocene	8,000-5,000 cal BC	Borax Lake Pattern
Middle Holocene	5,000-2,000 cal BC	Mendocino Pattern
Late Holocene	post-2,000 cal BC	Gunther Pattern

Source: Hildebrandt 2007:86

1. Ethnographic Background

The Tolowa peoples fully occupied the territory within the Smith River basin at the time of colonization. This cultural group has a long history of occupation in the area as evidenced by the numerous archaeological sites that are present. Please see Chapter VIII, Tribal Cultural Resources, for relevant background and history information provided by the Tolowa Dee-ni' Nation.

2. Post-Contact Historic Background

The following description of the historic era events within and around the Smith River watershed is adapted from City of Crescent City (2001), Del Norte County Historical Society (2025), Gould (1978), and Kyle (2002).

Early Incursions

The coastal region south of the Proposed Project Area was first visited by Juan Francisco de la Bodega Quadra in 1775 at Trinidad Bay, and then by George Vancouver in 1793, followed by further visits to the region by Spanish, English, and Russian explorers and traders throughout the 17th and 18th centuries. The archaeological record and oral tradition suggest that the indirect contact with the crews of these European explorers introduced epidemic disease to the region, resulting in the abandonment of a large Tolowa village a few miles north of Crescent city. The first direct encounters between Tolowa and Euro-Americans occurred in June of 1828, during the explorations of Jedediah Smith and his company of fur trappers, between the mouth of the Klamath River and the present site of Crescent City.

Mining

Although fur trapping and exploration continued, no permanent American settlements were established in the region until the discovery of gold in areas of the Klamath, Smith, and Rogue Rivers brought prospectors to the area. White settlement of the area intensified in the 1850s, with the founding of Crescent City by J. F. Wendell in 1853

(City of Crescent City 2001). The limited overland access to the region created a need for the natural harbor to be developed to accommodate ocean-going ships that supplied the mining communities and brought in settlers and entrepreneurs. Crescent City was incorporated in April of 1854, and has been the county seat of Del Norte County since 1857. The city became a significant shipping and trading center for the region, with settlers establishing farming communities in the Smith River and Elk Valleys. By the 1860s, miners began to exploit other mineral resources, including copper and chrome with limited results and large-scale mining operations were never developed. As mining efforts declined, the residents of the area turned to logging.

Lumber

The regional lumber industry began in 1870 with the construction of a sawmill at Lake Earl that would become the Crescent City Mill & Transportation Company. Railroads and a wharf were built to facilitate shipment of logs and lumber, and multiple mills were set up throughout the region. After World War II, Del Norte County saw a great influx of lumbermen and the logging and lumber trade was the largest employer in Del Norte County. Although the timber industry had been the primary economic force in the region, it peaked by 1950, after which the demand for lumber began to fall and mills began to close, until no sawmills were in operation in Del Norte County (City of Crescent City 2001).

Fishing

The marine and riverine habitats provided opportunity for rich fisheries. The commercial fisheries initially established on the Smith and Klamath Rivers employed the Tolowa and Yurok to utilize their fishing rights and knowledge. The canneries were successful, producing salt-cured fish and canned mussels, until the industry decimated the fish populations and eventually forced the collapse of the commercial fisheries. Eventually, sport fishing developed along the Klamath and Smith Rivers, with anglers participating in sport of King salmon fishing. The 1974 completion of Citizens Dock, with tackle shops, a marine gas station, boat repair shops and launch facilities, transitioned the old port into a bustling harbor that supports tourism and the local community.

Battery Point Lighthouse, The Brother Jonathan and the St. George Reef Lighthouse

The oil lamps at the Battery Point Lighthouse, also known as the Crescent City Light Station, were first lit on December 10, 1856. The light was automated in 1953 but the Fifth Order Drumm lens was maintained until decommissioned in 1965. The light was reactivated in 1982 and continues to serve as a private aid to navigation. Many stories about Battery Point Lighthouse's history and Native American legends about the island have survived.

The sinking of S.S. Brother Jonathan on July 30, 1865, off St. George Reef, just north of Crescent City, remains the worst maritime disaster on the U.S. mainland's Pacific coast. In stormy seas and gale force winds, the overloaded steam-driven side-paddle wheeler

was impaled on the rocks in the Dragon Channel. Of the over 200 passengers, only nineteen people survived. The recovered remains of the victims were buried in a local cemetery but knowledge of that location has been lost. The Brother Jonathan Cemetery, in Brother Jonathon Park in Crescent City, serves as a memorial, in name only, for those lost to the tragedy. The wreck was salvaged in the 1990's.

The St. George Reef Lighthouse was built in response to the tragic sinking of the S.S. Brother Jonathan. The structure is located on Northwest Seal Rock, 7 miles off Point St. George. The original structure was abandoned by the U.S. Coast Guard in 1975 due to safety concerns but has been replaced by a fully automated buoy to guide mariners around Dragon Rocks. In 1983, the first order Fresnel lens was disassembled and removed from the tower and reassembled at the Del Norte Historical Society's Main Museum.

Tsunamis

In the early morning hours of March 28, 1964, a series of five tsunami waves struck Crescent City, killing 11 people, injuring 24, and destroying 29 city blocks. The keepers at Battery Point were stranded in the lighthouse and witnessed the destruction to Crescent City. The devastation was the worst in recorded history along the U. S. west coast. Tsunamis have swept the area more than once, with written historical records extending back to occurrences in the 1700s and the most recent event in 2016, resulting in the town's attention to tsunami hazard education, preparedness, and public safety goals and the National Oceanic and Atmospheric Administration's (NOAA) formal recognition of Crescent City as a Tsunami Ready Community.

3. Geoarchaeological Setting

To assess the potential for buried archaeological sites within a given Proposed Project Area, an investigation will often consider factors that either encouraged or discouraged human use or occupation of certain landforms (e.g., geomorphic setting and distance to water), combined with those that affected the subsequent preservation (i.e., erosion or burial) of those landforms. It is well known, for instance, that pre-contact archaeological sites in California are most often found on relatively level landforms near natural water sources (e.g., spring, stream, river, or estuary), which is often where two or more environmental zones (ecotones) are present. Landforms with this combination of variables are frequently found at or near the contact between a floodplain and a higher and older geomorphic surface, such as an alluvial fan or stream terrace (Hansen 2004:5). This section will briefly introduce the methods of geoarchaeology and the geomorphic context of the program area to better understand the potential for buried archaeological deposits in this region.

In general, most Pleistocene-age landforms have little potential for harboring buried archaeological resources, as they developed before the first evidence of human migration into North America (ca. 13,000 years ago). However, Pleistocene or older surfaces buried below younger Holocene deposits do have a potential for containing

archaeological deposits because of the long-term viability of the platform (or Pleistocene age surface) from which occupation can occur. Holocene[1] alluvial deposits may contain buried soils (paleosols) that represent periods of landform stability before renewed deposition. The identification of paleosols within Holocene-age landforms is of particular interest because they represent formerly stable surfaces that have a potential for preserving archaeological deposits.

4. Geomorphic Setting

The Proposed Project Area lies on the western edge of the of the Klamath Mountain range, which is situated in the northeastern portion of Humboldt County and eastern Del Norte County. The primary hydrologic drainage of the Klamath Mountain range is the Smith River on the north and the Klamath and Trinity Rivers to the south. The Smith River flows directly through the Proposed Project Area directly into the ocean and represents a major force in shaping the geomorphology of the region. The Del Norte County land area is composed of accreted oceanic terrains that are gradually older from west to east and include Paleozoic and Mesozoic marine sedimentary, volcanic, and plutonic rocks (Meyer, Kaijankoski, and Rosenthal 2011). The high gradient topography of the Klamath Mountains within the Smith River watershed produces the highest runoff of sediment in all of California (Meyer, Kaijankoski, and Rosenthal 2011)

The potential for the Proposed Project Area to contain buried archaeological resources was investigated using a model formulated by Meyer, Kaijankoski, and Rosenthal (2011) for predicting a location's sensitivity for buried Native American archaeological sites based on the age of the landform, slope, and proximity to water. A location is considered to have the highest sensitivity if the landform dates to the Holocene, has a slope of 5 percent or less, is within 150 meters (500 feet) of fresh water, and 150 meters (500 feet) of a confluence. A basic premise of the model is that Native American archaeological deposits will not be buried within landforms that predate human colonization of the area. The study also investigated the potential for archaeological deposits to occur at the surface, which included the above criteria as well as least-cost surfaces, or energy costs of traveling on the surface. In the case of the Del Norte region of far northern California, the population densities during the early Holocene were sufficiently low where the probability of buried archaeological deposits would be considered low—even in alluvial landforms. Indeed, many of the Holocene-age surface age landforms contain multiple Holocene-age buried soils, or former land surfaces that humans would have potentially occupied. Hence, soils buried later in the Holocene (i.e., more recently) have a higher potential to contain archaeological deposits.

Based on landform age and the other factors described above, the model determined that the sensitivity for buried sites in the Proposed Project Area is predominately 'moderate' from a surface site potential, whereas the potential for buried deposits is considered 'high' on the western side, or along the coastal terraces, and 'low' in the areas east of Lake Earl. The potential is considered 'very low' in the areas east of Highway 197 as the gradient becomes steeper and the landforms become older than

the latest Pleistocene (Meyer, Kaijankoski, and Rosenthal 2011). The sediment loads from the Smith River south along the coastline have deposited sediment over the course of the Holocene, which suggests a greater likelihood of encountering buried deposits in this area, which contains about 14,000-acres within the Proposed Project Area. Further, this area is level and near coastal and fresh-water resources. This suggests that these portions of the program areas are underlain by a landform that would have supported human activity and, as such, is considered of greater sensitivity for buried deposits and surface deposits. The remaining areas of landforms within the Proposed Project Area, east of Lake Earl and Highway 197, are considered having low sensitivity for buried deposits due to the antiquity of the landform (pre-Pleistocene period). While the more recent Holocene deposits within the coastal plains are more sensitive for buried deposits, the potential for paleo-coastal occupation (>15,000 years before present) are limited along the far northwest portion of California because the majority of the landscape available during that timeframe has been submerged by rising sea levels. Further south, on the other hand, such as near Fort Bragg, there is greater potential for paleo-coastal occupation because the present coast has steep bathymetry off-shore, which indicates that the paleo-coastlines would be more like the present-day (Meyer, Kaijankoski, and Rosenthal 2011).

5. Known Cultural Resources within the *Proposed Project Area*

A record search request was sent to the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University on May 7, 2025. Because of the vast size of the study area (64,410 acres), the record search was limited to a listing of all archaeological resources within the Proposed Project Area. The data results identified resource attributes, as discussed below, but information about resource eligibility to the CRHR or NRHP was not available. According to the NWIC, as of May 2025, 130 cultural resources have been recorded within the Smith River watershed basin in Del Norte County (NWIC File #24-1786). The following sections provide a quantitative description of the resource attributes, relative age, and type of resource recorded within the Proposed Project Area.

Resource Attributes

The California Office of Historic Preservation Technical Assistance Series #13 (OHP 2025a) provides resource type category definitions for cultural resources, which are found within the NWIC data base. These include the following:

> Building: A resource created principally to shelter or assist in carrying out any form of human activity. "Building" may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn.
>
> Structure: The term used to describe a construction made for a functional purpose rather than creating human shelter.

Object: The term is used to distinguish those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed, as opposed to a building or structure. Although it may be movable by nature or design, an object is associated with a specific setting or environment. Objects should be in a setting appropriate to their significant historic use, role, or character. Objects relocated to a museum are not eligible for listing.

Site: The location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing building, structure, or object. A site need not be marked by physical remains if it is the location of a prehistoric or historic event and if no buildings, structures, or objects marked it at that time.

Historic District: Historic districts are unified geographic entities which contain a concentration of historic buildings, structures, or sites united historically, culturally, or architecturally. Historic districts are defined by precise geographic boundaries.

Table CR-2 provides the attributes of post-contact historic-era built environment resources and the quantity of recorded resources exhibiting attributes within the Proposed Project Area. **Table CR-3** provides the attributes of post-contact historic-era archaeological sites and the quantity of recorded resources exhibiting attributes within the Proposed Project Area. **Table CR-4** provides the attributes of pre-contact archaeological sites and ethnographic sites and the quantity of recorded resources exhibiting attributes within the Proposed Project Area. The resource attribute definitions, as outlined on pages 38 through 42 of the California Office of Historic Preservation Technical Assistance Series #13 (OHP 2025), are provided for each type of resource.

Table CR-2: Attributes of Post-Contact Historic-Era Built Environment Resources and Quantity of Recorded Resources Exhibiting Attributes within the Proposed Project Area

ATTRIBUTE WITH DEFINITION	QUANTITY
HP2. Single family property: A building constructed to house one family.	002
HP4. Ancillary building: Barns, outhouses, detached garages, carriage houses, sheds, etc.	001
HP5. Hotel/motel: Any building or group of buildings providing temporary lodging for travelers.	001
HP13. Community Center/Social Hall: Any building designed to hold meetings of social groups, e.g., fraternal halls, women's clubs, boy scout cabins, etc.	001

HP14. Government building: Any building designed to house government administration or transactions, e.g., post offices, city halls, county courthouses, etc.	001
HP19. Bridge: Any overpass for automobiles, trains, pedestrians, etc.	001
HP26. Monument/mural/gravestone: 1) Any object with a commemorative or artistic purpose, e.g., statue, obelisk, sculpture, etc.; 2) Any painting, photograph, etc. on a wall or ceiling.	001
HP30. Trees/vegetation: Any plant, whether planted or growing naturally, not part of a landscape plan.	001
HP33. Farm/ranch: Any place where crops or animals are raised.	004
HP35. CCC/WPA property: Any property built under one of the public works programs of the New Deal. Includes properties aided by funds or personnel from the Works Progress Administration (WPA) and successors, Public Works Administration (PWA), Civilian Conservation Corps (CCC), etc.	001
HP37. Highway/trail: Any roadway, from freeway to footpath.	002
HP39. No other code applies.	002
HP40. Cemetery: Burial ground with monuments (except archeological sites).	001
HP46. Walls/Gates/Fences.	001

Table CR-3: Attributes of Post-Contact Historic-Era Archaeological Sites and Quantity of Recorded Resources Exhibiting Attributes within the Proposed Project Area

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ATTRIBUTE	QUANTITY
AH1. Unknown: No characteristics listed on the site record.	002
AH2. Foundations/structure pads: Structural footings or lineal alignments made from wood, brick, or rock to support a structure, e.g., slabs of concrete, leveled earth pads, pilings, walls, stairs, etc.	009
AH3. Landscaping/orchard: Evidence of modification through contouring of the land or planting vegetation, e.g., hedgerow, orchards, terraces, and ponds.	005
AH4. Privies/dumps/trash scatters: Any refuse deposits, outhouse pits, or other accumulation of debris, e.g., trash pits, trash scatters, outhouse pits, and dumps.	029
AH5. Wells/cisterns: A hole or receptacle designed to hold or provide access to water which may or may not be lined.	002
AH6. Water conveyance system: Any device constructed to transport water over a distance, e.g., flumes, pipes, ditches, canals, and tunnels.	006
AH7. Roads/trails/railroad grades: A lineal construction, either depressed, elevated, or on ground level, designed to facilitate the transportation of people or vehicles, e.g., bridge, railroad grade, tunnel, trail, wagon road, etc.	013
AH9. Mines/quarries/tailings: An excavation and associated structures built into the earth to extract natural resources (ore, precious metals, or raw lithic materials). This category includes quarries. Examples include shafts, elevators, mining tunnels, quarry, glory holes, tailings.	006
AH10. Machinery: A mechanical device, e.g., mills, farm equipment, steam donkeys, windmills, etc.	002
AH11. Walls/fences: Any wall or fence including post holes or posts placed at regular intervals, retaining walls, post-cairns, walls, fences, jetties, and breakwaters.	009
AH12. Graves/cemetery: Any single or multiple burial location.	005
AH15. Standing structures: Any historic building that is still standing, e.g., outhouse, shed, house, cabin, office building, barn, etc.	002
AH16. Other: There is no other category in which the site description could be placed.	016

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Table CR-4: Attributes of Pre-Contact Archaeological Sites and Ethnographic Sites and Quantity of Recorded Resources Exhibiting Attributes within the Proposed Project Area

ATTRIBUTE	QUANTITY
AP1. Unknown: No characteristics listed on the site record.	002
AP2. Lithic scatter: A major characteristic of the site is a scatter of chipped or flaked stone resulting from human manipulation	046
AP7. Architectural feature: Site contains any feature which indicates the presence of human construction activity, e.g., post holes, house pits, dance house, sweat lodge, hunting blinds, fish traps, etc.	009
AP8. Cairns/rock features: Site contains a patterned arrangement of rocks purposefully constructed or modified, e.g., rock alignments, cairns, rock rings of unknown function, etc.	002
AP9. Burials: The site contains human bone.	021
AP11. Hearths/pits: Site contains any feature which indicates cooking activity, such as roasting pits, association of cracked or burnt rock, discolored soil, ash, and carbonized wood or plants.	017
AP15. Habitation debris: Site contains a deposit characterized by a wide range of artifacts, materials, or features which represent a variety of human activities.	039
AP16. Other: There is no other category in which the site description can be placed.	022

Relative Age and Resource Category

Table CR-5 provides the reported relative age of the resource and the quantity of each type of resource of that age. The definitions, as outlined on pages 13 and 14 of the California Office of Historic Preservation Technical Assistance Series #13 (OHP 2025), for relative age are provided.

Table CR-5: Quantity of Resource Category by Relative Age

RELATIVE AGE	RESOURCE CATEGORY	QUANTITY
Pre-contact: The term "pre-contact" applies to all historical resources used by Native Americans prior to direct contact with non-indigenous peoples.	District	001
	Object	002
	Other	007
	Site	043
Post-contact Historic-era: The term "post-contact historic-era" applies to all historical resources associated with non-indigenous peoples, as well as those used by Native Americans after direct contact with non-indigenous peoples.	Object	002
	Other	006
	Site	041
	Site, element of district	001
	Site, other	002
Protohistoric: The term "protohistoric" applies to all historical resources used by Native Americans during the post-contact historic-era period, as determined from historic accounts and/or the presence of materials introduced by non-native peoples.	Site	001
Pre-contact, post-contact historic-era	District	003
	Site	010
	Site, element of district	003
Pre-contact, protohistoric, post-contact historic-era	Site	006
	Site, element of district	002

The CRHR lists all California properties considered to be significant historical resources, including all properties listed in, or determined to be eligible for listing, the NRHP. CCR Section 4852 sets forth the criteria for listing historical resources in the California Register. The criteria are consistent with those developed by the National Park Service for listing historical resources in the National Register but have been modified to include a range of historical resources which better reflect the history of California. The criteria

to be considered for nomination include the types of resources eligible, evaluation of significance and integrity, and other special considerations.

Although the NWIC information did not provide information about resource eligibility to the CRHR or NRHP, the Del Norte County Built Environment Resource Directory (OHP 2025b) indicates that there are 41 listed, eligible, or potentially eligible historical resources in the county, some of which are likely within the Proposed Project Area. An additional 54 resources that have not been evaluated or need re-evaluation of eligibility for the National or California registers. The presence of these recorded historical resources, which include archaeological sites and districts in addition to built environment resources, serves as an indicator that significant resources that have not yet been identified are likely present within the Proposed Project Area.

D. Impact Analysis

This discussion describes the methodology and significance criteria that were used to analyze cultural resources. It then presents the analysis of the potential environmental impacts of the Proposed Project on cultural resources.

1. Impact Analysis Methods

Criteria for Determining Significance

Section 15064.3(b) of the CEQA Guidelines notes that "A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." It further states that "[a] substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (Section 15064.3(b)(1)). To be materially impaired is defined as an action that demolishes or materially alters the physical characteristics of an historical resource in an adverse manner such that it no longer conveys those characteristics the contribute to its historical significance and that justify its inclusion in listed registers (Section 15064.3(b)(2)). It is the responsibility of the CEQA lead agency to identify potentially feasible, enforceable measures to mitigate significant changes in the significance of an historical resource (Section 15064.3(b)(3)).

If an archaeological site does not meet the criteria as a historical resource, but has been determined to be a unique archaeological resource pursuant to Public Resources Code (PRC) 21083.2(g), the lead CEQA agency must similarly address potential impacts.

For the purposes of this analysis, the Proposed Project would result in a significant impact to cultural resources if it would:

Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines section 15064.5;

Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5;

Disturb any human remains, including those interred outside of dedicated cemeteries.

This impact analysis uses a qualitative approach to evaluate the potential direct and indirect impacts to cultural resources and/or archaeological resources that could result from Proposed Project activities. As described in Chapter III, Project Description, the precise locations and timing of individual actions (e.g., management practice construction/implementation) that could occur under the Lily Bulb Order are not known and cannot be known at this time. Additionally, it is not known which management practices might be implemented at which lily bulb operations.

Therefore, the analysis considers generally the impacts to cultural resources that could occur at lily bulb operations in the Smith River Plain based on the various reasonably foreseeable management practices described in Chapter III, Project Description and Attachment B.

2. Thresholds of Significance

For the purposes of this analysis, based on Appendix G of the CEQA Guidelines, the Proposed Project would result in a significant impact if it would:

1) Cause a substantial adverse change in the significance of historical resource as defined in CEQA Guidelines section 15064.5,

2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5, or

3) Disturb any human remains, including those interred outside of dedicated cemeteries.

3. Impacts and Mitigation Measures

Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 (*Less than Significant with Mitigation*)

In general, the Proposed Project is designed to address discharges of pollutants from lily bulb operations. The activities that could occur under the Proposed Project would be limited to implementation of management practices to reduce agricultural runoff/pollutant discharges, and the monitoring and reporting activities that would be required under the Lily Bulb Order. Refer to the Project Description Chapter for a detailed discussion.

Many of the activities that could occur under the Proposed Project would have no potential to adversely affect historical resources and/or unique archaeological resources. For example, reasonably foreseeable management practices such as applying less fertilizer, applying pesticides in accordance with label instructions,

minimizing tillage and bare soils, etc., would not affect cultural resources. However, construction/installation of management practices that would involve new ground disturbance and excavation could potentially cause damage to, disrupt, or otherwise adversely affect historical resources and unique archaeological resources if they are present. By disturbing subsurface soils (particularly those soils that have previously been undisturbed), these activities could result in the loss of integrity of cultural deposits, loss of information, and the alteration of a site setting.

Although the majority of Proposed Project activities are expected to occur within existing lily bulb operations (i.e., where soils have generally been repeatedly disturbed), it is possible that some management practices could be installed adjacent to existing lily bulb operations. For example, retention or detention basins could be installed on the periphery of existing lily bulb operations in areas where previous soil disturbance has not occurred. Likewise, certain management practices that are installed within lily bulb operations could involve excavation to a depth of soil that has not previously been disturbed (e.g., a retention basin or vegetated swale could require excavation to five feet deep, whereas prior tilling/ground disturbance has only occurred to two feet deep). These types of activities would have the potential to adversely affect buried historic or pre-historic archaeological resources that may be within such previously undisturbed soils.

In general, it is considered unlikely that the Proposed Project would result in any direct impacts on built environment historical resources, as the proposed Lily Bulb Order would not require or encourage any physical alterations to existing built structures; however, it is possible that built resources may be removed in order to implement a management practice under the Lily Bulb Order. In this instance, if the structure(s) to be affected were listed or eligible for listing in the CRHR (i.e., were historical resources), this could result in a significant impact.

Implementation of **Mitigation Measure CUL-1** would address these potential impacts by requiring that Enrollees inventory and evaluate potential resources that may be present within the proposed disturbance area, and employ avoidance and/or minimization measures for any significant resources. Provisions must also be made by growers for the accidental discovery of unknown buried cultural resources. Given implementation of this mitigation measure for applicable activities, this impact would be ***less than significant with mitigation***.

Mitigation Measure CUL-1: Cultural Resources Inventory, Evaluation of Resources for Significance, and Implementation of Avoidance and/or Minimization Measures.

For proposed actions or management practices that involve modifications to previously undisturbed soils (i.e., below the levels of current agricultural practices, or in areas that have not previously been cultivated or developed) or a structure that may qualify as a historical resource, the following steps must be taken to avoid and/or reduce potential impacts on significant cultural resources:

The Enrollee must retain an archaeologist who meets the U.S. Secretary of Interior's professional standards as an archaeologist to conduct a records search at the regional Information Center of the California Historical Resources Information System (CHRIS). The record search must determine if cultural resources have previously been identified in the proposed disturbance area and whether the proposed disturbance area has previously been subject to archaeological pedestrian survey.

The professional archaeologist must contact the NAHC to request a search of the Sacred Lands files and a list of tribes with a traditional and cultural affiliation with the proposed disturbance area. The archaeologist must contact the tribes identified by the NAHC to request information about sites and resources that may not have been identified during the record search process, including TCRs, and whether the tribes have any concerns about the proposed action.

If a pedestrian survey has not previously been conducted on the property, a survey must be conducted by a qualified archaeologist. All identified archaeological sites and historic buildings and structures must be recorded on California Department of Parks and Recreation 523 Site Record forms. A Historic Resources Identification Report must be prepared to document the findings of the study; the report must be submitted to the Regional Water Board and the CHRIS Information Center. If the property has been subject to previous study, additional survey is not required if no cultural resources, including TCRs, were identified during the study and the age and adequacy of the report are considered sufficient by the consulting archaeologist for the purposes of the present project. The report from the previous survey can then be used to satisfy the CEQA requirements for historical resources. If the property has been subject to previous survey and a cultural resource has been identified within the proposed disturbance area, a qualified archaeologist must conduct a pedestrian survey to assess the current condition of the resource relative to the proposed action.

If cultural resources are identified either by the record search or pedestrian survey, the qualified archaeologist must evaluate the significance of archaeological resources, per the State Water Board Resources Control Board guidelines[13] (2019). Note that buildings that would be impacted by the proposed action would require evaluation for CRHR eligibility by a qualified architectural historian. If the cultural resource(s) are determined to be historical resource(s) (i.e., listed or eligible for listing in the CRHR), the enrollee or third party, in coordination with the qualified archaeologist, must avoid impacting the resource(s) to the extent feasible. This would include relocating or redesigning proposed management practice(s) such as to avoid the resource or leaving structures in place in setback areas or otherwise preserving structure(s) that are listed or eligible for listing. If the historical resource(s) cannot be completely avoided, the qualified archaeologist must develop and implement a data recovery plan, which makes

[13] Guidelines for Applicants and their Consultants on Preparing Historic Property Identification Reports for the Clean and Drinking Water State Revolving Fund Programs. Revised 9/12/19. While these guidelines were developed for other State Water Board programs, they provide protocols that can generally be applied to other programs where cultural resources must be addressed.

provisions for adequately recovering the scientifically consequential information from and about the historical resource(s) that may be impacted by the proposed activity. The data recovery plan must be prepared and submitted to the Regional Water Board for approval, and the data recovery plan must be approved by Regional Water Board prior to any excavation taking place that may impact the resource(s). Regional Water Board must ensure that data recovery plans for Native American archaeological sites have the opportunity be reviewed by consulting tribes. Archaeological sites known to contain human remains must be treated in accordance with the provisions of Section 7050.5 of the Health and Safety Code (see Mitigation Measure CUL-3). For any artifacts removed during project excavation or testing, the professional archaeologist must provide for the curation of such artifact(s). For structure(s) evaluated as a historical resource(s) that cannot be avoided, reconstruction of the structure(s) at an off- site location, consistent with the Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings, may be an appropriate minimization measure that may be implemented in addition to, or as part of, the data recovery plan.

1) Provisions must be made by the enrollee or third party for the accidental discovery of historical or unique archaeological resources during construction of applicable management practices, pursuant to CEQA Guidelines 15064.5(f). If cultural resources[14] are uncovered during construction, work must immediately cease within 50 feet of the finds and the materials must be evaluated by a qualified archaeologist. If the finds are determined to be a historical or unique archaeological resource, avoidance measures or appropriate mitigation (e.g., data recovery, documentation, and curation) must be implemented.

Impact CUL-2: Cause a substantial adverse change in the significance of archaeological resources pursuant to section 15064.5. (*Less than Significant with Mitigation*)

See Impact CUL-1, above.

Mitigation Measure CUL-2.

See Mitigation Measure CUL-1, above.

Impact CUL-3: Disturb Any Human remains, including those interred outside of dedicated cemeteries. *(Less than Significant with Mitigation)*

[14] Native American archaeological materials or indicators may include, but are not limited to, arrowheads and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars, and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone, fire affected stones, shellfish, or other dietary refuse. Historic era archaeological materials may include, but not be limited to: adobe or fired brick; metal objects such as nails, hinges, machine parts, etc.; household wares such as pottery or glass artifacts or shards; tin cans; milled lumber, etc.

Similar to the potential impacts to historical and archaeological resources discussed under Impact CUL-1 and CUL-2, activities conducted under the Lily Bulb Order that involve ground disturbance have the potential to disturb previously undocumented human remains. In general, it is considered unlikely that human remains would be present in previously disturbed soils within existing irrigated agricultural fields; however, this possibility cannot be entirely ruled out and human remains must be addressed in accordance with state law regardless of their context in disturbed or undisturbed ground. If human remains were uncovered during ground-disturbing activities, this could result in a significant impact.

Implementation of **Mitigation Measures CUL-1** and **CUL-3,** the latter of which would require compliance with existing state laws pertaining to the discovery of human remains (e.g., Health and Safety Code Section 7050.5), would reduce such impacts to a less-than-significant level. As such, this impact would be ***less than significant with mitigation***.

Mitigation Measure CUL-3: Comply with State Laws Pertaining to the Discovery of Human Remains.

If human remains are discovered during construction, the requirements of Health and Safety Code Section 7050.5 must be followed. Potentially damaging excavation must halt on the construction site within a minimum radius of 100 feet of the remains, and the county coroner must be notified. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, the NAHC must be contacted by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). Pursuant to the provisions of PRC Section 5097.98, the NAHC must identify a most likely descendent (MLD). The MLD designated by NAHC must have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. The enrollee must work with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect. Ground disturbing activities must not resume until these requirements are met.

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VIII. Tribal Cultural Resources

This section presents the regulatory setting, environmental setting, and potential impacts of the Proposed Project related to tribal cultural resources (TCRs). TCRs include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe. As such, TCRs may contain physical cultural remains (i.e., materials found in archaeological sites), or they may be places within the natural landscape.

A. Regulatory Setting

1. Federal Laws, Ordinances, Regulations, and Policies

No federal laws, regulations, or policies are applicable to cultural resources and the Proposed Project, reasonably foreseeable distribution components, and alternatives.

2. State Laws, Ordinances, Regulations, and Policies

a. California Environmental Quality Act

Assembly Bill (AB) 52 (Statutes of 2014, Chapter 532) requires that lead agencies under the CEQA consult with California Native American tribes that have requested in writing to be notified and that are traditionally and culturally affiliated with the geographic area of a proposed project, prior to the development of a CEQA document. PRC Section 21084.2 specifies that a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment. This language was added to Appendix G (initial study checklist) of the CEQA Guidelines in 2016. AB 52 also requires that a project's CEQA lead agency consult with California Native American tribes as required under PRC Section 21080.3.1.

As defined in PRC Section 21074:

(a) TCRs are either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

A. Included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR).

B. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this

paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

(b) A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a TCR if it conforms to the criteria of subdivision (a).

Mitigation measures for TCRs may be developed in consultation with the affected California Native American tribe(s) in accordance with PRC Section 21080.3.2 or Section 21084.3. The latter section identifies examples of mitigation measures that include avoidance and preservation of TCRs and treating TCRs with culturally appropriate dignity, considering tribal cultural values and the meaning of the resource.

b. California Register of Historical Resources

As described in Section 4.5, "Cultural Resources," the CRHR is established in PRC Section 5024.1. The CRHR lists all California properties considered to be significant historical resources, including all properties listed in, or determined to be eligible for listing in, the National Register of Historic Places. Resources listed in, or eligible for listing in, the CRHR are referred to as *historical resources.* The criteria for listing include resources that:

1. Are associated with the events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Are associated with the lives of persons important in our past;

3. Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

4. Have yielded, or may be likely to yield, information important in prehistory or history.

The CCR Section 4852 sets forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

c. California Native American Heritage Commission

The NAHC was created in 1976 and is a nine-member body whose members are appointed by the Governor. The NAHC identifies, catalogs, and protects Native American cultural resources, which includes ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with

ensuring California Native American tribes' access to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act, among other powers and duties.

d. Native American Tribal Consultation

The North Coast Water Board contacted the NAHC in January 2024, to request a comprehensive list of all tribes within the Proposed Project Area. The NAHC responded in March 2024 with a list that contained the contact information for 8 tribes. On April 10, 2024, the North Coast Water Board sent 16 letters, through the U.S. Postal Service, to all tribes included in the NAHC list and other tribal individuals. The letters described the North Coast Water Board's intent to produce this Draft EIR for the Proposed Project and salient aspects of the Proposed Project itself. The letters provided notice of North Coast Water Board's consideration of the Proposed Project's potential to affect TCRs and invited the letter recipients to contact the North Coast Water Board if they wished to consult on the Proposed Project in accordance with PRC Section 21080.3.1. The North Coast Water Board received responses from three separate tribes, with the Tolowa Dee-Ni' Nation choosing to undergo formal consultation. That consultation was formally initiated in early summer 2024. Elk Valley Rancheria asked that their contact information be updated and deferred to the Tolowa Dee-Ni' Nation. The Pulika Tribe of Yurok People (formally known as Resighini Rancheria) also deferred to the Tolowa Dee-Ni' Nation and Elk Valley Rancheria.

The list of individual tribes contacted are listed below, with tribes that provided a response to the invitation to consult marked with an asterisk (*):

Cher-Ae Heights Indian Community of the Trinidad Rancheria

Elk Valley Rancheria*

Karuk Tribe

Melochundum Band of Tolowa Indians

Resighini Rancheria/ Coast Indian Community*

Shasta Nation

Tolowa Dee-ni' Nation*

Yurok Tribe

3. Local Laws, Ordinances, Regulations, and Policies

The Del Norte County General Plan states that the County shall continue to solicit the views of the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of

cultural importance. Additionally, the County shall maintain confidentiality regarding the locations of archaeological sites to protect these resources from vandalism and unauthorized removal of artifacts. Attachment C lists potentially applicable goals and policies in the Del Norte County General Plan.

B. Environmental Setting

The Environmental Setting section of Chapter VII, Cultural Resources, provides a detailed discussion of the environmental baseline which may relate to TCRs. That discussion is incorporated by reference and forms additional basis for the analysis in this chapter. The information provided below builds on the environmental baseline established in Chapter VII and provides additional detail specific to TCRs.

This section provides a description of the *Taa-laa-wa Dee-ni'* (Tolowa People), the California Native American Tribe traditionally and culturally affiliated with the geographic area of the Proposed Project. The California Native American tribal communities of *Taa-laa-wa Dee-ni'* decent traditionally inhabited the territory within the Smith River basin.

1. California Native American Tribes

The Proposed Project Area under proposed permitting activity by the *GWDR for Commercial Easter Lily Bulb Operations in the Smith River Plain* is located in *Taa-laa-waa-dvn* (Tolowa Dee-ni' Aboriginal Territory). The Area has been inhabited by *Taa-laa-wa Dee-ni'* since time immemorial. The *Taa-laa-wa Dee-ni'* Genesis account, *Tax-ne Nes-ya~,* takes place at *Yan'-daa-k'vt*, located on the south bank of the lower Smith River. With the Smith River and *Yan'-daa-k'vt* (Yontocket) in The Center of The World, the territory encompasses the lands and watersheds of *Daa-ghestlh-ts'a' Taa-ghii~-li~* (Wilson Creek) to the south, the *Ts'aa-xwii-chit* (Sixes River) to the north, east to the *Taa-xuu-me' Tr'ee-ghii~-li~* (Applegate Watershed) in the Coastal Range, and west to the Pacific Ocean horizon, including all sea stacks, and all usual and accustomed places.

Environmental Relationships

The environmental setting of the *Taa-laa-waa-dvn* encompasses over 100 miles of coastal shoreline and approximately 2.87 million acres of land and undefined acreage of marine waters in northern California and southern Oregon. The area includes a unique combination of mountain ranges, significant rocks/sea stacks, geography and unique geology and is located within portions of the Western Cascade Range, the Siskiyou Mountains, the Northern Coast Ranges and the Klamath Mountains. Present-day settlements of Smith River and Crescent City are in the central and south-central coastal part of the Proposed Project Area. This area of the coast is centered around the *Xaa-wvn' Taa-ghii~-li~* (Smith River). The Smith River is one of the last free-flowing rivers in California. The Proposed Project Area under consideration for development of a GWDR is limited to Del Norte County, which is only a portion of the broader aboriginal territory. The County is home to sacred old-growth *k'vsh-chu ch'ee-taa-ghee-dvn* (redwood forests), with some of the oldest and tallest redwood trees in the world.

Cultural Condition

The *Taa-laa-wa Dee-ni'* have inhabited the Proposed Project Area since the beginning of time, which is reflected in the *Tax-ne Nes-ya~,* Genesis account. A network of rivers and trails, many now modern roads and highways, link the areas and allow for travel, shared cultural values and trade. The *Taa-laa-wa Dee-ni'* are spread out across the vast aboriginal territory into 11 *yvtlh-'i~* (polities/political districts). Each *yvtlh-'i~* has headmen/leaders, with each group being connected to certain *yvtlh-'i~* and the land, waters, and resources within.

Prior to 1850, contact with visitors from Russia, Spain, and the Pacific Islands was largely limited to the coast. By 1850, after gold was discovered on the Trinity River, visions of sudden wealth inspired thousands of miners to immigrate to the region, triggering the American invasion and the state sanctioned genocide of the *Taa-laa-wa Dee-ni'*. For *Taa-laa-wa Dee-ni'* and other natives, the Gold Rush era was “The time the world was turned upside down” (Reed, 1999). Prior to the 1850’s the *Taa-laa-wa Dee-ni'* population is estimated to have been approximately10,000. Post invasion, the population of the *dee-ni'* in Del Norte County plummeted to just over 100.

In the early twentieth century, ethnographers (Baumhoff 1958, 1963; Bodega 1775; Driver 1939; Drucker 1937; DuBois 1932, 1936, 1939; Gould 1966a, 1966b, 1966c, 1975; Goddard 1903, 1904; Harrington 1931, 1932; Kroeber 1925, 1936; Kroeber and Barrett 1960; Kroeber and Gifford 1949; Powers 1877; Smith in Sullivan 1934; Vancouver 1793; Waterman 1920, 1925; Gould 1966a, 1966b, 1975, 1978; Swezey and Heizer 1993) interviewed and documented the *Taa-laa-wa Dee-ni'.* Today, the *Taa-laa-wa Dee-ni'* provide further insight and valuable information about the culture and history of the Proposed Project Area. TCRs within the Proposed Project Area continue to be held sacred by the *Taa-laa-wa Dee-ni'* today, and include at least 35 permanent villages, associated cemeteries, massacre sites, clandestine graves, gathering/harvesting/hunting areas, travel corridors, ceremonial, and sacred sites, landmarks, water bodies, plants, rocks, animals, soil, and viewsheds. The Proposed Project Area includes portions of the 1862 Smith River Indian Reservation, and the 1906/1908 Reservation (Smith River Rancheria). Today, the Tolowa Dee-ni' Nation is federally recognized as a sovereign tribal government with over 2100 enrolled citizens, a duly elected Tribal Council, and a Constitution and Tribal Code. The majority of the Nation’s current land holdings are within Del Norte County and the Proposed Project Area. The Nation and its enterprises employ more than 300 staff, including a robust Natural Resources Department and Tribal Heritage Preservation Office, which have the responsibility to steward and protect tribal resources, culture, and interests throughout the ancestral territory. The Nation’s government ensures consistency and compliance among tribal, federal and state laws. Tolowa Dee-ni' citizens continue to inhabit their ancestral territory, practice cultural traditions, and maintain deep and sustaining relationships to the landscape and environment.

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In addition to the *Tax-ne Nes-ya~* of the *Taa-laa-wa Dee-ni'*, the pre-contact/archaeological resources within the Proposed Project Area provide further supporting evidence of habitation and ceremonial use. Archaeologists claim that Paleoindian peoples were present along the southern Oregon and northern California coastal areas by about 11,000 to 12,000 years ago, which is encompassed by what archaeologists have called the Terminal Pleistocene (12,000-10,000 BP). Like others around the world, Taa-laa-wa Dee-ni' culture was an established and advanced civilization. Archeological evidence within the Proposed Project Area dates to 8,500 years before present (Tushingham, 2013).

C. Impact Analysis

1. Impact Analysis Methods

To inform the analysis of Tribal Cultural Resources, the North Coast Water Board obtained tribal expertise through a subcontract with the Tolowa Dee-ni' Nation, the California Native American tribe traditionally and culturally affiliated with the Proposed Project area. The Tolowa Dee-ni' Nation provided input on the environmental baseline for Tribal Cultural Resources, as well as on the identification and definition of Tribal Cultural Resources within the Project area. The document submitted by the Tolowa Dee-ni' Nation in response to the subcontract is included in its entirety as Attachment F.

For the purposes of this analysis, the Proposed Project would result in a significant impact related to TCRs if it would:

> Cause a substantial adverse change in the significance of a TCR, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:
>
> Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC Section 5020.1(k); or

A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant under the criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

A records search was conducted through the Northwest Information Center (NWIC) Information Center at Sonoma State University by the lead agency. The Proposed Project Area has not been fully surveyed, and previous recordation efforts vary in methodology. Numerous studies conducted within the Proposed Project Area have identified pre-contact/archaeological sites and the State Historic Preservation Officer has confirmed the eligibility status of many of these archaeological sites. CEQA

§15064.5 considers historical resources significant if they are eligible for, or are listed in, the California Register of Historical Resources. Cultural/historic resources must meet one of the following criteria to be eligible:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- It is associated with the lives of persons important to local, California, or national history.
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

These previous evaluations focused on eligibility based on the archaeological research value of their potential to yield information. Most of the TCRs have not been evaluated for eligibility for listing on the National Register of Historic Places and/or the California Register of Historical Resources under any other criteria, and in most cases did not benefit from input or consultation with the *Taa-laa-wa Dee-ni'*. Notably missing from previous evaluations is consideration of how archaeological and tribal cultural resources contribute to the rich history of the area, thereby expanding the lines of evidence for eligibility under other criteria. Contributing elements upon *Nvn-nvst-'a~* (Mother Earth) and associations of TCRs are all-encompassing and include: people, rivers, creeks, holes in the ground, landmarks, viewsheds, habitation areas, resource processing areas, resource harvesting areas, resource extraction areas, corridors and trails, rock shelters and caches, prayer seats, rock art, water bodies and springs, places of legend, ceremonial practices, locations and items, burials, massacre sites, clandestine graves, and burial grounds, plants, animals, soil, rocks, and the geologic foundation and atmospheric condition of the planet. It is important to note that the physical contributing elements within the Proposed Project Area are connected by the spaces in between. The space in between, and the interconnectedness it represents, is also considered a cultural resource/contributing element to the landscape and to the *Taa-laa-wa Dee-ni'* relationship to place. While there are no physical traces in some of these areas, the *Taa-laa-wa Dee-ni'* experience them and continue to experience them. Viewsheds are considered for their ranges outside of the physically defined landscape as those vistas create connection and meaning for the *Taa-laa-wa Dee-ni'*.

Per PRC 21074 (a)(1)(A)-(B), as the lead agency in developing and enforcing this Order, the North Coast Water Board can choose to designate the lower Smith River and adjacent terrace a Tribal Cultural Landscape ("TCL"). The Tolowa Dee-ni' Nation asserts that the Proposed Project Area covered under this GWDR is a TCL, as

evidenced by continued habitation for at least 11,000 years and ceremonial significance detailed in the oral history, and is using that position to evaluate historic condition and assess potential impacts of implementing a permitting system for continued cultivation of lily bulbs in the area.

Tribal cultural resources in the Proposed Project Area include landscape-scale relationships and contributing elements that may encompass viewsheds and culturally important plant and animal resources. Accordingly, in addition to the thresholds and impact analysis presented below for other TCRs, this EIR evaluates potential effects to the TCL through (1) changes to the tribal cultural viewshed, using CEQA Appendix G: Aesthetics as a model to assess changes to visual conditions, and (2) changes to biological resources of tribal cultural relevance, using the Biological Resources analysis and mitigation measures as a foundation and incorporating that analysis by reference.

2. Thresholds of Significance

CEQA requires an EIR to identify thresholds of significance to determine whether a project would result in a significant impact. A project would normally have a significant impact related to tribal cultural resources if it would cause a substantial adverse change in the significance of a tribal cultural resource (TCR), as defined in Public Resources Code section 21074 and identified in Appendix G of the CEQA Guidelines. Public Resources Code section 21084.2 further provides that a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment.

Neither the CEQA Guidelines nor Public Resource Code independently defines "substantial adverse change," with respect to TCRs. Consistent with the approach used in recent EIRs, this EIR interprets "substantial adverse change" for a TCR using the CEQA Guidelines concept of material impairment (CEQA Guidelines §15064.5, subd. (b)), which defines a substantial adverse change in the significance of an historical resource as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the resource's significance would be materially impaired. For purposes of this analysis, a substantial adverse change in the significance of a TCR occurs when, considering baseline conditions, a project would materially impair the characteristics, setting, use, access, or cultural values that make the resource significant to a California Native American tribe, including resources that are listed/eligible or that the lead agency determines significant, considering tribal significance as required by PRC section 5024.1(c).

Accordingly, the Proposed Project would result in a significant impact to Tribal Cultural Resources if it would do any of the following (each constituting a substantial adverse change/material impairment):

- Direct physical disturbance or destruction. Cause ground disturbance, grading, excavation, trenching, or other activities that would damage, destroy, displace, or otherwise physically alter a TCR, including associated deposits, features, or objects, such that the resource's integrity or cultural value would be materially

impaired.

- Relocation or alteration of a resource or its immediate surroundings. Physically relocate a TCR, or alter the resource or its immediate surroundings in a way that materially impairs the resource's significance to a tribe (including integrity of location, setting, feeling, association, and other attributes relevant to tribal values).

- Indirect effects that materially impair significance. Indirectly degrade a TCR through changes that materially impair its significance, including increasing exposure to vandalism, looting, unauthorized collection, or inadvertent disturbance as a result of increased access or other project-related changes.

- Interference with cultural practices or access when that access/use is integral to significance. Restrict, substantially degrade, or otherwise interfere with access to, or the ability to practice cultural activities associated with, a TCR when that access or use is a defining component of the resource's significance to a tribe (as identified through consultation or substantial evidence).

- Impairment of visual conditions within tribal cultural viewshed that contribute to significance of the TCL. Materially impair the tribal cultural viewshed or visual setting that contributes to the significance of the Tribal Cultural Landscape. In applying this standard, this EIR uses the CEQA Appendix G: Aesthetics criteria as a proxy to define what constitutes a substantial adverse change to visual conditions, including whether the Proposed Project would: (a) have a substantial adverse effect on a scenic vista; (b) substantially damage scenic resources; (c) substantially degrade the existing visual character or quality of the site and its surroundings; or (d) create a new source of substantial light or glare that would adversely affect day or nighttime views.

- Interfere with significance of the TCL by materially impairing tribal cultural biological resources (including plant and animal species and related habitats) that contribute to the TCL's cultural value. The significance criteria, impact analysis, and mitigation measures presented in the Biological Resources chapter are incorporated here by reference. However, tribal cultural biological resources may be more extensive than the special-status species and sensitive habitats identified through conventional biological resource screening, and may include additional plants, animals, and ecological relationships identified through tribal knowledge and consultation.

These thresholds apply to TCRs that are (1) listed or eligible for listing in the California Register or a local register, or (2) determined by the lead agency to be significant based on substantial evidence, considering the significance of the resource to a California Native American tribe.

3. Impacts and Mitigation Methods

Impact TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource. (Less than Significant with Mitigation)

Some activities proposed under this Order have the potential to significantly impact previously unidentified cultural resources, including historical resources, archaeological sites, and/or TCRs as defined in CEQA Sections 15064.5 (a), 15064.5(c)(2), and 21074, respectively.

Many of the reasonably foreseeable Management Practices (as listed in Attachment B) that could be implemented under the Proposed Project to comply with requirements under the Order would have little to no potential to impact TCRs. For example, practices such as applying less fertilizer, applying pesticides per labeling directions, and other similar practices would not impact TCRs. These activities would take place within existing lily bulb operations and would not substantially change any landscape, site, or place that could have tribal cultural significance. Likewise, many of the monitoring and reporting activities that could occur under the Proposed Project (e.g., surface water monitoring, pedestrian, and vehicle trips to monitoring sites, groundwater sampling and analysis via existing wells) would have no potential to substantially affect TCRs.

However, certain activities could potentially affect buried objects or materials that could be TCRs. Construction/installation of reasonably foreseeable Management Practices that involve ground disturbance (e.g., retention/detention basins, vegetated filter strips, etc.) could potentially uncover buried TCRs. As discussed in the Cultural Resources Chapter, it is assumed that the majority of management practices and other activities (e.g., installation of new monitoring wells) under the Proposed Project would occur within existing lily bulb operations. In general, these areas are subject to repeated disturbance (e.g., tilling) and thus Proposed Project activities disturbing the top soil layers in these areas would not be expected to uncover any buried TCRs or other cultural resources.

However, while most activities would occur within existing fields, it is possible that certain management practices could be constructed/installed in areas adjacent to existing cultivation areas that have not been subject to prior disturbance. Facilities such as retention/detention basins could be installed on the periphery of fields to receive runoff and could be placed in undisturbed areas. Additionally, certain management practices, although located within existing cultivation areas, could be installed to depths below the prior disturbance limits (e.g., excavation for construction of a retention basin could disturb soil to five feet deep, whereas routine disturbance from tilling and other activities only reaches to two feet deep). These types of activities could potentially impact TCRs if they were present within the proposed disturbance area and proper protocols were not followed.

Implementation of Mitigation Measure CUL-1 and CUL-2 would avoid or reduce potential impacts on TCRs by requiring that growers or third parties retain a qualified archaeologist in the event that proposed management practices or other actions would involve modifications to previously undisturbed soils. The qualified archaeologist would conduct a California Historical Resources Information System records search, contact

the NAHC to request a search of the Sacred Lands files, contact tribes who have a traditional and cultural affiliation with the proposed disturbance area, and conduct a pedestrian survey of the site (if one has not already been conducted). This process would identify any TCRs that may be present in the proposed impact area and allow for input by affiliated tribes. Mitigation Measure CUL-1 would require that growers or third parties avoid identified significant resources to the extent feasible. If avoidance is not feasible, the qualified archaeologist would be required to develop a data recovery plan, which applicable tribes would have the opportunity to review.

Additionally, Mitigation Measure CUL-3 would require that California Health and Safety Code Section 7050.5 is followed for any human remains known to be present within archaeological sites or inadvertently encountered during the course of excavation activities for individual management practices. This would include contacting the NAHC for any remains that are determined to be those of a Native American individual by the coroner, identification of a most likely descendent (MLD) by the NAHC, and working with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect.

If human remains are identified or suspected, all provisions of the Health and Safety Code 7054 and 7050.5 and the Public Resources Code 5097.9 through 5097.99 will be followed. No photographs will be taken of any human remains, unless required for identification purposes and with permission from Tribal representatives. There shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent human remains until the following occurs:

1. The Permit Holder will immediately contact the Del Norte County Coroner (Coroner).

   Del Norte County Coroner
   650 5th Street, Crescent City CA. 95531
   Phone: 707-464-4191

2. If the Coroner determines the remains to be Native American:
   a. The Coroner will contact the Native American Heritage Commission (NAHC) within 24 hours.
   b. The NAHC will designate a Most Likely Descendant (MLD) [CCR 15064.5(e)(1)(B)].
   c. The designated MLD will meet with the Permit Holder as soon as feasible, to make a recommendation on the treatment of the remains and associated artifacts.

Implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 would reduce potential impacts to TCRs to ***less than significant with mitigation.***

Impact TCR-2: Affect the Tribal Cultural Viewshed or Visual Setting of the TCL (Less than Significant with Mitigation)

Implementation of Management Practices under the Proposed Project could introduce new or modified physical features within the Tribal Cultural Landscape (TCL) and its surrounding visual setting (e.g., graded swales, sediment control basins, riparian management features, access and maintenance activities, and associated equipment staging).

Depending on location, scale, and visibility from culturally important vantage points, these features could alter the visual character of the landscape or affect views toward or across the TCL. In addition, implementation of riparian management and invasive species control could change vegetation patterns along riparian corridors that could temporarily or permanently alter the visual setting that contributes to the TCL's significance.

Because viewsheds are identified as contributing elements to tribal cultural resources in the Proposed Project Area, changes that substantially degrade the existing visual character or quality of the TCL setting, adversely affect scenic vistas important to the TCL, or create new sources of substantial light or glare that adversely affect day or nighttime views could constitute a substantial adverse change in the significance of the TCL.

Mitigation Measure TCR-2: Viewshed Protection Measures for Management Practice Implementation

The following measures would avoid or substantially lessen potential impacts to the TCL viewshed and visual setting by the implementation of Management Practices under the Proposed Project:

Low-profile design and naturalistic contours. Design above-ground elements (including berms and basin edges) to maintain low profiles, use naturalistic grading, and minimize visual contrast with surrounding landforms.

Material and finish controls. Use non-reflective materials and finishes for any above-ground structures, appurtenances, or signage to minimize glare and visual contrast.

Vegetation retention and screening. Retain existing screening vegetation where feasible and restore disturbed areas with native vegetation appropriate to the local setting. Where vegetation establishment is part of design or permitting compliance, prioritize revegetation methods that support both ecological function and the continuity of the TCL's visual setting.

Lighting limitations. Avoid new permanent nighttime lighting associated with Management Practice implementation. If lighting is necessary for safety, use the minimum intensity required and fully shield fixtures to direct light downward and away from culturally important views.

Implementation of Mitigation Measure TCR-2 would reduce potential impacts to TCRs to ***less than significant with mitigation.***

Impact TCR-3: Affect Tribal Cultural Biological Resources that Contribute to the Tribal Cultural Landscape (Less than Significant with Mitigation)

The Proposed Project is expected to have largely beneficial effects on biological resources through required implementation of Management Practices that reduce pollutant discharges and support riparian and aquatic habitat functions.

However, implementation of certain Management Practices could also result in localized adverse effects (e.g., construction-related disturbance, vegetation removal for maintenance of crossings/utilities, invasive species control activities, and other ground-disturbing work).

Chapter VI: Biological Resources chapter analyzes these potential effects, including significance thresholds, impact determinations, and mitigation measures as they relate to sensitive species. In addition to the resources addressed in the Biological Resources chapter, the TCL may include culturally important plant and animal species and ecological relationships that are not captured by the Special Status Species list or conventional sensitive habitat mapping. Accordingly, even where an effect would be less than significant for Biological Resources under conventional CEQA analysis, the Proposed Project could adversely affect biological resources relevant to tribal cultural resources if it interferes with the culturally important attributes, availability, or integrity of those resources within the TCL.

Potential impacts to tribal cultural biological resources that contribute to the Tribal Cultural Landscape are addressed through the mitigation framework established in Chapter VI, Biological Resources. Specifically, Mitigation Measure BIO-1 (Avoid and Minimize Impacts on Sensitive Biological Resources), Mitigation Measure HWQ-1 (Erosion Control and Construction Best Management Practices), and Mitigation Measure HAZ-1 (Spill Prevention, Control, and Countermeasures) are applicable to activities that could affect plant and animal species, habitats, and ecological functions within the Tribal Cultural Landscape.

These measures require site-specific evaluation, avoidance, minimization, and, where necessary, restoration or compensation for impacts to biological resources. While the Biological Resources chapter focuses on special-status species and sensitive natural communities identified through conventional biological surveys, implementation of the above mitigation measures would also serve to avoid or minimize potential impacts to tribal cultural biological resources that contribute to the Tribal Cultural Landscape.

Implementation of Mitigation Measures BIO-1, HWQ-1, and HAZ-1 would reduce potential impacts to TCRs to ***less than significant with mitigation***.

IX. Cumulative Impacts

According to State CEQA Guidelines Section 15130(a)(1), a cumulative impact is created by the combination of a proposed project with other past, present, and probable future projects causing related impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (Cal. Code Regs., tit.14 section 15355 (b)). Under CEQA, an EIR must discuss the cumulative impacts of a project when the project's incremental contribution to the group effect is "cumulatively considerable." An EIR does not need to discuss cumulative impacts that do not result, in part, from the project evaluated in the EIR. Where an incremental effect is not cumulatively considerable, the basis for concluding that the incremental effect is not cumulatively considerable must be described.

To meet the adequacy standard established by State CEQA Guidelines Section 15130, an analysis of cumulative impacts should contain the following elements:

1) an analysis of related past, present, and reasonably foreseeable projects or planned development that would affect resources in the project area similar to those affected by the proposed project;

2) a summary of the environmental effects expected to result from those projects with specific reference to additional information stating where that information is available; and

3) a reasonable analysis of the combined (cumulative) impacts of the relevant projects.

A. Approach to Analysis

The following analysis of cumulative impacts focuses on whether the impacts of the Proposed Project are cumulatively considerable within the context of impacts resulting from the Proposed Project and other past, present, or reasonably foreseeable future projects. The cumulative impact scenario considers other projects proposed within the area defined for each resource topic that have the potential to contribute cumulatively considerable impacts.

State CEQA Guidelines Section 15130 provides the following two alternative approaches for analyzing and preparing an adequate discussion of significant cumulative impacts:

1) the list approach, which involves listing past, existing, and probable future projects or activities that have or would produce related or cumulative impacts, including, if necessary, those projects outside the control of the lead agency; or

2) the projection approach, which uses a summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions and their contribution to the cumulative effect.

This chapter utilizes a list approach by developing a list of past, present, and reasonably

foreseeable future related projects, as shown in Table IX.1 that was developed based on review of information available on the Del Norte County website. For each resource topic evaluated, the possible impacts are considered cumulatively in light of similar possible impacts as the Lily Bulb Order. A cumulative impact refers to the combined effect of "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Section 15355). As defined by the State of California, cumulative impacts reflect "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines Section 15355(b)). Detailed analysis of a project's contribution to cumulative impacts is required when (1) a cumulative impact is expected to be significant, and (2) the project's contribution to the cumulative impact is expected to be cumulatively considerable, or significant in the context of the overall (cumulative) level of effect.

Table XIV-1: Reasonably Foreseeable Future Related Projects

Related Project	Project Summary	Activities that Could Affect Resources Similar to the Proposed Project
General Plan, Coastal Element, 1983	Local Coastal Program Land Use Plan	Setbacks from Waterbodies

B. Evaluation of Cumulative Impacts

1. Agriculture and Forestry

As shown in Table III.2 in the Project Description Chapter and described in Attachment A, the Lily Bulb Order would require lily bulb operations to implement Streamside Area setbacks from planted areas (including lily bulb fields and perimeter farm roads) based on the type of waterbody. Implementing setback requirements under the Lily Bulb Order may result in conversion of Important Farmland to non-agricultural use.

The Del Norte County Local Coastal Program (LCP) similarly establishes setbacks and protective measures for riparian corridors, wetlands, estuaries, and other environmentally sensitive habitat areas (ESHAs) to protect biological productivity, water quality, and habitat functions. Although the LCP forms part of the environmental baseline described in Chapter V, Agriculture and Forestry Resources, the effects of implementing the LCP are evaluated in the cumulative impacts analysis. This approach reflects that implementation of the LCP (see Attachment C) would be expected to result in conversion of agricultural land to non-agricultural uses within the geographic scope of the Proposed Project, thereby contributing cumulatively to impacts on agricultural and forestry resources when considered together with the Proposed Project.

The Lily Bulb Order's Streamside Area setbacks and the LCP's riparian and wetland

buffer requirements function complementarily to protect aquatic and riparian ecosystems. However, cumulative impacts may arise if the combined restrictions significantly limit land use activities, including agriculture and forestry operations, within overlapping setback zones. Such cumulative constraints could exacerbate the significant and unavoidable impacts identified in the EIR due to limitations on land management practices and parcel usability adjacent to water bodies.

Overall, the cumulative effect of setbacks from the regulatory Order and the Local Coastal Program will reinforce protections for streamside and riparian habitats but may also intensify constraints on agricultural and forestry resource uses adjacent to these water bodies. Given the magnitude of prime farmland conversion expected to occur under the Lily Bulb Order with no feasible mitigation available to reduce these adverse effects, the Proposed Project's contribution to this cumulative impact on agricultural resources would be considerable.

2. Cultural Resources and Tribal Cultural Resources

Construction or installation of some Management Practices that would involve new ground disturbance and excavation could potentially cause damage to, disrupt, or adversely affect archaeological resources, paleontological resources, or human remains. While the majority of Management Practices are expected to occur within existing cultivation areas where soils have generally been repeatedly disturbed, it is possible that some management activities could occur on the periphery of existing fields where previous disturbance has not occurred or within existing fields and to depths of soil that have not previously been disturbed, potentially resulting in adverse effects on buried, unknown cultural resources. Implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 would prevent or minimize such potential impacts on cultural resources, paleontological resources, and undocumented human remains. Implementation of Mitigation Measures TCR-2, BIO-1, HWQ-1, and HAZ-1 would prevent or minimize potential impacts on the Tribal Cultural Landscape, including the tribal cultural viewshed and biological resources.

Development projects throughout the Smith River Plain would also involve ground-disturbing activities that would have potential to adversely affect cultural resources, primarily buried archaeological materials, paleontological resources (e.g., fossils), and human remains. Given the nature of buried cultural resources, it is difficult to ascertain the magnitude of potential ongoing cumulative impacts to these resources since in many cases it is not known precisely what is present below the surface soil and it may not be known what is lost through excavation activities. Due to the widespread, ongoing development in California, much of which has the potential to disturb known and unknown cultural resources, it can be assumed that the cumulative impact is significant. However, there are robust federal and state laws, as well as local laws and policies, the require the proper treatment and mitigation for potential impacts to cultural and tribal cultural resources, which the Proposed Project and other development projects in the Smith River Plain would need to follow, at least partially mitigating the cumulative impact.

Overall, given implementation of Mitigation Measures CUL-1, CUL-2, CUL-3, TCR-2, BIO-1, HWQ-1, and HAZ-1 and the fact that most Management Practices would take place within disturbed areas of existing cultivation areas, the Proposed Project's contribution to this cumulative impact would be less than considerable.

3. Biological Resources

As described in the Biological Resources Chapter, Management Practices implemented under the Proposed Project is expected to have a beneficial effect on biological resources, including special-status species and habitat. Among the primary objectives is to protect and restore surface water and groundwater quality in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations (see Project Objective #1. in Chapter 1, Executive Summary). Compliance with General Order, through Irrigation, Nutrient, and Pesticide Management for Surface Water Protection; Riparian Zone Management for Surface Water Protection; Sediment and Erosion Control for Surface Water Protection; Irrigation, Nutrient, and Pesticide Management for Groundwater Protection; and Monitoring and Reporting Requirements will reduce ongoing discharges of pollutants from irrigated agricultural lands and correct existing impacts on water quality and aquatic habitats. Additionally, installing and/or maintaining vegetated buffers would allow the natural establishment and abundance of native riparian vegetation to minimize and prevent discharge of sediment, nutrients, excess temperature, and pesticides to surface water, riparian habitat and vegetation in the region, which will benefit any number of special-status species that may use these areas. The implementation of Management Practices would support beneficial uses to biological resources and aquatic habitats and (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

Despite these largely beneficial effects, there is potential for some adverse effects to occur from the Proposed Project Implementation of the Management Practices for Water Protection under the General Order. These effects include construction-related effects from installation of certain management practices. Additionally, the installation of Riparian Vegetation Areas can include removal of riparian vegetation as part of necessary maintenance of existing watercourse crossings and linear utilities, control of invasive species, and permitted surface water diversions. The General Order would regulate the removal and degradation of riparian vegetation resulting in the loss or degradation on instream beneficial uses would be expected to improve water quality and would largely have a beneficial effect on receiving waters. Like the Proposed Project, the cumulative impact of projects listed in Table IX.1 would largely improve water quality conditions in waterbodies within the Project Area. As a result, the Proposed Project would not substantially contribute to significant cumulative water quality impacts.

DRAFT

X. Alternatives Analysis

A. Introduction

This chapter analyzes alternatives to the North Coast Water Board adopting the Lily Bulb Order. The chapter describes the alternatives screening and development process and the list of alternatives considered in the Draft EIR. The chapter analyzes the environmental impacts of the alternatives considered in comparison to the Lily Bulb Order.

1. Regulatory Requirements

The California Environmental Quality Act (CEQA) requires that an EIR evaluate a reasonable range of alternatives to a proposed project, including a No Project Alternative. The No Project Alternative allows decision makers to compare the impacts of approving the proposed action against the impacts of not approving the action. Although no clear rule exists for determining a reasonable range of alternatives to a proposed project, CEQA provides guidance that can be used to define the range of alternatives for consideration in the environmental document.

With the exception of the No Project Alternative, the range of alternatives considered under CEQA must meet most of the basic project objectives, should reduce or eliminate one or more of the significant impacts of the proposed project (although the alternative could have greater impacts overall), and must be potentially feasible. In determining whether alternatives are potentially feasible, lead agencies are guided by the general definition of feasibility provided in Section 15364 of the State CEQA Guidelines: “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.” Section 15126.6 (f) of the State CEQA Guidelines further stipulates that the lead agency should consider site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, and jurisdictional boundaries in determining the range of alternatives to be evaluated in an EIR.

An EIR must briefly describe the rationale for selection and rejection of alternatives and the information that the lead agency relied on in making the selection. It also should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reason for their exclusion (State CEQA Guidelines Section 15126[d][2]).

2. Alternatives Development and Screening Process

In developing alternatives to the Proposed Project, the North Coast Water Board considered and applied screening criteria to potential alternatives in accordance with CEQA requirements, including (1) whether the alternative meets most of the Project objectives; (2) whether the alternative is potentially feasible; and (3) whether the alternative lessens or avoids one or more of the Proposed Project’s significant environmental impacts. The relevant comments received, and the screening criteria, are discussed below.

3. Alternatives Screening Criteria

a. Would the Alternative Meet Most of the Project Objectives?

As described in the Project Description Chapter, the purpose of the Lily Bulb Order is to:

Objective #1 – Protect and restore beneficial uses and achieve water quality objectives specified in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations by:

(a) Minimizing or preventing sediment, nutrient, and pesticide discharges to surface water.

(b) Minimizing or preventing nitrate and pesticide discharges to groundwater.

(c) Minimizing or preventing temperature impacts to surface water from loss of riparian shade.

Objective #2 - Effectively track and quantify achievement of the stated objectives over a specific, defined time schedule.

Objective #3 - Comply with the Nonpoint Point Source Policy, the State Antidegradation Policy, the precedential language in the State Water Resources Control Board Eastern San Joaquin Agricultural Order, the North Coast Basin Plan, and other relevant statutes and water quality plans and policies, including the Temperature Implementation Policy, and the Sediment TMDL Implementation Policy.

Potential alternatives were analyzed to determine whether they would achieve “most” objectives, which in this case would be at least two out of three. Note that meeting the third Project Objective is not considered optional by the North Coast Water Board, as there is no option but to implement and comply with these existing regulations, statutes, and court decisions.

b. Is the Alternative Potentially Feasible?

As noted above, the determination of feasibility under CEQA takes into account economic, environmental, legal, social, and technological factors. The CEQA Guidelines also state that factors such as site suitability, availability of infrastructure, general plan consistency, other regulatory limitations, and jurisdictional boundaries may be considered.

With respect to the Proposed Lily Bulb Order, which is a watershed-wide general order that does not pertain to a specific project site, site suitability and availability of infrastructure are not directly relevant. General Plan consistency and geopolitical jurisdictional boundaries are relevant since the Lily Bulb Order would be implemented entirely within Del Norte County. With the exception of potential conversion of agricultural land to riparian/vegetative buffers and Streamside Area requirements, the Lily Bulb Order would not involve a significant change to an existing land use that could conflict with the County of Del Norte general plan land use designation or zoning.

The factors considered in the alternatives screening process and the specific considerations which guided the process are discussed further below.

Economic Feasibility. Is the alternative so costly that implementation would be prohibitive? CEQA Guidelines Section 15126.6(b) requires consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of the project objectives, or would be more costly." The Court of Appeals determined in Citizens of Goleta Valley v. Board of Supervisors (2nd Dist. 1988) 197 Cal.App.3d 1167, p. 1181 (see also Kings County Farm Bureau v. City of Hanford [5th Dist. 1990] 221 Cal.App.3d 692, 736): "[t]he fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project."

Environmental Feasibility. Would implementation of the alternative cause substantially greater environmental damage than the Proposed Project, thereby making the alternative clearly inferior from an environmental standpoint? To the extent that the alternative could introduce a new significant effect, or increase the severity of a significant effect, this could render the alternative environmentally infeasible.

Legal Feasibility. Does the alternative conflict with established law or regulations, such that it would be infeasible to implement? With respect to Lily Bulb Order, this criterion is particularly relevant to consistency with Project Objective #3, which requires consistency with the State Nonpoint Source Pollution Control Program, the State Antidegradation Policy, the precedential language in the Eastern San Joaquin Agricultural Order, the Basin Plan, including the Temperature Implementation Policy, and the Sediment TMDL Implementation Policy. Inability to meet this objective, even if the other two objectives (i.e., "most") could be met, could render an alternative legally infeasible.

Social Feasibility. Is the alternative inconsistent with an adopted goal or policy of the North Coast Water Board or another applicable agency? This criterion may apply to aspects of a given alternative that, while technically legally feasible, would not support the agency's policies or mission.

Technical Feasibility. Is the alternative infeasible from a technological perspective, considering available technology? Given that the Lily Bulb Order and its alternatives would not involve specific actions at a specific site (i.e., would not dictate the manner of compliance), technical feasibility is not a prominent limiting factor. It is possible that certain Management Practices may be technically infeasible at certain locations, but it is assumed that Enrollees would implement or install Management Practices that are suitable for their specific ranch/situation.

Note that the threshold for retaining an alternative for consideration in the Draft EIR is *potential* feasibility. In this regard, an alternative does not need to *definitely* be feasible in order to carry it forward for analysis. The approving body (in this case the Governor's appointed members of the North Coast Water Board) makes the final determination in

its findings pursuant to CEQA as to whether a given alternative analyzed in the Draft EIR is actually feasible.

c. Would the Alternative Lessen or Avoid One or More of the Proposed Project's Significant Environmental Impacts?

As described throughout this Draft EIR, the Lily Bulb Order would have the potential to result in potentially significant environmental impacts that could be reduced to less-than-significant with implementation of mitigation measures. The Lily Bulb Order would result in the following significant and unavoidable impacts, for which feasible mitigation could not be identified to reduce those impacts to a less-than-significant level:

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmland) to non-agricultural use (Impact AG-1). Conservatively, Streamside Area buffer requirements in the Lily Bulb Order could result in the maximum conversion of around 28 acres (1.3%) of the Baseline Cultivation Area (Figure 4) to riparian vegetation and a vegetated buffer with limited agricultural uses uses. Additionally, Streamside Area setback requirements could result in an additional 132 acres (1.8%) of Prime Farmland that feasibly could be used to cultivate lily bulbs under Del Norte County's zoning A (Figure 3) to riparian vegetation and limited agricultural use vegetated buffers.

2) Conflict with existing zoning for agricultural use or a Williamson Act contract (Impact AG-2). As noted above, the Streamside Area setback requirements in the Lily Bulb Order could result in the conversion of agricultural lands. This conversion would occur on lands zoned for agricultural use, and the conversion to non-agricultural uses would conflict with the spirit/intent of Del Norte County's agricultural zoning districts.

It is also important to consider that the Lily Bulb Order is specifically designed to support correction of existing unacceptable water quality impairments caused in part by discharges from lily bulb operations. Therefore, even though the Lily Bulb Order could result in the significant impacts described above, its purpose is to address the existing adverse impacts on the environment that are described in the Project Description Chapter. This objective was taken into account during the alternatives impacts evaluation.

B. Analysis of Alternatives

The following alternatives were carried forward for analysis in the Draft EIR because they are required by statute or would meet most of the Lily Bulb Order objectives, are potentially feasible, and would avoid or substantially reduce one or more potentially significant impact of the Lily Bulb Order:

1) No Project

2) Reduced Streamside Area Setback

These alternatives are defined below. The alternative screening results are also discussed, and the potential environmental impacts of each alternative are analyzed in comparison to the Lily Bulb Order. No alternatives were considered but dismissed from full analysis in the Draft EIR.

1. No Project Alternative

a. Description

Under the No Project Alternative, the North Coast Water Board would not adopt nor implement the Lily Bulb Order. In this scenario, implementation of the 2021 Management Plan is expected to continue as it did at the time when the Notice of Preparation was issued. As the Lily Bulb Order would not be adopted under the No Project Alternative, none of requirements described in the Project Description Chapter and Attachment A would go into effect. Discharges from lily bulb operations in the Smith River Plain would not be subject to requirements envisioned under the Lily Bulb Order.

b. Screening Analysis

The No Project Alternative is required by statute; therefore, it was not screened against the alternatives screening criteria. However, while the No Project Alternative is analyzed in this Draft EIR for informational purposes, it is not consistent with the Non-Point Source Policy, Antidegradation Policy and direction from the State Water Board to regulate discharges from irrigated lands under its Irrigated Lands Regulatory Program. Under the No Project Alternative, lily bulb agricultural discharges and temperature impacts would not be regulated. As such, the fundamental objectives of the Proposed Project would not be achieved. Under the No Project alternative, impacts to beneficial uses from lily bulb agriculture discharges would persist and without a monitoring and reporting program there would be no adequate adaptive management feedback loop to assess the quality of surface waters and groundwaters affected by lily bulb operations. Because the No Project alternative fails to meet the basic objectives and legal requirements, this Draft EIR does not consider the No Project alternative in further detail.

2. Reduced Streamside Area Setback Alternative

a. Description

Under the Reduced Streamside Area Setback Alternative (Reduced Setback Alternative), the width of setbacks is reduced by 50 percent as shown in Table X.1. Table X.1 also includes estimated acres of land currently planted to lily bulbs impacted by setbacks in the Proposed Project and setbacks in the Reduced Riparian Setback Alternative.

In this alternative, there would be no change to the proposed Lily Bulb Order requirements, prohibitions or allowed activities in Streamside Areas. The timeline of implementation would also not change.

Implementing the setback requirements as proposed in the Lily Bulb Order would result

in conversion of prime farmland to non-agricultural use. The Reduced Setback Alternative potentially decreases conversion of Important Farmland, therefore reducing the impact. Analysis of this alternative was conducted using the same methods identified in Chapter V, using similar assumptions, spatial analysis, and conservative approaches.

Table XV-1: Streamside Area Vegetated Buffer Minimum Horizontal Width (feet) in Lily Bulb Order and Reduced Setback Alternative

	Perennial Stream	Ephemeral/ Intermittent Stream	Hydrologically Connected Undesignated Channel	Wetland	Baseline Cultivation Area Converted (acres)	Potential Cultivation Area Converted (acres)
Lily Bulb Order	50	25	10	50	28	11
Reduced Setback Alternative	25	12	5	25	132	70

b. Screening Analysis

Consistency with Project Objectives

The Reduced Setback Alternative would meet Project Objective #2 and partially meet Project Objectives #1 and #3 in the sense that implementing the Alternative as proposed would reduce pollutant discharges at least to some degree and maintain prohibitions against removal of riparian vegetation within those setbacks.

However, the Reduced Setback Alternative may not achieve the same level of reductions in pollutant discharges and protection of beneficial uses compared to the Lily Bulb Order due to the lesser control of sediment discharges and temperature impacts. Thus, Reduced Setback Alternative would do less to correct the existing adverse impacts of lily bulb operations on water quality in the Smith River Plain.

Overall Conclusion: The Reduced Setback Alternative would potentially meet some of the project objectives for the Lily Bulb Order.

c. Feasibility

Economic Feasibility: The Reduced Setback Alternative would potentially be less costly to implement than the Proposed Project, as there would be less agricultural land to convert to non-agricultural use under Streamside Area requirements. However, as the Lily Bulb Order proposes this conversion at the time of replant, it is likely that this cost decrease is minimal. It is also possible that a reduced vegetated buffer width would decrease overall cost of Management Practice implementation, as the total area required for Streamside Area practices would be less. However, Enrollees would have

to implement similar Management Practices in the Farm Area so it is likely that this increased cost would be minimal. Therefore, the Reduced Setback Alternative would be economically feasible.

Environmental Feasibility: The Offsite Alternative would be less beneficial to water quality than the Proposed Project. The Reduced Setback Alternative could potentially increase removal of existing riparian vegetation and habitat, which could in turn have adverse effects on biological resources and water quality. The Reduced Setback Alternative could result in more Enrollees removing existing riparian vegetation adjacent to their fields. However, the extent and severity of this potential impact is speculative because it is unknown which growers in which locations may choose to pursue riparian vegetation removal under this alternative. As such, these potential impacts are not considered significant, and the Reduced Setback Alternative would not be infeasible.

Legal Feasibility: The Reduced Setback Alternative is considered to potentially meet Project Objective #3 and thus would be potentially legally feasible.

Social Feasibility: The Reduced Setback Alternative would not appear to conflict with any policy or social goal of the North Coast Regional Water Board. For the purposes of this analysis, the Reduced Setback Alternative is considered potentially feasible from a social standpoint.

Technical Feasibility: The Reduced Setback Alternative would not require any additional monitoring and reporting from what is proposed in the Lily Bulb Order. As such, the Reduced Setback Alternative would be feasible from a technical standpoint.

Feasibility Conclusion: The Reduced Setback Alternative is potentially feasible.

Potential to Reduce or Eliminate One or More Significant Environmental Impacts

The Reduced Setback Alternative would reduce both of the significant and unavoidable impacts that are identified for the Proposed Project (i.e., conversion of Important Farmland to non- agricultural uses and potential conflicts with agricultural zoning and Williamson Act contracts). Because the Reduced Setback Alternative includes lesser setback requirements than the Proposed Project, it could result in the potential conversion of up to 11 acres (0.54%) of Baseline Cultivation Area to riparian vegetation and a vegetated buffer with limited agricultural uses uses. Additionally, Streamside Area buffer requirements could result in an additional 70 acres (0.94%) of Prime Farmland that feasibly could be used to cultivate lily bulbs under Del Norte County's zoning to riparian vegetation and limited agricultural use vegetated buffers. The Reduced Setback Alternative would reduce but not eliminate the conversion of land zoned for agricultural use to a non-agricultural use as compared to the Proposed Project.

However, while the Reduced Setback Alternative would reduce the environmental impacts mentioned above, it would not achieve some of the Proposed Project's beneficial effects on the environment. As discussed above, the North Coast Water Board does not find that the Reduced Setback Alternative would achieve the same level

of reductions in pollutant discharges compared to the Proposed Project due to the lesser control of sediment and temperature discharges. Thus, Reduced Setback Alternative would do less to correct the existing adverse impacts of Lily Bulbs on water quality in the North Coast Region.

Additionally, not having reduced setback requirements would lessen the beneficial effects of additional riparian vegetation/habitat on water quality and biological resources that could be achieved through the Proposed Project.

Overall Conclusion: The Reduced Setback Alternative would reduce or eliminate one or more significant environmental impacts of the Proposed Project but does not completely support all objectives of the Proposed Project.

d. Impacts Analysis

i. Agriculture and Forestry Resources

As described above in the Screening Analysis, the Reduced Setback Alternative would lessen or reduce the Lily Bulb Order's adverse effects on agriculture and forestry resources related to conversion of Important Farmland to non-agricultural uses and conflicts with existing zoning for agricultural use. The Reduced Setback Alternative would reduce setback distances by 50 percent and thus would not result in the potential direct conversion of up to approximately 17 acres of Baseline Cultivation Area and 62 acres of Potential Cultivation Area. However, this alternative would not completely avoid the conversion of some Prime Farmland.

No other components of the Reduced Setback Alternative would be anticipated to result in the substantial conversion of existing agricultural land; however, like the Lily Bulb Order, the Reduced Setback Alternative would allow growers discretion with respect to the types of Management Practices that they may choose to implement, and some types of Management Practices (e.g., sediment basins, vegetated filter strips) could result in relatively small areas of farmland being taken out of production (i.e., due to the footprint of these sediment control facilities).

The Reduced Setback Alternative also would likely reduce the costs of compliance for growers relative to the Lily Bulb Order and thus could reduce potential for economic effects to indirectly result in the conversion of agricultural land to non-agricultural uses (e.g., an Enrollee selling their operation and the buyer converting the land to a non-agricultural use), although this potential impact is largely speculative. Overall, the Reduced Setback Alternative's impact on agriculture and forestry resources would be **significant and unavoidable**.

ii. Other impacts:

Biological Resources: While the likely reduced construction/implementation of Management Practices in land that would have otherwise been part of a vegetative buffer under the Lily Bulb Order could reduce potential for some short-term construction-related impacts to biological resources, it would also limit the beneficial

effects on water quality and biological resources. Because the Streamside Area setbacks are reduced in this alternative, in theory, additional riparian vegetation could be removed in comparison to the Lily Bulb Order. The extent and severity of this potential impact is unknown and speculative, however, as growers would still have discretion as to whether to retain or remove vegetation in their specific circumstances (i.e., it cannot be determined where and to what extent removal of vegetation may occur). In particular, the maintenance of riparian vegetation under the Lily Bulb Order requirements would allow for attenuation of pollutant discharges from Lily Bulb properties, provide shading for stream temperature regulation, provide additional habitat for a variety of species, and provide improved water quality for downstream uses. The Reduced Setback Alternative would not achieve these beneficial effects on biological resources to the same degree as the Lily Bulb Order. Nevertheless, from a CEQA perspective, the Reduced Setback Alternative would likely not substantially adversely affect biological resources relative to baseline conditions particularly with implementation of standard mitigation measures. Therefore, this impact would be **less than significant with mitigation**.

Tribal Cultural Resources and Cultural Resources: Similar to biological resources, the Reduced Setback Alternative could have reduced impacts on cultural resources to the extent that this alternative would result in fewer construction activities associated with construction/installation of vegetative buffer strips as required in the Streamside Area setback requirements of the Lily Bulb Order. Construction/installation of Management Practices involving ground disturbance could encounter buried unknown cultural resources and adverse impacts to these resources could occur if appropriate protocols are not followed. The probability of encountering Tribal Cultural resources is generally considered low for both the Lily Bulb Order and Reduced Setback Alternative, and potential impacts could be avoided or reduced through compliance with existing laws and regulations and implementation of mitigation measures. Overall, this impact would be **less than significant with mitigation**.

C. Environmentally Superior Alternative

The State CEQA Guidelines, under Section 15126.6(e)(2), state that “If the environmentally superior alternative is the ‘No Project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” Neither the CEQA statute nor the State CEQA Guidelines states that an EIR must necessarily identify an environmentally superior alternative, particularly for situations/projects where the No Project Alternative is not environmentally superior or where none of the other alternatives are clearly environmentally superior. The State CEQA Guidelines do not specifically address what happens when the No Project Alternative is infeasible.

As described above, in the case of the Proposed Project, the No Project Alternative is not environmentally superior because it is not sufficiently protective of water quality and does not comply with the North Coast Region’s Temperature Implementation Policy, the Statewide Irrigated Lands Regulatory Program precedents, and the State Water Board’s NPS Policy.

Due to the nature of the Proposed Project, it is difficult to designate any of the remaining alternatives (i.e., other than the No Project Alternative) as environmentally superior. Unlike many of the more “typical” projects evaluated under CEQA (e.g., a housing development), the purpose of the Proposed Project is largely to correct existing ongoing impairments in water quality associated with discharges from lily bulbs. In other words, the purpose of the Proposed Project is to benefit the environment. Additionally, the baseline conditions, against which the potential impacts of the Proposed Project and alternatives are evaluated, are unacceptable from an environmental standpoint in that beneficial uses are not being protected and other serious water quality impacts are occurring. Therefore, although the Proposed Project would result in two significant impacts relative to baseline conditions, it would result in a number of beneficial effects and would improve existing degraded water quality conditions that are represented in the baseline conditions.

As discussed above, the Reduced Streamside Setbacks would reduce, but not eliminate, the significant and unavoidable effects of the Proposed Project related to conversion of Prime Farmland to non-agricultural uses as a result of the setback requirements. However, the setback requirements included in the Proposed Project would be highly effective in reducing discharges of pollutants to waterbodies and restoring beneficial uses affected by lily bulb operations. Therefore, while the two action alternatives would reduce adverse effects on agricultural resources, they also would not achieve the same level of beneficial effects that would be realized by the Proposed Project.

In other words, the Proposed Project and the alternatives considered each involve environmental tradeoffs, including environmental costs and benefits relative to baseline conditions. Table X.2 provides a relative ranking for the Proposed Project and action alternatives with respect to the primary environmental costs and benefits, which are discussed in greater detail in Chapter III of this Draft EIR and above As shown in Table X.2. Taking into account all the relevant factors, staff find that the Proposed Project best accomplishes the water quality goals of North Coast Water Board, while minimizing environmental impacts to the extent possible.

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Table X.2: Ranking of the Proposed Project and Alternatives with Respect to Primary Environmental Costs and Benefits

Relevant Cost or Benefit	Proposed Project	Reduced Alternative
Conversion of Agricultural Lands to Non-Agricultural Uses (Cost)	3	2
Construction-Related Effects from Implementation of Management Practices (Cost)	2	2
Compliance Costs for Growers (Cost)	2	2
Protection / Creation of Riparian Vegetation and Habitat (Benefit)	1	2
Long-Term Water Quality Benefits from Implementation of Management Practices (Benefit)	1	2
Overall Effectiveness of Discharge Reduction / Water Quality Protection (Benefit)	1	2
Cumulative Score	**10**	**12**

Note: Lower cumulative score indicates higher ranking (i.e., is better).

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XI. Other CEQA Required Sections

A. Growth Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires that an Environmental Impact Report (EIR) include a detailed statement of a proposed project's anticipated growth-inducing impacts. The analysis of growth-inducing impacts must discuss the ways in which a proposed project could foster economic or population growth or the construction of additional housing in the surrounding environment. The analysis must also address project-related actions that would remove existing obstacles to population growth, tax existing community service facilities and require construction of new facilities that cause significant environmental effects, or encourage or facilitate other activities that could, individually or cumulatively, significantly affect the environment. A project would be considered growth-inducing if it induces growth directly (through the construction of new housing or increasing population) or indirectly (increasing employment opportunities or eliminating existing constraints on development). Under CEQA, growth is not assumed to be either beneficial or detrimental.

A majority of Commercial Lily Bulb Operations are already implementing Management Practices with the assistance of current employees and contractors. In order to provide assistance with adaptive management, monitoring and reporting, we estimate that up to an additional 2-3 full-time jobs could be created. Even if the actual number was an order of magnitude larger, compliance actions would have a very small overall effect on job creation that would result in a less than significant effect on economic and/or population growth within the Proposed Project Area. The Proposed Project does not propose the creation of any housing or long-term facilities that would otherwise create a significant number of jobs and/or increase the population base within the geographic scope of the Lily Bulb Order.

Reasonably foreseeable Management Practices under the Proposed Project with the greatest potential for environmental impacts would require temporary workers during the construction phase. Example Management Practices that would require construction workers for vegetated buffers, retention/detention basins, and streamside areas. It is anticipated that implementing these Management Practices would rely on construction workers in the local workforce and construction would be short term, and therefore, would have a small overall effect on job creation within the Proposed Project Area. Therefore, the Proposed Project would not have growth inducing impacts.

B. Significant and Irreversible Environmental Effects

State CEQA Guidelines Section 15126.2(c) requires that an EIR discuss any environmental changes that would be irreversible if a project were implemented. CEQA defines irreversible environmental changes as the irretrievable commitment of resources and/or irreversible damage resulting from environmental accidents. Irreversible changes may include current or future uses of non-renewable resources, and secondary or growth inducing impacts that commit future generations to similar uses. The State CEQA Guidelines describe three distinct categories of significant irreversible changes, including changes in land use that would commit future

generations to specific uses; irreversible changes from environmental actions; and consumption of nonrenewable resources. For this analysis, the irreversible impacts described below could occur as a result of implementing the Proposed Project.

The proposed Lily Bulb Order would require implementation of certain management practices for water quality protection. In relevant part to this section, the Draft EIR analyzes the effects of implementation of management measures to reduce water quality impacts from agricultural activities, which are a reasonably foreseeable consequence of the Proposed Project. The common or reasonably foreseeable management measures that would be implemented pursuant to the Proposed Project are listed in Attachment B: Management Practices. The environmental impacts of the management measures are described in detail in the resource sections of Chapter IV: Environmental Analysis.

Implementation of common or reasonably foreseeable management measures under the Proposed Project would result in use of construction materials, and energy used to manufacture, transport, or install management practices that could not be restored, and nonrenewable resources (e.g., fossil fuels) to operate construction equipment. The quantity of resources that would be used for the Proposed Project would not noticeably reduce the availability of these resources for other projects or uses because the use of resources for the Proposed Project would be minor relative to other ongoing activities (e.g., the covered activities themselves) and the scope of individual management measures would be limited to smaller areas. These resources would account for a minimal portion of the state's or region's resources; therefore, the loss of these resources would be minimal.

Implementation of the Proposed Project would result in impacts to agricultural resources associated with the Streamside Area setbacks. The Proposed Project would result in the conversion of approximately 11 acres of Baseline Cultivation Area and 28 acres of Potential Cultivation Areas that are identified as Prime Farmland through the Del Norte County General Plan and zoning. These impacts are identified as significant and unavoidable and discussed below in the next section. However, the impacts to agricultural resources are nonpermanent in nature because the Proposed Project applies only to lily bulb agriculture and does not require permanent structural features or land use changes that would preclude continued agricultural use. Lands affected by the Proposed Project could be returned to agricultural production under alternative cropping systems not subject to the Order, such as hay or other non-lily bulb crops, and could re-occupy areas removed from lily bulb production. Accordingly, while the Proposed Project would result in significant and unavoidable impacts to agricultural resources, it would not result in a permanent conversion of farmland or a land use change that would commit future generations to similar uses.

C. Significant and Unavoidable Environmental Effects

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be mitigated to a less-than-significant level. The following impacts were found to be significant and unavoidable for the Proposed Project:

Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to non- agricultural use. (Chapter III, Agriculture and Forestry Resources)

Impact AG-2: Conflict with existing zoning for agriculture use or a Williamson Act contract. (Chapter III, Agriculture and Forestry Resources).

Implementation of the Proposed Project would result in significant and unavoidable impacts to agricultural resources due to the conversion of portions of Important Farmland to non-agricultural uses associated with Streamside Area requirements necessary to meet water quality and temperature objectives.

Despite these impacts (which may be a conservative estimate as discussed in Chapter V), the Proposed Project is being advanced because the North Coast Water Board has a statutory obligation under the Porter-Cologne Water Quality Control Act and the federal Clean Water Act to regulate discharges of waste from commercial agricultural operations and to protect and restore high-quality waters and impaired waters of the state. Available monitoring data demonstrate that discharges associated with commercial lily bulb operations have periodically affected surface water quality and beneficial uses in the Smith River Plain, including cold freshwater habitat and tribal beneficial uses.

The Proposed Project represents the North Coast Water Board's effort to balance water quality protection, regulatory consistency, and agricultural viability by establishing enforceable requirements while allowing flexibility in how growers achieve compliance. No feasible alternative or mitigation measure would fully avoid the identified agricultural impacts while still achieving the Project's core objectives and complying with applicable water quality laws and policies. Accordingly, approval of the Proposed Project would require adoption of a Statement of Overriding Considerations.

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APPENDIX I: Abbreviations, Acronyms, and Definitions

A. Acronyms and Abbreviations

Acronym/Abbreviation	Term
AG	Agricultural and Forestry Resources
Antidegradation Policy	State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality Waters in California
Basin Plan	Water Quality Control Plan for the North Coast Basin
BIO	Biological Resources
BPTC	Best practicable treatment or control
CAC	County Agricultural Commissioner
CalFIRE	California Department of Forestry and Fire Protection
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDPR	California Department of Pesticide Regulation
CDPH	California Department of Public Health
CEDEN	California Environmental Data Exchange Network
CEQA	California Environmental Quality Act
COLD	Cold Freshwater Habitat Beneficial Use
C_N	Nitrogen Removal Coefficient
CSDS	Controllable Sediment Discharge Sources
CUL	Cultural Resources
CWA	Clean Water Act
DDW	State Water Board, Division of Drinking Water
Draft EIR	Draft Environmental Impact Report
DWR	Department of Water Resources

Acronym/Abbreviation	Term
EIR	Environmental Impact Report
ESJ Order	Eastern San Joaquin Order (State Board Order WQ 2018-0002).
ELAP	Environmental Laboratory Accreditation Program
ESA	Endangered Species Act
Enforcement Policy	State Water Board Water Quality Enforcement Policy
HUC	Hydrologic Unit Code
ILRP	Irrigated Lands Regulatory Program
INMP	Irrigation and Nitrogen Management Plan
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
mg/L	Milligrams per Liter
MRP	Monitoring and Reporting Program
NAHC	Native American Heritage Commission
NOC	Notice of Completion
NOD	Notice of Determination
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPS	nonpoint source
NPS Policy	State Water Board Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program
NRCS	Natural Resource Conservation Service
OEHHA	California Office of Environmental Health Hazard Assessment
PCA	Agricultural Pest Control Advisor
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	California Public Resources Code

Acronym/Abbreviation	Term
RCD	Resource Conservation District
North Coast Water Board	North Coast Regional Water Quality Control Board
Sediment TMDL Policy	TMDL Implementation Policy Statement for Sediment Impaired Receiving Waters in the North Coast Region
2021 Management Plan	Smith River Plain Water Quality Management Plan
SGMA	Sustainable Groundwater Management Act
State Water Board	State Water Resources Control Board
SWAMP	Surface Water Ambient Monitoring Program
TAG	Technical Advisory Group
TCR	Tribal Cultural Resource
Temperature Policy	Implementation of the Water Quality Objectives for Temperature
TMDL	Total Maximum Daily Load
UCCE	University of California Cooperative Extension
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
Water Code	California Water Code
WDRs	Waste Discharge Requirements
WBD	Watershed Boundary Dataset
WQMP	Water Quality Management Plan

B. Definitions

The following definitions apply to the Draft Environmental Impact Report (EIR) for General Waste Discharge Requirements for Commercial Lily Bulb Operations in the Smith River Plain. The terms are arranged in alphabetical order. All other terms not explicitly defined here for the purposes of this EIR have the same definitions as defined by Water Code Division 7 or are explained within the Attachments.

Abandoned Well. A well is considered “abandoned” when it has been destroyed in accordance with local and state well standards. An abandoned well is not synonymous with an “inactive well” (see also Inactive Well).

Active Well. A water well that is in operation/use.

Adaptive Management. The iterative process of evaluating monitoring results, programmatic performance, and new scientific information to guide modifications to management practices and implementation schedules, with the goal of achieving water quality objectives and protecting beneficial uses. Adaptive management relies on data collected through surface water and groundwater trend monitoring and other relevant sources of information including effectiveness of implemented management practices.

All-Season Road. An agricultural road that is part of the permanent road network and is designed for year-round use. These roads have a surface that is suitable for maintaining a stable operating surface throughout the year.

Antidegradation. The State Water Board established a policy to maintain high quality waters of the State - Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California." Resolution No. 68-16 requires existing high-quality water to be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of water, and will not result in water quality less than that prescribed in the policies. When authorizing the discharge of waste into waters of the state, North Coast Water Boards are required to comply with Resolution No. 68-16. Permits or regulatory orders issued by the North Coast Water Board must result in the best practicable treatment or control of the discharge necessary to assure pollution or nuisance will not occur and maintain the highest water quality consistent with maximum benefit to the people of the state. Resolution No. 68-16 has been approved by the USEPA to be consistent with the federal antidegradation policy (40 CFR 131.12).

Appurtenant. Belonging to, pertinent to, or used for the Commercial Lily Bulb Operation.

Appurtenant Field Road. An agricultural road used for Commercial Lily Bulb Operations which connects or is used to access lily bulb fields under the ownership or control of the landowner or operator.

Authorized Representative. An individual, agency, or entity who acts on behalf of another individual, agency, or entity (such as an approved Third-Party program staff, Enrollee, or consultant retained by an approved Third-Party program acting on behalf of an individual Enrollee or the North Coast Water Board).

Basin Plan. The Basin Plan is the North Coast Region’s Water Quality Control Plan. The Basin Plan describes how the quality of the surface and groundwater in the North Coast Region should be managed to provide the highest water quality reasonably possible. The Basin Plan includes beneficial uses, water quality objectives, and a program of implementation.

Beneficial Uses. The Basin Plan establishes the beneficial uses of surface water and groundwater to be protected in the North Coast Region. Beneficial uses for the Smith River Plain can be found in Section I.E.7 of this Order.

Biotic Ligand Model (BLM). The BLM is the current EPA recommended method for determining copper concentrations protective of aquatic life on a site-specific basis and has been adopted by the State of Idaho Department of Environmental Quality and the State of Oregon Department of Environmental Quality to develop state-wide, site-specific water quality criteria for copper.

Biotic Ligand Model Instantaneous Water Quality Criteria (BLM-IWQC). A criterion developed using a set of ten parameters to account for complex chemical reactions associated with copper in the environment: pH, Dissolved Organic Carbon (DOC), Calcium (Ca), Magnesium (Mg), Sodium (Na), Sulfate (SO4), Potassium (K), Chlorine (Cl), Alkalinity, and Temperature. The IWQC is used as a water quality threshold for dissolved copper for that specific site and sampling event only. The model's output also includes a toxicity unit (numerical value) to represent the relative risk of copper toxicity in the waterbody at the time of sample collection.

Commercial Lily Bulb Operation. A Commercial Lily Bulb Operation is land planted in lily bulbs or a similar bulb crop within a 5 year period (including appurtenant field roads, agricultural structures, and areas used for activities appurtenant to the Commercial Lily Bulb Operation) with one or more of the following characteristics: (1) The landowner or operator holds a current Operator Identification Number/Permit Number for pesticide use reporting; (2) The crop and/or its product is sold; or (3) the federal Department of Treasury Internal Revenue Service form 1040 Schedule F Profit or Loss from Farming is used to file federal taxes.

Concentration. The relative amount of a substance mixed with another substance. An example is 5 mg/L of nitrogen in water or 5 ppm (parts per million).

Controllable Sediment Discharge Sources (CSDS). Areas discharging or having the potential to discharge sediment to waters of the state in violation of water quality standards or other requirements of this Order caused or affected by human activity and may feasibly and reasonably respond to management practices.

Cover Crop. (See Ground Cover).

Discharge. A release of a waste to waters of the state, either directly to surface waters or through percolation to groundwater. Wastes from irrigated agriculture include but are not limited to earthen materials (soil, silt, sand, clay, and rock), inorganic materials (metals, plastics, salts, boron, selenium, potassium, nitrogen, phosphorus, etc.) and organic materials such as pesticides. Discharges from Commercial Lily Bulb Farms regulated by this Order include discharges to surface water and groundwater, through mechanisms such as stormwater runoff flowing from irrigated lands, irrigation tailwater, percolation or pollutants to groundwater, and runoff resulting from operational spills.

These discharges can contain wastes that could affect the quality of waters of the state and impair beneficial uses.

Discharge Point. A discharge point is defined as a location where surface water discharges, which are in hydrologic connection to off-farm surface waters, leave the Enrollee's property. A discharge point is any hydrologically connected discharge that is not an agricultural drainage structure as defined above.

Disturbance. When natural conditions have been modified in a way that may result in waste discharge to waters of the state from the site. Disturbed areas are where natural plant growth has been removed, whether by physical, animal, or chemical means, or natural grade has been modified for any purpose. Disturbance includes all activities whatsoever associated with developing or modifying land for agricultural related activities or access. Disturbance activities include, but are not limited to, construction of roads, buildings, water storage areas; excavation, grading, and site clearing. Disturbance includes crop areas, storage areas where soil or chemicals (e.g., pesticides, fertilizers, compost, or biosolids) are located.

Drinking Water Supply Well. Any groundwater well that is connected to a residence, workshop, or place of business that may be used for human consumption, cooking, or sanitary purposes that is located within an enrolled Assessor Parcel Number (APN). This includes all domestic wells located within the enrolled APN, not limited to the leased property or within the farm boundary. This definition includes "dual-use" wells that are used for both irrigation and domestic purposes. The State Water Resources Control Board (State Water Board), Groundwater Ambient Monitoring and Assessment (GAMA) Program defines an individual well serving a single residential connection as a "private domestic well." For the purposes of this Order, a "private domestic well" is a Drinking Water Supply Well if it is located on the enrolled parcel and there are drinking water users of that well.

Edge-of-Field. Edge of the Farm Area producing crops including the Appurtenant Field Roads. Point in land where the surface water drains out of the Farm Area producing areas. See also Discharge Point.

Enrollee. The owner and/or operator of the Commercial Lily Bulb Operation discharges or has the potential to discharge waste that could directly or indirectly reach waters of the State and affect the quality of any surface water or groundwater. See also Landowner, Operator.

Ephemeral Stream. A Class III watercourse. A body of flowing water that contains water for only part of the year, but more than just after rainstorms and as snowmelt as shown in the NHD shapefile. In the absence of diversion, water is flowing less than three months during a typical year and the stream does not support riparian vegetation or aquatic life. Ephemeral watercourses typically have water flowing for a short duration after precipitation events or snowmelt and show evidence of being capable of sediment transport.

Erosion. The gradual destruction of land surface by wind or water, intensified by land-clearing practices related to farming, residential or industrial development, road building, or logging.

Exceedance. A reading using a field instrument or a detection by a California State-certified analytical laboratory where the detected result is above an applicable water quality standard for the parameter or constituent.

Farm Area. The planted area and appurtenant structures, field roads, maintenance areas, mixing and loading sites, and appurtenant storage yards on a Commercial Lily Bulb Operation.

Field. A term to describe a contiguous planted area that is farmed in lily bulbs in any particular year for the purposes of monitoring, reporting and adaptive management. A Field is a contiguous block of planted lily bulbs not separated by Appurtenant Field Roads or waterbodies. Where this Order scales requirements by Management Unit, Enrollees may report data for a portion of a Field or for multiple Fields provided that the reported area has (1) the same fertilizer inputs, (2) the same irrigation management, (3) and the same management practices. See Management Unit.

Ground Cover. Ground cover refers to the following practices: (1) Cover crop can be grasses, legumes, forbs, or other herbaceous plants established in planted fields for livestock grazing, for production into hay and forage crops, or provide seasonal or year-round ground cover for conservation purposes. (2) Conservation cover is establishing and maintaining perennial vegetated cover to protect soil and water resources on lands needing permanent protective cover that will not be used for forage production. (3) Effective soil cover includes mulching, straw mulching, plant residues or other suitable materials produced off site to the land surface. Mulching is used on bare, exposed soil surfaces that are deemed to be potential critical erosion areas. In most cases, mulch will consist of grain straw residue, but may include wood chips, leaves, composted yard waste, etc. (NRCS Conservation Practice Standards 2016[i]).

Ground Disturbing Management Practices. These measures could include but are not limited to practices to prevent erosion of exposed soil and stockpiles, including watering for dust control, establishing perimeter silt fences, and/or placing fiber rolls; minimizing soil disturbance areas; implementing practices to maintain water quality, including silt fences, stabilized construction entrances, and storm drain inlet protection; limiting construction to dry periods; and revegetating disturbed areas.

Groundwater. The supply of water found beneath the Earth’s surface, usually in aquifers which can supply wells and springs.

Groundwater Protection Formula, Values and Targets. The Groundwater Protection (GWP) Formula generates GWP Values, expressed as either nitrate-N loading numbers or concentrations of nitrate in water (e.g., mg/L), reflecting the influence of total applied nitrogen, total removed nitrogen, recharge conditions, and other relevant and

scientifically supported variables that influence the potential average concentration of nitrate in water expected to reach groundwater in a given township over a given time period. GWP Values are calculated based on reported INMP data and reflect discharge estimates from the bottom of the root-zone. GWP Targets considers GWP Values to establish the nitrogen loading rate necessary to comply with the Antidegradation Policy and Basin Plan.

High-Water Mark. That line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

High Vulnerability Groundwater Basin. Defined in the ESJ Order as areas "where known groundwater quality impacts exist for which irrigated agricultural operations are a potential contributor or where conditions make groundwater more vulnerable to impacts from irrigated agricultural activities." For the purposes of this Order, 'high vulnerability areas' are defined as the priority groundwater basins having a relatively high threat from salts and nutrients and would benefit from salt and nutrient management planning as defined in Groundwater Basin Evaluation and Prioritization Resolution No. R1-2021-0006.

Hydrologically Connected. Farm areas with a continuous surface flow path to a natural stream channel during a storm runoff event (also referred to as hydrologic connectivity). Connectivity usually occurs through drainage structures, drainage inlets, road ditches, gullies, and channels.

Hydrologically-Connected Undesignated Channel. Channels not part of the NHD dataset that are hydrologically-connected to off-farm surface waters. Includes agricultural ditches.

Inactive Well. A well is considered "inactive" when it has been taken out of service but has not been destroyed (see Abandoned Well definition). An inactive well must not allow impairment of water quality within the well and/or groundwater encountered by the well.

Individual Enrollee. An Enrollee in the Lily Bulb Order who is not part of a Coalition. The Individual Enrollee is responsible for conducting all monitoring individually and reporting directly to the North Coast Water Board.

Intermittent Stream. A Class II watercourse. A body of flowing water that contains water only during or after a local rainstorm or heavy snowmelt as shown in the NHD shapefile. In the absence of diversions, water is flowing for three to nine months during a typical year, provides aquatic habitat for non-fish aquatic species, fish always or seasonally present within 1,000 feet downstream, and/or water is flowing less than three months during a typical year and the stream supports riparian vegetation.

Invasive Species. Organisms (plants, animals, or microbes) that are not native to an environment and that, once introduced establish, quickly reproduce and spread, and cause harm to the environment, economy, or human health. U.S. Department of Agriculture, Natural Resource Conservation Service website: EnviroAtlas Hydrologic Unit Codes Fact Sheet[ii]. For guidance on identifying species of concern, see the Cal-IPC website: Plants A to Z[iii].

Irrigation. Applying water to land areas to supply the water and nutrient needs of plants.

Irrigation Management Practices. Management practices designed to improve irrigation efficiency and reduce the amount of irrigation return flow or tailwater, and associated degradation or pollution of surface and groundwater caused by discharges of waste associated with irrigated lands.

Irrigation and Nitrogen Planning Specialist. A Certified Crop Advisor (CCA) who has completed the California Nitrogen Management exam through The California Department of Food and Agriculture (CDFA), the University of California – Davis, the American Society of Agronomy's (ASA) International Certified Crop Adviser (ICCA) Coalition and/or the CCA – Western Region (WR) Board and takes the required continuing education credits. Enrollees may self-certify their INMP if they take the CDFA Irrigation and Nitrogen Management Training for Grower Self-Certification, pass the Irrigation and Nitrogen Management Training and Exam and maintain the certification through continuing education. More information can be found at CDFA FREP Training (https://www.cdfa.ca.gov/is/ffldrs/frep/training.html).

Landowner. An individual or entity who has legal ownership of a parcel(s) of land. See also Enrollee, Operator.

Leaching. In agriculture, leaching is the loss of water-soluble plant nutrients from the soil, due to the percolation of rain and irrigation water. Leaching may also refer to the salinity control practice of applying a small amount of excess irrigation to drain down salts from the root soil profile to avoid salts from building up in the soil. In the natural environment leaching contributes to groundwater contamination. As water from rain, flooding, or other sources seeps into the ground, it can dissolve chemicals and carry them into the underground water supply.

Load. The mass of a substance discharged over a given amount of time, for example 10 mg/day or 5 kg/day.

Major Storm Event. A Major Storm Event is defined as a storm that is forecasted to produce at least one inch of precipitation within a 24-hour period and is preceded by a minimum of 72 consecutive hours with less than 0.1 inches of precipitation. A Major Storm Event has ended after at least 48 consecutive hours during which no more than 0.1 inches of precipitation has occurred in any 24 hour period. See Attachment D for guidance.

Management Unit. Where this Order allows reporting by Management Unit, Enrollees may report data for a portion of a Field or for multiple Fields provided that the reported area has (1) the same fertilizer inputs, (2) the same irrigation management, and (3) the same management practices. Management Units can be defined by the Enrollee in a manner consistent with the farming operation so long as the Enrollee tracks which Field(s) comprise each Management Unit. See Field.

Method Detection Limit. The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in accordance with USEPA Definition and Procedure for the Determination of the Method Detection Limit, Revision 2. The laboratory establishes the MDL values based on the analytical test method and the types of calibrated laboratory equipment that are used.

Monitoring. Observing and checking a feature or factor over time to determine compliance with this Order or other regulatory requirements. Monitoring in this Order includes but is not limited to surface water or groundwater sampling and analysis to evaluate water quality in connection with agricultural activities, and inspecting operations, management practice implementation and effectiveness, maintenance of on-site records, and management practice reporting.

Nitrogen Applied. Total nitrogen applied includes nitrogen in any product, form, or concentration including, but not limited to, organic and inorganic fertilizers, slow-release products, compost, compost teas, manure, extracts, nitrogen present in the soil, and nitrate in irrigation water; it is reported in units of pounds of nitrogen per crop, per acre for each commercial lily bulb Field or nitrate loading risk unit.

Nitrogen Removed. Nitrogen Removed includes all nitrogen taken from the Field in harvested or other materials. Other materials may include leaf material, bulbs, and any other source of nitrogen removed from the field.

Nitrogen-Removal Coefficient (CN). Percent of nitrogen content in the dry matter of plant tissue. The CN multiplied by the weight of plant material removed from the Fields, can be used to estimate the nitrogen removed from the marketable portion of a crop.

Nonpoint Source (NPS) Pollution. The Basin Plan states that nonpoint sources of water pollution are generally defined as sources which are diffuse (spread out over a large area). Nonpoint sources of pollution are not subject to NPDES permitting. The wastes are generally carried off the land by runoff. Common nonpoint sources of pollution are activities associated with agriculture, timber harvest, certain mining, dams, and saltwater intrusion.

Nitrogen Management Practices. Management practices designed to reduce the nitrogen loss from agricultural lands, which occur through edge-of-field runoff or leaching from the root zone.

Operator. Person responsible for or otherwise directing farming operations in decisions that may result in a discharge of waste to surface water or groundwater, including, but not limited to, a farm/ranch manager, lessee, or sub- lessee. If enrolled, the operator is responsible for ensuring compliance with this Order and for any discharge of waste occurring on or from the operation. See also Enrollee, Landowner.

Operation. A distinct farming business, generally characterized by the form of business organization, such as a sole proprietorship, partnership, corporation, and/or cooperative. A farming operation may be associated with one-to-many individual farms/ranches.

Perennial Stream. A stream that holds water throughout the year. Also known as a Class I watercourse. In the absence of diversions, water is flowing for more than nine months during a typical year, fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or a spring, an area where there is concentrated discharge of ground water that flows at the ground surface (a spring may flow any part of the year and does not have a defined bed and banks).

Pesticide. Any substance intended to control, destroy, repel, or otherwise mitigate a pest. The term pesticide is inclusive of all pest and disease management products, including insecticides, herbicides, fungicides, nematicides, rodenticides, algicides, etc.

Planted Area. The area of the Farm Area that is planted in lily bulbs; a subset of the Farm Area. Planted area does not include appurtenant structures or field roads.

Pollutant. The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water, including dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Pollution. Any alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following: (1) the waters for beneficial uses, (2) facilities which serve these beneficial uses. Pollution may include contamination.

Quality Assurance Project Plan. A Quality Assurance Project Plan (QAPP) integrates all technical and quality aspects of a project, including planning, implementation, and assessment.

Qualified Professional. An individual licensed in California under the Professional Engineer Act (e.g., Professional Engineer), Geologist and Geophysicist Act (e.g., Professional Geologist, Certified Engineering Geologist, or Certified Hydrogeologist), and Land Surveyors' Act (e.g., Professional Land Surveyor); a California Registered Professional Forester (RPF); or a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD), a certified soil scientist registered through the American Society of Agronomy; Certified Professional in Erosion and Sediment Control

(CPSEC)™/Certified Professional in Storm Water Quality (CPSWQ)™ registered through EnviroCert International, Inc.; a or professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET). A Qualified Professional must only perform work they are qualified to complete, consistent with applicable licensing and registration restrictions, and must certify any work completed. See Business and Professions Code sections 6700-6799, 7800-7887, and 8700-8805, respectively.

Quality of the Water. The "chemical, physical, biological, bacteriological, radiological, and other properties and characteristics of water which affect its use" as defined in the California Water Code Sec. 13050(g).

Receiving Waters. Surface waters or groundwater that receive or have the potential to receive discharges of waste from irrigated lands.

Riparian Vegetation. The vegetation (including dead, dying, or decaying vegetation) along a watercourse that is distinguished from other vegetation by its dependence on the combination of soil moisture and other environmental factors provided by a watercourse.

Sediment and Erosion Control Practices. Practices used to prevent and reduce the amount of soil and sediment entering surface water in order to protect or improve water quality.

Site-Specific Potential Effective Shade. The shade equivalent to that provided by topography and potential vegetation conditions at a site. Shade controls that are effective at correcting temperature impairments also operate to prevent impairments and provide other water quality protections such as bank stability and filtering sediment and other waste discharges.

Source of Drinking Water. Any water designated as municipal or domestic supply (MUN) beneficial use in a North Coast Water Board Basin Plan and/or as defined in State Water Board Resolution No. 88-63.

Stormwater. Stormwater runoff, snow melt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26(b)(13).

Stormwater Runoff. Precipitation water in excess of what can infiltrate the soil surface and be stored in small surface depressions.

Streamside Area. The area between the waterside edge of riparian vegetation (or the nearest edge of the High-Water Mark if riparian vegetation is not present) and the field side edge of a vegetated buffer. A vegetated buffer is not synonymous with a filter strip, which may be used as part of farming practices (e.g., equipment turn-around) and disturbed for tilling, planting, or other practices.

Surface Runoff. Precipitation, snow melt, or irrigation water in excess of what can

infiltrate the soil surface and be stored in small surface depressions, a major transporter of nonpoint source wastes in rivers, streams, and lakes.

Tailwater. Runoff of irrigation water from the lower end of an irrigated field.

Toxicity Unit. A toxicity unit (TU) is a simple ratio of the measured concentration of dissolved copper to the BLM-generated criteria and is calculated by dividing the measured value by the modelled criteria. See Attachment D: Methodologies and Procedures for more information on how the 'TU' is calculated and used. See also, Biotic Ligand Model.

Coalition. An organization or entity that is approved to represent Enrollees under this Order and is obligated to fulfill the following responsibilities: (1) collect fees from Enrollees and submit payments to the State Water Resources Control Board; (2) manage communications between Enrollees and the North Coast Water Board; (3) provide compliance education resources for Enrollees; and (4) fulfill monitoring and reporting requirements including but not limited to submitting monitoring workplans and necessary technical material, conducting regional surface water and groundwater monitoring, and connecting Enrollees to resources that can assist the preparation and implementation of Water Quality Management Plans.

Third-Party Program. The set of requirements under this Order that a Coalition is allowed to perform on behalf of the Enrollees enrolled in that Coalition.

Total Maximum Daily Load (TMDL). The calculation of the maximum amount of a particular material that a waterbody can assimilate on a regular basis and still support beneficial uses designated for that waterbody.

Trend. A general direction in which something is developing or changing. See also Water Quality Trend.

Unfarmed Wetland. Any wetland not currently farmed or historically farmed in the lily bulb crop rotation upon enrollment in the Order. An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Vegetated Buffer. A narrow, permanent strip of dense perennial vegetation (including riparian vegetation) where no crops are grown and which is established parallel to the contours of and perpendicular to the dominant slope of the land applications area for the purposes of slowing water runoff, enhancing water infiltration, trapping pollutants bound to sediment and minimizing the risk of any potential nutrients or pollutants from reaching surface waters. A vegetated buffer is not synonymous with a filter strip, which may be used as part of farming practices (e.g., equipment turn-around) and disturbed for tilling, planting, or other practices

Watercourse Setback. A setback area adjacent to a watercourse, including streams, creeks, and other designated or undesignated channels, whether perennial, intermittent, or ephemeral, that is required to be maintained in vegetative cover in accordance with this Order for purposes of Adaptive Management. This term is distinct and independent from Streamside Areas established to implement the Temperature Policy. The Watercourse Setback is measured from the waterside edge of vegetation to the planted area of the lily bulb field.

Waste. "Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal" as defined in the California Water Code Sec. 13050(d). "Waste" includes irrigation return flows and drainage water from agricultural operations containing materials not present prior to use. Waste from irrigated agriculture includes earthen materials (such as soil, silt, sand, clay, rock), inorganic materials (such as metals, salts, boron, selenium, potassium, nitrogen, phosphorus), and organic materials such as pesticides.

Water Quality Benchmark. A concentration based on relevant water quality criteria that is the numeric translation of applicable Water Quality Objectives. Water Quality Benchmarks are defined in Section G.1 of the Findings and included in Attachment A: Monitoring and Reporting Program. Water Quality Benchmarks for surface water are established for both acute and chronic exposure conditions. Exceedance of a Water Quality Benchmark is determined by considering both concentration and frequency within a Water Year. An acute Water Quality Benchmark is exceeded when the acute concentration is exceeded once within a Water Year, and a chronic Water Quality Benchmark is exceeded when the chronic concentration is exceeded twice within a Water Year. Receiving Water Limitations in Section II.C of this Order reference compliance with all water quality objectives, some of which are translated through Water Quality Benchmarks. Attainment of Water Quality Benchmarks demonstrates attainment of the corresponding Water Quality Objective and compliance with Receiving Water Limitations. Conversely, exceedance of a Water Quality Benchmark indicates that discharges may be causing or contributing to an exceedance of a Water Quality Objective and are, therefore, in violation of Receiving Water Limitations of the Order. Water Quality Benchmarks for groundwater are protective of applicable Water Quality Objectives. Attainment of Water Quality Benchmarks for groundwater in this Order demonstrate compliance with Receiving Water Limitations.

Water Quality Objective(s). "Limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specified area," as defined in Sec. 13050(h) of the California Water Code. Water Quality Objectives may be either numerical or narrative and serve as Water Quality Criteria for purposes of section 303 of the Clean Water Act.

Water Quality Standard. Provisions of State or Federal law that consist of the

beneficial designated uses or uses of a waterbody, the numeric and narrative water quality criteria that are necessary to protect the use or uses of that particular waterbody, and an antidegradation statement. Water quality standards include water quality objectives in the North Coast Water Board's Basin Plan, water quality criteria in the California Toxics Rule and National Toxics Rule adopted by USEPA, and/or water quality objectives in other applicable State Water Board plans and policies. For groundwater with the beneficial use of municipal or domestic water supply, the applicable drinking water standards are those established by the USEPA or California DDW, whichever is more stringent. Under Sec. 303 of the Clean Water Act, each State is required to adopt water quality standards.

Water Quality Trend. A change in time of a measured chemical constituent that represents as aspect of the quality of the water (e.g., increasing, stable, or decreasing concentration of a constituent). The analysis of a water quality trend predicts the behavior of water quality parameters and overall water quality in the time domain.

Waters of the State. "Any surface water or groundwater, including saline waters, within the boundaries of the State" as defined in the California Water Code Sec. 13050(e). "Waters of the state" includes all "waters of the U.S." Any significant accumulation of water above the ground surface, such as lakes, ponds, rivers, streams, creeks, springs, wetlands, and canals.

Water Year. A Water Year is defined as October 1st through September 30th of each year.

APPENDIX II: Figures

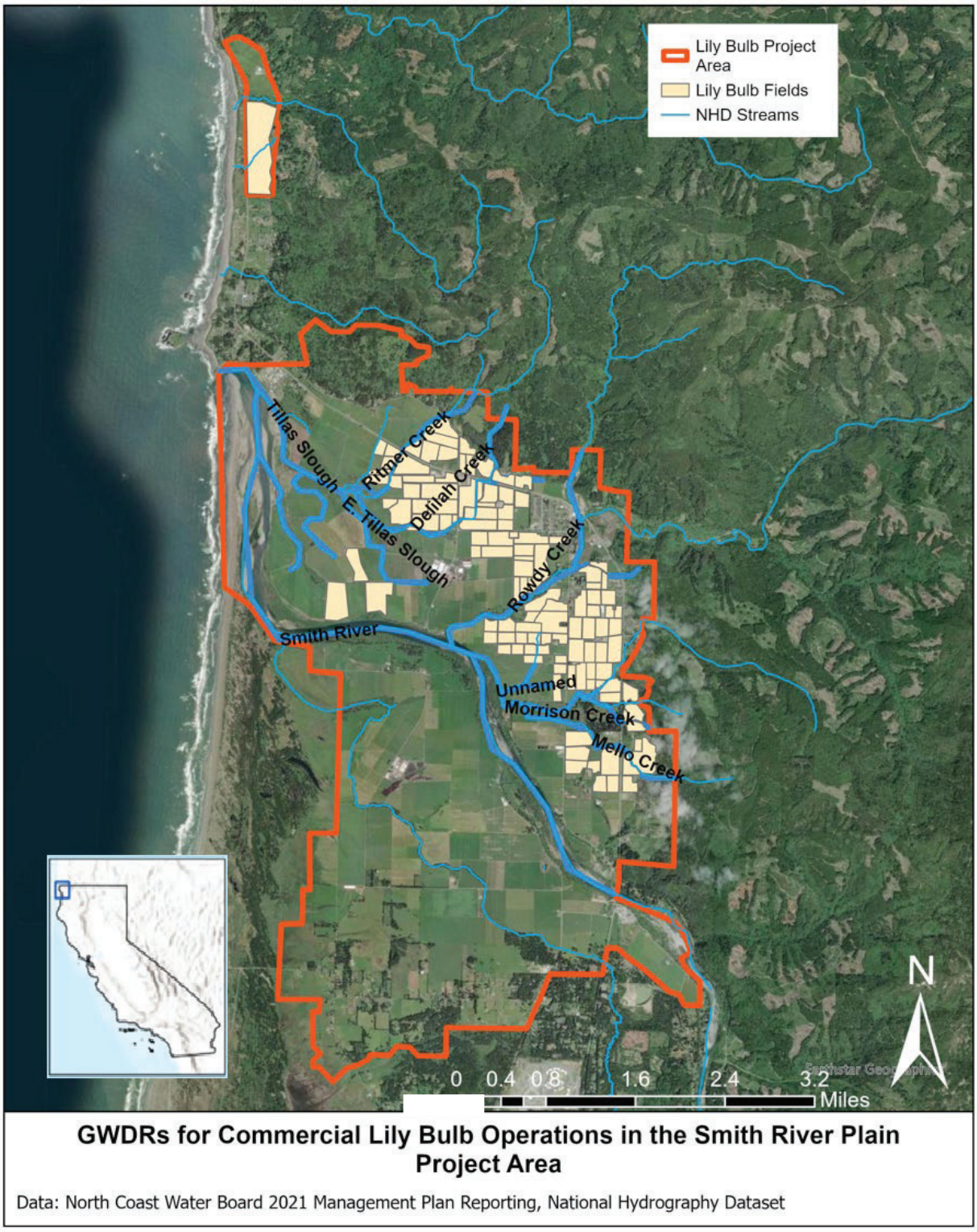


Figure 1: Proposed Project Area for GWDRs for Commercial Lily Bulb Operations in the

Smith River Plain with major tributaries and current lily bulb cultivation footprint



Figure 2: Fields planted to lily bulbs (shaded in purple) in the 2023-2024 growing season

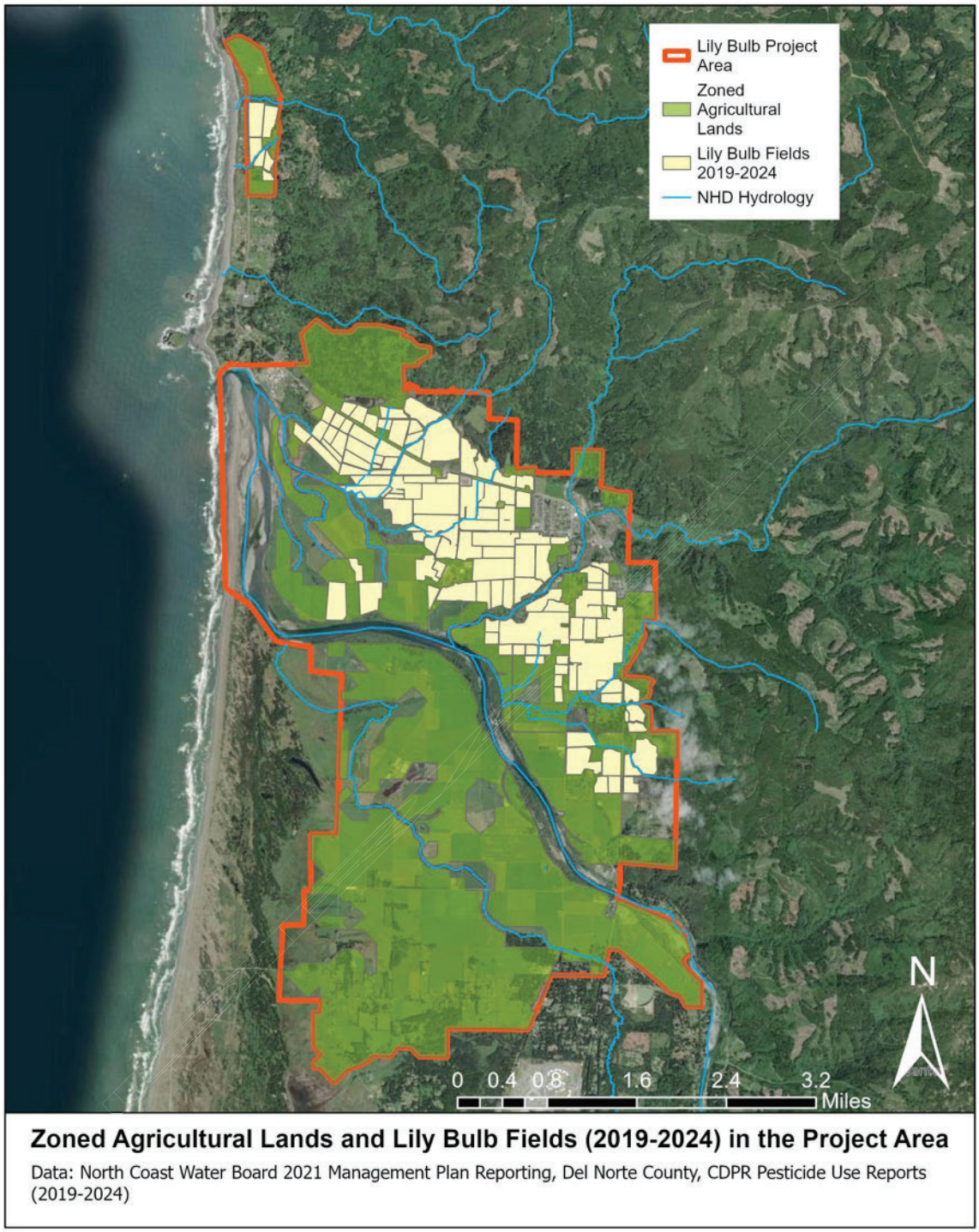


Figure 3: Agricultural zoned lands (AE, A, A-5, and A-20) in the Project Area, referred to as Potential Cultivation Areas for purposes of environmental analysis in the Ag and Forestry Resources Chapter.

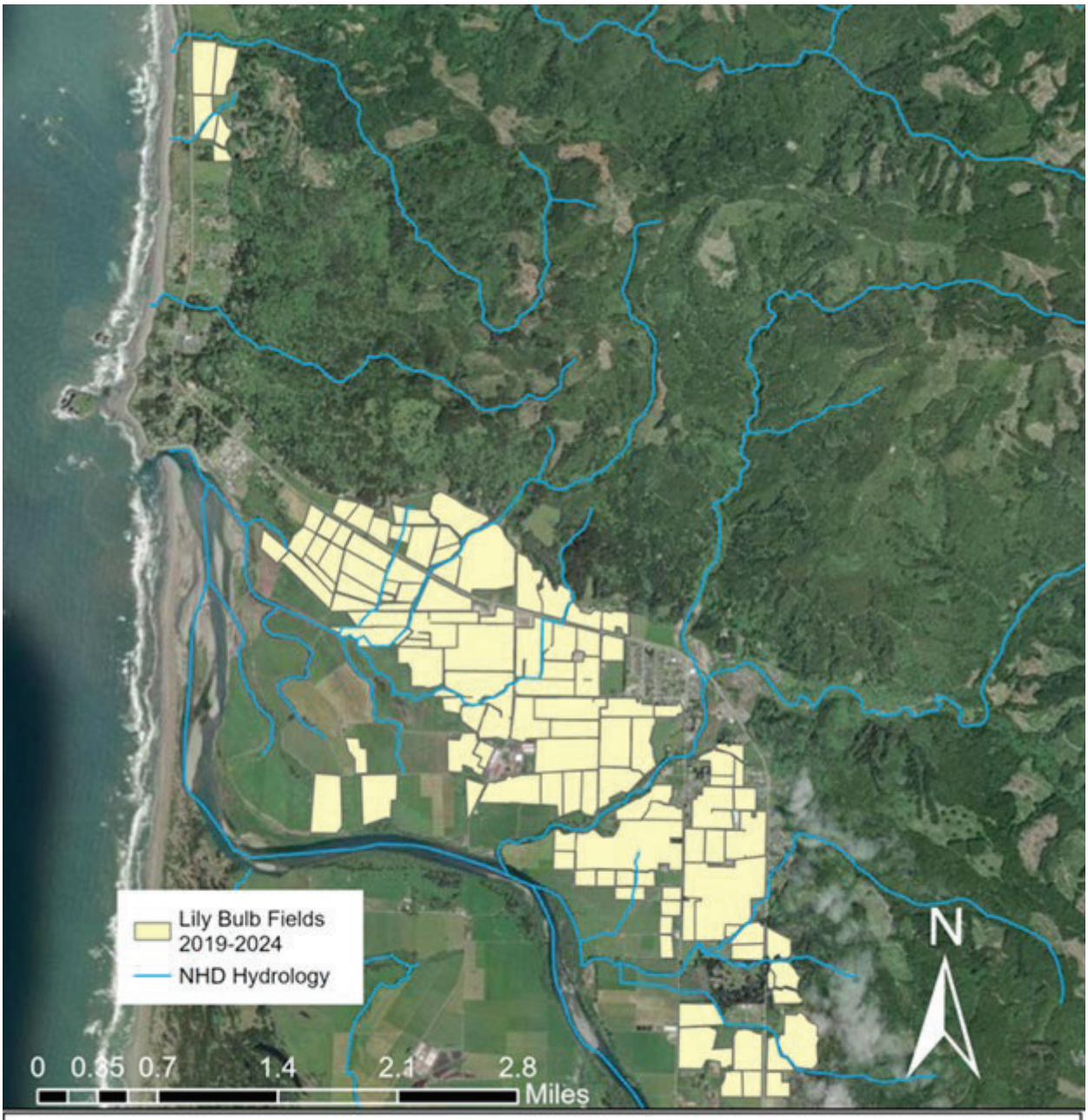


Figure 4: Baseline Cultivation Area for the purposes of analyzing impacts to Agriculture and Forestry Resources. Shaded lands represent parcel acres reported as lily bulb fields to the Del Norte County Ag Commissioner and/or to the North Coast Water Board through the 2021 Management Plan between 2019-2024.

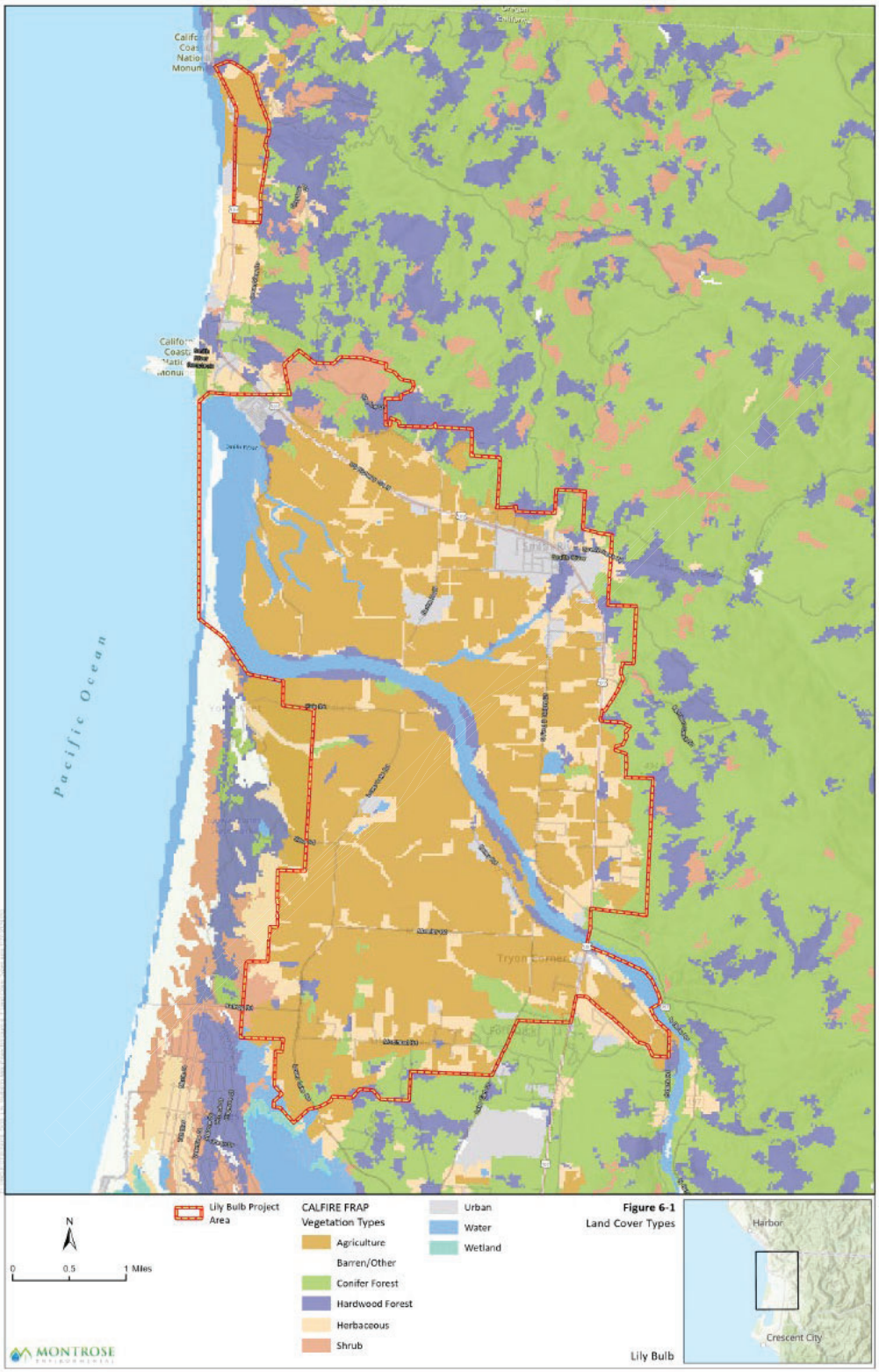


Figure 5: Land Cover types in the Project Area

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APPENDIX IV: Report Preparation

This Draft Environmental Impact Report was prepared by the North Coast Regional Water Quality Control Board with certain chapters, and sections prepared by Montrose Environmental (Chapter VI: Biological Resources, Chapter VII: Cultural Resources, and Chapter VIII: Tribal Cultural Resources) and the Tolowa Dee-Ni' Nation (Chapter VIII: Tribal Cultural Resources). The North Coast Water Board consulted the following entities, organizations, and persons in the preparation of this Draft EIR:

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ATTACHMENT A: Draft General Waste Discharge Requirement for Commercial Lily Bulb Operations in the Smith River Plain (Included as separate attachment)

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ATTACHMENT B: Management Practices

Attachment B of the Draft EIR provides Management Practices that may be implemented to comply with Section II.D (Management Practice Requirements) of the Draft Lily Bulb Order.

Reasonably Foreseeable Management Practices as Provided in the Draft Lily Bulb Order:

The following Management Practices in Table B.1 are listed by categories to achieve compliance with the following requirement from Section II.D in the Order. Alternatively, Enrollees may propose and implement Management Practices that provide equivalent or greater protection of water quality to meet the requirements of the Order. Enrollees are responsible for the design, implementation, maintenance, and repair of Management Practices to ensure their continued effectiveness in achieving the water quality goals of this Order.

All Enrollees shall, at a minimum, implement Management Practices necessary to:

a) Prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads;

b) Prevent, minimize or eliminate the discharges of all agricultural pollutants, including synthetic pesticides and copper-based fungicides to surface waters and groundwater;

a) Prevent, minimize, or eliminate overapplication of nitrogen and the percolation of nitrogen into groundwater;

c) Protect wellheads from surface water intrusion; and

d) Implement proper handling, storage, disposal, and management of fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals.

Design specifications for Management Practices listed in Table B.1 can generally be found through the NRCS Conservation Practice Standards[15], and the Handbook for Forest, Ranch, and Rural Roads.[16]

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[15] Conservation Practice Standards | Natural Resources Conservation Service https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards

[16] Updated Handbook for Forest, Ranch and Rural Roads | Pacific Watershed Associates https://www.pacificwatershed.com/roadshandbook

Table B.1: Management Practices by Category and Descriptions

Sediment and Erosion Control Management Practices *Management practices to prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads.*
Field Practices
Filter Strip – A vegetated strip is maintained adjacent to a drainage ditch or waterway to filter pollutants.
Field Size Reduction – Field sizes have been reduced to lessen the amount of stormwater runoff from the field.
Flow Dissipaters – Flow dissipaters are used to minimize erosion at discharge points, usually constructed out of riprap or concrete. .
Contour Farming – Fields are planted on the contour to reduce runoff.
Precision Land Forming – Fields are graded to increase irrigation efficiency and improve drainage control and minimize erosion.
Row Arrangement – Crop rows are graded, directed and at a length to optimize rain and irrigation water.
Cover Crop – Vegetation is planted in fields to minimize the area of bare soil, thereby reducing the potential for erosion.
Enhanced Soil Infiltration – Soil water penetration has been increased through the use of amendments, deep ripping and/or aeration.
Critical Area Planting – Permanent vegetation is established in areas that are expected to have high erosion rates or in areas that would otherwise prevent the establishment of vegetation.
Soil amendments – Amendments, such as compost, mulch or other organic matter are added to the soil to improve soil structure and reduce erosion.
In Furrow Dams – In furrow dams are installed to increase infiltration and settling out of sediment prior to entering the tail ditch.
Field Border – Borders (including berms) are installed at the low end of fields to capture runoff and trap sediment.
Plant Residue Tillage Management – Plant materials are left on the soil surface to reduce runoff and erosion.
Vegetative Barrier – Vegetation is planted to slow or reduce surface runoff by promoting detention and infiltration.
Grassed Waterway – Grass is maintained in drains and ditches to reduce erosion and filter pollutants.

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Sediment and Erosion Control Management Practices
Management practices to prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads.
Stormwater Diversion – Structures or embankments are installed to keep stormwater on lily bulb field headlands.
Field Isolation – Runoff from lily bulb fields flows onto a pasture or other vegetated area where it is dispersed, filtered and infiltrated before reaching surface waters.
Grade Stabilization Structure – Drop spillways or check dams are installed to stabilize the grade and control erosion.
Appurtenant Agricultural Roads
Road Erosion Control – Waterbars, grading, rolling dips, etc. are used to prevent and minimize road erosion.
Proper Culvert Sizing and Maintenance – Culverts are sized correctly to pass the 100-year storm flows. Culverts are inspected regularly and maintained to ensure structural integrity, proper function, and to minimize erosion downstream.
Road Maintenance – Pre- and post-storm inspections are conducted, erosion sites are identified, and a prioritized inventory of erosion sites is developed and updated from which to schedule and implement fixes.
Appurtenant Farm Areas
Agricultural Pond Maintenance – Agricultural ponds are maintained to prevent erosion and failure of dams, embankments, and spillways. Ponds are regularly inspected, and necessary preventative maintenance is performed.
Livestock Management – This practice encompasses several possible measures related to managing pasture to protect water quality, such as stable stream crossings that protect bed and banks, alternate water for livestock, rotational grazing, and fencing or other barriers that limit access to riparian zones.

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Pesticide Management Practices *Management practices to prevent, minimize or eliminate the discharges of pesticides to surface water and groundwater*
Integrated Pest Management Plan – A pesticide Management Plan has been developed that considers available pest control techniques to keep pesticide use at a level that minimizes risk to water quality.
Use of Low Risk Pesticides – Lower risk pesticides have been selected to minimize risk to water quality based on toxicity, runoff potential, and leaching potential.
Pesticide Sampling and Analysis – Stormwater runoff from fields is sampled and analyzed for pesticide concentrations to assess effectiveness of management practices.
Pesticide Mixing/Loading Setbacks – Setbacks are maintained adjacent to waterways and other sensitive areas for pesticide application, mixing, and loading.
Soil Amendments – Amendments are added to the soil to bind pesticides, thereby reducing offsite movement and/or reducing their toxicity.
Sprayer Shields – A shield on the spray boom is used to reduce drift.
Irrigation Water Management – The volume, frequency, and application rate of irrigation water is planned to minimize runoff.
County Pesticide Permit Compliance – All applicable pesticide regulations and handling and application directions are being followed.
Crop Rotation – Crops are rotated seasonally in a sequence to reduce use of pesticides and fertilizers and to reduce erosion.
End of Row Shutoff When Spraying – The pesticide sprayer is shut off at the end of the row and kept off in the turnaround.
Avoid Surface Waters When Spraying - Pesticides are not sprayed in and around surface waters where they can contact surface waters directly considering, among other things, wind direction and strength
No Spray Buffer Zone – Areas where spraying does not take place from between the downwind edge of the application area and an identified sensitive area.
Drift Control Agents – Additives are used to increase droplet size to reduce drift.
Monitor Climatic Conditions – Wind speed and direction, temperature, and relative humidity are monitored and considered in planning pesticide applications.
Application Timing and Rain Forecasting – The rain forecast is monitored to anticipate storm events that produce runoff pesticide application are planned to lengthen the amount of time prior to a storm event.

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Pesticide Management Practices *Management practices to prevent, minimize or eliminate the discharges of pesticides to surface water and groundwater*
Pesticide Applicator Adjustments – Spray nozzle pressure and height and droplet size are adjusted to better target the pesticide application, minimize drift, and improve the efficiency of applications, which can all reduce the amount of pesticide required.

Nitrogen Management Practices *Management practices to prevent, minimize, or eliminate overapplication of nitrogen and the percolation of nitrogen into groundwater.*
Nutrient Application at Agronomic Rates – Nutrients are applied at rates to meet crop needs while reducing nutrient runoff and infiltration to groundwater.
Nutrient Budget – Nutrients applied versus nutrients removed (nutrient balance) is calculated to arrive at a nutrient application rate that minimizes excess application of nutrients.
Soil Testing – Nitrogen concentration in soils is measured and applications are adjusted accordingly.
Irrigation Water Testing – Nitrogen concentrations in irrigation water are measured and fertilizer nitrogen applications are adjusted accordingly.
Use of Beneficial Cover Crops – Cover crops that fix and utilize nitrogen are used to minimize nitrogen applications and leaching to groundwater.

Wellhead Protection and Good Housekeeping *Management practices to protect wellheads from surface water intrusion; and management practices for the proper handling, storage, disposal, and management of fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals.*
Wellhead Protection
Wellhead Protection – An area around the wellhead is delineated where certain activities are limited in order to protect the wellhead from contamination.
Backflow Prevention - Install and maintain backflow prevention devices on irrigation wells***.***
Abandoned or Inactive Wells - Properly destroy permanently inactive groundwater wells
Good Housekeeping

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Wellhead Protection and Good Housekeeping *Management practices to protect wellheads from surface water intrusion; and management practices for the proper handling, storage, disposal, and management of fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals.*
Proper Disposal of Pesticides – Pesticides containers are triple rinsed before disposal and rinse water is mixed and applied according to label requirements. Pesticides are considered hazardous waste and disposed of accordingly.
All Applicable Pesticide Storage, Handling, and Use Laws are followed – State and local laws relating to the proper handling, storage, and use of pesticides are followed. Pesticide storage areas are well-maintained with proper signage.

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Additional Reasonably Foreseeable Management Practices as Determined from Available Literature

Practices to Reduce Nutrient Loading to Surface Water and Groundwater

Reduce/eliminate irrigation discharge.
Reduce/eliminate stormwater discharge.
Plant cover crops; use them and manage them appropriately (e.g., not applying fertilizer to them).
Manage irrigation, examples include:
Irrigation distribution uniformity.
Reduce irrigation water applied.
Use micro-irrigation.
Maintain irrigation system; check for leaks and broken emitters, and fix/replace as needed.
Install buffer strip, vegetated filter strip, or swale.
Install constructed wetlands or other vegetated treatment system.
Install backflow prevention devices.
Apply less fertilizer.
Test water in wells to determine nutrient concentration before irrigating and fertilizing and reduce fertilizer application based on irrigation water nutrient concentration and volume to be applied.
Install appropriate storage of fertilizers, if kept on site.
Develop a nutrient Management Plan.
Apply nutrients at rates necessary to achieve realistic crop yields.
Improve timing of nutrient application.
Use agronomic crop production technology to increase nutrient use efficiency.
Avoid winter nitrogen applications.
Plan timing of fertilizer application to avoid applying before predicted rainfall events.
Monitor the nutrient content of the soil to reduce fertilizer applications.
Account for nutrient content of unharvested plant material to reduce fertilizer applications.
Rinse and dispose of chemical containers safely.
Manage soil health to improve water and nutrient retention and reduce leaching.

Practices to Reduce/Eliminate Pesticides from Entering Surface Water or Groundwater

- Reduce/eliminate irrigation discharge Reduce/eliminate stormwater discharge.
- Plant cover crops; use them and manage them appropriately.
- Manage irrigation, examples include:
  Irrigation distribution uniformity.
  Reduce irrigation water applied.
  Use micro-irrigation.
  Maintain irrigation system; check for leaks and broken emitters, and fix/replace as needed.

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Install buffer strip, vegetated filter strip, or swale.
- Install constructed wetlands or other vegetated treatment systems.
- Install backflow prevention devices.
- Apply pesticide per labeling directions (e.g., do not apply during windy conditions, do not apply right before forecasted rain, do not irrigate directly after pesticide application, apply lowest dose, apply based on infestation thresholds).
- Use an IPM strategy.
- Install appropriate storage of chemicals, if kept on site.
- Install hedgerows.
- Use beneficial insects to reduce pesticide applications.
- Scout for pests prior to pesticide applications.
- Minimize deep percolation.
- Reduce pesticide applications.
- No dormant spray.
- Spot-treat infestations.
- Rinse and dispose of chemical containers safely.
- Install Treatment System
- Soil amendments

Practices to Reduce/Control Erosion and Discharge of Sediment to Surface Waters

- Reduce/eliminate irrigation discharge Reduce/eliminate stormwater discharge.
- Plant cover crops; use them and manage them appropriately.
- Install buffer strip, vegetated filter strip, or swale Install constructed wetlands or other vegetated treatment system.
- Minimize bare soil.
- Limit movement of water to surface waters.
- Minimize tillage.
- Install and maintain sediment trapping measures.
- Conservation tillage
- Conservation cover.
- Critical area planting.
- Mulching.
- Contour farming or strip-cropping.
- Contour buffer strips.
- Properly construct and maintain roads.
- Out-slope roads.

Practices to Control Impacts to Stream Temperature

- Re-establish (and/or preserve) riparian buffers.
- Expand riparian and wetland buffers.
- Increase riparian canopy for surface waters to support beneficial uses.

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- Establish native species (grasses, forbs, legumes, shrubs, and trees) near riparian areas.
- Exclude people and vehicles from an area to protect, maintain, or improve the quantity and quality of riparian vegetation.
- Plant native vegetation to increase shade in accordance with site-specific potential.

Also refer to USEPA National Managment Measures to Control Nonpoint Source Pollution from Agriculture (https://www.epa.gov/nps/national-management-measures-control-nonpoint-source-pollution-agriculture).

Typical Construction, Operation, and Maintenance Processes for Selected Generalized Reasonably Foreseeable Management Practices

The number of reasonably foreseeable management practices listed in the prior table is too great to provide detailed information regarding typical construction/installation, operation, and maintenance processes for each one. Additionally, many of the practices listed (e.g., apply less fertilizer, apply pesticides in accordance with label instructions, less tillage, etc.) would have limited potential to result in significant adverse environmental impacts. Therefore, a selected number of generalized reasonably foreseeable management practices with the greatest potential for environmental impacts associated with their construction, operation, and/or maintenance is presented here.

Runoff Management Features (e.g., Buffer Strip, Vegetated Filter Strip, or Swale)

Runoff management features may include buffer strips, vegetated filter strips, or swales, all of which serve to manage runoff through vegetation that absorbs and filters water and sediments. These features usually include sloped areas of planted vegetation positioned between a waterbody receiving runoff and pollutant source area. Construction/installation activities could include light disking, use of a “no till” or grass drill for seeding the proposed vegetated area, and associated transport of materials and equipment. Minor excavation and off- haul of soils may be required for construction of swales. General vegetation management (e.g., mowing, weeding, etc.) may be required for periodic maintenance of the facilities. Generally, these types of runoff management features would not use or require energy, other than for operation of any equipment used in maintenance activities.

Retention/Detention Basins

Retention/Detention basins are constructed from an embankment or excavation to capture and retain pollutant-laden runoff. Sediment retention basins typically are constructed with an engineered outlet and are designed to retain runoff for a sufficient length of time to allow the sediment to settle out in the basin. Heavy equipment is required for construction of sediment retention basins, such as dozers, hydraulic excavators, trenchers, dump trucks, scrapers, etc. Engineered fill material may need to be imported to the site for construction of the embankment, and/or excavated material

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may need to be hauled off from the site and disposed of at a landfill. Maintenance activities include periodic inspections of the basin, removal of accumulated sediment, debris/trash removal, replacement of damaged parts, and vegetation management.

Riparian Buffer Areas

Riparian buffer areas are communities of perennial vegetation including trees, shrubs, and grasses adjacent to a body of water that provide important habitat and water quality functions, including passive removal of pollutants (e.g., sediment, pesticides, etc.) and temperature regulation through shading. Depending on the existing vegetation/ground cover in the targeted area, construction of the riparian buffer area may include removal of existing farm area, light disking, and broadcast seeding or plug planting of riparian vegetation species. Equipment used during construction could include a “no till” or grass drill, skidsteer loader, and trucks for transport of materials. Following construction/installation, riparian buffer areas may require some watering, particularly in the early plant stages to ensure survival, but otherwise would not use substantial water or energy. Maintenance activities may include periodic inspections of streambank stability/evidence of erosion, exclusion of livestock, and general vegetation management.

Treatment Systems

Treatment Systems for capturing and treating pollutant-laden storm runoff could include the construction of stormwater capture basins which are typically are constructed to retain runoff for a sufficient length of time to allow the treatment system to be effective. Heavy equipment is required for construction of such basins, such as dozers, hydraulic excavators, trenchers, dump trucks, scrapers, etc. Engineered fill material may need to be imported to the site for construction of the embankment, and/or excavated material may need to be hauled off from the site and disposed of at a landfill. Maintenance activities include periodic inspections of the basin, removal of accumulated sediment, debris/trash removal, replacement of damaged parts, and vegetation management.

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ATTACHMENT C: Plans and Policies Relevant to the Proposed Project

Del Norte County General Plan 2003

Natural Resources/Conservation Element

AGRICULTURAL RESOURCES

Goal 1.G. To designate agricultural land and promote development of agricultural uses to support the continued viability of Del Norte County's agricultural economy.

Policies

1.G.1. The County defines prime agricultural lands as those, which meet both of the following criteria:

a. Land of high agricultural value: Lands "actively used" (lands may be considered "actively used" even though they lie idle for up to ten years) for agricultural production such as nursery crops, pasture crops, dairy products, and/or livestock, or;

Lands which qualify for rating 80 through 100 in the Storie Index.

b. A minimum of 20 acres in contiguous ownership. £* LR II.G.2.c

1.G.2. The County defines general agricultural land as lands that meet all of the following criteria:

a. A minimum of 5 acres of contiguous ownership;

b. Lands in agricultural use or adjacent to agricultural use; and

c. Lands where small-scale agriculture provides or can provide food, fiber or animal management for the enjoyment or economic benefit of the property owner or renter. £ .. LU 111.8., LR III.C.2.

1.G.3. The County deems continuation of existing agricultural uses such as grazing and pastoral activities and the raising and harvesting of crops to be a principal use within existing Farmed Wetlands. Maintenance activities auxiliary to the above agricultural uses are, therefore, allowable uses including drainage related to crop rotation. Such areas are subject to the other policies of this General Plan. £ LR III.C.B

1.G.4. The County shall continue to conserve prime agricultural soils by review of development which may cover-over or displace such soils (i.e., roads and accessory structures) and require redistribution of impacted soils for other agricultural uses as mitigation. The County shall encourage agricultural structures to be placed in a location that will have the least impact upon on-site agricultural activity. ~* (New)

1.G.5. The County shall designate agricultural industrial areas to allow agricultural service uses (i.e., commercial and industrial uses) to locate in agricultural areas if they

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relate to the primary agricultural activity in the area. The County shall use the following guidelines to analyze the suitability of a proposed agricultural service use:

a. The use will not adversely affect agricultural production in the area;

b. The use supports local agricultural production;

c. It is compatible with existing agricultural activities and residential uses in the area; and

d. The use will not require the extension of sewer service. ~* (New)

1.G.6. The County shall support appropriate efforts by private conservation organizations to use conservation easements as a tool for agricultural preservation. ~* (New)

1.G.7. The County shall encourage infill development in urban areas as an alternative to expanding urban boundaries into prime agricultural areas. ~* (New)

1.G.8. In the Coastal Zone, the County defines new or expanded agricultural operations that involve the removal of major vegetation, excluding agricultural crops, as new development. Accordingly, such operations are subject to the permit requirements and all other applicable policies of this General Plan pertaining to new development. ~ LR III.C.g.

1.G.9. The County shall permit conversion of land designated for agriculture use only when agricultural use is no longer feasible and such conversion shall be subject to Coastal Act priorities for coastal land uses (e.g., recreation, coastal dependent industries). Priority shall also be given to land uses that are least likely to conflict with agricultural productivity or activity, particularly other resource activities as set forth elsewhere in this General Plan. ~ LR III.C.3.

1.G.10. If a parcel is designated for prime agricultural use, conversion to non-agricultural use shall not be permitted, except where allowed in Section 30241 of the Coastal Act. ~ LR III.C.1.

1.G.11. The County should support education programs in agricultural sciences to insure a future of well-trained agronomists and informed citizens. \J LR III.C.6.

RIGHT TO FARM

1.G.12. The County shall adopt a right-to-farm ordinance that provides that existing agricultural operators are protected from nuisance complaints resulting from normal operations. ~* (New)

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1.G.13. The County shall continue to designate as agriculture those lands most suited to agricultural production by restricting inappropriate development on prime land and directing future development to non-prime areas. ~.. COS P'SAG.3

1.G.14. The County shall, as part of its right-to-farm ordinance, require development within or adjacent to designated agricultural areas to include design, construction, and maintenance techniques that protect agriculture and minimize conflicts with adjacent agricultural uses. ~"COS G.SAG.3 ., COS P.SAG.2 ., COS LR.III.G.5.

1.G.15. The County shall require new non-agricultural development immediately adjacent to agricultural areas to include location, design, construction, and maintenance techniques that protect agriculture uses and the non-agriculture uses. ~ .. (New)

1.G.16.The County shall maintain prime agricultural lands in large parcel sizes (greater than 20 acres) to retain viable farming units. ~.. (New)

1.G.17. The County shall afford parcels of 20 acres or larger committed to agricultural use the opportunity to participate in Williamson Act contracts or an equivalent method of taxation. ~ LV 111.0.13.

WILLIAMSON ACT

The Williamson Act is specifically referenced in policy 1.G.17 above, emphasizing the County's commitment to afford parcels of 20 acres or larger committed to agricultural use the opportunity to participate in Williamson Act contracts or an equivalent method of taxation, supporting agricultural preservation through tax incentives.

FORESTRY RESOURCES

Goal 1.H. To conserve Del Norte County's forest resources, enhance the quality and diversity of forest ecosystems, reduce conflicts between forestry and other uses, and to encourage a continued yield of forest products.

Policies

1.H.1. The County recognizes commercial timberland as a resource in its own right as well as a protector of many other resources and shall strive to maintain commercial forest land as such. ~"COSP.CTP

1.H.2. The County shall continue to maintain in a commercial timberland use those lands possessing climate and soils suitable for growing commercial conifer timber crops (including spruce) through the State Timberland Production Zone (TPZ) program. Those upland soils with timber sites I through III which are in parcels of 20 acres or more should not be allowed to reduce in parcel size below 20 acres. £ .. COS P.CTP.4., LR V.C. 5. (Revised)

1.H.3. The County shall ensure that other timberlands 20 acres or more in size which are within or adjacent to commercial timber production areas, U.S. Forest boundaries,

hillside areas, and/or wild land fire risk areas are designated as Timberland with timber related uses and are subject to the restrictions of Policies 1.H.2. and 1.HA. ~ LR V.C. 3. (Revised)

1.HA. For lands not zoned TPZ, the County may consider parcels designated as Timberland for division into a parcel of 20 acres or larger in size, provided such divisions comply with other County development standards. The creation of parcels less than 20 acres in size when the one unit 20 acres density is not exceeded may only be approved subject to the County's D district combining zone to ensure that there is no further division than that permitted by this General Plan. ~* LR V.C.7. (Revised)

1.H.5. The County should require the placement of commercial timberland uses and adjacent uses so that, in general, lower intensity uses are adjacent to commercial timberlands with higher intensity uses placed in a logical transition away from these timberlands. Lower intensity uses shall include other resource activities as set forth in the Agriculture, Marine Resources, and Water Resources policies of this General Plan. ~* LR V.C.9

1.H.6. The County shall protect commercial timberland and timber production activities from development practices that erode their economic viability. New non-timber development immediately adjacent to timberlands shall be designed to provide a buffer in the form of a setback of sufficient distance to avoid land use conflicts between timber management and the non-timber uses. ~*COS P.CTP.1. (Revised)

1.H.7. Due to a preference to follow lot lines or quarter section lines, some areas designated as timberlands contain large, sizable areas of unforested lands used for low intensive agricultural production (primarily grazing). This is due to the conflicts between the timber yield and taxation legislation and the Coastal Act. Those lands designated as forestlands but used agriculturally are deemed not to be in conflict. Similar lands designated agriculturally but presently zoned TPZ are deemed not to be in conflict. ~* LV 111.0.17.

1.H.8. The County should continue to cooperate with the Six Rivers and Siskiyou National Forests in the management of all National Forest lands within the county. The County should strongly support the concept of multiple use of all forest lands, emphasizing commercial timber production, recreational, and resource values. ~ *COS P.CTP.5.

1.H.9. The County shall consider those lands defined as timber growing lands based upon size-of-parcel criteria and which are designated by this General Plan for urban, rural, or public land use categories to be approved for timberland conversion in order to provide for directed population growth so that Resource designated lands, including Resource Conservation habitat areas, may be protected. ~* (New)

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1.H.10. The County shall encourage the California Board of Forestry to limit issuance of timber conversion permits to projects which have demonstrated development permit approval. \J (New)

1.H.11. The County supports the productive use of wood waste generated in the county. ~* (New)

MARINE RESOURCES

Goal 1.A. To maintain and where possible enhance marine resources, coastal waters, and sensitive coastal habitats, thereby recognizing the economic and biologic significance of these resources. MWR VI. C.

Policies

1 .A.1 . The County shall seek to maintain and where feasible enhance the existing quality of all marine resources. ~ MWR VI. C. 1.

1.A.2. The County shall continue to enforce regulations, which require that all surface and subsurface waters be maintained at the highest level of quality to ensure the safety of public health and the biological productivity of coastal waters. ~ MWR VI.C.3.

1.A.3. The County shall encourage community programs that are designed to improve the quality of coastal fisheries and other marine resources. ~ MWR VI.C.2.

Estuaries

1.A.13. New shoreline development shall not be permitted to neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. ~ (New)

1.A.14. The County shall strive to ensure that estuarine systems are maintained at their highest
feasible level of productivity in order to protect and enhance coastal fisheries and other marine
resources. MWR VII.C.4.a

1.A.15. The County shall allow the alteration of existing estuarine water channels through dredging, diking, or filling only when consistent with Coastal Act Policy 30233 A & B and when such activity would enhance the biological productivity of the estuary. MWR VII.C.4.b

1.A.16. The County shall require that all permitted activities in estuaries as identified in Policy 1.A.15. are carried out in a manner that will minimize impacts on the biota and productivity of the area. MWR VII.C.4.c

1.A.17. The County shall permit the extraction of sand and gravel consistent with applicable marine resources, extraction, and habitat policies. MWR VII.C.4.d

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1.A.18. The County supports channel navigational modifications of the Smith and Klamath Rivers that are seasonal and do not require construction of permanent facilities that will adversely affect the flow of the stream if the following determinations are made:

a. The modifications are not permanent and will be removed before or during the following high water period;

b. The modifications are necessary to provide free movement of recreational and/or
commercial boating; and

c. The project is consistent with all applicable laws and regulations local, state, and federal. MWR VII.C.4.e

1.A.19. The County shall require implementation of approved management measures specified for urban areas in the recently approved State Water Resources Control Board and California
Coastal Commission's non-point source pollution control program to minimize polluted runoff
from construction activities and land use activities to insure the safety of public health and the
biological productivity of coastal waters.

1.A.20. The County shall enforce regulations which promote that all subsurface water be maintained at a high level of quality to ensure the safety of public health.

WATER RESOURCES

Goal 1.B. To protect and enhance the natural qualities of Del Norte County's streams, creeks and groundwater and to insure sufficient water supplies of good quality for all beneficial uses. COS WR.G.1. , COS WR.G.2., COS WR.G.3.

Policies

1.B.1. The County shall seek to maintain, and where feasible, enhance the existing quality of all water resources in order to ensure public health and safety and the biological productivity of waters. MWR VI.C.1., MWR VI.C.3., MWR VI.C.4.

1.B.3. The County shall continue to follow all existing and future Federal and State water quality standards. COS WR.P.4.

1.B.6. The County shall encourage community programs designed to improve the quality of fisheries and other water resources, including the voluntary incorporation of conservation buffers where pesticide and fertilizer application is a regular occurrence and public outreach and awareness related to home an business opportunities to improve fisheries and water resources. MWR VI.C.2.

1.B.7. The County shall continue to comply with the policies of the Wild and Scenic Rivers Act

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designations on the Smith River and Klamath River.

1.B.8. The County shall require that proposals to create new parcels include adequate space outside of watercourses' setback areas to place improvements (e.g., buildings, sewage disposal where applicable, and appurtenant structures) outside areas that require protection pursuant to WCQB standards and/or zoning requirements.

ONSHORE FISHERIES RESOURCES

Goal 1.C. To achieve the long-term goal of maintaining viable runs of anadromous fisheries through the protection, maintenance, enhancement, or restoration of anadromous fisheries spawning and nursery habitat.

Policies

1.C.1. The County shall, during the review of new development, protect and maintain the existing level of anadromous fisheries habitat when such development is adjacent to or may affect fisheries habitat.

1.C.2. The County shall continue its program of establishing riparian corridors for streams identified as habitat areas sensitive to anadromous fish productivity to land outside of the Coastal Zone and within the jurisdiction of the County.

1.C.3. When a use is permitted within an estuary, a riparian corridor, or a wetland buffer area and where no feasible, less environmentally damaging alternative is available; the County shall require that feasible mitigation measures shall be incorporated into the permitted activity. Such mitigation shall:

a. Minimize potential adverse impacts to the riparian corridor or wetland such as increased peak runoff, sedimentation, increased water temperatures, and loss of shade;

b. Require the siting of the permitted activity to be located to reduce or prevent impacts
incompatible with the continuance of the habitat function; and

c. Provide for replacement of habitat loss at a minimum ratio of 2:1.

1.CA.5. The County shall review and revise its road surfacing, grade slope, crown slope, culvert, ditch, bridge, and other maintenance practices to reflect techniques to reduce impacts on anadromous fisheries and be institutionalized so that such practices become standard for daily activities of the road crew.

1.CA.6. The County shall adopt mechanisms to restrict winter land grading activities on hillsides through amendments to the grading ordinance, standardized conditions, or through mitigation imposed through the environmental review process.

1.C.9. The County shall continue to utilize natural drainage courses rather than channelizing streams for stormwater runoff.

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1.C.10. For drainage courses within the county flood control system (which are used for storm water runoff and are identified as streams which support anadromous fisheries), the County shall amend its maintenance practices to the extent practicable, provide for retention of the riparian canopy.

1.C.11. The County shall continue to limit development involving significant alteration of the natural landform on slopes greater than 30 percent.

SOIL RESOURCES

Goal 1.D. To maintain the productivity of Del Norte County's soils, reduce erosion, and prevent unsafe and unhealthy soil conditions.

Policies

1.D.5. In areas of unstable soils and/or steep terrain, the County shall limit the intensity of
development to minimize the potential for erosion and landform instability.

1.D.6. The County shall continue to regulate the grading of land to minimize the impact of soil erosion from wind, water, and landslides in areas with slope instability.
1.D.7. implementation of best management practices to minimize the impacts of tilling and grading on soil erosion.

WILDLIFE HABITAT RESOURCES

Goal 1.E. To protect, restore, and enhance habitats that support fish and wildlife species throughout Del Norte County.

Policies

1.E.1 . The County recognizes the following areas as major locations of excellent wildlife habitat, native or natural vegetation, and of aesthetic value:
a. All offshore rocks and islands (seaward of the mean high tide line) excluding Whaler
and Battery Islands;

b. Inland of the mean high tide line to the first line of vegetation (except in the areas of
coastal bluffs when the area will be to the crest of the bluff), excluding the Crescent
City Harbor area;

c. Lakes Earl and Talawa and their immediate marshland, allowing continued agricultural uses;

d. Sand dunes and wet sand areas, excluding limited development in appropriate areas;

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e. The tidal-influenced areas of the Smith and Klamath Rivers. Commercial-Recreational and Public-Recreational development shall be allowed, but be carefully controlled to prevent significant alteration of the habitat areas. Gravel extraction shall be allowed on a scale consistent with local policy and state regulations;

f. Riparian corridors which preserve and protect wildlife and fisheries habitat; and

g. The Crescent City Marsh, Elk Creek Wildlife Area, and their surrounding wetlands.

These areas should be maintained as wildlife habitat and protected from adverse activity. The
County shall prohibit further development except that which is in the best interest of the public
health, safety, and welfare, or as noted. COS P.WHV. 7.

1.E.2. The County shall support the critical habitat protections for federally listed threatened and endangered species.

1.E.3. The County shall support the beneficial improvement and/or reestablishment of fisheries in the rivers and streams within the county, whenever feasible.

1.E.4. The County should recognize and encourage the various uses of wildlife and their habitat, including such activities as passive watching, scientific studies, educational purposes, and hunting and fishing. COS P.WHV.6.

1.E.5. The County shall require that development on hillsides be design to utility native vegetation when possible or natural vegetation as erosion control measures

1.E.6. The County should encourage the maintenance of forest lands in production under the multiple use concept which includes recreation and wildlife habitat. COS P.WHV.5.

LISTED SPECIES

1.E.8. The County shall continue to consult with the California Department of Fish and Game [17](CDFW) for identification and protection of rare, threatened, and endangered species that may be adversely affected by public or private development projects.

1.E.9. The County shall require that new development is consistent with critical habitat protection for federally listed threatened and endangered species, when such critical habitat is specifically identified at the affected project site or the development has identified offsite impacts that affect critical habitat.

1.E.10. The County shall require clustering of development and work with other public agencies in the acquisition of conservation easements to provide habitat protection of State or Federally listed rare, threatened, or endangered, and/or other special status species.

[17] Previously California Department of Fish and Game (CDFG); changed to California Department of Fish and Wildlife (CDFW) in on January 1, 2013

1.E.11. The County shall continue to pursue a cooperative role with the U.S. Forest Service and State and National Park services in the protection and continued maintenance of all plants and animal species and their habitat. COS P.WHV.10.

ENVIRONMENTALLY-SENSITIVE HABITAT AREAS

1.E.12. The County shall continue to define the following as specific environmentally-sensitive habitat areas:
Coastal Sand Dune - Ridges of sand created by wind deposited materials carried from ocean beaches. An active dune is one in the process of gaining or losing sand, commonly unvegetated or covered with sparse grasses and low-growing succulents. Stabilized dunes are usually covered by woody vegetation such as the beach pine. MWR VII.G.1
Coastal Estuary - A coastal water body usually semi-enclosed by land, but which has open, partially obstructed, or intermittent exchange with the ocean and in which ocean water is at least occasionally diluted with freshwater runoff from the land. MWR VII.C.1
Coastal Wetland - Lands within the coastal zone which may be covered periodically or permanently with shallow water such as marshes, swamps, mudflats, bogs, and fens. Farmed wetlands shall be defined as wetland areas, which are used for agricultural purposes such as grazing, planting or forage during parts of the year. Maintained roadside ditches shall not be deemed to be a coastal wetland unless within an area directly subject to tidal influence; in any case, existing roadside ditches may be maintained and improvements made which address safety concerns.
Riparian Vegetation - The plant cover normally found along water courses including rivers, streams, creeks, and sloughs, usually characterized by dense growths of trees and shrubs. MWRVII.E.1
1.E.13. The County shall maintain maps that identify the locations of specific environmentally sensitive coastal sand dunes, coastal estuary and wetlands, and riparian habitat areas within Del Norte County. Due to the scale of such maps, questions may arise as to the specific boundary limits of an identified environmentally sensitive habitat area. Where there is a dispute over the boundary or location of an environmentally sensitive habitat area, the County may request the applicant to provide the following information:

a. A base map delineating topographic lines, adjacent roads, location of dikes, levees,
flood control channels, and tide gates;

b. Vegetation map;

c. Soils map; and

d. A biologist's report, where necessary.

The County shall cooperate with the CDFW to review this information and the County's determination shall be based upon specific findings as to whether an area is or is not an environmentally sensitive habitat area based on General Plan criteria, definition, and,

within the Coastal Zone, criteria set forth by the Coastal Act regarding Environmentally Sensitive Habitat Areas. MWR VII.D.4.g

1.E.14. The County shall continue to implement the existing Resource Conservation Area program to guide development in and adjacent to environmentally sensitive habitats, both natural and man- made, so as to allow utilization of land areas compatible with other policies while providing adequate protection of the subject habitat. MWR VII.D.4.d

1.E.15. The County shall encourage the California Board of Forestry to adopt updated Forest Practice Rules which prohibit timber harvest within riparian, wetland, estuary habitat, or related buffer areas, designated by a locally adopted General Plan or Local Coastal Plan.

COASTAL SAND DUNES

1.E.16. To ensure their values as groundwater recharge regions and wildlife habitats, the County shall encourage the maintenance in their existing states or return to their natural states where feasible of coastal sand dunes, as mapped on the County sensitive habitat maps. MWR VII.G.4.a

1.E.17. The County shall develop enforceable regulations to limit the use of motorized vehicles to unvegetated dunes. MWR VII.G.4.b, RIV I.F3.

1.E.18. The County shall discourage the removal or unnecessary disturbance of dune vegetation. MWR

COASTAL ESTUARIES

[See Policies 1.A.14., 1.A.16., 1.A.17., and 1.A.19]

COASTAL WETLANDS

1.E.19. The County shall permit the diking, filling, or dredging of wetlands in accordance with other applicable provisions of this General Plan where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse environmental effects. Within the coastal zone, such projects shall be limited to those identified in Section 30233 of the Coastal Act. MWR VII.D.4.a

1.E.20. In order to provide that the maximum amount of agricultural production in existing farmed wetlands and cultivated lands (cultivated within the last ten years), the County shall permit maintenance and repairs for existing dikes, levees, drainage ditches, and other similar agricultural drainage systems, subject to any and all applicable policies within the General Plan. MWR VII.D.4.c

1.E.21. The County shall ensure that development in areas adjacent to environmentally sensitive wetland habitat areas be sited and designed to prevent impacts which could significantly degrade such areas, and shall be compatible with the continuance of such

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habitat areas. The primary tool to reduce impacts around wetlands between the development and the edge of the wetland shall be a buffer of one hundred feet in width. A buffer of less than one hundred feet may be utilized where it can be determined that there is no adverse impact on the wetland. A determination to utilize a buffer area of less than one hundred feet shall be made in cooperation with the California Department of Fish and Game and the County's determination shall be based upon specific findings as to the adequacy of the proposed buffer to protect the identified resource. MWR VII.D.4.f

1.E.22. The maintenance opening of the sandbar at Lake Talawa shall be permitted consistent with agreements negotiated between the County and the CDFW. MWR VII.D.4.e

1.E.23. The County shall require that dredging and spoils disposal be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment when feasible should be transported for such purposes to appropriate beaches or into suitable longshore current systems. MWR VII.D.4.b

1.E.24. The County shall prohibit direct runoff of pollutants and siltation into wetland areas from development. Development shall be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.

1.E.2S. The County shall require new development to mitigate wetland loss through any combination of the following, in descending order of desirability:

• Avoidance of wetland habitat;

• Where avoidance is not possible, minimization of impacts on the resource; or

• Replacement, including use of a mitigation-banking program.

1.E.26. In cases where the County requires replacement for a wetland loss, the level of replacement to be required with respect to any given project will be evaluated according to the following criteria:

1. On-site mitigation shall be preferred to off-site, and in-kind mitigation shall be preferred to out-of-kind;

2. Functional replacement ratios may vary to the extent necessary to incorporate a margin of safety reflecting the expected degree of success associated with the mitigation plan; and

3. Acreage replacement ratios may vary depending on the relative functions and values of those wetlands being lost and those being supplied, including compensation for temporal losses.

1.E.27. The County deems the continuation of existing agricultural uses such as grazing and pastoral activities and the raising and harvesting of crops to be a principle use

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within existing Farmed Wetlands. Maintenance activities auxiliary to the above agricultural uses are, therefore,
allowable uses including drainage related to crop rotation. Such areas are subject to the other
policies of this General Plan. LR III. C. B.

RIPARIAN AREAS

1.E.28. The County shall ensure that riparian vegetation be maintained along streams, creeks, and sloughs and other water courses for their qualities as wildlife habitat, stream buffer zones, and bank stabilization. Where alterations to segments of stream habitat cannot be avoided, policy 1.E.29 shall apply. MWR VII.E.4.a

1.E.29. The County shall require mitigation for development projects where segments of stream habitat are unavoidably altered. Such impacts should be mitigated on-site with in-kind habitat replacement or elsewhere in the stream system through stream or riparian habitat restoration work.

1.E.30. The County shall require development projects proposing to encroach into a creek corridor or creek setback to do one or more of the following, in descending order of desirability:

a. Avoid the disturbance of riparian vegetation;

b. Replace riparian vegetation (on-site, in-kind);

c. Restore another section of creek (in-kind); and/or

d. Participate in a mitigation-banking program.

1.E.31. The County should provide for diversified recreational use of fish and wildlife while providing preservation of their habitat. COS P. WHV.4.

1.E.32. The County should seek funding to reestablish riparian vegetation in selected stream corridors. MWR VII.E.4.b

1.E.33. The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for agricultural activities.

<u>Land Use Designation Element</u>

SMITH RIVER SUBAREA RECOMMENDATIONS

Goal 3.H. To address additional specific land use and development issues of the Smith River subarea.

Policies

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3.H.4. The County shall encourage the agricultural-industrial complex on Sarina Road to maximize the efficiency of its existing area facilities. This may include, but not be limited to, energy facilities utilizing recycling systems and appropriate greenhouse technology**.**

3.H.10. The County shall continue to allow agricultural uses in the floodplain of the Smith River and its adjacent streams.

Recreational and Cultural Resources Element

CULTURAL RESOURCES

Goal S.H. To encourage identification, protection, and enhancement of Del Norte County's important historical, archaeological, paleontological, and cultural sites and activities, and their contributing environment. COS CR.G.1. (Revised)

Policies

S.H.8. The County shall continue to solicit the views of the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance. (New)

S.H.9. The County shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts. (New)

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General Plan, Coastal Element, 1983 (Local Coastal Program Land Use Plan)

MARINE & WATER RESOURCES

General Policies

Coastal Act Policies: A major objective of the Coastal Act is to maintain and enhance the quality of coastal waters and marine resources and to mitigate potential adverse impacts of land uses adjacent to sensitive coastal habitats. To this end the following policies were enacted by the legislature:

30230. Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of groundwater supplies and encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

30236. Channelization's, darns, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and limited to (1) necessary water supply projects; (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or; (3) developments where the primary function is the improvement of fish and wildlife habitat.

30240. (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

Present Local Policies

The Del Norte County General Plan recognizes the importance of biologically sensitive habitats and seeks to conserve and manage these resources for the educational, recreational and economic needs of present and future generations. The significant coastal habitat areas presently acknowledged by the County are:

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- Prince Island and Hunter Rocks
- Tidal area of the Smith River
- Lakes Earl and Talawa and their immediate marshland Castle Rock
- Marsh area of Elk Creek
- False Klamath Rock
- Tidal area of the Klamath River
- White Rock
- Sand dunes of Dead Lake
- Crescent City Sitka Spruce Stand
- Wetland of Sandmine Road and Highway 101

Standards for the management of wildlife, habitat and vegetation in the County have also been developed. Important policies concerning the maintenance of sensitive coastal habitats include:

1. The County should require Environmental Impact Reports to ensure the protection of fish, wildlife and plant species in the area considered for development.
2. Development to "improve" the Klamath and Smith Rivers with flood control facilities should be carefully reviewed and evaluated. Efforts should be made to maintain the natural function of the rivers.
3. The County should maintain all existing species of fish, wildlife, and vegetation for their economic, intrinsic and ecological values as well as pr6viding adequate protection of rare and endangered species.
4. The following areas are recognized as major locations of excellent wildlife habitat, native or natural vegetation and of aesthetic value. These areas should be maintained as wildlife habitats and protected from adverse activity. No further commitment to development should be allowed except that which is in the best interest of the public health, safety and welfare, or as noted.

a. All offshore rocks and island (seaward of the mean high tide line) excluding Whaler and Battery Islands.
b. Inland of the mean high tide line to the first line of vegetation (except in the areas of coastal bluffs when the area will be to the crest of the bluff), excluding the harbor area.
c. Lakes Earl and Talawa and their immediate marshland, allowing continued agricultural uses.
d. Sand dunes and wet sand areas, excluding limited development in appropriate areas.
e. The tidal influenced areas of the Smith and Klamath Rivers. Commercial-Recreational and Public-Recreational development should be allowed but be carefully controlled to prevent significant alteration of the habitat areas. Gravel extraction should be allowed on a small scale consistent with local policy and state regulations.

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5. The County should establish riparian corridors along local streams, creeks and sloughs to maintain their aesthetic appeal, wildlife habitat, control of erosion, and to provide natural vegetation separations between developed uses.

C. LCP Policies

Del Norte County recognizes the economic and biologic significance of maintaining and where possible enhancing marine resources, coastal waters and sensitive coastal habitats. General policies designed towards achieving these important goals are stated in this section.

1. The County seeks to maintain and where feasible enhance the existing quality of all marine and water resources.
2. The County encourages programs (e.g., fish hatcheries habitat rehabilitation) designed to improve the quality of coastal fisheries and other marine resources.
3. All surface and subsurface waters shall be maintained at the highest level of quality to ensure the safety of public health and the biological productivity of coastal waters.
4. Wastes from industrial, agricultural, domestic or other uses shall not impair or contribute significantly to a cumulative impairment of water quality to the extent of causing a public health hazard or adversely impacting the biological productivity of coastal waters.
5. Water conservation measures (e.g., flow restrictors, industrial recycling of usable waste waters) should be considered by present users and required in new development to lessen cumulative impacts on existing water systems and supplies.
6. Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas, Development in areas adjacent to environmentally sensitive habitat areas shall be sited and designed to prevent impacts which would significantly degrade such areas and shall be compatible with the continuance of such habitat areas.

Specific Area Policies and Recommendations

Several areas of biological significance require particular attention in formulating a Coastal Plan designed to maintain the unique qualities and generally high productivity of both marine and inland water resources. This section will selectively identify and define these areas of concern and discuss specific policies and recommendations regarding their maintenance.

In general location of the sensitive habitats in coastal Del Norte County have been mapped at the scale of 1" = 2 miles and appended to the Del Norte County General Plan, Coastal Element, 1983 (Local Coastal Program Land Use Plan).

C. Estuaries:

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Definition: An estuary is a coast.al water body usually semi enclosed by land, but which has open, partially obstructed, or intermittent exchange with the ocean and in which ocean water is at least occasionally diluted by freshwater runoff from the land.

Principal Distributions: The primary estuarian habitats in Del Norte County are the mouths of the Smith and Klamath Rivers. The tidal influence on the Smith River extends approximately four miles upstream to Rowdy Bar. On the Klamath River the tide reaches some three and a half miles upstream. Lake Earl and Talawa become estuarine in nature upon the breaching of the sandbar blocking their opening to the sea.

Policies and Recommendations:

a. Estuarine systems should be maintained at their highest feasible level of productivity in order to protect and enhance coastal fisheries and other marine resources.
b. The alteration of existing estuarine water channels through dredging, diking, or filling shall be allowed only when consistent with Coastal Act Policy 30233 A & B and when such activity would enhance the biological productivity of the estuary.
c. All permitted activities in estu2ries as identified in 4-b (above) shall be carried out in a manner that will minimize impacts on the biota and productivity of the area.
d. Extraction of sand and gravel shall conform with the policies cited under general LCP policies in the previous section (Section VI-C).
e. Channel navigational modifications of the Smith and Klamath Rivers which are seasonal and do not require construction of permanent facilities which will adversely affect the flow of the stream shall be allowed if the following is determined:

i. The modifications are not permanent and will be removed before or during the following high-water period.
ii. The modifications are necessary to provide free movement of recreational and/or commercial boating.
iii. The project is consistent with all applicable laws and regulations local, state and federal.

D. Wetlands:

Definition: Definition: "Wetland" means lands within the Coastal Zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, bogs, and fens. The land use category will be Resource Conservation Area.

Farmed wetlands shall be defined as wetland areas which are grazed, planted or cut for forage during parts of the year. The land use category will be Resources Conservation Area with existing agricultural uses being deemed a principal use.

Principal Distributions: Wetland habitats are found throughout the generally flat-lying coastal plain of Del Norte County. The following identifies the major wetland areas of the Coastal Zone.

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a. Tilas Slough
b. Goodwin Pond
c. Yontocket Slough
d. Silva Slough
e. Talawa Slough
f. Lake Talawa
g. Lake Earl
h. McLaughlin Pond
i. Standard Plyvrnod
j. Cadra Slough
k. Dead Lake and Adjacent Ponds
l. Marhoffer Creek
m. Elk Creek Wetland
n. Sandmine Road Wetland
o. Jordan Creek

Policies and Recommendations:

a. The diking, filling, 6r dredging of wetlands shall be permitted in accordance with other applicable provisions of this program, where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse environmental effects. Such projects shall be limited to those identified in Section 30233 of the Coastal Act.
b. Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife, habitats and water circulation. Dredge spoils suitable (for beach replenishment when feasible should be transported for such purposes to appropriate beaches or into suitable longshore current systems.
c. In order to provide that the maximum amount of agricultural production in existing farmed wetlands and cultivated lands (cultivated within the last ten years), maintenance and repairs shall be permitted for existing dikes, levees, drainage ditches and other similar agricultural drainage systems and will be subject to any and all applicable policies within the certified land use plan.
d. Performance standards shall be developed and implemented which will guide development in and adjacent to wetlands, both natural and man-made, so as to allow utilization of land areas compatible with other policies while providing adequate protection of the subject wetland.
e. The maintenance opening of the sandbar at Lake Talawa shall be permitted consistent with agreements negotiated between the County and the California Department of Fish and Game.
f. Development in areas adjacent to environmentally sensitive habitat areas shall be sited and designed to prevent impacts which could significantly degrade such areas, and shall be compatible with the continuance of such habitat areas. The primary tool to reduce the above impacts around wetlands between the development and the edge of the wetland shall be a buffer of one-hundred feet in

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width. A buffer of less than one-hundred feet may be utilized where it can be determined that there is no adverse impact on the wetland. A determination to utilize a buffer area of less than one-hundred feet shall be done in cooperation with the CDFW and the County's determination shall be based upon specific findings as to the adequacy of the proposed buffer to protect the identified resource. Firewood removal by owner for onsite use and commercial timber harvest pursuant to CDF timber harvest requirements are to be considered as allowable uses within 100-foot buffer areas.

g. Due to the scale of the constraint's maps, questions may arise as to the specific boundary limits of an identified environmentally sensitive habitat area. Where there is a dispute over the boundary or location of an environmentally sensitive habitats area, the following may be requested of the applicant:

i. A base map delineating topographic lines, adjacent roads, location of dikes, levees, flood control channels and tide gates.
ii. Vegetation map.
iii. Soils map.

Review of this information shall be in cooperation with the CDFW and the. County's determination shall be based upon specific findings as to whether an area is or is not an environmentally sensitive habitat area based on land use plan criteria, definition, and criteria included in commission guidelines for wetland and other wet environmentally sensitive habitat areas as adopted February 4, 1981. The CDFW shall have up to fifteen days upon receipt of County notice to provide review and cooperation.

E. Riparian Vegetation:

Definition: Riparian vegetation is the plant cover normally found along water courses including rivers, streams, creeks and sloughs. Riparian vegetation is usually characterized by dense growths of trees and shrubs.

Principal Distribution: Riparian vegetation systems are mapped in the Del Norte County General Plan. Principal riparian habitats include*:

a. Gilbert Creek
b. Lopez Creek
c. Rowdy Creek
d. Ponds in the Coastal Dune Area North of Point St. George
e. Talawa Slough
f. Jordan Creek
g. Marhoffer Creek
h. Elk Creek

Policies and Recommendations:

a. Riparian vegetation shall be maintained along streams, creeks and sloughs and other water courses within the Coastal Zone for their qualities as wildlife habitat, stream buffer zones, and bank stabilization.

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b. The County should seek funds from the Coastal Conservancy to reestablish riparian vegetation in selected stream corridors.

F. Sea Cliffs:

Definition: A sea cliff or bluff is a more or less vertical escarpment fronting the ocean.

*NOTE: This is not an all-inclusive list and excludes streams within the Redwood National Park boundaries and does not include all of streams which meet Coastal Zone criteria.

Principal Distribution: A large portion of the coastline in Del Norte County consists of sea cliffs ranging from a few to hundreds of feet in height. The primary areas of the sea cliffs are:

a. North of the Smith River
b. Point St. George to Crescent City
c. South of Crescent City Along Most of the Redwood National Park Coastline

Policies and Recommendations:

Geologic studies shall be required for new construction within the area of demonstration* on bluff-tops to determine:

I. Their suitability for development; and
II. The necessary setbacks required to avoid hazards associated with bluff failure

*Note: The area of demonstration of stability includes the base, face and top of all bluffs and cliffs. The extent of the bluff top considered should include the area between the face of the bluff and a line as described on the bluff top by the intersection of a plane inclined at a 20° angle from horizontal passing through the toe of the bluff or cliff, or fifty feet inland from the edge of the cliff or bluff, whichever is greater. However, the County may designate a lesser area of demonstration in specific areas of known geologic stability (as determined by adequate geologic evaluation and historic evidence) or where adequate protective works already exist. The county may designate a greater area of demonstration or exclude development entirely in areas of known high instability.

G. Coastal Sand Dunes:

Definition: Coastal dunes are ridges of sand created by wind deposited materials carried from ocean beaches. An active dune is one in the process of gaining or loosing sand; such a mobile dune is commonly unvegetated or covered with sparse grasses and low-growing succulents. Stabilized dunes are usually covered by woody vegetation such as the beach pine.
Principal Distribution: Large areas of coastal dunes exist between Point St. George and the mouth of the Smith River. Other scattered localities of dunes in the Coastal Zone include: the vicinity of Lopez Creek; the Dead Lake area; and adjacent to Pebble Beach Drive near Marhoffer Creek.

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Policies and Recommendations:

a. Coastal sand dunes, as mapped on the County constraint maps should be ·maintained in their existing states or returned to their natural states where feasible to ensure their values as groundwater recharge regions and wildlife habitats.
b. Enforceable regulations should be developed to limit the use of motorized vehicles to non-vegetated dunes.
c. The removal or unnecessary disturbance of dune vegetation should be avoided.

Del Norte County Zoning Ordinance

Del Norte County Code

21 Coastal Zoning

21.11 RCA1 General Resource Conservation Area District:

Resource conservation areas are those environmentally sensitive habitat areas which are identified by the General Plan Coastal Element as wetlands, farmed wetlands, riparian vegetation, estuary and coastal sand dunes. The general resource conservation area zone is intended to designate those resource conservation areas which require further data, particularly mapping, prior to new or additional development and to serve as a transition zone until such data is made available, reviewed and adopted by the county. Changes of zone from general resource conservation area to another classification are to be made subject to the requirements of Section 21.11.60 herein and only where such uses are in accord with the General Plan or adopted specific plan.

For the purposes of Section 21.52.20(A)(4), the general resource conservation area uses listed under the principal permitted use section herein, shall be considered as the principal permitted use in the California Coastal Zone. Variances and adjustments to the district's requirements and standards shall not be considered a principal permitted use for the purposes of Section 21.52.20(A)(4).

The regulations set forth in this chapter apply in all RCA1 districts and are subject to the provisions of Chapters 21.02 through 21.60**.**

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ATTACHMENT D: Special Status Species

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Table A.1. Special-status Plant Species with Potential to Occur in or Near Commercial Lily Bulb Operations In The Smith River Plain the North Coast Region

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**
Abronia umbellate var. Breviflora Pink sand-verbena	- / - / 1B.1	Coastal dunes and coastal strand. Foredunes and interdunes with sparse cover. A. umbellata var. breviflora is usually the plant closest to the ocean. 0-75 m. Blooms July through October.
Anthoxanthum nitens ssp. nitens vanilla-grass	- / - / 2B.3	Meadows and seeps. Wet sites. 3-1895 m. Blooms April through July.
Calamagrostis crassiglumis Thurber's reed grass	- / - / 2B.1	Coastal scrub, marshes and swamps. Usually in marshy swales surrounded by grassland or coastal scrub. 5-50 m. Blooms May through August.
Cardamine angulata seaside bittercress	- / - / 2B.1	North coast coniferous forest, lower montane coniferous forest. Wet areas, streambanks. 5-515 m. Blooms April through June.
Carex arcta northern clustered sedge	- / - / 2B.2	Bogs and fens, north coast coniferous forest. Mesic sites. 60-1405 m. Blooms June through September.
Carex lenticularis var. limnophila lagoon sedge	- / - / 2B.2	Bogs and fens, marshes and swamps, north coast coniferous forest. Lakeshores, beaches. Often in gravelly substrates. 0-6 m. Blooms June through August.
Carex lyngbyei Lyngbye's sedge	- / - / 2B.2	Marshes and swamps (brackish or freshwater). 0-200 m. Blooms April through August.
Carex praticola northern meadow sedge	- / - / 2B.2	Meadows and seeps. Moist to wet meadows. 15-3200 m. Blooms May through July.
Carex serpenticola serpentine sedge	- / - / 2B.3	Meadows and seeps. Mesic, serpentine sites. 20-1710 m. Blooms March through May.
Carex viridula ssp. viridula green yellow sedge	- / - / 2B.3	Bogs and fens, marshes and swamps (freshwater), north coast coniferous forest. Mesic sites. 0-1705 m. Blooms (June) July through September (Nov).

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**
Castilleja litoralis Oregon coast paintbrush	- / - / 2B.2	Coastal bluff scrub, coastal dunes, coastal scrub. Sandy sites. 5-255 m. Blooms in June.
Cochlearia groenlandica Greenland cochlearia	- / - / 2B.3	Coastal bluff scrub. Sea bird nesting areas on offshore rocks. 0-50 m. Blooms May through July.
Empetrum nigrum black crowberry	- / - / 2B.2	Coastal bluff scrub, coastal prairie. 3-15 m. Blooms April through June.
Eriogonum nudum var. paralinum Del Norte buckwheat	- / - / 2B.2	Coastal bluff scrub, coastal prairie. Open places along immediate coast. 5-80 m. Blooms July through September.
Eriogonum pendulum Waldo wild buckwheat	- / - / 2B.2	Lower montane coniferous forest, upper montane coniferous forest. On dry, rocky ultramafic soils; open somewhat grassy areas within pine forest. 240-915 m. Blooms August through September.
Erysimum concinnum bluff wallflower	- / - / 1B.2	Coastal dunes, coastal bluff scrub, coastal prairie. More or less a coastal generalist within coastal habitat types. 3-60 m. Blooms February through July.
Erythronium hendersoni Henderson's fawn lily	- / - / 2B.3	Lower montane coniferous forest. 60-900 m. Blooms April through July.
Erythronium howellii Howell's fawn lily	- / - / 1B.3	Lower montane coniferous forest, north coast coniferous forest. 120-1150 m. Blooms April through May.
Fissidens pauperculus minute pocket moss	- / - / 1B.2	North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 30-1025 m.
Gilia capitata ssp. pacifica Pacific gilia	- / - / 1B.2	Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland. 5-1345 m. Blooms April through August.
Gilia millefoliata dark-eyed gilia	- / - / 1B.2	Coastal dunes. 1-60 m. Blooms April through July.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**
Hesperevax sparsiflora var. brevifolia short-leaved evax	- / - / 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Sandy bluffs and flats. 0-640 m. Blooms March through June.
Kopsiopsis hookeri small groundcone	- / - / 2B.3	North coast coniferous forest. Open woods, shrubby places, generally on Gaultheria shallon. 120-1435 m. Blooms April through August.
Lasthenia californica ssp. macrantha perennial goldfields	- / - / 2B.2	Coastal bluff scrub, coastal dunes, coastal scrub. 5-185 m. Blooms January through November.
Lathyrus japonicus seaside pea	- / - / 2B.1	Coastal dunes. 3-65 m. Blooms May through August.
Lathyrus palustris marsh pea	- / - / 2B.2	Bogs and fens, lower montane coniferous forest, marshes and swamps, north coast coniferous forest, coastal prairie, coastal scrub. Moist coastal areas. 2-140 m. Blooms March through August.
Lilium occidentale western lily	FE / SE / 1B.1	Coastal scrub, freshwater marsh, bogs and fens, coastal bluff scrub, coastal prairie, north coast coniferous forest, marshes and swamps. Well-drained, old beach washes overlain with wind-blown alluvium and organic topsoil; usually near margins of Sitka spruce. 3-110 m. Blooms June through July.
Lysimachia europaea arctic starflower	- / - / 2B.2	Meadows and seeps, bogs and fens. Coastal boggy areas. 3-15 m. Blooms June through July.
Moneses uniflora woodnymph	- / - / 2B.2	Broadleafed upland forest, North Coast coniferous forest. 50-260 m. Blooms May through August.
Monotropa uniflora ghost-pipe	- / - / 2B.2	Broadleafed upland forest, north coast coniferous forest. Often under redwoods or western hemlock. 15-855 m. Blooms June through August (Sept).
Montia howellii Howell's montia	- / - / 2B.2	Meadows and seeps, north coast coniferous forest, vernal pools. Vernally wet sites; often on compacted soil. 10-1215 m. Blooms (Feb) March through May.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**
Oenothera wolfii Wolf's evening-primrose	- / - / 1B.1	Coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest. Sandy substrates; usually mesic sites. 0-125 m. Blooms May through October.
Packera bolanderi var. bolanderi seacoast ragwort	- / - / 2B.2	Coastal scrub, north coast coniferous forest.Sometimes along roadsides. 30-915 m. Blooms (Jan - April) May through July (Aug).
Phacelia argentea sand dune phacelia	FT / - / 1B.1	Coastal dunes. Stabilized and recently moving sand dunes. 3-25 m. Blooms June through August.
Pinguicula macroceras horned butterwort	- / - / 2B.2	Bogs and fens. Meadow edges, seepage areas. Serpentine soil. 20-1830 m. Blooms April through June.
Polemonium carneum Oregon polemonium	- / - / 2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. 15-1525 m. Blooms April through September.
Potamogeton foliosus ssp. fibrillosus fibrous pondweed	- / - / 2B.3	Marshes and swamps. Shallow water, small streams. 5-1300 m. Blooming period unknown.
Pyrrocoma racemosa var. congesta Del Norte pyrrocoma	- / - / 2B.3	Chaparral, lower montane coniferous forest. Serpentine soils, from dry roadsides to damp hills; often in forest openings. Apparently equally likely to occur in wetlands or non-wetlands. 240-765 m. Blooms August through September.
Ramalina thrausta angel's hair lichen	- / - / 2B.1	North coast coniferous forest. On dead twigs and other lichens. 75-1390 m.
Romanzoffia tracyi Tracy's romanzoffia	- / - / 2B.3	Coastal bluff scrub, coastal scrub. Rocky sites. 15-300 m. Blooms March through May.
Sabulina howellii Howell's sandwort	- / - / 1B.3	Lower montane coniferous forest, chaparral. Dry open places, often on serpentine hillsides and ridges, near Jeffrey pines. 550-1000 m. Blooms April through June.
Sagittaria sanfordii Sanford's arrowhead	- / - / 1B.2	Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0-605 m. Blooms May through October (Nov).

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**
Sanguisorba officinalis great burnet	- / - / 2B.2	Bogs and fens, meadows and seeps, broadleafed upland forest, marshes and swamps, north coast coniferous forest, riparian forest. Rocky serpentine seepage areas and along streams. 5-1400 m. Blooms July through October.
Sidalcea malviflora ssp. patula Siskiyou checkerbloom	- / - / 1B.2	Coastal bluff scrub, coastal prairie, north coast coniferous forest. Open coastal forest; roadcuts. 5-1255 m. Blooms (March – April) May through August.
Sidalcea oregana ssp. eximia coast checkerbloom	- / - / 1B.2	Meadows and seeps, north coast coniferous forest, lower montane coniferous forest. Near meadows, in gravelly soil. 5-1805 m. Blooms June through August.
Sulcaria spiralifera twisted horsehair lichen	- / - / 1B.2	North Coast coniferous forest (immediate coast), coastal dunes. Usually on conifers. 0-90 m.
Viola langsdorffii Langsdorf's violet	- / - / 2B.1	Bogs and fens. Coastal wet areas. 2-10 m. Blooms May through June.
Viola palustris alpine marsh violet	- / - / 2B.2	Coastal scrub, bogs and fens. Swampy, shrubby places in coastal scrub or coastal bogs. 0-150 m. Blooms March through August.
Viola primulifolia ssp. occidentalis western white bog violet	- / - / 1B.2	Bogs and fens, marshes and swamps. Streamside flats and bogs; serpentine soils. 120-855 m. Blooms April through September.

* **List of Abbreviations for Species Status follow below**:
FE = Federal endangered
FT = Federal threatened
FC = Federal Candidate
SC = State Candidate
SE = State Endangered (California)
ST = State Threatened (California)
SR = State Rare (California)
SCC = Species of Special Concern
FP= Fully Protected
CA Rare Plant Rank

1A = Plants presumed extinct in California and rare/extinct elsewhere
1B.1 = Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California
1B.2 = Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California
1B.3 = Plants rare, threatened, or endangered in California and elsewhere; not very threatened in California
2B.2 = Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California
Source: California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database.

Table A.2. Special-status Animal Species with Potential to Occur in or Near Commercial Lily Bulb Operations In The Smith River Plain the North Coast Region

Scientific Name **Common Name**	**Listing status*** **(Federal/ State)**	**Habitat Association**
Invertebrates		
Bombus occidentalis Western bumble bee	- / SCE	Open grasslands, shrublands, chaparral, desert margins, including Joshua tree and creosote scrub, and semi-urban settings. Food plant include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum*. Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease. Western bumble bee populations in California are currently largely restricted to high elevation sites in the Sierra Nevada and a few records on the northern California coast (Xerces Society et al. 2018).
Speyeria zerene hippolyta Oregon silverspot butterfly	FT / -	Coastal meadows, northern coastal bluff scrub and northern coastal dune scrub in Del Norte County. Larvae feed only on the foliage of western dog violet (*viola adunca*). Adults feed on the nectar of a variety of flowering plants.
Amphibians		
Ascaphus truei Pacific tailed frog	- / SSC	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.
Rana aurora northern red-legged frog	- / SSC	Humid forests, woodlands, grasslands, and streamsides in northwestern California, usually near dense riparian cover. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State)**	**Habitat Association**
Rana boylii pop. 1 foothill yellow-legged frog - north coast DPS	- / SSC	Northern Coast Ranges north of San Francisco Bay Estuary, Klamath Mountains, and Cascade Range including watershed subbasins (HU 8) Lower Pit, Battle Creek, Thomes Creek, and Big Chico Creek in Lassen, Shasta, Tehama, and Butte Counties. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.
Rhyacotriton variegatus southern torrent salamander	- / SSC	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest. Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rocks within trickling water.
Reptiles		
Actinemys marmorata Northwestern pond turtle	PT / SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.
Fish		
Eucyclogobius newberryi tidewater goby	FE / SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, requires fairly still but not stagnant water and high oxygen levels.
Oncorhynchus clarkii coast cutthroat trout	- / SSC	Small coastal streams from the Eel River to the Oregon border. Small, low gradient coastal streams and estuaries. Needs shaded streams with water temperatures <18C, and small gravel for spawning.
Oncorhynchus kisutch pop. 2 coho salmon - Southern Oregon - Northern California Coast ESU	FT / ST	Open ocean, estuaries, and rivers. Federal listing includes populations between Cape Blanco in Oregon and Punta Gorda in California. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State)**	**Habitat Association**
Spirinchus thaleichthys longfin smelt	- / ST	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt but can be found in completely freshwater to almost pure seawater. Inhabits coast estuaries north of the Russian River (primarily) and south of Pillar Point, Half Moon Bay.
Thaleichthys pacificus eulachon	FT / SSC	Found in Klamath River, Mad River, Redwood Creek, and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.
Birds		
Aquila chrysaetos golden eagle	- / FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.
Brachyramphus marmoratus marbled murrelet	FT / SE	Lower montane coniferous forest, old growth, redwood. Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.
Charadrius alexandrinus nivosus western snowy plover	FT / SSC	Sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.
Coturnicops noveboracensis yellow rail	- / SSC	Shallow brackish and freshwater marshes, wet meadows, and occasionally rice fields. Summer resident in eastern Sierra Nevada in Mono County.
Elanus leucurus white-tailed kite	- / FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.
Empidonax traillii brewsteri little willow flycatcher	- / SE	Mountain meadows and riparian habitats in the Sierra Nevada and Cascades. Nests near the edges of vegetation clumps and near streams.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**
Fratercula cirrhata tufted puffin	- / SSC	Protected deepwater coastal communities. Open-ocean bird; nests along the coast on islands, islets, or (rarely) mainland cliffs. Requires sod or earth into which the birds can burrow, on island cliffs or grassy island slopes.
Gymnogyps californianus California condor	FE / SE	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. forages up to 100 miles from roost/nest.
Haliaeetus leucocephalus bald eagle	FD / SE, FP	Lower montane coniferous forest, old growth. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.
Riparia riparia bank swallow	- / ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.
Mammals		
Martes caurina humboldtensis *Pacific Marten Coastal Distinct Population Segment* Humboldt marten	FE / SE / SSC	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County. Associated with late-successional coniferous forests, prefer forests with low, overhead cover.

Source: California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database.
* List of Abbreviations for Federal and State Species Status follow below:
FE = Federal endangered
PE = Proposed endangered
FT = Federal threatened
PT = Federal proposed threatened
FC = Federal proposed candidate
SE = State endangered
ST = State threatened
SCE = State candidate endangered

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Attachment D: Special Status Species

SSC = Species of special concern (CDFW)
FP = Fully protected (CDFW)

ATTACHMENT E: Cost Analysis

The cost of compliance with the Order under existing conditions includes the costs associated with any management practices they may need to implement pursuant to the Order requirements, permit fees, and monitoring and reporting costs. These costs are described further below.

Water Quality Fees

The State Water Board sets a Water Quality Fee Schedule, which includes agricultural and Irrigated Lands Regulatory Programs throughout the state, as specified in California Code of Regulations, title 23, section 2200.6. All enrolled Commercial Lily Bulb Operations must pay the State Water Board fees on an annual basis. Although the State Water Board fees may change from year to year, the fee categories/schedule for the 2025/2026 fiscal year is shown below.

a) If an Enrollee is a member of a group that has been approved by the North Coast Water Board or North Coast Water Board's Executive Officer to manage fee collection and payment, then the annual fee shall be $1.50 per acre for all enrolled parcels.

b) If an Enrollee is not a member of a group that has been approved by the North Coast Water Board or North Coast Water Board's Executive Officer to manage fee collection and payment, then the annual fee shall be: $37.40 per acre up to 300 acres plus $18.71 per acre over 300 acres with a minimum fee of $710.

In Regions that have implemented Irrigated Lands Orders with Third-Party Programs or Grower Coalitions, most Enrollees have elected to enroll through those entities. Coalitions and Grower Coalitions manage fee collection, conduct representative surface and groundwater monitoring, provide compliance education, and assist Enrollees with general Order requirements. The North Coast Water Board anticipates that most Enrollees under this Order will also elect to enroll through a Coalition.

Compliance with Order Requirements

All Enrollees must comply with requirements to implement and adapt management practices related to sediment and erosion control; irrigation, pesticide, and nutrient management; and Streamside Area setbacks. This Order provides Enrollees flexibility in selecting management practices and requires Enrollees to monitor and report discharges and implement management practices to minimize or prevent discharges of waste.

Enrollees may be required to implement improved or additional management practices, as necessary, and report on the water quality-related outcomes of their management practice implementation. Enrollees must, ultimately, implement management practices that result in compliance with the Order.

Management practices associated with irrigation, nutrient and pesticide use, and sediment and erosion control are already being implemented by lily bulb growers in the Smith River Plain. This may be due to requirements imposed by other regulatory agencies (e.g., pesticide tracking and reporting by the Department of Pesticide Regulation and Agricultural Commissioners) and through voluntary actions supported by the Smith River Water Quality Management Plan.

Implementation of management practices may also have direct net cost benefits to a Commercial Lily Bulb Operation (e.g., irrigation and nutrient management can result in less fertilizer costs and reduced water/pumping costs for irrigation; sediment and erosion management minimize or prevent erosion of valuable topsoil).

The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) has developed standard agricultural management practices to address irrigation and nutrient management, pesticide management, and sediment and erosion control management, some of the more common of which are discussed below. Implementation of many of these practices would result in compliance with multiple requirements of the Order. Table 1 provides estimated costs of management practices/scenarios Enrollees may implement to meet the requirements in the Order, as reported by USDA, NRCS.

a) Grassed Waterway– involves installing a shaped or graded channel with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet. Runoff is conveyed from terraces, diversions, or other water concentrations without causing erosion or flooding. Water quality is protected and/or improved. Costs range between $2,000 and $3,000 per acre.

b) Contour Farming – this practice is installed on the entire field. A survey is completed by trained and certified Federal, State, local personnel or consultant to determine and "stake" contour row arrangement. Permanent row markers are established to ensure that this practice is maintained for the life of this practice. All field operations including disking, bedding, planting, and cultivation are performed on the contour which is near perpendicular to the field slope. Costs range between $15 to $20 per acre.

c) Filter Strip – involves establishing a strip or area of herbaceous vegetation that removes contaminants from overland flow. Filter strips can be established anywhere environmentally sensitive areas need to be protected from sediment, or other suspended solids, and dissolved contaminants in runoff. Costs range between $200 to $300 per acre.

d) Integrated Pest Management (IPM) program – involves implementing a site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies. An IPM approach seeks to prevent or mitigate offsite pesticide risks to water quality from leaching, solution runoff

and adsorbed runoff losses; and prevent or mitigate on-site pesticide risks to pollinators and other beneficial species through direct contact; among other goals. Costs range between $50 and $100 per acre.

e) Nutrient Management – involves managing the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments. The practice is implemented to minimize agricultural nonpoint source pollution of surface waters and groundwater, among other reasons. Costs associated with this practice include soil testing, analysis, and implementation of the nutrient management plan and recordkeeping. Costs range between $10 and $320 per acre.

f) Riparian Vegetation Buffer – involves establishment of an area of predominantly trees and/or shrubs located adjacent to and up-gradient from waterbodies. The practice may be implemented to reduce excess amounts of sediment, organic material, nutrients and pesticides in surface runoff and reduce excess nutrients and other chemicals in shallow groundwater flow; reduce pesticide drift entering the waterbody; restore riparian plant communities; create shade to lower or maintain water temperatures to improve habitat for aquatic organisms; or to provide other benefits. Costs vary based on whether riparian buffer vegetation is established through seeding, cuttings, bare-root plantings, or small or large containers. For scenarios where land is taken out of production to establish the riparian vegetation buffer, foregone income is considered. Costs range between $3,000 to $5,500 per acre.

g) Retention/Detention Basin – involves constructing a basin with an engineered outlet, formed by excavating a dugout, constructing an embankment, or a combination of both. The purpose of the retention/detention basin is to capture and detain pollutant-laden runoff, or other debris for a sufficient length of time to allow it to settle out in the basin. Costs are estimated between $6,000 to $13,000 per basin.

h) Vegetated Treatment Area – involves permanent herbaceous vegetative area or channel installed down slope from a planted area. Stormwater runoff is directed into the VTA to capture dissolved pollutants. This practice addresses water quality degradation due to uncontrolled pesticide runoff that can flow into surface waters or leach into ground water. Costs are estimated between $10,000 and $12,000 per acre.

These potential costs were considered when the water quality protection requirements were developed for the Order.

Table E.1: Estimated Costs[18] of Management Practices/Scenarios for Water Quality Protection

Management Practice	Typical Scenario Size	Unit Cost	Total Cost (low)	Total Cost (High)
Grassed Waterway (412)	1 acre	$2000-$3000/acre	$2,000	$3,000
Contour Farming (330)	10 acres	$15-$20/acre	$150	$200
Filter Strip (393)	1 acre	$200-$300/acre	$200	$300
Integrated Pest Management (IPM) program (595)	40 acres	$50-$100/acre	$2,000 g	$4,000
Nutrient Management (590)	40 acres	$10-$320/acre	$400	$12,800
Riparian Vegetation Buffer (391)	1.5 acres	$3,000-5,000/acre	$4,500	$7,500
Retention Basin (638)	Basin	Each	$6,000	$13,000
Vegetated Treatment Area (635)	1 acre	$10,000-$15,000/acre	$10,000	$15,000

Monitoring and Reporting

All Enrollees are required to conduct surface water and groundwater monitoring and reporting either individually or as part of a Coalition effort. All Enrollees are required to report management practice implementation annually in their Farm Evaluation and report nitrogen applied and removed, in the Irrigation and Nitrogen Management Plan (INMP). Refer to Attachment A of the Lily Bulb Order for monitoring and reporting requirements and Tables E.2-7 for estimated costs.

[18] Estimated costs are generated from NRCS Conservation Practice Codes that can be referenced in the NRCS Field Office Technical Guide. https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards

Table E.2: Estimated Cost of Surface Water Monitoring Requirements

Parameter	Annual Cost (Analytical + Materials and Labor) per Monitoring Station	Per Acre Cost (assumes 1000 acres) per Monitoring Station	Per Acre Cost for 7 Monitoring Stations
Dissolved Copper	$300	$0.30	$2.10
BLM Field Parameters	$150	$0.15	$1.05
BLM Lab Parameters (optional)	$600	$0.60	$4.20
Imidacloprid	$900	$0.90	$6.30
Diuron	$900	$0.90	$6.30
Ethoprop	$900	$0.90	$6.30

Table E.2 estimates the total annual cost of surface water monitoring requirements (per monitoring site) given a sampling frequency of three times per year. Collecting BLM lab parameters are ***optional***; Enrollees or the Coalition may instead use tributary-specific default values for BLM Analysis given in Attachment A: Monitoring and Reporting Program. Assuming seven monitoring sites and 1000 enrolled acres, the estimated cost per acre for surface water monitoring for Enrollees in a Coalition is **$22.05**. If the default BLM lab parameters are not used, and instead BLM lab parameters are collected, the total cost is estimated to be **$26.25 per acre**.

For Individual Enrollees, assuming monitoring of one site, the total of surface water monitoring is **$3,150** per year**.** If the default BLM lab parameters are not used, the total cost is **$3,750** per year. Per acre costs are variable by farm size.

Table E.3: Estimated Cost of Groundwater Trend Monitoring Requirements

Parameter	Annual Cost per location	Per Acre Cost (3 sites, 1000 acres)
Nitrate	$750	$2.25
Pesticides	$1550	$4.65

Table E.3 estimates the total cost of Groundwater Trend Monitoring Requirements. The total annual cost for Individual Enrollees would be **$2,300**. The total annual per-acre cost for Enrollees in a Coalition would be **$6.90** per acre.

Table E.4 estimates total cost of representative monitoring requirements for Enrollees in a Coalition and Individual Enrollees. Cost estimates assume the use of default values, where possible, for BLM analysis.

Table E.4: Estimated Cost of Representative Monitoring Requirements

Task	Total Estimate for Individual Enrollees	Total Cost per acre for Enrollees in a Coalition
Surface Water Monitoring	$3,150	$22.05
Groundwater Monitoring	$2,300	$6.90
Total	**$5,450**	**$28.95**

Table E.5 estimates farm-specific monitoring annualized over five years. Table I.8 provides those estimates for Enrollees in a Coalition.

Table E.5: Estimated Annualized Monitoring and Reporting Costs over Five Years for Individual Enrollees

Task	Cost Estimate	Requirements
Drinking Water Supply Well Monitoring (nitrates)	$110 per well	Annual sampling for three years for nitrates and once every five years after that.
Drinking Water Supply Well Monitoring (pesticides)	$200-1050 per well.	Sampling every five years for 6800(a) listed pesticides that the Enrollee has applied.
INMP Requirements	$250 per farm	Includes annual soil and irrigation water testing and INMP certification[15].
Annual Compliance Form	$250-$500	Includes management practice reporting, nitrogen reporting, outreach attendance, CEQA mitigation measure monitoring, and annual water quality monitoring results.
Trend Monitoring Report	$250-500	Includes water quality results for five-year monitoring requirements and trend analysis.

Table E.6: Estimated Annualized Monitoring and Reporting Costs Over Five Years for Enrollees in a Coalition

Task	Cost Estimate	Requirements
Drinking Water Supply Well Monitoring (nitrates)	$110 per well	Annual sampling for three years for nitrates and once every five years after that.
Drinking Water Supply Well Monitoring (pesticides)	$200-1050 per well.	Sampling every five years for 6800(a) listed pesticides that the Enrollee has applied.
INMP Reporting	$2.50 per acre	Includes annual soil and irrigation water testing and INMP certification[16].
Annual Compliance Report	$12.50 per acre	Includes annual management practice reporting and annual water quality monitoring results.
Trend Monitoring Report	$5.00 per acre	All elements and requirements as detailed in the MRP.

Technical Reports and Planning Documents

As part of Order compliance, Individual Enrollees and Coalitions on behalf of their enrolled members are required to submit the following technical reports and planning documents:

Table E.7: **Estimated Annualized Technical Reports and Planning Document Costs Over Five Years**

Task	Cost Estimate	Requirements
Water Quality Monitoring Workplan (Individual Enrollees)	$5000	Workplan that details how Enrollee shall comply with monitoring and reporting requirements as detailed in Attachment A: MRP.
Water Quality Monitoring Workplan (Coalition)	$5000-$10,000	Workplan that details how Coalition shall comply with monitoring and reporting requirements as detailed in Attachment A: MRP.
Groundwater Protection Plan (Coalition)	$5,000-$10,000	Coalition may elect to propose a Groundwater Protection (GWP) Formula to the Executive Officer as described in Attachment A: Section V.
Water Quality Management Plan (WQMP) for Surface Water	$10,000-$20,000	Enrollee or Coalition must submit a WQMP as part of Adaptive Management requirements that quantifiably demonstrate that practices implemented will meet Receiving Water Limitations of Order. Note: cost estimate includes WQMP development only. See Table I.3 for estimates of implementing management practices for water quality protection.
WQMP for Groundwater	$10,000-$20,000	Enrollee or Coalition must submit a WQMP as part of Adaptive Management requirements that quantifiably demonstrate that practices implemented will meet Receiving Water Limitations of Order. Note: cost estimate includes WQMP development only. See Table I.3 for estimates of implementing management practices for water quality protection.
Hydrogeological Evaluation of Groundwater Impacts	$10,000-$20,000	Enrollee or Coalition must submit a determination of parcels that may be causing or contributing to exceedance of Receiving Water Limitations in groundwater monitoring well.

ATTACHMENT F: Tolowa Dee-Ni' Nation Tribal Cultural Resources Submittal

The following document was submitted to Montrose Environmental by the Tolowa Dee-ni' Nation under a subcontract to provide Tribal Cultural Resources expertise for this Draft EIR and is included in its entirety.

NCRWQCB
GWDR for Commercial Easter Lily Bulb Operations in the Smith River Plain
EIR Tribal Cultural Resources Baseline

Authored by: Cynthia Ford, Tolowa Dee-ni' Nation Tribal Heritage Preservation Office and Rachel McCain, Tolowa Dee-ni' Nation Natural Resources Department

First Draft: August 1, 2025
Second Draft including review by Tolowa Dee-ni' Nation Culture Committee: August 29, 2025

Tvtlh-xvt mvn xwee-nish **(water is life/water for-that-reason life)**

Summary

The Project Area under proposed permitting activity by the *GWDR for Commercial Easter Lily Bulb Operations in the Smith River Plain* is located in *Taa-laa-waa-dvn* (Tolowa Dee-ni' Aboriginal Territory). The Area has been inhabited by *Taa-laa-wa Dee-ni'* (Tolowa People) since time immemorial. The *Taa-laa-wa Dee-ni'* Genesis account, *Tax-ne Nes-ya~,* takes place at *Yan'-daa-k'vt*, located on the south bank of the lower Smith River. With the Smith River and *Yan'-daa-k'vt* (Yontocket) in The Center of The World, the territory encompasses the lands and watersheds of *Daa-ghestlh-ts'a' Taa-ghii~-li~* (Wilson Creek) to the south, the *Ts'aa-xwii-chit* (Sixes River) to the north, east to the *Taa-xuu-me' Tr'ee-ghii~-li~* (Applegate Watershed) in the Coastal Range, and west to the Pacific Ocean horizon, including all sea stacks, and all usual and accustomed places.

Environmental Relationships

The environmental setting of the *Taa-laa-waa-dvn* encompasses over 100 miles of coastal shoreline and approximately 2.87 million acres of land and undefined acreage of marine waters in northern California and southern Oregon. The area includes a unique combination of mountain ranges, significant rocks/sea stacks, geography and unique geology and is located within portions of the Western Cascade Range, the Siskiyou Mountains, the Northern Coast Ranges and the Klamath Mountains. Present-day settlements of Smith

River and Crescent City are in the central and south-central coastal part of the Project Area. This area of the coast is centered around the *Xaa-wvn' Taa-ghii~-li~* (Smith River). The Smith River is one of the last free-flowing rivers in California. The proposed Project Area under consideration for development of a GWDR is limited to Del Norte County, which is only a portion of the broader aboriginal territory. The county home to sacred old-growth *k'vsh-chu ch'ee-taa-ghee-dvn* (redwood forests), with some of the oldest and tallest redwood trees in the world.

Cultural Condition

The *Taa-laa-wa Dee-ni'* have inhabited the Project Area since the beginning of time, which is reflected in the *Tax-ne Nes-ya~,* Genesis account. A network of rivers and trails, many now modern roads and highways, link the areas and allow for travel, shared cultural values and trade. The *Taa-laa-wa Dee-ni'* are spread out across the vast aboriginal territory into 11 *yvtlh-'i~* (polities/political districts)). Each *yvtlh-'i~* has headmen/leaders, with each group being connected to certain *yvtlh-'i~* and the land, waters, and resources within.

Prior to 1850, contact with visitors from Russia, Spain, and the Pacific Islands was largely limited to the coast. By 1850, after gold was discovered on the Trinity River, visions of sudden wealth inspired thousands of miners to immigrate to the region, triggering the American invasion and the state sanctioned genocide of the *Taa-laa-wa Dee-ni'*. For *Taa-laa-wa Dee-ni'* and other natives, the Gold Rush era was “The time the world was turned upside down” (Reed, 1999). Prior to the 1850’s the *Taa-laa-wa Dee-ni'* population is estimated to have been approximately10,000. Post invasion, the population of the *dee-ni'* in Del Norte County plummeted to just over 100.

In the early twentieth century, ethnographers (Baumhoff 1958, 1963; Bodega 1775; Driver 1939; Drucker 1937; DuBois 1932, 1936, 1939; Gould 1966a, 1966b, 1966c, 1975; Goddard 1903, 1904; Harrington 1931, 1932; Kroeber 1925, 1936; Kroeber and Barrett 1960; Kroeber and Gifford 1949; Powers 1877; Smith in Sullivan 1934; Vancouver 1793; Waterman 1920, 1925; Gould 1966a, 1966b, 1975, 1978; Swezey and Heizer 1993) interviewed and documented the *Taa-laa-wa Dee-ni'.* Today, the *Taa-laa-wa Dee-ni'* provide further insight and valuable information about the culture and history of the proposed Project Area. Tribal cultural resources ("TCR") within the Project Area continue to be held sacred by the *Taa-laa-wa Dee-ni'* today, and include at least 35 permanent villages, associated

cemeteries, massacre sites, clandestine graves, gathering/harvesting/hunting areas, travel corridors, ceremonial, and sacred sites, landmarks, water bodies, plants, rocks, animals, soil, and viewsheds. The Project Area includes portions of the 1862 Smith River Indian Reservation, and the 1906/1908 Reservation (Smith River Rancheria). Today, the Tolowa Dee-ni' Nation is federally recognized as a sovereign tribal government with over 2100 enrolled citizens, a duly elected Tribal Council, and a Constitution and Tribal Code. The majority of the Nation's current land holdings are within Del Norte County and the Project Area. The Nation and its enterprises employ more than 300 staff, including a robust Natural Resources Department and Tribal Heritage Preservation Office, which have the responsibility to steward and protect tribal resources, culture, and interests throughout the ancestral territory. The Nation's government ensures consistency and compliance among tribal, federal and state laws. Tolowa Dee-ni' citizens continue to inhabit their ancestral territory, practice cultural traditions, and maintain deep and sustaining relationships to the landscape and environment.

In addition to the *Tax-ne Nes-ya~* of the *Taa-laa-wa Dee-ni'*, the pre-contact/archaeological resources within the Project Area provide further supporting evidence of habitation and ceremonial use. Archaeologists claim that Paleoindian peoples were present along the southern Oregon and northern California coastal areas by about 11,000 to 12,000 years ago, which is encompassed by what archaeologists have called the Terminal Pleistocene (12,000-10,000 BP). Like others around the world, Taa-laa-wa Dee-ni' culture was an established and advanced civilization. Archeological evidence within the Project Area dates to 8,500 years before present, (Tushingham, 2013). A records search was conducted through the Northwest Information Center (NWIC) Information Center at Sonoma State University by the lead agency. The Project Area has not been fully surveyed, and previous recordation efforts vary in methodology. Numerous studies conducted within the Project Area have identified pre-contact/archaeological sites and the State Historic Preservation Officer has confirmed the eligibility status of many of these archaeological sites. CEQA §15064.5 considers historical resources significant if they are eligible for, or are listed in, the California Register of Historical Resources. Cultural/historic resources must meet one of the following criteria to be eligible:

- *It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.*
- *It is associated with the lives of persons important to local, California, or national history.*
- *It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.*
- *It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.*

These previous evaluations focused on eligibility based on the archaeological research value of their potential to yield information. Most of the TCRs have not been evaluated for eligibility for listing on the National Register of Historic Places and/or the California Register of Historical Resources under any other criteria, and in most cases did not benefit from input or consultation with the *Taa-laa-wa Dee-ni'*. Notably missing from previous evaluations is consideration of how archaeological and tribal cultural resources contribute to the rich history of the area, thereby expanding the lines of evidence for eligibility under other criteria. Contributing elements upon Nvn-nvst-'a~ (Mother Earth) and associations of TCRs are all-encompassing and include: people, rivers, creeks, holes in the ground, landmarks, viewsheds, habitation areas, resource processing areas, resource harvesting areas, resource extraction areas, corridors and trails, rock shelters and caches, prayer seats, rock art, water bodies and springs, places of legend, ceremonial practices, locations and items, burials, massacre sites, clandestine graves, and burial grounds, plants, animals, soil, rocks, and the geologic foundation and atmospheric condition of the planet. It is important to note that the physical contributing elements within the Project Area are connected by the spaces in between. The space in between, and the interconnectedness it represents, is also considered a cultural resource/contributing element to the landscape and to the *Taa-laa-wa Dee-ni'* relationship to place. While there are no physical traces in some of these areas, the *Taa-laa-wa Dee-ni'* experience them and continue to experience them. Viewsheds are considered for their ranges outside of the physically defined landscape as those vistas create connection and meaning for the *Taa-laa-wa Dee-ni'*.

Per PRC 21074 (a)(1)(A)-(B), as the lead agency in developing and enforcing this Order, the Regional Water Board can choose to designate the lower Smith River and adjacent terrace a Tribal Cultural Landscape ("TCL"). Regardless of the decision made, the Tolowa Dee-ni' Nation asserts that the Project Area covered under this GWDR is a TCL, as evidenced by continued habitation for at least 11,000 years and ceremonial significance detailed in the oral history, and is using that position to evaluate historic condition and

assess potential impacts of implementing a permitting system for continued cultivation of Easter Lily bulbs in the area.

Mitigation Measures

Developing feasible measures to reduce or avoid significant impacts, such as archaeological data recovery, preservation in place, or consultation with relevant tribes.

The activities proposed under this Order have the potential to significantly impact previously unidentified cultural resources, including historical resources, archaeological sites, and/or TCRs as defined in CEQA Sections 15064.5 (a), 15064.5(c)(2), and 21074, respectively.

Easter Lily bulb cultivation requires a complex combination and significant quantity of chemical pesticides, herbicides, and fertilizers. The specifications and application amounts of these compounds are detailed in other areas of this report and throughout the Initial Study which provides background and justification for developing discharge requirements for this industry. When evaluating potential impacts to cultural resources in the project area, it is impossible to extricate the impacts of historic and continued use of chemical pesticides from the overall impacts resulting from development of this order and allowing continued cultivation of this commodity. Specific chemical compounds heavily relied upon in this industry include copper sulfate, a substance with documented adverse effects on the homing abilities and overall survival of salmonids. Salmonids, including Chinook and coho salmon, are integral to many sacred ceremonies critical to the continued existence of the *Tolowa Dee-ni'*. Without a clean river providing healthy and abundant habitat for salmon and other aquatic species, there cannot be the full expression and practice of Tolowa culture. By continuing to allow and permit degradation of the lower Smith River watershed and adjacent plains, this agricultural practice is perpetuating genocide. Even in simpler terms, impacts to inground cultural resources cannot be mitigated through traditional 1-1 replacement methods; once a resource is disturbed or destroyed, it is gone.

Human Remains

If human remains are identified or suspected, all provisions of the Health and Safety Code 7054 and 7050.5 and the Public Resources Code 5097.9 through 5097.99 will be followed. No photographs will be taken of any human remains, unless required for identification purposes and with permission from Tribal representatives. There shall be no further

excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent human remains until the following occurs:

1. The Permit Holder will immediately contact the Del Norte County Coroner (Coroner).

Del Norte County Coroner
650 5th Street, Crescent City CA. 95531
Phone: 707-464-4191

2. If the Coroner determines the remains to be Native American:

1. The Coroner will contact the Native American Heritage Commission (NAHC) within 24 hours.

2. The NAHC will designate a Most Likely Descendant (MLD) [CCR 15064.5(e)(1)(B)].

3. The designated MLD will meet with the Permit Holder as soon as feasible, to make a recommendation on the treatment of the remains and associated artifacts.

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[i] Natural Resources Conservation Service: Conservation Practice Standards Informationv (https://www.nrcs.usda.gov/getting-assistance/conservation-practices).

[ii] See the EnviroAtlas Hydrologic Unit Codes Fact Sheet (https://enviroatlas.epa.gov/enviroatlas/datafactsheets/pdf/Supplemental/HUC.pdf).

[iii] See the Cal-IPC website: Plants A to Z (https://www.cal-ipc.org/plants/profiles/).



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
ORDER NO. R1-2026-XXXX

GENERAL WASTE DISCHARGE REQUIREMENTS FOR COMMERCIAL LILY BULB OPERATIONS IN THE SMITH RIVER PLAIN

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CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

GENERAL WASTE DISCHARGE REQUIREMENTS FOR COMMERCIAL LILY BULB OPERATIONS IN THE SMITH RIVER PLAIN

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NORTH COAST
REGIONAL WATER QUALITY CONTROL BOARD
ORDER NO. R1-2026-00XX
GENERAL WASTE DISCHARGE REQUIREMENTS FOR COMMERCIAL LILY BULB OPERATIONS IN THE SMITH RIVER PLAIN

The California Regional Water Quality Control Board, North Coast Region finds:

I. Findings

A. Background and Purpose

1) The purpose of Order R1-2026-00XX General Waste Discharge Requirements (WDRs) for Commercial Lily Bulb Operations, (hereinafter Order or General Order), is to provide a water quality regulatory structure to minimize discharges of waste and to prevent adverse impacts to water resources from agricultural activities associated with lily bulbs and other similar bulb crops (hereinafter Commercial Lily Bulb Operations) on private lands within the Smith River Plain Hydrologic Subarea[1] and coastal terraces between Pyramid Point and the Oregon border (hereinafter Smith River Plain). The Smith River Plain is a low gradient coastal plain of about 63 square miles located in far northwest California and is drained by the lower Smith River corridor, tributaries, estuarine sloughs, and estuary (see Figure I.1).

2) As of the 2024-2025 growing season, there are approximately 1,000 acres of land currently and recently farmed for lily bulbs in the Smith River Plain (as shown in Figure I.1) with the potential to discharge wastes to surface waters and groundwater and to affect related controllable water quality factors such as riparian shade. Cultivation of lily bulbs is typically part of a three to five-year rotation[2] with grass-clover, which is used as grazing forage and for hay crops. The fields are used as forage for livestock for two to four years and for lily bulbs for one year. Some field preparations are done in the year prior to planting bulbs. Accounting for this crop rotation, about 160 acres are planted to lilies each year, with another 160 acres in a given year are being prepared to receive the following year's plantings.

3) Commercial lily bulb farming in the Smith River Plain involves soil disturbance and use of agricultural chemicals, both of which can generate discharges of waste (e.g., sediment, nutrients, pesticides[3], and temperature). If not properly managed, these discharges can degrade water quality, cause or contribute to pollution and nuisance conditions, and adversely affect beneficial uses of waters of the state. These effects can occur through the loss of riparian shade (a controllable factor) and discharges from stormwater runoff flowing from agricultural lands, percolation, and runoff resulting from operational spills.

4) The Smith River Plain provides habitat to numerous threatened and endangered aquatic species and serves as crucial environmental trust resources for cultural, ceremonial, and subsistence beneficial uses for the Tolowa Dee-ni' Nation. A more

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thorough discussion of beneficial uses of the Smith River Plain is located in Section G.1 of these Findings.

5) The State Water Resources Control Board (State Water Board) and nine regional water quality control boards (Regional Water Boards) are the principal state agencies (collectively the Water Boards) with primary responsibility for the coordination and control of water quality for the health, safety, and welfare of the people of the state pursuant to the Porter-Cologne Water Quality Control Act (Porter-Cologne Act, codified in Water Code Division 7). The legislature, in the Porter-Cologne Act, directed the state, through the Water Boards, to exercise its full power and jurisdiction to protect the quality of the waters in the state from degradation and to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible, and considering precipitation, topography, population, recreation, agriculture, industry, and economic development (Wat. Code §13000).

6) Section 303(d) of the federal Clean Water Act requires that states identify water bodies that do not meet water quality standards and the pollutants that impair them. In 2018, Tillas Slough and Delilah Creek (tributaries to the Smith River estuary) were added to the 303(d) list as impaired for copper, and in 2026, Delilah Creek was added as impaired for diuron, one of the herbicides used in lily bulb cultivation.

7) On August 18, 2010, North Coast Water Board staff, in coordination with the California Department of Fish and Wildlife (CDFW), conducted a one-time surface water and sediment sampling event at Rowdy Creek and Delilah Creek in response to a complaint. Samples were collected upstream and downstream of lily bulb cultivation areas and analyzed for dissolved and total copper. Sediment toxicity tests and aquatic toxicity test were performed at the CDFW Aquatic Toxicity Laboratory. No acute toxicity to freshwater organisms was observed in any samples collected above, below, or outside the cultivation drainage areas. While there was no chronic toxicity observed in three of the four samples, the sample from the downstream Delilah Creek site showed evidence of chronic reproductive toxicity. However, this test result may have been influenced by low water hardness. The sample contained 3.99 µg/L of dissolved copper, which exceeds both the acute and chronic California Toxics Rule (CTR) criteria. Sediment samples from all sites showed no statistically significant toxicity relative to control samples.

8) The North Coast Regional Water Quality Control Board's (North Coast Water Board's) efforts to address potential impacts of lily bulb agricultural discharges in the Smith River Plain began in 2011 with a series of stakeholder meetings to inform the development of a region-wide Agricultural Lands Discharge Program. In 2013, the Board shifted to a commodity- and subregion-specific regulatory approach and directed staff to conduct water quality monitoring in the Smith River Plain to guide the next steps for regulating lily bulb agricultural discharges. A Surface Water

Ambient Monitoring Program (SWAMP) study conducted from 2013-2015 found pesticide concentrations – including copper fungicides – in surface waters that exceeded US EPA aquatic life benchmarks and other applicable water quality criteria. (Smith River Plain Surface Water and Sediment Monitoring Report 2013-2015, issued January 2018 (2018 SWAMP Report))[4].

9) In response, the North Coast Water Board directed staff to develop a targeted, collaborative water quality management strategy. The Smith River Plain Water Quality Management Plan (2021 Management Plan)[5] was developed and finalized in 2021 by a Watershed Stewardship Team composed of the lily bulb growers, regulatory agencies (e.g., NOAA Fisheries, CA Department of Fish and Wildlife, CA Department of Pesticide Regulation), local stakeholders (e.g., Del Norte Resource Conservation District, Agricultural Commissioner, the Smith River Alliance), academic partners, and the Tolowa Dee-ni' Nation. The 2021 Management Plan outlines voluntary grower participation in annual management practice reporting, North Coast Water Board inspections, ongoing surface water quality monitoring, and an adaptive management framework to guide iterative improvement based on monitoring results. The tracking and monitoring of the broad range of BMPs identified in the 2021 Management Plan has provided invaluable information in the development of this Order.

10) As part of the Adaptive Management Monitoring Program outlined in the 2021 Management Plan, a new Smith River Plain Water Quality Study was initiated in 2021 to better understand surface water quality conditions and to help inform development of the Lily Bulb Order. The Smith River Plain Surface Water Monitoring Report 2021-2024, issued September 2025 (2025 SWAMP Report)[6] found that diuron and imidacloprid were frequently detected downstream of lily bulb fields, usually below water quality criteria but sometimes exceeding them at Lower Delilah Creek and Tillas Slough during storms. That pattern was not observed in sampling locations upstream of lily bulb agriculture. Dissolved copper levels were consistently higher downstream and during the storm season, periodically reached potentially toxic levels using instantaneous water quality criteria generated from the Biotic Ligand Model (BLM). Findings from the 2025 SWAMP Report supported a series of recommendations for the Lily Bulb Order. A more detailed discussion of the 2025 SWAMP Report findings and recommendations can be found in Section I.D of the Findings.

B. Public Participation

11) Development of the Lily Bulb Order was initiated in 2023 with the formation of a Technical Advisory Group (TAG). Between July 2024 and November 2025 the TAG met every other month in Del Norte County to review provisional regulatory language and provide feedback. TAG meetings were open to the public and included agendized time for public input at every meeting. TAG membership includes all 2021 Management Plan Watershed Stewardship Team members (lily

bulb growers, regulatory agencies, local stakeholders, academic partners, and the Tolowa Dee-ni' Nation), with additional environmental nonprofit groups, partnering agencies, community organizations, and interested members of the public.

12) In addition to 7 public TAG meetings, staff presented information at three additional public meetings in Del Norte County to inform the community on the Lily Bulb Order and hear community concerns. On October 21, 2024, staff presented an Order development update and heard public input at a community meeting in Smith River, California, which was attended by over 80 people. On October 22, 2024, staff presented similar information to the Del Norte County Board of Supervisors at a regular Board of Supervisors meeting. Staff also presented similar information at the CEQA Scoping Meeting in Crescent City on October 22, 2024.

13) Many community concerns raised during 10 public meetings held between July 2024 and October 2025 extended beyond the regulatory authority of the North Coast Water Board. Accordingly, staff referred those concerns—such as pesticide application practices and air quality—to the appropriate CalEPA agencies, including the Office of Environmental Health Hazard Assessment and the California Department of Pesticide Regulation. Through a Management Agency Agreement established in 2019, the North Coast Water Board has also drawn on the CA Department of Pesticide Regulation's expertise to help develop science-based recommendations for the Lily Bulb Order. In parallel, staff have coordinated with NOAA Fisheries, the CA Department of Fish and Wildlife, the CA Coastal Commission, and the US Fish and Wildlife Service through a natural resource agency workgroup to address technical questions related to Order development.

14) On October 10, 2024, the North Coast Water Board published a Notice of Preparation and an Initial Study to begin soliciting input related to environmental review for the California Environmental Quality Act (CEQA), in preparation for developing a draft Environmental Impact Report (EIR). A 30-day public comment period was held for the Notice of Preparation and Initial Study. On October 22, 2024**,** North Coast Water Board staff held a public CEQA scoping meeting in person and virtually. Input received during the public comment period and public scoping meetings has been considered in the development of the draft EIR.

15) On October 8, 2025 the North Coast Water Board held an information item in Crescent City to present findings from the 2025 SWAMP Report[7] (Smith River Plain Surface Water Monitoring Study 2021-2024) and provide an update on development of the Lily Bulb Order. Following the staff presentation, the Board heard public comment. Flyers for this meeting were developed in English, Spanish, and Hmong and distributed throughout the community. Live interpretation in Spanish was available.

16) On **##DATE##**, the North Coast Water Board published the draft Order and draft EIR and began a 45-day public comment period.

17) The North Coast Water Board, in a public hearing held on **###DATE###**, has heard and considered all comments pertaining to the discharge and proposed Order. After considering all comments pertaining to this General Order during the **###MONTH###** public hearing, this Order was found consistent with the findings in Section I of this Order.

18) Any person aggrieved by this action of the North Coast Water Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and title 23 California Code of Regulations sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except if the thirtieth day following the date of adoption falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100
Or by email at waterqualitypetitions@waterboards.ca.gov

For instructions on how to file a petition, see (http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml)

1. Assembly Bill 2108

19) Assembly Bill 2108 (Statutes of 2022, Chapter 347) requires State and North Coast Water Boards to address issues of environmental justice and social equity as early as possible in North Coast Water Board permit and policy planning processes. AB 2108 specifies that North Coast Water Boards engage in equitable, culturally relevant community outreach to meaningfully involve disadvantaged and tribal communities that may be disproportionately impacted by proposed discharges of waste and ensure that outreach and engagement shall continue throughout the review and permitting processes. (Wat. Code, § 189.7, subd. (a).)

20) AB 2108 further requires the Water Boards when, among other actions, adopting general waste discharge requirements to make findings on anticipated water quality impacts in disadvantaged or tribal communities as a result of a permitted activity or facility, any environmental justice concerns within the Water Boards' authority that are raised regarding those water quality impacts, and available measures within the Boards' authority to address those water quality impacts. (Wat. Code, § 13149.2.)

21) This Order regulates commercial cultivation of lily bulbs, discharges from which may impact disadvantaged and/or tribal communities.

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22) The North Coast Water Board publicly noticed the Order and provided opportunities for public comment. Public notice was provided to interested persons and public agencies in the Smith River Plain. The North Coast Water Board conducted outreach in potentially affected disadvantaged and tribal communities in the form of distributed flyers in English, Spanish, and Hmong, meetings with community organizing groups such as True North Organizing, and regular meetings with the natural resources staff of the Tolowa Dee-Ni' Nation.

23) The North Coast Water Board has satisfied the outreach requirements set forth in Water Code section 189.7 by conducting outreach in affected disadvantaged and tribal communities.

24) Pursuant to Water Code section 13149.2, the North Coast Water Board reviewed readily available information and information raised to the Board by interested persons concerning anticipated water quality impacts in disadvantaged or tribal communities resulting from adoption of this Order. The Board also considered environmental justice concerns within the Board's authority and raised by interested persons regarding those impacts.

25) This Board anticipates that this Order may result in water quality impacts within the scope of the Board's authority. Commercial lily bulb farming in the Smith River Plain has the potential to affect water quality through soil disturbance and use of agricultural chemicals. This Order addresses potential adverse impacts to water quality by, among other things, requiring Enrollees to implement management practices related to sediment and erosion control to prevent, minimize, or eliminate discharges; implement streamside area setbacks; monitor surface and groundwater quality to evaluate the effectiveness of management practices; and, where appropriate, engage in an adaptive management process to comply with water quality objectives (WQOs).

2. Assembly Bill 52

26) Assembly Bill 52 (Statutes of 2014, Chapter 532), which went into effect on July 1, 2015, requires that lead agencies under CEQA, prior to release of a negative declaration, mitigated negative declaration, or environmental impact report, consult with California Native American tribes that have requested in writing to be notified of a proposed project, that are traditionally and culturally affiliated with the geographic area of a proposed project, and have requested consultation. Under the same bill, Public Resources Code section 21084.2 specifies that a project with an effect that may cause a substantial adverse change in the significance of a Tribal Cultural Resource is a project that may have a significant effect on the environment.

27) In April 2024, North Coast Water Board staff contacted six Tribes that were identified by the California Native American Heritage Commission as having current

or historic lands in or near the Project Area that had requested notification of this project under AB 52. The North Coast Water Board staff identified an additional two Tribes that had not requested AB 52 notification but could be affected by the Order to solicit consultation if desired.

28) Of the eight Tribes notified by the North Coast Water Board, three separate tribes responded to the notice. One tribe updated their contact information and a separate Tribe deferred to the Tolowa Dee-Ni' Nation. The Tolowa Dee-Ni' Nation requested formal consultation in May 2024.

29) The North Coast Water Board and the Tolowa Dee-Ni' Nation initiated formal consultation in mid-2024.

C. Scope of Order

30) This Order regulates discharges of waste from farming activities associated with Commercial Lily Bulb Operations within the Smith River Plain Hydrologic Subarea coastal terraces between Pyramid Point and the Oregon border (Smith River Plain).

31) Definitions and endnotes are included in this Order to clarify terms, provide references, and supply supplemental information relevant to the requirements. Appendix I contains all acronyms, definitions, and endnotes.

32) For the purposes of this Order, a Commercial Lily Bulb Operation refers to land used for planting lily bulbs during any portion of the previous 5 years together with associated farm roads and agricultural structures, where at least one of the following conditions applies: (1) the landowner or operator holds a current Operator Identification Number/Permit Number for pesticide use reporting; (2) the crop and/or its product is sold; or (3) the federal Department of Treasury Internal Revenue Service form 1040 Schedule F Profit or Loss from Farming is used to file federal taxes.

33) Discharges from Commercial Lily Bulb Operations regulated by this Order include discharges to surface water and groundwater, through mechanisms such as stormwater runoff flowing from agricultural lands and farm roads, irrigation return flows, tailwater, and runoff resulting from operational spills. These discharges can contain wastes that could affect the quality of waters of the state and impair beneficial uses. This Order also regulates the removal or degradation of riparian vegetation resulting in the potential loss or degradation of instream beneficial uses.

34) This Order does not limit North Coast Water Board authority to inspect, and/or evaluate regulatory status, water quality impacts, or regulatory requirements of Commercial Lily Bulb Operations. If the North Coast Water Board determines that due to site-specific conditions a Commercial Lily Bulb Operation is not eligible for

coverage under this General Order, or enrollment will not be protective of water quality, the North Coast Water Board may issue site-specific, individual WDRs.

35) This Order applies to landowners and operators of Commercial Lily Bulb Operations from which there could be discharges of waste or activities that could affect the quality of any surface water or groundwater or result in the impairment of beneficial uses. Either the owner or operator may enroll a Commercial Lily Bulb Operation under this Order. The owners or operators that enroll the respective Commercial Lily Bulb Operation are considered Enrollees under this Order and are responsible for complying with the conditions of this Order.

36) The Enrollee is required to provide written notice to the non-Enrollee owner or operator (if applicable) that the farm has been enrolled under the Order.

37) The North Coast Water Board will hold both landowners and operators of Commercial Lily Bulb Operations liable for noncompliance with this Order, regardless of whether the landowner or the operator is the party enrolled under this Order. Enforcement action by the North Coast Water Board for non-compliance related to an enrolled Commercial Lily Bulb Operation may be taken against both the owner and operator.

38) This Order does not preclude the need for additional permits that may be required by other governmental agencies, nor does it supersede any requirements, ordinances, or regulations of any other regulatory agency. This Order does not authorize violation of any federal, state, or local law or regulation.

39) This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code §§2050 to 2097) or the Federal Endangered Species Act (16 US Code §§1531 to 1544). If a "take"[8] will result from any action authorized under this Order, the Grower shall obtain authorization for an incidental take prior to construction or operation of the project. The Enrollee shall be responsible for meeting all requirements of the applicable Endangered Species Act.

40) This Order does not exempt Enrollees from complying with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges to storm drain systems or other infrastructure under their jurisdiction.

41) Enrollees may be required to seek additional permitting from the State Water Resources Control Board or North Coast Water Board for activities not explicitly covered under this Order. Those could include, but are not limited to:

    a) State Water Board Construction General Permit for Discharges of Storm Water Associated with Construction Activities (Construction General Permit,

2009-0009-DWQ) for construction activities associated with new land development.

b) Order No. R1-2019-0001, General WDRs for Dairies

c) State Water Board Order No. WQ 2020-0012-DWQ, General WDRs for Commercial Composting Operations.

d) Clean Water Act section 401 water quality certification or alternative WDRs for dredge and fill activities occurring within surface waters.

e) A valid water right from the State Water Board Division of Water Rights for a surface water diversion.

42) The North Coast Water Board acknowledges that it will take time to: (1) develop meaningful and effective Third-Party programs that facilitate compliance with this Order; (2) develop online reporting tools and templates, and (3) conduct compliance education to help Enrollees and service providers become familiar with Order requirements. The Order considers this by deferring the enrollment deadline to **DATE##** adoption plus 6 months.

D. Agricultural Practices and Pesticide Use

43) The California Department of Pesticide Regulation (CDPR) maintains pesticide applicator data that is submitted by Enrollees through the Del Norte County Department of Agriculture. The North Coast Water Board analyzed CDPR Pesticide Use Report (PUR) data collected between 2012-2021 for trends in pesticide use associated with lily bulb production in the Smith River Plain. The PUR data showed a decrease from an average of 14,126 lbs. of applied copper[9] per year between 2012-2017 to an average of 5,842 lbs. per year between 2018-2021. The PUR data also indicated a phase out of copper sulfate in favor of copper hydroxide from 2015-2018. From 2018 through 2021, the amount of total copper applied per year has been relatively stable, if slightly increasing. See Table I.1 for pesticide use data for lily bulbs in the Smith River Plain.

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Table I.1: Top Ten Agricultural Chemicals by Pounds Applied on Lily Bulbs 2012-2021

Chemical (excluding Copper)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Grand Total
1,3-DICHLORO PROPENE	114,325	122,499	75,474	79,929	106,794	98,497	86,742	105,117	184,217	133,087	1,106,679
METAM-SODIUM	129,373	120,283	117,649	102,882	35,719	95,393	75,993	86,461	66,357	55,719	885,829
CHLOROTHALONIL	3,424	5,318	2,454	4,654	3,997	2,845	3,650	3,174	3,061	1,970	34,547
PHORATE	1,964	1,787	1,992	1,876	2,003	1,874	1,702	1,442	1,340	1,185	17,166
ETHOPROP	1,531	1,141	2,160	1,047	1,298	1,309	1,226	1,264	1,007	905	12,887
DIURON	1,172	1,534	744	1,135	803	1,002	1,252	1,494	1,359	1,268	11,765
GLYPHOSPHATE, SUM	584	1,093	397	1,038	474	698	886	676	410	860	7,116
NAPROPAMIDE	2,412	439	436	445	190	504	314	763	387	400	6,289
IPRODIONE	214	57	23	28	828	481	326	376	563	214	3,110
Copper-Based Chemicals	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**Grand Total**
COPPER HYDROXIDE	27,711	24,251	12,953	20,163	10,610	9,904	5,973	9,233	10,090	7,129	138,016
COPPER SULFATE	5,029	23,030	11,992	7,287	30	2,297	-	-	36	-	49,701
COPPER OXYCHLORIDE	-	-	-	-	276	198	288	604	414	298	2,077
COPPER DDC	852	832	369	1,705	5,075	1,569	1,502	617	2,129	117	14,767

44) Copper is the active ingredient in fungicides applied to control fungal diseases (e.g., Botrytis) on newly emergent and growing lily bulb plants. Lily bulb plants emerge from the ground during the early winter and are sprayed with copper-based fungicides during both the wet and dry seasons as new growth appears on plants. The discharge of copper based products applied on lily bulbs are of particular concern because low levels of dissolved copper can cause toxicity to aquatic life.

45) In 2024, Dr. Matthew Hurst, Logan Wolfe, and Preston Selby from California State Polytechnic University, Humboldt released findings from a study[10] which investigated the effectiveness of vegetative barriers in reducing copper and sediment in stormwater runoff from lily bulb fields in the Smith River Plain. The research aimed to support lily bulb growers in implementing best management practices to protect water quality, particularly to safeguard the federally threatened Coho salmon inhabiting the Smith River watershed. Over two years, the study

sampled stormwater runoff from lily bulb fields with vegetative filter strips installed between the field and an agricultural ditch where the samples were taken. The study compared fields with filters strip to fields without a filter strip with all other management methods kept the same among the fields. The study found that grass filter strips reduced total suspended solids and total copper in runoff by about 20%, on average with a standard deviation of +/-20%. The filter strips were ineffective at reducing dissolved copper in field runoff, which is the more toxic form to aquatic life. The effectiveness of filter strips in the study diminished during December and January when soils were saturated. The study also found that copper primarily leaves fields bound to sediment particles (particulate copper), and that dissolved organic carbon (DOC) in runoff can decrease the bioavailability of copper and the associated risk of toxicity to aquatic life. The study found that conversion of lily bulb fields to pasture significantly reduced copper transport to waterways. The results of the study, in general, highlight the need for further research on effective mitigation strategies to improve water quality runoff, such as inter-row seeding, grassed waterways, or more robust filter strips.

46) The scientific literature consistently identifies vegetated buffer width between watercourses and agriculture as a key determinant of pollutant reduction, with wider vegetated buffers providing greater and more reliable water-quality benefits. Reviews commonly cite effective buffer widths in the range of 10–30 m (approximately 33–100 ft)[11], particularly because wider buffers enhance removal of dissolved pollutants while also trapping sediment-bound contaminants. Cole et al. (2020)[12] report that narrower buffers of approximately 7.5 m (~25 ft) are effective at reducing sediment and sediment-associated pollutants, whereas wider buffers of 15 m (~50 ft) or greater are more effective for reducing soluble pollutants, with performance influenced by soils, slope, and hydrology.

47) Under the 2021 Management Plan, all lily bulb growers agreed to voluntarily implement a suite of water quality management practices designed to reduce pesticide and nutrient runoff, erosion, and direct discharge of pollutants to surface waters. These practices fall into three general categories: source reduction, source control, and pollutant interception. Source reduction includes Integrated Pest Management (IPM) plans, selection of low-risk pesticides, pesticide sampling and analysis, pesticide mixing/loading setbacks, and timing applications considering weather forecasts to minimize runoff potential. Source control practices include soil amendments to bind pesticides, use of cover crops, contour farming, precision land forming to improve drainage, and maintenance of vegetated filter strips and riparian buffers. Pollutant interception involves practices such as field isolation—directing runoff onto pastures or filter strips—and installation of flow dissipaters and grade stabilization structures to reduce erosion.

48) Under the 2021 Management Plan, growers self-monitor and report on the implementation and effectiveness of these practices through an annual reporting program. North Coast Water Board staff conduct periodic on-farm inspections and

review grower documentation to verify compliance and provide feedback.

E. Monitoring and Reporting

49) This Order requires the implementation of a Monitoring and Reporting Program (MRP) pursuant to Water Code section 13267 that is intended to determine the effects of waste discharges on water quality; to verify the adequacy and effectiveness of the Order's conditions; to evaluate Enrollee compliance with the terms and conditions of the Order; to initiate adaptive management as needed; and to support an assessment of the long-term effectiveness of the Order.

50) This Monitoring and Reporting Program conforms to the goals of the Nonpoint Source (NPS) Policy as outlined in The Plan for California's Nonpoint Source Pollution Program by: (1) tracking, monitoring, assessing, and reporting program activities; (2) ensuring consistent and accurate reporting of monitoring activities; (3) targeting NPS Program activities at the tributary watershed level; (4) coordinating with public and private partners; and (5) tracking implementation of management practices to improve water quality and protect beneficial uses.

51) An Enrollee covered under this Order must comply with Attachment A: Monitoring and Reporting Program. For Individual Enrollees, water quality monitoring under this Order assesses the individual's compliance with this Order's requirements. For Enrollees in a Coalition, water quality monitoring assesses compliance at a larger scale. However, adaptive management in response to exceedances of Water Quality Benchmarks[13] is required individually by each Enrollee.

52) The monitoring and evaluation required in this Order is not intended to determine the individual sources of pollutants causing an exceedance of a Water Quality Benchmark. When an exceedance occurs, this Order requires Enrollees to implement adaptive management to establish individual compliance with the Order as described in Section II.H. As necessary, the Executive Officer may issue site-specific monitoring and reporting requirements pursuant to Water Code section 13267 to better identify the source(s) of a Water Quality Benchmark exceedance. Additionally, Enrollees may elect to perform site-specific edge-of-field monitoring to demonstrate individual compliance. If monitoring results show there are no exceedances of a Water Quality Benchmark, the applicable fields are not required to implement adaptive management requirements to establish individual compliance.

Pesticides in Surface Water

53) Between August 2013 and June 2015, the North Coast Water Board's Surface Water Ambient Monitoring Program (SWAMP) sampled surface water and sediment in the Smith River Plain for standard water quality parameters, nutrients, pesticides, dissolved copper and zinc, and toxicity to assess impacts from

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Commercial Lily Bulb Operations[14]. Sampling stations were located upstream and downstream of agricultural operations. A total of 17 pesticides (including isomers and degradants) were detected in downstream monitoring stations in the Smith River Plain. Pesticide concentrations from the surface water samples from this study exceeded water quality thresholds at two of the five downstream monitoring sites. In March 2015 diuron exceeded USEPA Office of Pesticide Programs (OPP) Freshwater Aquatic Life Benchmarks for Pesticide Registration in Delilah Creek[15]. Imidacloprid and permethrin were also detected in concentrations exceeding the USEPA's Office of Pesticide Programs Aquatic Life Benchmarks[16] in a sample that had a positive toxicity test result[17]. Additionally, dissolved copper was detected in every surface water sample with 6 of 27 sample results exceeding the California Toxics Rule (CTR) Freshwater Aquatic Life Criteria for dissolved copper concentrations[18]. The results of this study demonstrate that agricultural pesticide active ingredients are present in surface waters of the Smith River Plain.

Toxicity testing documenting the survival (acute toxicity) and reproductive capacity (chronic toxicity) of the test species *Ceriodaphnia dubia* in surface water samples was performed on samples collected from six locations in the Smith River Plain from 2013-2015. In 10 of 25 samples, these tests demonstrated statistically significant reductions in reproductivity (positive for chronic toxicity), including three tests in which the "control" location upstream of lily bulb agriculture (Upper Rowdy Creek) was positive for chronic toxicity. In another 2 samples, a positive acute toxic response was documented, with 1 of the samples demonstrating no test species survival.

To determine the cause of the 2015 observed acute toxic response, three samples that exhibited chronic or acute toxicity were further tested utilizing a toxic identification evaluation (TIE). The TIEs uncovered a confounding result in the toxicity test results. The prevalence of positive chronic toxicity results (10 of 25) in samples collected throughout the study area (except Tillas Slough, which has higher conductivity) including the control site, suggests that the extremely low water hardness and conductivity in the tributaries are interfering with the ability of the test species to reproduce, producing false positives, or toxic responses when toxic conditions do not exist. For example, TIE evaluations of the reduced reproduction observed in upper Rowdy Creek and lower Delilah Creek on June 23, 2015, pointed to low conductivity and low hardness as a contributor of toxicity with no suggestion of other toxicants.

Low conductivity and low hardness water such as that in the tributaries of the Smith River Plain can negatively affect the reproduction rates of *C. dubia* in the testing environment. When the test species are reared in water with conductivity and hardness levels that are greater than the sample water, their reproductive rates can be adversely affected. Toxicity testing procedures for evaluating the toxicity of surface water must take into consideration the conductivity and hardness of the source water and its effect on the test species.

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A TIE was conducted as a follow up to positive acute toxicity results in the March 11, 2015 sample from lower Delilah Creek. The TIE identified the presence of both a metal and a non-polar organic compound (pesticide) as the drivers behind the acute toxic response in which there was no test species survival. Chemical analysis of the surface water sample associated with the acute toxic response in 2015 documented that two current use pesticides, imidacloprid and permethrin, were detected in concentrations exceeding the USEPA's Office of Pesticide Programs Aquatic Life Benchmarks and that dissolved copper concentrations exceeded the CTR Freshwater Aquatic Life Criteria for acute toxicity.

54) In 2022, Dr. Matthew Hurst and colleagues from the Chemistry and Geology Departments at Cal Poly Humboldt released findings from a study[19] that investigated the bioavailability and speciation of copper in the Smith River Plain. The research aimed to assess copper levels in waterways affected by agricultural runoff from the Easter lily bulb industry and their potential impact on juvenile Coho salmon, a federally threatened species reliant on these habitats. The study found that copper concentrations were elevated downstream of agricultural fields compared to upstream and background levels in the Smith River, indicating that current lily bulb cultivation practices increase copper in tributaries. Physical speciation revealed a significant portion of copper in particulate form, especially in Delilah Creek, likely due to sediment runoff. Importantly, bioavailability measurements showed that the toxic form of copper (Cu^{2+}) remained well below thresholds known to impair salmon olfactory function and behavior, primarily because dissolved organic carbon (DOC) and other ligands in the water bind copper and reduce its bioavailability. The study also found high dissolved copper concentrations were usually accompanied with high DOC concentrations, which would work to reduce the bioavailability of copper and reduce its toxicity. However, low DOC levels during dry seasons may reduce this buffering capacity, potentially increasing copper toxicity risk.

55) Dissolved copper can have an acutely toxic effect to fish through exposure of the gill. Even at low levels, dissolved copper can inhibit or destroy neuron (nerve) cells and impair two important sensory and behavioral response systems: olfaction (sense of smell)[20] and the lateral line[21]. Fish use their sense of smell to identify predators and prey, assess potential mates, avoid pollutants, detect migratory cues, and navigate to their natal streams from the ocean. The lateral line is the visible line along the side of a fish consisting of a series of sense organs, which fish use to detect movement, pressure, and vibration in the surrounding water. When these senses are impaired, fish growth suffers and may lead to mortality. Water chemistry can affect the toxicity of copper when metal ions (e.g., Ca2+) compete with copper for binding sites on gills and other cells, or when other inorganic and organic constituents bind to copper ions reducing their bioavailability. The toxicity of copper is closely related to water hardness, alkalinity, pH and dissolved organic carbon (DOC) in the water. Water hardness refers to the presence of dissolved

metal ions such as calcium and magnesium. Hardness in the Smith River is generally quite low, based on samples taken by the North Coast Water Board. Low hardness increases the bioavailability of copper and copper toxicity to aquatic life because there are fewer calcium and magnesium ions to compete with copper for binding sites on the gills and other biological surfaces, allowing more free copper ions to be absorbed by aquatic organisms.

56) As part of the Smith River Plain Water Quality Management Plan, North Coast Water Board staff in the Surface Water Ambient Monitoring Program (SWAMP) sampled surface water between 2021-2024. Analytes were selected based on their known use in lily bulb production, toxicity profiles, prior study results[22], and input data needs for the US EPA endorsed Biotic Ligand Model (BLM) – a metal bioavailability model that uses receiving water body characteristics and monitoring data to develop site-specific water quality criteria. Synthetic pesticide chemicals (diuron, ethoprop, and imidacloprid) were detected at all downstream monitoring stations with only Lower Delilah Creek (8 exceedances) and Tillas Slough (2 exceedances) recording water quality criteria exceedances (See Figure A.1 for monitoring station locations).

The pattern of synthetic pesticide concentrations seems to align with typical environmental fate and transport. Diuron and imidacloprid concentrations downstream of lily bulb fields rise sharply during major storm events (typically October–May), peaking early in overland flow before diluting as streamflow increases. Following storms, moderate levels likely persist due to continued shallow groundwater discharge, with low detections year-round indicating ongoing baseflow transport. Imidacloprid exceedances align with imidacloprid application rates, and both pesticides show strong correlations with large storm events.

Potential copper toxicity (toxicity unit >1) was predicted by the BLM at all downstream stations at least once and in approximately 40 percent of samples, with predictions of chronic toxicity twice as common as acute. The BLM predicted a risk of toxicity most frequently in samples collected from Lower Delilah Creek (54% of samples) and Tillas Slough (33% of samples during freshwater conditions). The model results were driven by elevated dissolved copper and depressed pH, and the highest risk of toxicity predicted by the BLM was in samples collected during the storm season. Predicted chronic toxicity closely tracked normalized copper application rates[23], with Delilah Creek exhibiting both the highest copper use and the most frequent toxicity predictions.

57) On September 26, 2024, as part of the 2021-2024 SWAMP study, Regional Board staff sampled two locations north of the Smith River Plain on the coastal terrace near Highway 101 at locations that receive runoff from lily bulb fields. One set of samples was collected in Gilbert Creek at Highway 101 and another set was collected in a small coastal drainage that runs to the ocean at Clifford Kamph Memorial Park. While these locations are outside of the Smith River Plain proper,

they are both within the Smith River Plain hydrologic subarea and therefore within the scope of this Order. Gilbert Creek runs east to west to the north of this small lily bulb growing area, while the other drainage is to the south and receives most of the surface runoff. There are about six fields that are used for lily bulb cultivation in this area and at the time of the sampling event in September 2024, four of those fields were planted to lilies.

Both sets of samples were analyzed for the same set of parameters as the rest of the samples collected as part of the SWAMP study. The analysis included the suite of select current use pesticides, general field parameters, dissolved copper, and a complete set of BLM input parameters. At the time of sampling, flow in Gilbert Creek was estimated between 1-5 cubic feet per second (cfs) and flow in the coastal drainage at Clifford Kamph Memorial Park was estimated between 0.1-1 cfs. There was no precipitation in the preceding 24 hours. Only one pesticide, diuron, was detected out of all the pesticide sample results at a concentration of 0.054 ug/L at the Clifford Kamph Memorial Park site. This concentration is well below the chronic Water Quality Benchmark of 0.83 ug/L for diuron. Dissolved copper was measured at 0.44 ug/L at the Gilbert Creek location and at 1.47 ug/L at the Clifford Kamph Memorial Park location. The results for dissolved copper and the BLM parameters were input into the BLM model to generate acute and chronic instantaneous water quality criteria to compare to the dissolved copper results. Both sample results for dissolved copper were below the BLM generated chronic criteria of 1.94 ug/L (Gilbert Creek) and 5.14 ug/L (Clifford Kamph Memorial Park).

58) In addition to presenting monitoring data, the 2025 SWAMP Report includes analyses conducted by North Coast Water Board staff to assess pesticide toxicity risk relative to pesticide application rates/timing and precipitation patterns. Staff's analysis of water quality data from the 2025 SWAMP Report suggests a strong association between both rate of pesticide application and occurrence of major storm events with predicted bioavailability of dissolved copper and synthetic pesticide exceedances of water quality criteria.

59) Based on these findings from the 2025 SWAMP Report, North Coast Water Board staff recommends reducing diuron, imidacloprid, and copper application rates in watersheds with exceedances of water quality criteria and predicted copper toxicity; identifying and implementing management practices that reduce synthetic pesticide and copper transport (e.g., increasing soil organic carbon content); and investigating mechanisms that contribute to depressed pH in receiving waters near lily bulb cultivation areas. Staff recommended that surface water monitoring should remain focused on storm-season sampling, with emphasis on capturing both initial overland flow and post-storm baseflow periods, particularly in tributaries with elevated application rates and exceedances of relevant water quality criteria. These recommendations were incorporated into the Surface Water Monitoring Program in the Monitoring and Reporting Program.

60) This Order requires surface water monitoring for diuron, imidacloprid, ethoprop, and dissolved copper, as specified in Attachment A: Monitoring and Reporting Program (MRP). Except for diuron, the Water Quality Benchmarks used to drive adaptive management and measure compliance with surface water Receiving Water Limitations in this Order are consistent with the values applied in analyzing dataset presented in the 2025 SWAMP Report[24]. A detailed discussion of these Water Quality Benchmarks, including the use of the Biotic Ligand Model (BLM) for dissolved copper, is provided in Section G.1 of these Findings.

Nutrients in Surface Water

61) The North Coast Water Board's SWAMP Program implemented monitoring in the Smith River Plain in 2013 and 2015 to evaluate water and sediment quality conditions, which included analysis of samples for nutrients. The results for nutrients were compared to USEPA guidance criteria. The nutrient criteria guidance is grouped by 'ecoregions' for the entire country that states may use as a starting point for the criteria for their water quality standards. The criteria are called Ecoregional Nutrient Criteria for Rivers and Streams. Ecoregion II includes most of the great mountain ranges that are located west of the Great Plains. This large, disjunct region is characterized by forests, high relief terrain, steep slopes, perennial streams, and a general lack of cropland agriculture. While the Smith River Plain is included in this ecoregion, it does not match the characteristics of the ecoregion in general. However, water quality results from 2013-2015 were compared to these guidance criteria as a benchmark to provide some context. The comparison showed that nitrogen levels exceeded the ecoregional nutrient criteria in every sample collected in Delilah and Morrison Creeks and Tillas Slough. Phosphorus exceeded the criteria in one instance in Delilah Creek and in three of six samples in Tillas Slough.

62) According to a response to a 2018 Water Code Section 13267 Order, lily bulb growers indicated that nitrogen is applied at planting, during the spring, and through the manure of grazing cattle. This Order monitors the potential for discharge of nitrogen to surface water primarily through Irrigation and Nitrogen Management Plans (INMPs) which require Enrollees to (1) report nitrogen application and crop removal rates; (2) sample soil and irrigation water for nitrate concentrations; and (3) identify management practices to minimize or prevent discharge of excess nitrogen to surface or groundwater. This Order requires certification of the INMP and adaptive management for Enrollees who over-apply nitrogen as defined by exceeding a target calculated ratio of nitrogen applied to nitrogen removed. Section I of this Order defines the adaptive management triggers for the potential over-application of nitrogen.

63) Phosphorus is used as a fertilizer in Commercial Lily Bulb Operations. Phosphates sorb to positively charged surfaces in soil so controlling and monitoring for the

discharge of phosphorus in this Order is achieved through sediment and erosion management practices and monitoring.

Pesticides in Groundwater

64) CDPR maintains a Groundwater Protection List in sections 13144, 13145, and 13149 of the California Food and Agricultural Code. Pesticides labeled for agricultural, outdoor institutional or outdoor industrial use that are designated as having the potential to pollute groundwater and have been detected in groundwater or soil pursuant to section 13149 of the Food and Agricultural Code are on the CDPR 6800(a) list.

65) The CDPR Human Health Assessment Branch (HHAB) has developed Human Health Reference Levels (HHRLs) for pesticides on the 6800(a) list. Residues measured in groundwater exceeding these reference levels indicate a health concern and should be sent to HHA for further evaluation.

66) The CDPR Groundwater Protection Program (GWPP) obtains groundwater monitoring data for pesticides and their degradates through its own sampling program and from sampling conducted by other public agencies. Between 2012 and 2021, the GWPP has reported one unconfirmed detection of a 6800(a) listed pesticide (Simazine) on the Smith River Plain. However, Simazine use was not reported in CDPRs Pesticide Use Report data in the previous five years.

67) The North Coast Water Board released a report in 2015 for the Smith River Plain which included groundwater monitoring results from seven sites to evaluate the extent and concentration of contaminants in shallow groundwater that may be attributed to agricultural applications. These samples were analyzed for dissolved copper, and 328 pesticides and pesticide residues. Among the 328 pesticides analyzed are those that were previously detected in groundwater (e.g., 1,2-Dichloropropene), those identified as pesticides of concern (e.g., Methyl Isothiocyanate, which is a break down product of metam sodium), and those commonly used in high quantities in Del Norte County between 2010 and 2013 (e.g., 1,3-Dichloropropene). The analysis of dissolved copper resulted in one detection of dissolved copper (5.7 ug/L) which was well below the US Environmental Protection Agency's and California Department of Public Health's drinking water standard (1,300/1,000 µg/L, respectively). Analysis for the 328 pesticides and pesticide residues only documented two detections of 1,2-Dichloropropane (1,2-D) which was below the US Environmental Protection Agency's and California Department of Public Health's drinking water standard of 5 µg/L. See page 10 of the Smith River Plain 2015 Groundwater Interim Monitoring Report for tabulated results[25].

68) In April 2025, North Coast Water Board staff sampled 9 private domestic wells within the current and historic lily bulb cultivation area in the Smith River Plain.

Drinking water samples were analyzed for 94 pesticide residues utilizing a domestic well sampling program offered by the CA Department of Pesticide Regulation. North Coast Water Board staff worked with the lily bulb growers, the Technical Advisory Group for the Lily Bulb Order development, and local community groups to identify volunteers for domestic well sampling. Pesticides were detected in 6 of the 9 domestic wells sampled. Of the eight pesticides detected, all but one – used in forestry and highway rights-of-way – had been applied on lily bulbs between 2012 and 2023. The pesticides detected include diuron, imidacloprid, mefenoxam, napropamide, thiamethoxam, ACET, simazine, and tebuthiuron. Four pesticides (diuron, imidacloprid, napropamide, and mefenoxam) were reported as being used on lily bulbs in the most recent Pesticide Use Reports from 2023. Three quarters of all pesticide detections (75%) were reported at trace concentrations[26] and none exceeded established human health levels[27].

69) This Order requires monitoring of pesticides in groundwater through: (1) individual and regional groundwater trend monitoring to evaluate agricultural impacts on groundwater; (2) adaptive management in response to exceedances of pesticide Water Quality Benchmarks in groundwater; and (3) drinking water well sampling to notify well users of exceedances of a human health level with respect to pesticides. Pesticides included in groundwater monitoring in this Order were all current-use lily bulb pesticides that were detected during the April 2025 domestic well sampling effort (diuron, imidacloprid, napropropamide, and mefenoxam). These requirements are located within Attachment A: Monitoring and Reporting Program.

Nitrate in Groundwater

70) Elevated levels of nitrate in drinking water can have significant negative health effects on sensitive individuals. The nitrate water quality objective for groundwater is the maximum contaminant level (MCL) of 10 mg/L (milligrams per liter) for nitrate plus nitrite as nitrogen (or 45 mg/L of nitrate as nitrate) established by the California Department of Public Health (Cal. Code Regs. tit. 22, § 64431). The MCL was set to protect the most at-risk groups – infants under six months old and pregnant women. Sources of nitrate in groundwater can include leaching of excess fertilizer, confined animal feeding operations, septic systems, and wastewater discharge to land (e.g., domestic, commercial, and industrial). Besides infiltration, pathways of nitrate to groundwater may also include unprotected well heads, improperly abandoned wells, and lack of backflow prevention on wells.

71) The North Coast Water Board released a 2015 Groundwater Monitoring Report for the Smith River Plain which included monitoring results from seven sites within the lily bulb growing area to evaluate the extent and concentration of contaminants in shallow groundwater that may be attributed to agricultural applications. Samples collected in a one-time sampling event from the seven wells were analyzed for nitrate (as nitrogen). Nitrate concentrations in the groundwater ranged from 4.8

mg/L to 12.7 mg/L across all wells tested. Three irrigation wells exceeded the California Department of Public Health MCL of 10 mg/L for nitrate. Nitrate concentrations in the three Drinking Water Supply Wells ranged from 4.7 mg/L to 6.72 mg/L. See page 9 of the Smith River Plain 2015 Groundwater Monitoring Interim Report for tabulated results[28].

72) In April 2025, North Coast Water Board staff sampled nine (9) private domestic wells within the current and historic lily bulb cultivation area in the Smith River Plain using a domestic well sampling program offered through the California Department of Pesticide Regulation. Nitrate concentrations in these wells ranged from 1.8 mg/L – 5.9 mg/L.

73) This Order requires monitoring of nitrate in groundwater through: (1) individual and regional groundwater trend monitoring to evaluate agricultural impacts on groundwater and (2) drinking water well sampling to notify well users of exceedances of the nitrate MCL of 10 mg/L. These requirements are located within Attachment A: Monitoring and Reporting Program.

F. Coalitions

74) The North Coast Water Board encourages Enrollees to participate in Coalitions or programs (e.g., certification program, watershed group, water quality coalition, monitoring coalition, or other third-party effort) to facilitate and document compliance with this Order. Third-party programs (hereinafter Coalitions) can be used to manage fee payments to the State Water Board, implement compliance education, monitoring and reporting, management practices and/or water quality improvement projects. This Order authorizes the use of grower Coalitions for the above efforts. Specific Coalition requirements can be found in Attachment C: Grower Coalition Requirements.

75) This Order requires Enrollees to provide the Coalition with contact information of the person(s) authorized to provide access to the enrolled property for inspections. This requirement provides a procedure to enable Board staff to contact Enrollee representatives so that it may more efficiently monitor compliance with the provisions of this Order.

G. Regulatory Framework

76) This Order requires Enrollees to comply with all applicable state and federal water quality standards, plans, and policies, and to prevent nuisance conditions. These standards are established through state and federal regulations, including the North Coast Water Board Basin Plan, which identifies the specific Water Quality Objectives (WQOs), beneficial uses, and implementation plans applicable to discharges of waste and the waterbodies that receive such discharges. The State Water Board has also adopted additional plans and policies that may apply to

discharges of waste to surface waters or groundwater from Commercial Lily Bulb Operations.

1. North Coast Water Board Plans and Policies

Basin Plan

77) The Basin Plan is the North Coast Water Board's water quality control planning document. It designates beneficial uses and WQOs for waters of the state, including surface waters and groundwater. The Basin Plan was duly adopted by the North Coast Water Board and approved by the State Water Board, the Office of Administrative Law, and the USEPA, as necessary. The Basin Plan includes plans and policies, including TMDLs . The latest version of the Basin Plan can be found on the North Coast Water Board's website (https://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/).

Beneficial Uses

78) Pursuant to the Basin Plan, Board plans and policies (including State Water Board Resolution No. 88-63 Sources of Drinking Water Policy), and consistent with the Clean Water Act, Table I.2 shows the existing and potential beneficial uses of surface waters in the Smith River Plain:

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Table I.2: Existing and Potential Beneficial Uses in the Smith River Plain

Beneficial Use	Abbreviation	Project Area Except Rowdy Creek	Rowdy Creek Watershed
Agricultural Supply	AGR	Existing	Existing
Aquaculture	AQUA	Potential	Potential
Commercial and Sport Fishing	COMM	Existing	Existing
Cold Freshwater Habitat	COLD	Existing	Existing
Tribal Beneficial Use	CUL	Existing	Existing
Estuarine Habitat	EST	Existing	-
Subsistence Fishing	FISH	Existing	Existing
Freshwater Replenishment	FRSH	Existing	Existing
Industrial Service Supply	IND	Existing	Existing
Marine Habitat	MAR	Existing	-
Migration of Aquatic Organisms	MIGR	Existing	Existing
Municipal and Domestic Supply	MUN	Existing	Existing
Navigation	NAV	Existing	Existing
Hydropower Generation	POW	-	Potential
Industrial Process Supply	PRO	Potential	Potential
Rare, Threatened, End.Species	RARE	Existing	Existing
Non-Contact Water Recreation	REC-2	Existing	Existing
Water Contact Recreation	REC-1	Existing	Existing
Spawning, Reproduction, and/or Early Development	SPWN	Existing	Existing
Wildlife Habitat	WILD	Existing	Existing

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79) The beneficial use most sensitive to groundwater degradation in the Smith River Plain is Municipal and Domestic Supply, while the beneficial uses most sensitive to surface water degradation are Cold Freshwater Habitat and Tribal Cultural Resources. This Order uses Water Quality Benchmarks that are protective of these most sensitive beneficial uses and, therefore, protective of all beneficial uses of water within the Smith River Plain. A more thorough discussion of Water Quality Benchmarks is located in Section G.1 of these Findings.

80) The tributaries of the Smith River Plain contain much of the Smith River watershed's habitat with high intrinsic potential for coho salmon, supporting both natal and non-natal rearing. Tributaries and sloughs near the estuary provide critical refuge for juveniles and fry displaced during high-flow events, increasing survival, productivity, and life-history diversity. Because the middle and upper Smith River watershed is dominated by steep gradients and high flows, the low-gradient tributaries near the estuary and within the lily bulb cultivation area play a disproportionate role in supporting coho salmon resilience and recovery. Although estuarine and coastal-plain habitats represent a small portion of the overall watershed area, they are vital to the productivity of anadromous fish populations, as all salmonids utilize estuarine environments prior to ocean entry.

81) At least 26 species of fish have been observed in the Smith River Plain and estuary. The Smith River Plain provides habitat to threatened and endangered species including coho salmon, eulachon, tidewater goby, and longfin smelt[29]. Spring- and fall-run Chinook Salmon, Coho Salmon, and Coastal Cutthroat Trout utilize the lower Smith River, its coastal tributaries, sloughs, and estuary throughout the year. One or more of these species is typically present in areas potentially affected under this Order at any given time. Low-gradient freshwater and brackish habitats such as sloughs, backwaters, off-channel ponds, and tidal wetlands are among the most productive rearing areas for juvenile salmonids in the Pacific Northwest, including within the Smith River Plain.

82) The 2014 Coho Salmon Final Recovery Plan from NOAA identified Rowdy Creek, Ritmer Creek, Delilah Creek, Yontocket Slough, and Morrison Creek in the Smith River Plain as some of the highest intrinsic potential habitat for coho salmon in the 762 square mile Smith River watershed[30]. These tributaries are designated essential fish habitat (EFH) under the Magnuson-Steven Fishery Conservation and Management Act (MSFCMA) for Pacific salmon (Chinook and coho) and the estuary is designated EFH for Pacific salmon and Pacific groundfish. EFH is designated for species managed in Fishery Management Plans and is defined as the habitat necessary for managed fish to complete their life cycles. Estuaries, including the Smith River Estuary, are considered Habitat Areas of Particular Concern and are high priorities for EFH conservation[31]. Preserving high-quality water and improving degraded water quality in the Smith River Plain is essential to the support and recovery of threatened and endangered species.

83) The National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NOAA-NMFS) has classified the Smith River population of coho salmon as a core, functionally independent population, which is considered at a high risk of extinction and likely below the depensation threshold.

84) On December 17, 2018, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA NMFS) issued a letter to the four lily bulb growers remaining at that time that addressed pesticide impacts on Southern Oregon Northern California Coast (SONCC) coho salmon related to lily bulb agricultural operations in the Smith River Plain. The letter communicated concerns regarding elevated concentrations of dissolved copper and other pesticides detected in streams below lily bulb fields, which exceed U.S. Environmental Protection Agency (EPA) Aquatic Life Benchmarks. The letter referenced the Endangered Species Act (ESA) (16 U.S.C. § 1531 et seq.) and NMFS regulations at 50 CFR 223.203 under section 4(d) of the ESA, which prohibit the unlawful "take" of threatened species, including harm defined as acts that significantly impair essential behavioral patterns of listed fish. NOAA NMFS directed the lily bulb growers to implement best management practices such as increasing no-spray buffers and restoring riparian zones to reduce pesticide runoff into tributaries critical for coho salmon habitat. The letter further encouraged cooperative development of a Smith River Plain Water Quality Management Plan and Safe Harbor Agreements to facilitate regulatory compliance and contribute to species recovery.

85) The U.S. Fish and Wildlife Service (USFWS) adopted the Tidewater Goby Recovery Plan[32] (Recovery Plan) in 2005, outlining key actions for improving the species' status sufficiently to warrant downlisting from endangered to threatened, and ultimately delisting. The Recovery Plan includes the Smith River estuary in its North Coast Recovery Unit, noting that the Smith River estuary contains roughly 500 acres of potentially suitable habitat with historical and recent observations of tidewater goby presence, particularly in Tillas Slough. The Recovery Plan recommended, in part, regular monitoring of tidewater goby populations and habitat conditions to track status and hydrologic changes, management of estuarine and lagoon hydrology to preserve brackish conditions essential for goby breeding and survival, and the reestablishment of Tillas Slough populations from Lake Earl.

86) The Smith River and estuary serve as crucial environmental trust resources for cultural, ceremonial, and subsistence beneficial uses for the Tolowa Dee-ni' Nation. These uses include, but are not limited to, fishing, boating, river access, training, swimming and diving, prayer and meditation, religious ceremony and medicinal doctoring, plant gathering, basketry, eeling, shellfish gathering, and food preparation.

<u>Water Quality Objectives</u>

87) Water Code section 13241 provides that the North Coast Water Board is

responsible for establishing water quality objectives which, in the North Coast Water Board's judgment, are necessary for the reasonable protection of the beneficial uses and for the prevention of nuisance. Establishing water quality objectives involves first, designating beneficial uses; and second, selecting the water quality constituents or characteristics and limits or levels on those constituents and/or characteristics necessary to protect the beneficial uses. These objectives can be expressed in numeric (measurable limits or concentrations of a pollutant) or narrative (the desired condition of the waterbody in qualitative terms) form.

When it is necessary to derive numeric values in order to develop discharge limitations that implement narrative water quality objectives or to evaluate compliance with narrative water quality objectives, the Board may consider "all relevant and scientifically valid evidence", including site-specific data, scientific peer-reviewed literature, and numeric values established in other state or federal laws, regulations, plans, policies, or guidelines, or developed and published by other governmental or non-governmental agencies and organizations. (Basin Plan, Section 3.5.1.) "When water quality objectives are established in a basin plan in narrative form, it is appropriate for a regional water board to exercise its professional judgment, relying on scientific studies, to establish numeric limits." (State Water Board, Order WQ 2023-0081, p. 28.)

88) Section 3 of the North Coast Water Board's Basin Plan contains water quality objectives for groundwater and surface waters. These include objectives for chemical constituents, which incorporate promulgated maximum contaminant levels (MCL); pH; sediment; turbidity; and, in relevant part, the following narrative water quality objectives for pesticide and toxicity:

*"**Pesticides**. Waters shall not contain any individual pesticide or combination of pesticides in concentrations that cause nuisance or adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations in bottom sediments or aquatic life that cause nuisance or adversely affect beneficial uses. In no case shall waters designated for use as domestic or municipal supply (MUN) contain concentrations of pesticides in excess of the numeric limits established in title 22 and as prospectively incorporated in 3.4.3 Chemical Constituents."*

*"**Toxicity**[33]**.** Waters shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances."*

89) The USEPA has adopted the National Toxics Rule and the California Toxics Rule (CTR), which, when combined with the Basin's Plans beneficial use designations, constitute water quality standards that apply to certain inland surface waters or enclosed bays and estuaries within the state. The CTR contains federal water

quality criteria for priority pollutants, including for copper. The CTR aquatic life criteria for copper varies based on hardness and are expressed as dissolved concentrations.

90) The Biotic Ligand Model (BLM) is the current EPA recommended method for determining copper concentrations protective of aquatic life on a site-specific basis and has been adopted by the State of Idaho Department of Environmental Quality and the State of Oregon Department of Environmental Quality to develop state-wide, site-specific water quality criteria for copper. The BLM predicts metal toxicity to aquatic life by estimating how much of a dissolved metal actually binds to sensitive biological sites (biotic ligands) such as fish gills or invertebrate membranes. The model calculates the concentration of a metal at the biotic ligands by simulating how site-specific water chemistry factors influence the chemical form and bioavailability of the metal. The BLM represents a refinement of the hardness-based CTR criteria.

In California, the State Water Board is developing a proposed water quality control policy to establish methods, protocols, and procedures for Regional Water Quality Control Boards to develop, adopt, and implement site-specific water quality objectives for copper and zinc based on the BLM. The BLM uses a set of ten parameters to account for complex chemical reactions associated with copper in the environment: pH, Dissolved Organic Carbon (DOC), Calcium (Ca), Magnesium (Mg), Sodium (Na), Sulfate (SO4), Potassium (K), Chlorine (Cl), Alkalinity, and Temperature.

Using these ten parameters, the BLM generates an Instantaneous Water Quality Criterion (IWQC). The IWQC is used as a water quality threshold for dissolved copper for that specific site and sampling event only. The model's output also includes a toxicity unit (numerical value) to represent the relative risk of copper toxicity in the waterbody at the time of sample collection. Exceedances of the IWQC mean that dissolved copper bioavailability was predicted to occur at a potentially toxic level for the sample in question. Due to the unique water chemistry of the Smith River Plain, risk of toxicity is predicted to occur at a lower dissolved copper concentration by the BLM compared to the hardness-based CTR at the monitoring stations downstream of lily bulb agriculture. Use of this scientifically-valid and more sensitive method is appropriate in this Order to drive the Adaptive Management Program and evaluate compliance with Receiving Water Limitations, given the particular beneficial uses to be protected in the Smith River Plain, including tribal and aquatic life beneficial uses; the water quality objectives reasonably required for that purpose; the need to prevent nuisance; and the provisions of Section 13241, including environmental characteristics in the Smith River Plain, and economic considerations, discussed in further detail in Section I.H of the Findings. (Wat. Code, § 13263, subd. (a).)

91) This Order establishes Water Quality Benchmarks for both surface water and

groundwater, which are based on water quality objectives. Water Quality Benchmarks for surface water are established for both acute and chronic exposure conditions. Exceedance of a Water Quality Benchmark for surface water is determined by considering both concentration and frequency within a Water Year. An acute Water Quality Benchmark is exceeded when the acute concentration is exceeded once within a Water Year, and a chronic Water Quality Benchmark is exceeded when the chronic concentration is exceeded twice within a Water Year.

92) Water Quality Benchmarks for groundwater are also established for both acute and chronic exposure, where water quality values are available. Exceedance of a Water Quality Benchmark for groundwater is determined by considering both concentration and frequency of the exceedance where both acute and chronic values are available. An acute Water Quality Benchmark is exceeded when the acute concentration is exceeded once within a Water Year, and a chronic Water Quality Benchmark is exceeded when the chronic concentration is exceeded in two consecutive Water Years.

93) The Water Quality Benchmarks are either equivalent to the applicable Basin Plan numeric water quality objective or a numeric interpretation of the pesticide and toxicity narrative water quality objectives for surface water and the toxicity narrative quality objective for groundwater. Non-exceedance of a Water Quality Benchmark demonstrates attainment of the corresponding water quality objective and compliance with Receiving Water Limitations in Section II.C of this Order. Conversely, exceedance of a Water Quality Benchmark indicates that discharges may be causing or contributing to an exceedance of a water quality objective. As discussed in Section II.H of this Order, exceedance of a Water Quality Benchmark triggers the Adaptive Management Program; following the time schedule under the Adaptive Management Program, further exceedances may indicate that discharges are causing or contributing to an exceedance of a water quality objective in violation of the Receiving Water Limitations, which may result in further investigative action and/or progressive enforcement.

94) Water Quality Benchmarks for surface water and groundwater monitoring pesticide parameters were determined by reviewing all available pesticide water quality values, including U.S. EPA aquatic life benchmarks, and, exercising best professional judgment consistent with scientific evidence, selecting the most protective (i.e., lowest) values for relevant beneficial uses. In general, the most sensitive beneficial uses for surface waters were Cold Freshwater Habitat and Tribal Cultural Uses and for groundwater was drinking water. Water Quality Benchmarks staff determined were appropriate to drive adaptive management are generally consistent with the State Water Board's numeric guidelines for listing impaired waters under Section 303(d) of the Clean Water Act used to assess data where only narrative water quality objectives have been adopted. Tables I.3 and I.4 present relevant Water Quality Benchmarks for required water quality monitoring constituents for this Order as well as conditions for determining whether an

exceedance of an acute or chronic Water Quality Benchmark has occurred.

Table I.3 Water Quality Benchmarks for Surface Water, Benchmark Exceedances, Beneficial Uses Protected, and Sources

Parameter	Benchmark (ug/L)	Benchmark Exceedance	Use Protected	Source or Reference[34]
Diuron	Acute: 87.5 Chronic: 0.83	Two exceedances of the chronic Water Quality Benchmark in a Water Year -OR- a single exceedance of the acute.	Cold Freshwater Habitat	USEPA Aquatic Life Benchmarks
Ethoprop	Acute: 3.15 Chronic: 0.37	Two exceedances of the chronic Water Quality Benchmark in a Water Year -OR- a single exceedance of the acute.	Cold Freshwater Habitat	Acute: USEPA Aquatic Life Benchmarks Chronic: USEPA Chronic Noncancer HHBs for Pesticides
Imidacloprid	Acute: 0.385 Chronic: 0.01	Two exceedances of the chronic Water Quality Benchmark in a Water Year -OR- a single exceedance of the acute.	Cold Freshwater Habitat	USEPA Aquatic Life Benchmarks
Dissolved Copper	Toxicity Unit[35]<1 (acute and chronic)	Two exceedances of the Chronic BLM-IWQC[36] in a Water Year -OR- single exceedance of the Acute BLM-IWQC.	Cold Freshwater and Estuarine Habitats	Biotic Ligand Model

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Table I.4 Water Quality Benchmarks for Groundwater, Benchmark Exceedances, Beneficial Uses Protected, and Sources

Parameter	Benchmark (ug/L)	Benchmark Exceedance	Use Protected	Source or Reference[37]
Diuron	Acute: 1028 Chronic: 2.0	2 consecutive exceedances of the chronic Benchmark or a single exceedance of the acute.	Municipal Drinking Water	Chronic: USGS Health Based Screening Level (HBSL) for one-in-a-million cancer risk estimate Acute: CDPR Human Health Reference Level (HHRL)
Imidacloprid	Acute: 283 Chronic: 500	2 consecutive exceedances of the chronic Benchmark or a single exceedance of the acute.	Municipal Drinking Water	Acute: DPR Human Health HHRL Chronic: USEPA Chronic Human Health Benchmarks for Pesticides (HHBPs)
Mefenoxam	Acute: 3000 Chronic: N/A	A single exceedance of the Benchmark	Municipal Drinking Water	USEPA One-Day or Acute HHBP
Napropramide	Chronic: 710	2 consecutive exceedances of the chronic Benchmark	Municipal Drinking Water	USEPA Chronic or Lifetime HHBP
Nitrate	10 (mg/L)	A single exceedance of the Benchmark	Municipal Drinking Water	USEPA Maximum Contaminant Level (MCL)

Temperature Policy

95) The Basin Plan includes the Policy for the Implementation of the Water Quality Objectives for Temperature in the North Coast Region (Temperature Policy), which specifies that activities resulting in water temperature increases shall be addressed on a case-by-case basis to reduce impairments and prevent further impairment. The Temperature Policy directs staff to examine and address temperature when developing regulatory orders or permits. At a minimum, any program or permit shall take actions to achieve temperature objectives and implement temperature TMDLs, including EPA-established TMDLs. To attain and maintain the water quality objectives for temperature, The North Coast Water Board and its staff implement programs and collaborate with others in such a manner as to prevent, minimize, and mitigate temperature alterations associated with sediment discharges and

controllable water quality factors. Controllable water quality factors affecting water temperature include any anthropogenic activity which results in the removal of riparian vegetation, sediment discharges, impoundments and other channel alterations, reduction of instream summer flows, and the reduction of cold-water sources. The Temperature Policy directs the North Coast Water Board to implement actions to achieve Water Quality Objectives using all available tools, including WDRs.

96) This Order implements the Temperature Policy through requirements and prohibitions within Streamside Areas which: (1) allow the natural establishment and abundance of native riparian vegetation; (2) allow sufficient native riparian vegetation to minimize and control discharge of sediment, nutrients, and pesticides to surface waters; (3) install and/or maintain a minimum width of riparian vegetation and vegetated buffers to achieve site-specific potential effective shade and prevent discharges of sediment, nutrients and pesticides to surface waters; and (4) allow essential functions supporting beneficial uses (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

Groundwater Protection

97) The Policy Statement for Groundwater Protection in the North Coast Region, Resolution No. R1-2022-0040, acknowledges the North Coast Water Board is committed to the protection of high-quality groundwater and the restoration of degraded groundwater to support all beneficial uses now and in the future, especially given increasing reliance on groundwater in the North Coast Region. Groundwater supplies in the Smith River Plain are currently beneficially used for: (1) drinking water, sanitation, and hygiene consistent with the Human Right to Water described in North Coast Water Board Resolution No. R1-2019-0024; (2) agriculture and industry which are major economic drivers in the region, (3) Native American ceremonies and traditions; (4) aquaculture operations; and (5) replenishment of flows to streams (e.g., contribution to instream flows) to maintain beneficial uses of surface water, especially cold freshwater habitat, migration of aquatic specifics, wildlife habitat, and spawning, reproduction, and early development of fish.

98) This Order is consistent with the Policy Statement for Groundwater Protection in the North Coast Region by requiring compliance with Receiving Water Limitations, implementation of groundwater protection management practices, groundwater monitoring, and adaptive management where current practices are not adequate to control, minimize, or eliminate agricultural discharges to groundwater.

Other North Coast Water Board Policies

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99) This Order is consistent with the approach and best practices identified in Basin Plan policies for the control of excess sediment discharge and delivery by requiring Enrollees to inventory sediment discharge sites on the Commercial Lily Bulb Operation, implement sediment and erosion control management practices, monitor management practice effectiveness, and implement adaptive management where current practices are not adequate to control, minimize, or eliminate excessive sediment discharge.

2. Water Code Considerations

100) The California Water Code (Water Code) grants authority to the State Water Board with respect to state drinking water, water rights and water quality regulations and policy, and establishes nine North Coast Water Boards with authority to regulate discharges of waste that could affect the quality of waters of the state and to adopt water quality regulations and policy.

101) Water Code section 13260(a) requires that any person, citizen, or domiciliary discharging waste or proposing to discharge waste, other than into a community sewer system, that could affect the quality of the waters of the state, file a report of waste discharge (ROWD) to obtain coverage under WDRs or a waiver of WDRs. Waste, person, citizen, and domiciliary are defined in Water Code section 13050. For purposes of this Order, the eNOI is considered a ROWD.

102) Water Code section 13263(a) requires waste discharge requirements to implement any relevant water quality control plans that have been adopted and to take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241. Relevant plans and policies are discussed throughout. See sections G.1 in the Findings for a discussion of beneficial uses and water quality objectives.

103) Water Code section 13241 requires North Coast Water Boards to consider several factors, including “economic considerations” when establishing water quality objectives to ensure the reasonable protection of beneficial uses and prevent nuisance. Economic Considerations findings are included below.

104) Pursuant to Water Code section 13263(g), no discharge of waste into the waters of the state, whether or not the discharge is made pursuant to WDRs, shall create a vested right to continue to discharge. All discharges of waste into waters of the state are privileges, not rights.

105) Pursuant to Water Code section 13263(i), the North Coast Water Board may prescribe general WDRs for a category of discharges if the discharges are produced by the same or similar operations, involve the same or similar types of waste, require the same or similar treatment standards, and are more appropriately

regulated under general WDRs than individual WDRs. Discharges from Farming have certain common characteristics, such as similar land disturbing activities, use of nutrients and pesticides, agricultural practices, and agricultural road networks that require similar best management practices to control, minimize, and/or prevent discharges of waste. These types of discharges are more appropriately regulated under general WDRs.

106) This Order is consistent with Water Code section 13267 through the Monitoring and Reporting Program and through provisions of the Order that allow access via inspections. Water Code section 13267 states in relevant part:

"(b)(1) In conducting an investigation…, the North Coast Water Board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region… shall furnish, under penalty of perjury, technical or monitoring reports which the North Coast Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the North Coast Water Board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports.

(b)(2) when requested by the person furnishing a report, the portions of a report that might disclose trade secrets or secret processes may not be made available for inspection by the public but shall be made available to governmental agencies…However, these portions of a report shall be available for use by the state or any state agency in judicial review or enforcement proceedings involving the person furnishing the report.

(c) In conducting an investigation…, the North Coast Water Board may inspect the facilities of any person to ascertain whether…waste discharge requirements are being complied with. The inspection shall be made with the consent of the owner or possessor of the facilities or, if consent is withheld, with a warrant issued pursuant to…Title 13 (commencing with §1822.50) of Part 3 of the Code of Civil Procedure."

107) Water Code section 13268 provides that any person who fails to furnish a technical or monitoring program or who falsifies any information provided in a technical or monitoring report, pursuant to Water Code section 13267, may be subject to administrative civil liability in an amount not to exceed $1,000 per day of violation. If the matter is referred to the Attorney General for judicial enforcement, a higher liability of $5,000 per day of violation may be imposed. Higher penalties may also be imposed for any person that knowingly commits any violation in section 13268 of the Water Code.

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108) Water Code section 13350 provides that any person who discharges waste in violation of WDRs may be (1) subject to administrative civil liability imposed by the North Coast Water Board or State Water Board in an amount of up to $5,000 per day of violation, or up to $10 per gallon of waste discharged; or (2) subject to civil liability imposed by a court in an amount of up to $15,000 per day of violation, or up to $20 per gallon of waste discharged. The actual calculation and determination of administrative civil penalties must be consistent with the State Water Board Water Quality Enforcement Policy (Enforcement Policy) and the Porter-Cologne Act.

3. Nonpoint Source Policy

109) The State Water Board's Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program adopted on May 20, 2004 (NPS Policy) requires regulation of nonpoint source pollution[38] in California through WDRs, waivers of WDRs, or discharge prohibitions (Water Code §13146; Gov. Code §11353).

110) The federal Clean Water Act (CWA) requires states to develop a program to protect the quality of water resources from the adverse effects of nonpoint source (NPS) water pollution. The NPS Policy is the State Water Board framework for addressing NPS pollution and requires each of the nine North Coast Water Boards to regulate NPS pollution, including agricultural discharges, via WDRs, Waivers of WDRs, or a prohibition. The NPS Policy states that North Coast Water Board implementation programs for NPS pollution control must include five key elements, as follows:

Key Element 1: An NPS control implementation program's ultimate purpose shall be explicitly stated. Implementation programs must, at a minimum, address NPS pollution in a manner that achieves and maintains water quality objectives and beneficial uses, including any applicable antidegradation requirements.

Key Element 2: An NPS control implementation program shall include a description of the management practices and other program elements that are expected to be implemented to ensure attainment of the implementation program's stated purpose(s), the process to be used to select or develop management practices, and the process to be used to ensure and verify proper management practices implementation. The North Coast Water Board must be able to determine that there is a high likelihood that the program will attain water quality requirements. This will include consideration of the management practices to be used and the process for ensuring their proper implementation.

Key Element 3: Where the North Coast Water Board determines it is necessary to allow time to achieve water quality requirements the NPS control implementation program shall include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching the specified requirements.

Key Element 4: An NPS control implementation program shall include sufficient feedback mechanisms so that the North Coast Water Board, Enrollees, and the public can determine whether the program is achieving its stated purpose(s) or whether additional or different management practices or other actions are required.

Key Element 5: Each North Coast Water Board shall make clear, in advance, the potential consequences for failure to achieve an NPS control implementation program's stated purpose.

111) This Order constitutes an NPS Implementation Program for discharges regulated by this Order. This Order is consistent with all key elements of the NPS Policy as described below:

a) The ultimate purpose of this Order is explicitly stated in Section I: Background and Purpose. This Order includes requirements to meet applicable water quality objectives and beneficial uses, including any applicable State Water Board Resolution 68-16 (Antidegradation Policy) requirements. Further, discussion of this Order's implementation of antidegradation requirements is given below. This Order is consistent with Key Element 1.

b) The North Coast Water Board is generally restricted by Water Code section 13360 from prescribing the particular manner of compliance with an order requirement. However, it may set forth receiving water limitations and performance standards and require Enrollees to report on what practices they have or will implement to meet those receiving water limitations and performance standards. Examples of the types of practices that Commercial Lily Bulb Operations may implement to meet program goals and objectives have been described and evaluated in the Environmental Impact Report. This Order requires each individual operation to develop a Farm Evaluation that will describe its management practices in place to protect surface water and groundwater quality. This Order also requires Enrollees to comply with an Adaptive Management Program in response to: (1) exceedances of a Water Quality Benchmark or Receiving Water Limitation, (2) where management practices are not properly implemented, or (3) as directed by the Executive Officer. The Adaptive Management Program includes iterative adaptive management for improved management practices to address Water Quality Benchmark or Receiving Water Limitation exceedances. The requirements of this Order are consistent with Key Element 2.

c) The North Coast Water Board acknowledges that, given existing water quality conditions and the time needed to develop and implement actions to address discharges, it may be necessary to allow time to achieve Receiving Water Limitations in this Order. The Adaptive Management Program

required by this Order includes a time schedule and specific quantifiable milestones for implementing required management practices and meeting Receiving Water Limitations as soon as practicable. The Adaptive Management time schedule requirements in this Order are consistent with Key Element 3.

d) To provide feedback on whether program goals are being achieved, this Order requires surface and groundwater quality monitoring to evaluate the effectiveness of implemented management practices. This feedback will allow iterative implementation of practices to ensure that program goals are achieved. The North Coast Water Board finds the level of surface and groundwater quality monitoring required by this Order will result in sufficient data collection and reporting to allow for meaningful feedback on the effectiveness of management practices, while also avoiding unwarranted or excessive time and costs on Enrollees. The feedback mechanisms required by this Order are consistent with Key Element 4.

e) This Order establishes the following consequences where requirements are not met: (1) the Coalition or Enrollees will be required, in an iterative process, to conduct additional monitoring and/or implement management practices where water quality objectives are not being met; (2) Enrollees will be required, where the Coalition fails to meet the requirements of this Order, to enroll in the Order individually, and (3) the North Coast Water Board will initiate progressive enforcement action through its Enforcement Policy where the iterative management practices process is unsuccessful, program requirements are not met, or time schedules are not met. Section II of this Order describes the consequences for failure to meet requirements through the North Coast Water Board's Enforcement Policy and is consistent with Key Element 5.

4. Statement of Policy with Respect to Maintaining High Quality Waters in California (Antidegradation Policy)

112) Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. In 1968, the State Water Board adopted the Statement of Policy with Respect to Maintaining High Quality of Waters in California, Resolution No. 68-16 (Antidegradation Policy).[39] The State Antidegradation Policy is deemed to incorporate the Federal Antidegradation Policy where the federal policy applies under federal law.[40] The State Antidegradation Policy establishes a state policy to regulate the granting of permits and licenses for the disposal of wastes into the waters of the state so as to achieve the highest water quality consistent with maximum benefit to the people of the State.[41] The federal and state policies generally require that the existing quality of water bodies be maintained, unless degradation is justified through specific findings.[42]

113) The Antidegradation Policy, by its terms, applies only to high-quality waters of the state. High quality waters are those surface waters or areas of groundwater that have a baseline water quality better than required by water quality control plans and policies. The baseline water quality considered in making the appropriate findings is generally the best quality of the water since 1968, the year of the adoption of the Antidegradation Policy.[43] This determination is made on a waterbody-by-waterbody and constituent-by-constituent basis. In the context of diffuse discharges regulated by a general order, the State Water Board provided the following guidance on determining whether a discharge impacts high quality waters:

> *"When assessing baseline water quality for a general order, we find a general review and analysis of readily available data is sufficient. . . . North Coast Water Boards should not delay the implementation of a regulatory program in order to conduct a comprehensive baseline assessment and analysis—especially where, as here, the general order imposes essentially the same iterative approach for management practices and other requirements regardless of whether or not the receiving water is high quality[44]."*

114) If a discharge will degrade high quality water, the discharge is allowable if there is a finding that any change in water quality (1) will be consistent with maximum benefit to the people of the State, (2) will not unreasonably affect present and anticipated beneficial uses of such water, and (3) will not result in water quality less than that prescribed in state policies. Maximum benefit determinations should be made on a case-by-case basis, with consideration given to various factors, including economic and social costs, tangible and intangible, of the proposed discharge, as well as the environmental aspects of the proposed discharge, including benefits to be achieved by enhanced pollution controls, and implementation of feasible alternative treatment or control methods. Both costs to the discharger and affected public must be considered.[45]

115) Additionally, the Board must find that any activities that result in discharges to such high quality waters are required to use the best practicable treatment or control of the discharge necessary to avoid pollution or nuisance and to maintain the highest water quality consistent with the maximum benefit to the people of the State. Best practicable treatment or control (BPTC) determinations should consider relative benefits of proposed treatment or control methods to proven technologies; performance data; alternative methods of treatment or control; methods used by similarly situated dischargers; and/or promulgated best available technology or other technology-based standards. The costs of the treatment or control should also be considered and would be considered in determining the "maximum benefit to the people of the State."[46]

116) North Coast Water Board staff completed a general baseline water quality assessment for surface and groundwater in the Smith River Plain based on readily

available data. The primary constituents of concern for groundwater include nitrates and pesticides. The primary constituents of concern for surface water include nutrients, pesticides (synthetic compounds and dissolved copper), and turbidity. Focusing on these constituents of concern, the North Coast Water Board evaluated water quality using all available data from multiple data sources maintained in the following management systems: CEDEN, GeoTracker, CDPR's SURF database, CDPR's well testing program, and GAMA[47]. Existing water quality in the Smith River Plain is outlined in the Findings above. This Order accounts for the fact that at least some surface water and groundwaters in the Smith River Plain are considered high-quality for one or more constituents of concern per the Antidegradation Policy.

117) Commercial lily bulb farming in the Smith River Plain involves soil disturbance and use of agricultural chemicals, both of which can generate discharges of waste. If not properly managed, these discharges can degrade water quality, cause or contribute to pollution and nuisance conditions, and adversely affect beneficial uses of waters of the state. The North Coast Water Board anticipates that the requirements of this Order will prevent degradation of high-quality waters over time. Since implementation of the 2021 Management Plan, in which all lily bulb growers agreed to voluntarily implement a suite of water quality management practices designed to reduce pesticide and nutrient runoff, erosion, and direct discharge of pollutants to surface waters, concentrations of synthetic pesticides and dissolved cooper have decreased. Additional measures required under this Order are anticipated to further reduce discharge pollutant loadings over time. The North Coast Water Board cannot find, however, that there will be no degradation of high-quality waters under the requirements of this Order. In particular, the North Coast Water Board anticipates degradation of some high-quality waters during the period of time that Dischargers are working to achieve compliance with receiving water limitations via the iterative implementation of management practices. As appropriate controls and management practices are implemented, the degradation is expected to be limited and, in many cases, reversible. The Order authorizes degradation only up to the level of the objectives and requires implementation of controls such that discharges will not cause or contribute to exceedances of those objectives within a discrete time schedule. While the North Coast Water Board makes findings authorizing degradation of high-quality waters under this Order, it will, wherever feasible, require controls to prevent and reverse degradation by working with dischargers and third parties to ensure controls are implemented in an iterative manner as technology evolves and advances.

118) The North Coast Water Board finds that any limited degradation that may occur from discharges to high-quality surface and groundwater water bodies even following implementation of all applicable management practices designed to control discharges is to the maximum benefit of the people of the State. In setting the requirements of this Order, the Board has considered the social and economic

significance of the commercial lily bulb industry in the Smith River Plain, including its contribution to agricultural production and associated economic activity in Del Norte County. At the same time, the Board recognizes that Tribal representatives and other community members have stated that the commercial lily bulb industry does not broadly support the local community and that the economic benefits are not shared equitably. Some of the benefits are externalized, relative to where the lily bulbs are grown and environmental and cultural impacts occur[48].

119) The North Coast Water Board also recognizes the social and environmental costs associated with the commercial lily bulb industry, including impacts on aquatic life, tribal uses, recreational uses, and local residents, [expand on social and environmental costs___][49]. The Smith River Plain provides habitat to numerous threatened and endangered aquatic species and serves as crucial environmental trust resources for cultural, ceremonial, and subsistence beneficial uses for the Tolowa Dee-ni' Nation. This Order addresses these costs by, among other provisions, requiring compliance with Receiving Water Limitations through the Adaptive Management framework and robust surface water monitoring to verify compliance.

120) This permitting approach is to the maximum benefit of the people of the state because alternative methods of regulation, such as immediate compliance with Receiving Water Limitations or imposition of additional, specific discharge prohibitions, may result in immediate cessation of discharges, threatening the benefits associated with this agricultural activity.

121) The Board finds this Order and the requirements herein to be, on balance, supportive of environmental and water quality benefits, local employment, and the community. For these reasons, any limited degradation that may occur as a result of Commercial Lily Bulb Operations, despite implementation of measures required by this Order, is consistent with the maximum benefit to the people of the state.

122) As detailed in above Findings, the Basin Plan assigns 20 beneficial uses to surface and ground water in the Smith River Plain. This Order protects beneficial uses by meeting water quality objectives, at a minimum, which is set as the floor of the Antidegradation Policy. Waste discharges must be reduced and water quality improved to achieve water quality objectives and protect beneficial uses. Waste discharges must not cause or contribute to exceedances of water quality objectives either immediately or through a specific time schedule.

123) The North Coast Water Board further finds that the permitted discharges will be controlled by BPTC. The North Coast Water Board cannot dictate the manner of compliance with water quality orders (Wat. Code, section 13360), and no single set of management practices is appropriate for every field. Rather, BPTC must be implemented through a combination of practices that sometimes may be site specific that will ensure that discharges meet water quality objectives and eliminate

unreasonable degradation. This Order requires Farm Evaluations, Irrigation and Nitrogen Management Plans, management practice tracking, and surface and groundwater water quality monitoring and reporting that are designed to ensure that degradation is prevented or minimized and that management practices are protective of water quality. The Order relies on implementation of practices and treatment technologies that constitute BPTC/best efforts, based to the extent possible on existing data. Management measures and monitoring may be modified as data are assessed and reported and whenever site evaluations show that measures need to be improved to meet water quality standards.

5. Sources of Drinking Water Policy

124) The Sources of Drinking Water Policy (Policy) (SWRCB Resolution No. 88-63) established the principle that all surface and ground waters within the State are considered suitable or potentially suitable for the municipal and domestic supply ("MUN") beneficial use with certain exceptions. Exceptions applicable to groundwater include: where there is contamination (unrelated to the pollution incident) that cannot reasonably be treated for domestic use; where groundwater contains total dissolved solids ("TDS") exceeding 3,000 milligrams per liter and is not reasonably expected to supply a public water system; and where there is insufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day.

125) The Policy acknowledges North Coast Water Boards have discretion to separately evaluate whether bodies of water are presently or potentially suitable for MUN designation. North Coast Water Boards shall also assure that the beneficial uses of municipal and domestic supply are designated for protection wherever those uses are presently being attained, and assure that any changes in beneficial use designations for waters of the State are consistent with all applicable regulations adopted by the Environmental Protection Agency

6. Human Right to Water

126) On February 16, 2016, and April 23, 2019, the State Water Board and the North Coast Water Board adopted resolutions (Resolution No. 2016-0010 and R1-2019-0024, respectively) identifying the human right to water as a top priority and core value of the State Water Board and Regional Water Quality Control Boards (collectively the Water Boards) in association with Water Code section 106.3. The resolutions stated the Water Boards will work "to preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations." This Order promotes that policy by requiring the Enrollees to meet water quality objectives, as applicable, designed to protect human health and ensure that water is safe for domestic uses.

7. Statewide Precedential Order

127) The State Water Board Irrigated Lands Regulatory Program sets forth precedential requirements for all Regional Irrigated Lands in DWQ 2018-0002 In the Matter of Review of Waste Discharge Requirements General Order No. R5-2012-0116 for Enrollees Within the Eastern San Joaquin River Watershed (Statewide Precedential Order).

128) Lily bulb cultivation is irrigated agriculture; therefore, Enrollees regulated under this Order are part of the State and North Coast Water Board Irrigated Lands Regulatory Program and subject to the Statewide Precedential Order requirements that the State Water Board designated as precedential. This Order maintains consistency with the Statewide Precedential Order requirements by including conditions related to Enrollee outreach events, Farm Evaluations, sediment and erosion controls, irrigation and nitrogen management, record keeping, groundwater quality monitoring for Enrollees, and the option for grower coalition(s). Additionally, this Order requires monitoring and reporting to verify and provide feedback on the degree and effectiveness of implementation of these precedential requirements.

129) Specifically, this Order implements Statewide Precedential Order requirements through: (1) Irrigation and Nutrient Management Plans; (2) Drinking Water Supply Well Monitoring; (3) Groundwater Quality Trend Monitoring; (4) Compliance education; and (5) Groundwater Protection Plans that include Groundwater Protection Targets as described in Attachment A.

Groundwater Vulnerability Areas

130) Precedential requirements set forth in the Statewide Precedential Order establish “high and low vulnerability” groundwater basins for threat from nitrates. The Statewide Precedential Order requires that the development of Groundwater Protection Formulas and certification of irrigation and nutrient management plans be prioritized in “high vulnerability” groundwater basins which are defined in the Statewide Precedential Order as areas “where known groundwater quality impacts exist for which irrigated agricultural operations are a potential contributor or where conditions make groundwater more vulnerable to impacts from irrigated agricultural activities.”

131) The North Coast Water Board adopted the Groundwater Basin Evaluation and Prioritization Resolution No. R1-2021-0006[5] which identifies priority groundwater basins having a relatively high threat from salts and nutrients and that would benefit from salt and nutrient management planning. The North Coast Water Board is required to update these priority basins every five years per the State Water Board Resolution No. 2009-0011, Recycled Water Policy. The Smith River Plain is categorized as a Priority 2 groundwater basin under the Groundwater Basin Evaluation and Prioritization Resolution.

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132) In 2000, in response to Executive Order D-5-99, State Water Board staff created a map where published hydrogeologic information indicates soil or rock conditions that may be more vulnerable (or susceptible) to groundwater contamination: "Hydrogeologically Vulnerable Areas[50]." The map was created using Department of Water Resources (DWR) and US Geological Survey (USGS) data to identify areas where geologic conditions are more likely to allow recharge at rates substantially higher than in lower permeability or confined areas of the same groundwater basin. The Smith River Valley Groundwater Basin was included in this 2000 map.

133) This Order establishes the Smith River Plain as a 'high vulnerability' groundwater basin for the purposes of the relevant Statewide Precedential Requirements due to its Priority 2 groundwater basin status, its classification as a 'Hydrogeologically Vulnerable Area,' and 3 of 7 groundwater samples with documented exceedances of the nitrate MCL in the 2015 Smith River Plain Groundwater Interim Monitoring Report[51].

134) As more data becomes available through monitoring and reporting under this Order, and no sooner than five years following Order adoption, the North Coast Water Board's Executive Officer may re-classify the Smith River Plain groundwater vulnerability status if data indicates that discharges from lily bulb cultivation are not causing or contributing to exceedances of water quality objectives, or a trend of degradation of groundwater that may threaten applicable basin plan beneficial uses.

8. California Environmental Quality Act

135) For the purpose of adoption of this Order, the North Coast Water Board is the lead agency pursuant to the California Environmental Quality Act (CEQA) (Pub. Res. Code §21000 et seq.).

136) On October 10, 2024, the North Coast Water Board sent a Notice of Preparation (NOP), which included an Initial Study, to public agencies and persons with potential interest in the project. Copies of the NOP and Initial Study were available for review at the North Coast Water Board Santa Rosa office. Additionally, the NOP and attached Initial Study were posted at the North Coast Water Board's webpage (http://www.waterboards.ca.gov/northcoast/) and an announcement of its availability was sent to individuals that subscribed to electronic mailing lists relevant to the proposed Lily Bulb Order. The NOP and the attached Initial Study are available online at: https://ceqanet.lci.ca.gov/2024100484

137) On October 22, 2024, the North Coast Water Board held a hybrid scoping meeting to solicit input from agencies and interested parties on issues to be addressed in the EIR. The scoping meeting included a description of the meeting purpose, proposed requirements, presented an overview of the environmental review process and preparation of the EIR, and included a public comment period.

138) During the public comment period for the Initial Study the North Coast Water Board received written and oral comments from Northcoast Environmental Center, California Farm Bureau, California Department of Fish and Wildlife, California Coastal Commission, Save California Salmon, Lily Bulb Growers (Rob Miller, Matthew Westbrook, Don Crockett), Sharon Tanner and Brian McNaughton, Native American Heritage Commission, Phoebe Lenhart, Richard Blair, Alicia Williams, Gil Vargas, Carl Page, John Roberts, Janelle Kobalt, Josefina Barrantes (Environmental Protection Information Center), Regina Chichizola (Save California Salmon), Andrew Orahoske, Katie Rian (California Department of Fish and Wildlife), and Candice Vargas.

139) Prior to the adoption of this Order, and after considering public comment, the North Coast Water Board certified a final Environmental Impact Report (EIR) that identifies the potential environmental impacts associated with this Order and identifies mitigation measures to reduce the potential environmental impacts.

140) This Order relies on the environmental impact analysis contained in the final EIR to satisfy the requirements of CEQA. The final EIR identified, disclosed, and analyzed the potential environmental impacts of the Order. The potential compliance activities undertaken by the regulated Enrollees in response to this Order fall within the range of compliance activities identified and analyzed in the final EIR. Therefore, all potentially adverse environmental impacts of this Order have been identified, disclosed, and analyzed in the final EIR. If it is determined that an Enrollee filing for coverage under this Order could create impacts not identified in the final EIR, individual WDRs would be prepared for that Enrollee and additional CEQA analysis performed, which would likely tier off the final EIR as necessary. (See Cal. Code Regs., tit.14 §15152). [PLACEHOLDER for Findings from Final Environmental Impact Report].

H. Cost Considerations

141) Water Code section 13241 requires the North Coast Water Board to consider certain factors, including economic considerations, in the adoption of water quality objectives. Water Code section 13263 requires the North Coast Water Board to take into consideration the provisions of Water Code section 13241 in adopting waste discharge requirements. The following findings discuss the anticipated cost of compliance with the Order[52]. Several assumptions were required to be made for these analyses and there are several inherent limitations and uncertainties, discussed below.

142) When establishing monitoring and reporting requirements under Water Code section 13267, the North Coast Water Board must ensure that the burden, including costs, of the reports bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. Many of the costs considered below are costs associated with the monitoring and reporting

requirements of this Order. Enrollees can reduce their costs by joining a Third-Party Program for water quality monitoring and reporting in lieu of individual monitoring and reporting.

143) The monitoring and reporting requirements of this Order allows the North Coast Water Board to identify agricultural waste discharges with a higher risk of degrading water quality so that those discharges may be promptly minimized or prevented. Monitoring and reporting of nitrogen application and groundwater quality, protect human health by informing the North Coast Water Board of discharges that may affect the quality of water designated as municipal and domestic supply and by allowing assessment of the extent to which the water quality objectives are being met.

144) The North Coast Water Board needs these reports to document and ensure compliance with this Order. The North Coast Water Board finds that the burden of the requirements of the Order bears a reasonable relationship to the benefits of the requirements.

1. Cost of Compliance with the Order

145) The cost of compliance with the Order under existing conditions includes the costs associated with water quality fees, monitoring and reporting, and any management practices that may need to be implemented pursuant to the Order requirements. These costs are described further below.

Water Quality Fees

146) The State Water Board sets a Water Quality Fee Schedule, which includes agricultural and Irrigated Lands Regulatory Programs throughout the state, as specified in California Code of Regulations, title 23, section 2200.6. All enrolled Commercial Lily Bulb Operations must pay the State Water Board fees on an annual basis. Although the State Water Board fees may change from year to year, the fee categories/schedule for the 2025/2026 fiscal year is shown below.

a) If an Enrollee is a member of a group that has been approved by the North Coast Water Board or North Coast Water Board's Executive Officer to manage fee collection and payment, then the annual fee shall be $1.50 per acre for all enrolled parcels.

b) If an Enrollee is not a member of a group that has been approved by the North Coast Water Board or North Coast Water Board's Executive Officer to manage fee collection and payment, then the annual fee shall be: $37.40 per acre up to 300 acres plus $18.71 per acre over 300 acres with a minimum fee of $710.

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147) In Regions that have implemented Irrigated Lands Orders with Third-Party Programs or Grower Coalitions, most Enrollees have elected to enroll through those entities. Coalitions in Irrigated Lands Regulatory Programs manage fee collection, conduct representative surface and groundwater monitoring, provide compliance education, and assist Enrollees with general Order requirements. The North Coast Water Board anticipates that most Enrollees under this Order will also elect to enroll through a Coalition.

Compliance with Order Requirements

148) All Enrollees must comply with requirements to implement and adapt management practices related to sediment and erosion control; irrigation, pesticide, and nutrient management; and Streamside Area setbacks. This Order provides Enrollees flexibility in selecting management practices and requires Enrollees to monitor and report discharges and implement management practices to minimize or prevent discharges of waste.

149) Enrollees may be required to implement improved or additional management practices, as necessary, and report on the water quality-related outcomes of their management practice implementation. Enrollees must, ultimately, implement management practices that result in compliance with the Order.

150) Management practices associated with irrigation, nutrient and pesticide use, and sediment and erosion control are already being implemented by lily bulb growers in the Smith River Plain. This may be due to requirements imposed by other regulatory agencies (e.g., pesticide tracking and reporting by the Department of Pesticide Regulation and Agricultural Commissioners) and through voluntary actions supported by the 2021 Management Plan.

151) Implementation of management practices may also have direct net cost benefits to a Commercial Lily Bulb Operation (e.g., irrigation and nutrient management can result in less fertilizer costs and reduced water/pumping costs for irrigation; sediment and erosion management minimize or prevent erosion of valuable topsoil).

152) The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) has developed standard agricultural management practices to address irrigation and nutrient management, pesticide management, and sediment and erosion control management, some of the more common of which are discussed below. Implementation of many of these practices would result in compliance with multiple requirements of the Order. Table I.5 provides estimated costs of management practices/scenarios Enrollees may implement to meet the requirements in the Order, as reported by USDA, NRCS.

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a) Grassed Waterway– involves installing a shaped or graded channel with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet. Runoff is conveyed from terraces, diversions, or other water concentrations without causing erosion or flooding. Water quality is protected and/or improved. Costs range between $2,000 and $3,000 per acre.

b) Contour Farming – this practice is installed on the entire field. A survey is completed by trained and certified Federal, State, local personnel or consultant to determine and "stake" contour row arrangement. Permanent row markers are established to ensure that this practice is maintained for the life of this practice. All field operations including disking, bedding, planting, and cultivation are performed on the contour which is near perpendicular to the field slope. Costs range between $15 to $20 per acre.

c) Filter Strip – involves establishing a strip or area of herbaceous vegetation that removes contaminants from overland flow. Filter strips can be established anywhere environmentally sensitive areas need to be protected from sediment, or other suspended solids, and dissolved contaminants in runoff. Costs range between $200 to $300 per acre.

d) Integrated Pest Management (IPM) program – involves implementing a site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies. An IPM approach seeks to prevent or mitigate offsite pesticide risks to water quality from leaching, solution runoff and adsorbed runoff losses; and prevent or mitigate on-site pesticide risks to pollinators and other beneficial species through direct contact; among other goals. Costs range between $50 and $100 per acre.

e) Nutrient Management – involves managing the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments. The practice is implemented to minimize agricultural nonpoint source pollution of surface waters and groundwater, among other reasons. Costs associated with this practice include soil testing, analysis, and implementation of the nutrient management plan and recordkeeping. Costs range between $10 and $320 per acre.

f) Riparian Vegetation Buffer – involves establishment of an area of predominantly trees and/or shrubs located adjacent to and up-gradient from waterbodies. The practice may be implemented to reduce excess amounts of sediment, organic material, nutrients and pesticides in surface runoff and reduce excess nutrients and other chemicals in shallow groundwater flow; reduce pesticide drift entering the waterbody; restore riparian plant communities; create shade to lower or maintain water temperatures to improve habitat for aquatic organisms; or to provide other benefits. Costs

vary based on whether riparian buffer vegetation is established through seeding, cuttings, bare-root plantings, or small or large containers. For scenarios where land is taken out of production to establish the riparian vegetation buffer, foregone income is considered. Costs range between $3,000 to $5,500 per acre.

g) Retention/Detention Basin – involves constructing a basin with an engineered outlet, formed by excavating a dugout, constructing an embankment, or a combination of both. The purpose of the retention/detention basin is to capture and detain pollutant-laden runoff, or other debris for a sufficient length of time to allow it to settle out in the basin. Costs are estimated between $6,000 to $13,000 per basin.

h) Vegetated Treatment Area – involves permanent herbaceous vegetative area or channel installed down slope from a planted area. Stormwater runoff is directed into the VTA to capture dissolved pollutants. This practice addresses water quality degradation due to uncontrolled pesticide runoff that can flow into surface waters or leach into ground water. Costs are estimated between $10,000 and $12,000 per acre.

153) These potential costs were considered when the water quality protection requirements were developed for the Order.

Table I.5: Estimated Costs[53] of Management Practices/Scenarios for Water Quality Protection

Management Practice	Typical Scenario Size	Unit Cost	Total Cost (low)	Total Cost (High)
Grassed Waterway (412)	1 acre	$2000-$3000/acre	$2,000	$3,000
Contour Farming (330)	10 acres	$15-$20/acre	$150	$200
Filter Strip (393)	1 acre	$200-$300/acre	$200	$300
Integrated Pest Management (IPM) program (595)	40 acres	$50-$100/acre	$2,000 g	$4,000
Nutrient Management (590)	40 acres	$10-$320/acre	$400	$12,800

Management Practice	Typical Scenario Size	Unit Cost	Total Cost (low)	Total Cost (High)
Riparian Vegetation Buffer (391)	1.5 acres	$3,000-5,000/acre	$4,500	$7,500
Retention Basin (638)	Basin	Each	$6,000	$13,000
Vegetated Treatment Area (635)	1 acre	$10,000-$15,000/acre	$10,000	$15,000

Monitoring and Reporting

154) All Enrollees are required to conduct surface water and groundwater monitoring and reporting either individually or as part of a Coalition effort. All Enrollees are required to report management practice implementation annually in their Farm Evaluation and report nitrogen applied and removed, in the Irrigation and Nitrogen Management Plan (INMP). Refer to Attachment A for monitoring and reporting requirements and Tables I.6-11 for estimated costs.

Table I.6: Estimated Cost of Surface Water Monitoring Requirements

Parameter	Annual Cost (Analytical + Materials and Labor) per Monitoring Station	Per Acre Cost (assumes 1000 acres) per Monitoring Station	Per Acre Cost for 7 Monitoring Stations
Dissolved Copper	$300	$0.30	$2.10
BLM Field Parameters	$150	$0.15	$1.05
BLM Lab Parameters (optional)	$600	$0.60	$4.20
Imidacloprid	$900	$0.90	$6.30
Diuron	$900	$0.90	$6.30
Ethoprop	$900	$0.90	$6.30

Table 1.4 estimates the total annual cost of surface water monitoring requirements (per monitoring site) given a sampling frequency of three times per year. Collecting BLM lab

parameters are ***optional***; Enrollees or the Coalition may instead use tributary-specific default values for BLM Analysis given in Table A.5 in Attachment A: Monitoring and Reporting Program. Assuming seven monitoring sites and 1000 enrolled acres, the estimated cost per acre for surface water monitoring for Enrollees in a Coalition is **$22.05**. If the default BLM lab parameters are not used, and instead BLM lab parameters are collected, the total cost is estimated to be **$26.25 per acre**.

For Individual Enrollees, assuming monitoring of one site, the total of surface water monitoring is **$3,150** per year**.** If the default BLM lab parameters are not used, the total cost is **$3,750** per year. Per acre costs are variable by farm size.

Table I.7: Estimated Cost of Groundwater Trend Monitoring Requirements

Parameter	Annual Cost per location	Per Acre Cost (3 sites, 1000 acres)
Nitrate	$750	$2.25
Pesticides	$1550	$4.65

Table I.7 estimates the total cost of Groundwater Trend Monitoring Requirements. The total annual cost for Individual Enrollees would be **$2,300**. The total annual per-acre cost for Enrollees in a Coalition would be **$6.90** per acre.

Table I.8 estimates total cost of representative monitoring requirements for Enrollees in a Coalition and Individual Enrollees. Cost estimates assume the use of default values, where possible, for BLM analysis.

Table I.8: Estimated Cost of Groundwater Trend Monitoring Requirements

Task	Total Estimate for Individual Enrollees	Total Cost per acre for Enrollees in a Coalition
Surface Water Monitoring	$3,150	$22.05
Groundwater Monitoring	$2,300	$6.90
Total	**$5,450**	**$28.95**

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Table I.9 estimates farm-specific monitoring annualized over five years. Table I.10 provides those estimates for Enrollees in a Coalition.

Table I.9: Estimated Annualized Monitoring and Reporting Costs over Five Years for Individual Enrollees

Task	Cost Estimate	Requirements
Drinking Water Supply Well Monitoring (nitrates)	$110 per well	Annual sampling for three years for nitrates and once every five years after that.
Drinking Water Supply Well Monitoring (pesticides)	$200-1050 per well.	Sampling every five years for 6800(a) listed pesticides that the Enrollee has applied.
INMP Requirements	$250 per farm	Includes annual soil and irrigation water testing and INMP certification[15].
Annual Compliance Form	$250-$500	Includes management practice reporting, nitrogen reporting, outreach attendance, CEQA mitigation measure monitoring, and annual water quality monitoring results.
Trend Monitoring Report	$250-500	Includes water quality results for five-year monitoring requirements and trend analysis.

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Table I.10: Estimated Annualized Monitoring and Reporting Costs Over Five Years for Enrollees in a Coalition

Task	Cost Estimate	Requirements
Drinking Water Supply Well Monitoring (nitrates)	$110 per well	Annual sampling for three years for nitrates and once every five years after that.
Drinking Water Supply Well Monitoring (pesticides)	$200-1050 per well.	Sampling every five years for 6800(a) listed pesticides that the Enrollee has applied.
INMP Reporting	$2.50 per acre	Includes annual soil and irrigation water testing and INMP certification[16].
Annual Compliance Report	$12.50 per acre	Includes annual management practice reporting and annual water quality monitoring results.
Trend Monitoring Report	$5.00 per acre	All elements and requirements as detailed in the MRP.

Technical Reports and Planning Documents

155) As part of Order compliance, Individual Enrollees and Coalitions on behalf of their enrolled members are required to submit the following technical reports and planning documents:

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Table I.11: **Estimated Annualized Technical Reports and Planning Document Costs Over Five Years**

Task	Cost Estimate	Requirements
Water Quality Monitoring Workplan (Individual Enrollees)	$5000	Workplan that details how Enrollee shall comply with monitoring and reporting requirements as detailed in Attachment A: MRP.
Water Quality Monitoring Workplan (Coalition)	$5000-$10,000	Workplan that details how Coalition shall comply with monitoring and reporting requirements as detailed in Attachment A: MRP.
Groundwater Protection Plan (Coalition)	$5,000-$10,000	Coalition may elect to propose a Groundwater Protection (GWP) Formula to the Executive Officer as described in Attachment A: Section V.
Water Quality Management Plan (WQMP) for Surface Water	$10,000-$20,000	Enrollee or Coalition must submit a WQMP as part of Adaptive Management requirements that quantifiably demonstrate that practices implemented will meet Receiving Water Limitations of Order. Note: cost estimate includes WQMP development only. See Table I.3 for estimates of implementing management practices for water quality protection.
WQMP for Groundwater	$10,000-$20,000	Enrollee or Coalition must submit a WQMP as part of Adaptive Management requirements that quantifiably demonstrate that practices implemented will meet Receiving Water Limitations of Order. Note: cost estimate includes WQMP development only. See Table I.3 for estimates of implementing management practices for water quality protection.
Hydrogeological Evaluation of Groundwater Impacts	$10,000-$20,000	Enrollee or Coalition must submit a determination of parcels that may be causing or contributing to exceedance of Receiving Water Limitations in groundwater monitoring well.

I. Enforcement for Noncompliance

156) It is the policy of the State Water Board that every violation results in the appropriate enforcement response consistent with the priority of the violation established in accordance with the State Water Board Water Quality Enforcement

Policy. This Policy acknowledges that enforcement prioritization enhances the Water Boards' ability to leverage their scarce enforcement resources and to achieve the general deterrence needed to encourage the regulated community to anticipate, identify, and correct violations. To that end, the Water Boards rank violations, then prioritize cases for discretionary enforcement action to ensure the most efficient and effective use of available resources.

157) The first step in enforcement prioritization is to determine the relative significance of each violation or series of violations at a particular facility. Significance should be determined by analyzing the severity of impacts to beneficial uses, the level of disregard for regulatory program requirements, and deviation from applicable water quality control plan standards or permit or order conditions. Class A priority violations are those violations that potentially pose an immediate and substantial threat to beneficial uses and/or that have the potential to cause significant detrimental impacts individually or cumulatively to human health or the environment.

158) The second step in enforcement prioritization involves establishing case priorities for discretionary enforcement actions against specific individual entities, and determining the appropriate remedial tool. Discharges identified as Class A will be further analyzed for the extent of impact to beneficial uses when Regional Water Boards prioritize cases and determine whether and how to proceed with enforcement.

The State Water Board Water Quality Enforcement Policy re-affirms the principle of progressive enforcement. Progressive enforcement is an escalating series of actions that allows for the efficient and effective use of enforcement resources to: (1) assist cooperative Enrollees in achieving compliance; (2) compel compliance for repeat violations and recalcitrant violators; and (3) provide a disincentive for noncompliance. Progressive enforcement may begin with notification of violations and compliance assistance, followed by enforcement orders compelling compliance, culminating in a complaint for civil liabilities. Progressive enforcement is not appropriate in all circumstances and is not considered a requirement when swift or immediate enforcement is needed or justified to address a particular violation.

159) Any instance of noncompliance with this Order constitutes a violation of the Water Code. Such noncompliance is grounds for enforcement action, and/or termination of coverage for waste discharges under this Order, subjecting the Enrollee to enforcement under the Water Code for further discharges of waste to surface or groundwater. Possible violations of Water Code section 13260 include failure to obtain required regulatory coverage. Possible violations of this Order include but are not limited to: failure to implement Order requirements; failure to implement adaptive management; failure to comply with receiving water limitations within the discrete time schedule; falsifying information or intentionally withholding information

required by applicable laws, regulations, or an enforcement order; failure to monitor or provide complete and accurate information as required; failure to pay annual water quality fees; or failure to submit required reports on time.

J. General Findings

160) Failure to prevent conditions that create or threaten to create pollution or nuisance will be sufficient reason to modify, revoke, or enforce this Order, as well as prohibit further discharge.

161) Water Code section 13260 subdivision (d) requires persons subject to waste discharge requirements to pay any annual fee established by the State Water Board.

162) The Executive Officer may make non-substantive changes to this Order to correct typographical errors or to maintain consistency within this Order or between the Order and its Attachments, e.g., to conform changes made during this Order development process that were inadvertently not carried through this entire Order. The Board will provide public notice of the non-substantive changes.

163) The Findings of this Order and the administrative record of the North Coast Water Board relevant to the General Waste Discharge Requirements for Lily Bulb Cultivation, were considered in establishing these waste discharge requirements.

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II. Requirements

IT IS HERBY ORDERED that pursuant to Water Code sections 13260, 13263, and 13267, the Enrollee, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

Enrollees shall comply with all prohibitions, specifications, provisions, and other requirements described below unless otherwise noted.

A. Coverage Requirements

Requirements for Coverage

1) These General WDRs apply to discharges or potential discharges of waste from Commercial Lily Bulb Operations in the Smith River Plain (defined as the Smith River Hydrologic Subarea and the coastal terraces between Pyramid Point and the Oregon border) as described in Section I: Findings. Owners and/or operators of Commercial Lily Bulb Operations in the Smith River Plain are required to seek coverage under this Order.

2) An Enrollee may obtain coverage under this Order either individually or by enrolling in an approved Coalition. By joining a Coalition, the Enrollee agrees to be represented by the Coalition. Any Order requirements not fulfilled by the Coalition are the responsibility of the Enrollee. Consistent with the Water Board's Policy for Implementation and Enforcement of the NPS Policy, Enrollees are ultimately responsible for Order compliance, independent of the status of compliance measures being taken by Coalitions.

Obtaining Coverage and Electronic Notice of Intent

3) Enrollment in this Order requires the submittal of the electronic Notice of Intent (eNOI) (see Attachment E) pursuant to Water Code section 13260. Submittal of all other technical reports pursuant to this Order is required pursuant to Water Code section 13267. Failure to submit technical reports or the attachments in accordance with the time frames established by this Order, applicable Monitoring and Reporting Program (MRP) documents, or failure to submit a complete technical report (i.e., of sufficient technical quality to be acceptable to the Executive Officer); may subject the Enrollee to enforcement action pursuant to Water Code sections 13261, 13268, or 13350. Enrollees and Coalitions must submit technical reports in the format specified by the Executive Officer.

4) To obtain coverage under these General WDRs, Enrollees must submit an eNOI form with all required information including but not limited to: Assessor Parcel Numbers (APNs) covered by enrollment; Landowner(s); Operator(s); Contact

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information; and Coalition membership, if applicable.

5) eNOIs shall be updated within 30 days of a change in property ownership, Enrollee contact information, email contact information, or change in the parcels farmed by an Enrollee.

6) Property owners or operators shall complete an eNOI and enroll in the Order either individually or through an approved Coalition before **#DATE**. If the North Coast Water Board determines that coverage under this Order is not appropriate for any property owner or operator, the Executive Officer will inform the party in writing and may request that the party submit a Report of Waste Discharge (ROWD) to obtain an individual permit for the discharge of waste.

7) Coverage under this Order is not transferable to any person except after the completion of a new eNOI and submittal to the North Coast Water Board, and written approval by the North Coast Water Board's Executive Officer.

8) This Order regulates both landowners and operators but does not require enrollment by both parties. If the Enrollee is not the landowner, the Enrollee shall provide written notice of the Order and its requirements to any landowner whose parcel is covered by this Order. Both landowners and operators are responsible for complying with the requirements of this Order, regardless of whether the landowner or the operator is the enrolled party.

Termination of Coverage

9) Enrollees may terminate coverage under this Order by providing a 30-day written notice to the North Coast Water Board's Executive Officer and, if applicable, notice to the Coalition. At a minimum, the written notice must include the reason for terminating coverage (e.g., transfer of ownership, Enrollee applied for and obtained individual WDRs, discharge was discontinued, etc.). The Enrollee shall continue to comply with this Order until the North Coast Water Board notifies the Enrollee in writing that coverage has been terminated. Termination of coverage must occur prior to **July 1st** of each year to avoid billing in the next fiscal year.

10) For Enrollees enrolled through a Coalition, coverage under this Order is automatically terminated if confirmation of membership in the Coalition is not received from the Coalition during the annual Participant List submittal required by Attachment A: MRP, or if the Coalition indicates that the Enrollee is no longer enrolled through the Coalition. To obtain individual coverage, the Enrollee shall re-submit an eNOI.

11) Any instance of noncompliance with this Order is grounds for enforcement action, and/or termination of coverage for waste discharges under this Order, subjecting the Enrollee to enforcement under the Water Code for subsequent discharges of

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waste to surface or groundwater.

Fees

12) Enrollees shall pay an annual water quality fee to the State Water Board in compliance with the WDRs fee schedule set forth in California Code of Regulations, title 23, section 2200.6. The Coalition is responsible for collecting these fees from their enrolled members and submitting fees to the State Water Board.

13) A Coalition may require its enrolled Members to pay any relevant fees necessary to comply with monitoring and reporting conditions of this Order or comply with monitoring and reporting requirements individually.

B. Prohibitions

1) Discharge of waste from Commercial Lily Bulb Operations in a manner or location other than that described in the Findings of the Order or the Notice of Applicability (NOA) is prohibited.

2) Discharge of waste classified as “hazardous,” as defined in California Code of Regulations, title 23, section 2521, or classified as “designated,” as defined in Water Code section 13173, is prohibited.

3) The discharge of waste (e.g., fertilizers, fumigants, pesticides) into groundwater via backflow through a water supply well or down a groundwater well casing is prohibited.

4) Discharge of debris, soil, silt, sand, bark, plant waste, sawdust, rubbish, refuse, oil or petroleum products, or other organic/earthen material or solid waste from any Commercial Lily Bulb Operation in quantities that are deleterious to beneficial uses or that violate Receiving Water Limitations is prohibited. Additionally, none of the materials listed above shall be stockpiled within the Streamside Area, or where wastes could be discharged into surface waters.

5) The use of soil amendments containing septage, liquid waste oil, grease, hazardous waste, or municipal solid waste, except for biodegradable waste meeting the definition of “compost” as defined in Public Resources Code section 40116 is prohibited.

C. Receiving Water Limitations

1) Wastes discharged from Commercial Lily Bulb Operations in the Smith River Plain, including sediment, pesticides, and nutrients, shall not cause or contribute to an exceedance of applicable water quality objectives for surface waters or groundwater, unreasonably affect applicable beneficial uses, or cause or contribute

to a condition of pollution, contamination, or nuisance (as defined in Water Code §13050). Applicable water quality objectives include but are not limited to objectives for chemical constituents, including promulgated maximum contaminant levels (MCLs), pH, sediment, turbidity, and narrative objectives for pesticide and toxicity[54]. The Basin Plan narrative water quality objectives for toxicity and pesticides are implemented through numeric interpretations established by the Water Quality Benchmarks for surface water and groundwater set forth in Tables I.3 and I.4 of the Findings.

2) Receiving Water Limitations are effective immediately except where an Enrollee is implementing an approved Water Quality Management Plan under the Adaptive Management Program for a specified parameter in accordance with an approved time schedule authorized pursuant to Section H of this Order.

D. Management Practice Requirements

1) Enrollees shall implement Management Practices to prevent, minimize, or eliminate the discharge of waste to surface waters and groundwater and to achieve compliance with Receiving Water Limitations of this Order (Section II.C). Management Practices may be implemented on an individual farm, Enrollee, or Field[55] basis, or collectively over multiple farms or Fields to serve multiple Enrollees discharging to a common location.

2) All Enrollees shall, at a minimum, implement Management Practices necessary to:

    a) Prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads;

    b) Prevent, minimize or eliminate the discharge of all agricultural [56] pollutants to surface waters and groundwater;

    c) Prevent, minimize, or eliminate overapplication of nitrogen and the percolation of nitrogen into groundwater;

    d) Protect wellheads from surface water intrusion; and

    e) Implement proper handling, storage, disposal, and management of fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals.

    Enrollees may refer to Attachment B: Management Practices for a representative menu of applicable Management Practices to achieve the water quality management goals outlined above. Alternatively, Enrollees may propose and implement Management Practices that are effective at addressing the water quality management goals listed above.

3) To eliminate, minimize, or reduce the discharge of sediment, Enrollees shall prioritize all Controllable Sediment Discharge Sources[57] for implementation of practices, maintenance, and repair.

4) All Management Practices shall be properly designed, installed[58], maintained, and promptly repaired to prevent, minimize, or eliminate the discharge of waste. Maintenance of management practices shall include their periodic inspection to evaluate effectiveness and prioritize repair.

5) When effectiveness evaluation, monitoring data, or inspections indicate that the implemented management practices have not been effective in preventing discharges from causing or contributing to exceedances of Water Quality Benchmarks or from violating Receiving Water Limitations in Section II.C, Enrollees must improve or implement additional management practices, as specified in Section II.H Adaptive Management.

6) Enrollees shall comply with applicable mitigation measures in Attachment E: CEQA Mitigation Measures during construction of Ground-Disturbing Management Practices. These mitigation measures shall be reported in accordance with the reporting requirements of Attachment A: Monitoring and Reporting Program.

7) Enrollees shall report all management practices annually in a Farm Evaluation in accordance with Attachment A: Monitoring and Reporting Program. Enrollees shall annually certify in their Farm Evaluation that maintenance and periodic inspection of management practices were completed. A copy of the Farm Evaluation shall be maintained at the Enrollee's primary place of business and shall be submitted to North Coast Water Board staff on request. The Coalition is required to submit Farm Evaluations to the North Coast Water Board on request.

E. Streamside Area Requirements

1) For the purposes of this Order, a Streamside Area is comprised of two contiguous components: a Riparian Vegetation Area and a Vegetated Buffer in which different requirements are applied. A Streamside Area is defined as the area between the waterside edge of vegetation at ground level[59] and where the field-side edge of the Vegetated Buffer meets the Farm Area. The Riparian Vegetation Area extends from the waterside edge of vegetation to the Vegetated Buffer in Perennial and Ephemeral/Intermittent Streams. The Vegetated Buffer is measured from the Riparian Vegetation Area to the Farm Area along Perennial and Ephemeral/Intermittent Streams, and from the waterside edge of vegetation in Hydrologically Connected Undesignated Channels, Unfarmed Wetlands, and Hydrologically Connected Lakes, Ponds, or On-Stream Reservoirs. Enrollees may refer to Section IV. of Attachment D: Methodologies and Procedures for an example of a Streamside Area.

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2) Enrollees shall refer to Table II.1 in determining widths for implementation of Streamside Area management practices.

Table II.1: Streamside Area Minimum Horizontal Width (feet) as Measured from Waterside Edge of Vegetation

Streamside Area component	Perennial Stream	Ephemeral/ Intermittent Stream	Hydrologically Connected Undesignated Channel	Unfarmed Wetland[60]	Hydrologically-Connected[61] Lake, Pond, or On-Stream Reservoir
Riparian Vegetation Area	25	15	N/A	N/A	N/A
Vegetated Buffer	25	10	10	50	50
Total Streamside Area width	50	25	10	50	50

Riparian Vegetation Requirements

3) Enrollees shall implement the following management practices in the Riparian Vegetation Area of all Streamside Areas:

   a) Allow the natural establishment and abundance of native riparian vegetation to minimize or prevent discharge of sediment, nutrients, and excess temperature to surface water.

   b) Existing riparian vegetation may not be removed for activities appurtenant to the lily bulb operation except for: (1) restoration and planting of vegetation that is native to California and naturally occurs in the local HUC-8 watershed; (2) work necessary for protection of public health or safety, including fire fuel management as required by California Fire Code section 304.1.2. and/or local ordinances; (3) streamside area restoration outside of jurisdictional waters of the United States or waters of the State[62], or (4) removal of riparian vegetation as part of necessary maintenance of existing watercourse crossings[63] and linear utilities, control of invasive species, and permitted surface water diversions[64]; or (5) other restoration and/or maintenance projects subject to the prior approval of the Executive Officer.

   c) Allow essential functions supporting beneficial uses such as sediment

filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading (e.g., to achieve site potential effective shade[65]).

Vegetated Buffer Requirements

4) Enrollees shall install and/or maintain[66] Vegetated Buffers to minimize or prevent discharges of sediment and nutrients to surface waters. Vegetated buffers shall be the minimum width (feet) listed in Table 5 and shall be measured from the Riparian Vegetation Area to the Farm Area along Perennial and Ephemeral/Intermittent Streams, and from the Waterside edge of vegetation to the Farm Area in Hydrologically Connected Undesignated Channels, Unfarmed Wetlands, and Hydrologically Connected Lakes, Ponds, or On-Stream Reservoirs.

5) The following activities are not allowed within a Vegetated Buffer:

   a) Construction and/or installation of new permanent structures appurtenant to lily bulb operations. (e.g., agricultural roads and buildings). Maintenance and/or reconstruction of existing permanent structures within the existing footprint is allowed.

   b) Storage of chemicals, oil, or petroleum products.

   c) Placement of construction materials, trash rubbish, refuse, plant waste, or other organic or earthen material or solid waste.

6) Vegetated buffers may be used for vehicle, or equipment use and turn around provided Enrollees manage and maintain a minimum of 90 percent vegetated cover on Vegetated Buffers between **November 1- May 1** of each year to minimize, control, or prevent discharges of sediment, nutrients, and pesticides to surface waters.

Riparian Vegetation Area Restoration Alternative

7) In lieu of meeting the Riparian Vegetation Area minimum widths for Perennial and Ephemeral/Intermittent streams in Table 5, an Enrollee may mitigate the difference in area available for natural succession of riparian vegetation between riparian vegetation existing at the date of Order adoption and Table 5 requirements. Mitigation must be accomplished through restoration and protection of native riparian vegetation at another location within the same sub-watershed (HUC-12) with similar or greater ecological value and function.

8) The proposed Restoration Area (length and width) shall be no less than 200 percent of the difference between existing Riparian Vegetation Area and Table 5 requirements. The proposed Restoration Area shall be placed into a conservation easement with sufficient financial resources to fund 20 years of riparian vegetation

maintenance and replacement of vegetation that does not survive.

9) Enrollees choosing this option shall implement restoration and protection within the Restoration Area(s) and have the Restoration Area(s) placed within a conservation easement within five years of the date of Order adoption.

10) Enrollees selecting a Streamside Area Restoration Alternative must submit a proposal to the Executive Officer for review and approval by **#DATE.** The proposal must include all information necessary to indicate that the proposed Restoration Alternative will satisfy the above requirements. Restoration projects that discharge materials or pollutants into waters of the state must be authorized by the North Coast Water Board prior to implementation through an applicable permitting program (e.g., 401 Water Quality Certification).

F. Compliance Education

1) Enrollees shall participate in compliance education[67] annually that focuses on: (1) actions necessary to attain compliance with the water quality goals of this Order; and (2) practices to prevent or minimize the discharge of sediment, pesticides, and nutrients to surface water and groundwater. Enrollees shall document annual compliance education in the Annual Compliance Form as specified in Attachment A.

G. Monitoring and Reporting Requirements

1) Enrollees shall comply with all monitoring requirements specified in Attachment A: Monitoring and Reporting Program (MRP). Required monitoring includes Drinking Water Supply Well Monitoring, Surface Water Monitoring, and Groundwater Trend Monitoring, as applicable. Monitoring may be conducted at the individual or Coalition level as applicable, and shall be conducted in accordance with the methods, frequencies, and locations specified in the MRP.

2) Enrollees shall comply with all reporting requirements specified in Attachment A: Monitoring and Reporting Program (MRP). Required reporting includes submission of an Annual Compliance Report and a 5-year Water Quality Trend Monitoring Report. Enrollees participating in an approved Coalition may satisfy reporting obligations through the Coalition, which shall submit required reports on behalf of its members and may elect to submit a Groundwater Protection Plan in accordance with Section C.V of the MRP.

3) The North Coast Water Board's Executive Officer may require the Coalition to provide direct reporting data for its Enrollee members upon request. The Coalition shall provide this information within 30 days of the request.

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H. Adaptive Management Program

Surface Water Adaptive Management Program

1) The Adaptive Management Program for surface water establishes an iterative process to ensure surface water quality conditions achieve Receiving Water Limitations (Section II.C of this Order) within a certain time schedule. Adaptive Management requirements apply to lily bulb Fields within a crop production cycle, defined as any period in which the Field is not in permanent pasture (≥90 percent ground cover). A crop production cycle includes field preparation, bulb growing, harvest, and the post-harvest period until permanent ground cover is re-established.

2) Field(s) may be temporarily exempted from the Adaptive Management Program requirements in the years that they maintain 90% or greater planted ground cover between **November 1-May 1** of each year (e.g., Fields planted to hay crops, forage, fallowed, or used for grazing) and the pesticides for which Adaptive Management was triggered are not applied. Applicable Field(s) shall be subject to Adaptive Management in the next year they experience ground disturbing activities, get planted to lily bulbs, or apply the applicable pesticide(s).

3) At any point during implementation of the Adaptive Management Program, an Enrollee may elect to implement an individual Sampling Plan to directly demonstrate that applicable Water Quality Benchmark(s) identified in Table A.4 of Attachment A: MRP for the exceeded parameter are being met at Edge-of-Field Discharge Point(s) when the Field is next planted to lily bulbs to exempt that Field from Adaptive Management requirements. If this option is selected, the Enrollee shall follow all monitoring and reporting requirements as outlined in Section IV.A of Attachment A: MRP.

4) The Executive Officer may require any Enrollee or group of Enrollees to enter, or stay in, the Adaptive Management Program where there is evidence that a Field is threatening to discharge waste. Upon notification by the Executive Officer, Enrollee(s) shall follow the general Adaptive Management Program outlined below.

5) The Adaptive Management Program is activated when a Water Quality Benchmark as identified in Table A.4 of Attachment A: Monitoring and Reporting Program (MRP) is exceeded at a downstream monitoring station. Table A.3 and Figure A.1 in Attachment A: MRP identify the tributary area associated with each downstream monitoring station. Upon activation or continuation of the Adaptive Management Program, all Fields planted to lily bulbs at the time the sample was collected and located within the tributary area of the affected monitoring station shall be subject to the Adaptive Management Program.

6) Samples collected from monitoring stations in the tributary watersheds listed in

Table II.2 below have already exceeded Water Quality Benchmarks as documented in the 2021–2024 Smith River Plain Surface Water Monitoring Study and reported in the 2025 SWAMP Report (see Findings #56-59). All Fields that drain to the receiving waters identified in Table II.2 shall enter **Tier 1 Adaptive Management** for the parameter(s) listed upon enrollment in this Order. Enrollees shall comply with Tier 1 Adaptive Management requirements during the first year each applicable Field is planted to lily bulbs.

Table II.2: Tributaries in Adaptive Management Upon Order Enrollment

Receiving Water/Watershed	**Parameter(s)**
Delilah Creek	Imidacloprid, Dissolved Copper
Ritmer Creek	Dissolved Copper
Morrison Creek	Dissolved Copper
Mello Creek	Dissolved Copper

7) Receiving Water Limitations are effective immediately except where an Enrollee is implementing an approved Water Quality Management Plan under the Adaptive Management Program. The Adaptive Management Program functions as a time schedule ending with Tier 2 implementation (described below), after which continued Water Quality Benchmark exceedances may constitute a violation of Receiving Water Limitations of this Order.

8) Enrollees shall implement the tiered Adaptive Management framework described below and in Table II.3 for each parameter that exceeds a Water Quality Benchmark. Upon an initial Benchmark exceedance, applicable Fields shall enter Tier 1 Adaptive Management and be subject to Tier 1 requirements during the next crop production cycle. If no Benchmark exceedance occurs during a monitoring year in which the Field is planted to lily bulbs, the Field shall no longer be subject to the Adaptive Management schedule; however, Tier 1 management practices shall be maintained in all subsequent crop production cycles.

   If, at any time while a Field is subject to Tier 1 requirements, an additional Water Quality Benchmark exceedance occurs at the downstream monitoring station for the same parameter, the Field shall be subject to Tier 2 requirements during the next crop production cycle. Tier 2 requirements shall be maintained in all subsequent crop production cycles. Any Water Quality Benchmark exceedance occurring after Tier 2 requirements have been implemented may constitute a violation of Receiving Water Limitations of this Order. See Attachment D:

Methodologies and Procedures for an Adaptive Management flowchart that describes this process.

Table II.3: Adaptive Management Tier Requirements for Surface Water

Adaptive Management Tier	**Tier Requirements**
Tier 1: Initial Water Quality Benchmark Exceedance	**Option 1 — Grower-Prepared Water Quality Management Plan (WQMP)** The Enrollee develops and implements a WQMP that incorporates **at least one** of the following practices on each Field covered by the plan: • Treat-and-Control Management Practices • Watercourse Setback • Pesticide Application Performance Standard **Option 2 — Certified WQMP** A **Qualified Professional** designs and certifies the WQMP, including a **quantitative demonstration** that the practices implemented on each Field will be sufficient to ensure that discharges from the Field do not exceed Receiving Water Limitations at the downstream monitoring location.
Tier 2: Subsequent Water Quality Benchmark Exceedance	**Certified WQMP**

Grower-Prepared WQMP

9) Enrollees may choose, as one of two Tier 1 Adaptive Management compliance options, to develop and implement a Grower-prepared WQMP. The Grower-prepared WQMP must be submitted by **January 1st** to the Executive Officer for review and approval in the calendar year that the Field will be entering its next crop production cycle[68]. Once approved, the Grower-prepared WQMP must be implemented in the year that the Field is planted to lily bulbs. At a minimum, the Grower-prepared WQMP shall identify the pollutant exceeding the Receiving Water Limitations in Section II. C of this Order and include the following:

    a) Field Map: A map of the Field(s) with all irrigation and stormwater discharge

locations labeled. The WQMP may cover all Fields or be submitted for individual Fields. The Field Map shall identify where practices will be implemented in each Field.

b) Practices Identified: For each Field covered by the Grower-prepared WQMP, the Enrollee shall identify and implement at least **one** of the following management practices:

i) **Treat and Control Management Practices**
Implement Management Practice(s) that will minimize or eliminate the discharge of the exceeded parameter from the Field. Tier 1 Management Practices treat[69], divert, infiltrate, reuse, contain, retain, or reduce the volume of storm water runoff from a given Field.

ii) **Watercourse Setback**
Fields that are hydrologically connected to receiving waters may implement a Watercourse Setback[70]. The setback shall be measured from the watercourse at the waterside edge of vegetation at ground level[71] and shall meet the minimum width to the planted area of the lily bulb Field that is designated in Table II.4 by watercourse type. If selected, this setback must be implemented at all edges of a planted Field that drain to the watercourse. The Watercourse Setback shall maintain at least 90 percent ground cover between **November 1 and May 1** and follow all applicable design and maintenance standards consistent with NRCS practices for conservation cover and critical area planting[72].

Table II.4. Required Widths of Vegetated Watercourse Setback by Watercourse type

Perennial Stream	Ephemeral/ Intermittent Stream	Hydrologically Connected Undesignated Channel
100 ft	100 ft	30 ft

iii) **Attainment of Active Ingredient Application Performance Standard.**
Enrollees may refer to Table II.5 to meet tributary- and parameter-specific performance standards for active ingredient application amount. The attainment of the active ingredient application rate must be met at the tributary level. If the Enrollee elects this option for Adaptive Management Compliance, the application amount shall be reported in the Annual Report (See Attachment A: MRP). Where multiple growers are applying pesticides within a given tributary, the performance

standard application amount is prorated based on total lily bulb acres cultivated.

Table II.5: Annual Active Ingredient Application Amount (lbs./year) Performance Standard by Tributary

Active Ingredient and Normalized Rate	Ritmer Creek	Delilah Creek	Rowdy Creek	Unnamed Creek	Morrison Creek	Mello Creek	Kamph Park Creek
Elemental Copper (0.5 lbs./acre/year)	376	447	10877	87	798	203	70
Imidacloprid (0.01 lbs./acre/year)	7.5	89	22	1.7	16	4	1.4
Diuron (0.05 lbs./acre/year)	38	45	1088	9	68	20	7
Ethoprop (0.3 lbs./acre/year)	226	268	6526	52	479	122	42

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Certified WQMP for Surface Water

10) The Certified WQMP is developed as an Adaptive Management response to results from Surface Water Monitoring (as described in Attachment A: MRP). The Certified WQMP includes management practices designed to address specific constituents of concern in a manner that accounts for the characteristics and conditions of each individual lily bulb Field or operation. It provides a quantitative demonstration that the management practices implemented will result in discharges, or the lack thereof, that achieve applicable Water Quality Benchmarks in surface waters. The Certified WQMP may be submitted individually or submitted by the Coalition on behalf of multiple Enrollees.

11) Each Certified WQMP shall be prepared under the direction of, and certified by, a Qualified Professional. The Certified WQMP shall be submitted by January 1 to the Executive Officer for review and approval in the year that the applicable Field(s) is entering its next crop production cycle.

12) The WQMP shall describe and provide a schedule for the implementation of management practices to meet the Receiving Water Limitations of this Order.

13) At a minimum, the WQMP shall identify the pollutant exceeding the applicable Water Quality Benchmark and include:

a) Field Map: A map of the Field(s) with all irrigation and stormwater discharge locations labeled The Surface Water WQMP may cover multiple Fields or individual Fields, as applicable.

b) Site Analysis: A description of the average frequency of crop rotation and other crop(s) or uses of Field(s) when not planted to lily bulbs and all management practices being implemented on the site to prevent, minimize, or eliminate the discharge of the exceeded constituent.

c) Adaptive Management: All the management practices that will be implemented on the Field(s) in the next year it is planted to lily bulbs. Management practices must be improved in each subsequent year adaptive management is required.

d) Quantitative Demonstration: The assessment shall evaluate the location, size, and pollutant reduction capacity or volume retention capacity of each management practice for the 1-inch 24-hour storm under wet antecedent moisture conditions (AMC III[73]). The quantitative demonstration shall be supported by water quality data collected in the field that directly reflects the performance of the implemented management practices under actual operating conditions. Supporting water quality data shall not rely solely on literature reviews, modeling assumptions, or generalized performance estimates, but must include monitoring results sufficient to demonstrated that the implemented practices are effective at reducing pollutant loads and achieving water quality benchmarks. Edge-of-Field sampling may be used but is not required. For example, in lieu of Edge-of-Eield sampling, a Surface Water WQMP may include monitoring results from receiving waters located upstream and downstream of the lily bulb Field (monitoring locations subject to approval by the Executive Officer).

e) Effectiveness: The WQMP shall include an effectiveness monitoring plan to ensure the proper maintenance and continued performance of all existing and future management practices.

f) Schedule of Implementation: The WQMP shall include a schedule of management practice implementation not to exceed two crop production cycles of the Field, unless otherwise approved by the Executive Officer.

14) The Certified WQMP must be prepared and certified in one of the following ways:

a) The WQMP is developed and certified by a Qualified Professional and submitted as part of the Annual Compliance Report to the North Coast Water Board; or

b) The WQMP is prepared and certified in an alternative manner to a Qualified

Professional and approved by the Executive Officer. Such approval will be provided based on the Executive Officer's determination that the alternative method for preparing the WQMP meets the objectives and requirements of this Order.

15) The Certified WQMP shall be submitted to the Executive Officer for review and approval. Upon approval, the Enrollee shall implement the WQMP on a continuous basis. The WQMP shall be updated if there is a change to site configuration or management practices. The Executive Officer may require that the WQMP be updated at five-year intervals and shall notify the Enrollee at least one year prior to the end of each five-year period if an update is required. Any required update shall be certified by a Qualified Professional and shall describe all additional management practices implemented to achieve Receiving Water Limitations in either surface waters or groundwater.

Groundwater Adaptive Management

16) The Adaptive Management Program is activated for impacts to groundwater quality based on the following conditions:

    a) A Water Quality Benchmark indicated in Table A.7 of Attachment A: Monitoring and Reporting Program is exceeded in either a Groundwater Trend Monitoring well or a Drinking Water Supply Well; or

    b) If nitrogen Applied-to-Removed (A/R) rates in any Field exceed the township Groundwater Protection Targets (GWP Targets) in a single crop year once GWP Targets are established.

17) The Adaptive Management Program for Groundwater is implemented as described in this section and summarized in Table II.6. Enrollees shall refer to Table II.6 for a consolidated summary of program triggers, requirements, and response actions.

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Table II.6: Adaptive Management Requirements for Groundwater

Adaptive Management Program Trigger	Summary of Requirements
Exceedance of Water Quality Benchmark	Step 1: Enrollee or Coalition submits a Hydrogeological Evaluation of Groundwater Impacts to identify which parcels and Enrollees are subject to the requirement to submit a WQMP for Groundwater. Step 2: Enrollee(s) must develop and implement a Water Quality Management Plan for Groundwater
Exceedance of township GWP Target	Enrollee must attend an education event, implement additional measures to reduce nitrogen application, and report on those measures. Upon repeated exceedances of the township GWP Target, the Enrollee must get an Irrigation and Nutrient Management Plan certified by a Qualified Professional.

<u>Exceedance of Water Quality Benchmark for Groundwater</u>

18) If a parameter identified in Table A.7 of Attachment A: MRP exceeds a Water Quality Benchmark, the Coalition, or the owner of the parcel on which the monitoring well is located, shall submit to the Executive Officer for review and approval a Hydrogeological Evaluation of Groundwater Impacts. The Hydrogeological Evaluation shall be prepared under the responsible charge of a hydrogeologist and shall be completed prior to the development of a Water Quality Management Plan for Groundwater.

19) At a minimum, the Hydrogeological Evaluation of Groundwater Impacts shall:

    a) Identify the monitoring well(s) with Water Quality Benchmark exceedances and describe the relevant hydrogeologic setting, including aquifer characteristics, groundwater flow direction, and hydraulic connectivity;

    b) Delineate the potential area contributing to the monitoring well exceedance, based on available hydrogeologic information and groundwater flow conditions;

    c) Identify all parcels within the contributing area that have applied the exceeded parameter within the previous five years and that may reasonably affect groundwater quality at the monitoring well; and

d) Evaluate whether the exceedance is likely attributable to current or historical agricultural practices associated with identified properties.

20) The Executive Officer shall use the Hydrogeological Evaluation of Groundwater Impacts to determine which Enrollees, as owners or operators, are required to develop and implement a Water Quality Management Plan for Groundwater in accordance with Section II.H of this Order.

21) An individual Enrollee may submit a Non-Contribution Demonstration to the Executive Officer for review and approval demonstrating that the Enrollee's Field(s) did not cause or contribute to the Water Quality Benchmark exceedance. The Non-Contribution Demonstration shall include quantitative, parameter-specific information relevant to the exceeded parameter, including, as applicable, Irrigation and Nutrient Management Plans and individual pesticide use report information, and shall be prepared under the responsible charge of a Professional Geologist or Professional Engineer.

Water Quality Management Plan (WQMP) for Groundwater

22) The Water Quality Management Plan for Groundwater requires implementation of a series of steps to achieve compliance with the Receiving Water Limitations of this Order, including defining the nature and extent of groundwater impacts, identifying sensitive receptors including agricultural and drinking water wells and interconnected surface waters, conducting continued monitoring, and implementing corrective actions where natural attenuation is not sufficient to achieve Receiving Water Limitations within a reasonable timeframe (20 years). The WQMP for Groundwater may be prepared for multiple Enrollees or individual Enrollees, as applicable.

23) Each WQMP for Groundwater shall be prepared under the direction of, and certified by, a Professional Geologist or a Professional Engineer. The WQMP for Groundwater shall be submitted by **January 1** to the Executive Officer for review and approval in the year that the applicable Field(s) is entering its next crop production cycle.

24) At a minimum, the WQMP for Groundwater shall include the following:

a) The WQMP shall describe the nature, extent, and mobility of constituent(s) exceeding Water Quality Benchmark(s) in groundwater and identify all current and reasonably anticipated sensitive receptors, including agricultural or drinking water wells, and surface water bodies.

b) The WQMP must include a map of all the Field(s) identified in the Hydrogeological Evaluation for Groundwater that are covered by the WQMP with all sensitive receptors labeled.

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c) The WQMP shall delineate the extent of impact with a hydrogeologic investigation sufficient to characterize the impacted area and potential migration pathways.

d) A monitoring network shall be established within the extent of impact and maintained to evaluate groundwater quality conditions and compliance with Receiving Water Limitations, as demonstrated by comparison to the applicable Water Quality Benchmark.

e) If groundwater quality is demonstrated to be stable or naturally attenuating toward Receiving Water Limitations within a reasonable timeframe (i.e., 20 years), the Groundwater WQMP may rely on monitoring and attenuation but shall continue until compliance is documented.

f) If Water Quality Benchmarks are exceeded and are not expected to attenuate within a reasonable timeframe (e.g., in the case of continuing application of the constituent), the Groundwater WQMP shall propose and implement corrective actions to reduce or control sources and prevent further impact to sensitive receptors, with management practice implementation and monitoring continuing until Receiving Water Limitations are achieved, unless otherwise approved by the Executive Officer.

g) The Groundwater WQMP shall include a schedule of implementation not to exceed 20 years unless otherwise approved by the Executive Officer.

Exceedance of GWP Target in a Township

25) If nitrogen Applied-to-Removed (A/R) rates in any Field exceed the township GWP Target in a single crop year, those Fields are subject to Adaptive Management focused on irrigation and nutrient management practices. Enrollees with Fields that exceed the township GWP Target shall:

a) Attend at least one compliance education event addressing applicable nutrient management practices;

b) Implement additional measures to reduce nitrogen application and minimize potential leaching to groundwater[74]; and

c) Report the management improvements in the Irrigation and Nutrient Management Plan (INMP) for the next crop year in which the Field is planted to lily bulbs.

26) If an Enrollee exceeds the township GWP Target for a Field planted to lily bulbs in two consecutive lily bulb production cycles, the Enrollee shall develop, implement, and submit an Irrigation and Nutrient Management Plan (INMP) in accordance with Section V of the MRP that is certified by a Qualified Professional. The Enrollee

shall have their INMP certified by a Qualified Professional each year, until compliance with the GWP Target is achieved.

I. Provisions

Noncompliance

1) Enrollees shall comply with all conditions of this Order. Noncompliance is a violation of the Porter-Cologne Water Quality Control Act (Water Code, § 13000 et seq.) and grounds for: (1) enforcement action; (2) termination, revocation and reissuance, or modification of these waste discharge requirements; or (3) denial of an Order renewal application, or a combination thereof. Coalition(s) shall also comply with all relevant conditions of this Order on behalf of the Enrollees enrolled through their program(s).

2) Enrollees shall report any noncompliance that may endanger human health or the environment. Information shall be provided orally to the North Coast Water Board office and the Office of Emergency Services within twenty-four (24) hours of when the Enrollee becomes aware of the incident. A written report shall also be provided within five business days of the time that the Enrollee becomes aware of the incident. The written report shall contain a description of the noncompliance and its cause, the period of noncompliance, the anticipated time to achieve full compliance, and the steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance.

Enforcement

3) All Enrollees, regardless of whether they enroll individually or through a Coalition and any non-Enrollee owner or operator, bear ultimate responsibility for complying with this Order. The North Coast Water Board reserves the right to take any enforcement action authorized by law. Accordingly, failure to comply with any provisions of this Order may subject Enrollees to enforcement action. Such actions include, but are not limited to, the assessment of administrative civil liability pursuant to Water Code sections 13323, 13268, and 13350; a Time Schedule Order issued pursuant to Water Code section 13300 or 13308; issuance of a Cease-and-Desist Order pursuant to Water Code section 13301; Cleanup and Abatement Order pursuant to Water Code section 13304; or referral to the California Attorney General for recovery of judicial civil liability. Enrollees shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment.

4) For Coalition(s), failure to comply with the applicable terms and conditions of this Order or the Coalition requirements in Attachment C may result in revocation of approval to act as a Coalition or any other remedy provided by law. Affected

Enrollees would be required to join an approved Coalition, meet requirements for Enrollees not represented by a Coalition, or obtain coverage under other applicable general or individual WDRs.

Inspection and Entry

5) Consistent with Water Code section 13267, subdivision (c), Enrollees and Coalition(s) shall allow the North Coast Water Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

   a) Enter the premises regulated by this Order, or the place where records are kept under the conditions of this Order,

   b) Have access to and copy records kept under the conditions of this Order,

   c) Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

   d) Sample or monitor for the purpose of ensuring compliance with this Order, or as otherwise authorized by the Water Code, any substances or parameters at locations regulated under this Order.

Records Retention

6) Enrollees and Coalitions, as appropriate, shall retain copies of all reports required by this Order and the associated MRP. Records shall be maintained for a minimum of ten years from the date of the sample, measurement, report, or application. Records may be maintained electronically, and the Coalition must store backup files in a secure, offsite location managed by an independent third-party entity. This period may be extended during the course of any unresolved litigation or when requested by the North Coast Water Board's Executive Officer.

7) Enrollees and Coalitions shall provide copies of any or all records when requested by North Coast Water Board staff. Electronic submittals are acceptable.

Electronic Reporting

8) Enrollees and Coalition(s), as appropriate, shall submit reports and information required for North Coast Water Board Executive Officer approval under this Order in an electronic format[75] via email to NorthCoast@Waterboards.ca.gov.

Claims for Exemption from Public Disclosure

9) If the Coalition and/or an Enrollee asserts that all or a portion of a report submitted

pursuant to this Order is subject to an exemption from public disclosure (e.g., due to proprietary or trade secret information), the Coalition and/or Enrollee must provide an explanation of how those portions of the reports are exempt from public disclosure. The Coalition and/or Enrollee must clearly indicate on the cover of the report (typically an electronic submittal) that all or a portion of the report is exempt from public disclosure, submit a complete report with those portions that are asserted to be exempt in redacted form, submit separately (in a separate electronic file) unredacted pages (to be maintained separately by staff). North Coast Water Board staff will determine whether any such report or portion of a report qualifies for an exemption from public disclosure. If staff disagrees with the asserted exemption from public disclosure, staff will notify the Enrollee prior to making such report or portions of such report available for public inspection.

Signature and Certification

10) All documents and reports requested herein shall be signed and dated by a duly authorized representative and shall contain a statement by the Enrollee, or as appropriate by an authorized representative of the Enrollee (e.g., Third-Party representative), certifying under penalty of perjury under the laws of the State of California, that the report is true, complete, and accurate. The document and/or report shall be submitted under the title: “General Waste Discharge Requirements for Commercial Lily Bulb Operations in the Smith River Plain Hydrologic Subarea.”

Violation of Law and Property Rights

11) This Order does not authorize violation of any federal, state, or local laws or regulations.

12) This Order does not convey property rights of any sort, or exclusive privileges, nor does it authorize injury to private property or invasion of personal rights.

Modification, Revocation, Termination

13) This Order may be modified, revoked and reissued, or terminated. The filing of a request by an Enrollee for an Order modification, rescission, or reissuance, or an Enrollee’s notification of planned changes or anticipated noncompliance, does not stay any Order condition. Causes for modification include, but are not limited to, the violation of any term or condition contained in this Order, a material change in the character, location, or volume of discharge, a change in land application plans, or the adoption of new regulations by the State Water Board, North Coast Water Board (including revisions to the Basin Plan), or federal government.

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III. Certification

I, Valerie Quinto, Executive Officer do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California North Coast Regional Water Quality Control Board, on **#DATE**.

Valerie Quinto
Executive Officer
California Water Quality Control Board,
North Coast Region

Appendix I: Acronyms, Definitions, and Endnotes
Appendix II: Figures
Attachment A: Monitoring and Reporting Program
Attachment B: Management Practices
Attachment C: Grower Coalition Requirements
Attachment D: Methodologies and Procedures
Attachment E: CEQA Mitigation Measures
Attachment F: Forms and Templates

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Appendix I: Acronyms, Definitions, and Endnotes

I. Acronyms and Abbreviations

Acronym/Abbreviation	Term
Antidegradation Policy	State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality Waters in California
Basin Plan	Water Quality Control Plan for the North Coast Basin
BLM	Biotic Ligand Model
BLM-IWQC	Biotic Ligand Model Instantaneous Water Quality Criteria
CalFIRE	California Department of Forestry and Fire Protection
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDPR	California Department of Pesticide Regulation
CDPH	California Department of Public Health
CEDEN	California Environmental Data Exchange Network
CEQA	California Environmental Quality Act
C_N	Nitrogen Removal Coefficient
CSDS	Controllable Sediment Discharge Sources
CRHR	California Register of Historical Resources
CWA	Clean Water Act
DDW	State Water Board, Division of Drinking Water
DWR	Department of Water Resources
EIR	Environmental Impact Report
ESJ Order	Eastern San Joaquin Order (State Board Order WQ 2018-0002).

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Acronym/Abbreviation	Term
ELAP	Environmental Laboratory Accreditation Program
Enforcement Policy	State Water Board Water Quality Enforcement Policy
eNOI	Electronic Notice of Intent
GPS	Global Positioning System
GWP	Groundwater Protection (see GWP Formula, GWP Values, GWP Targets)
HUC	Hydrologic Unit Code
ILRP	Irrigated Lands Regulatory Program
INMP	Irrigation and Nitrogen Management Plan
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
mg/L	Milligrams per Liter
MRP	Monitoring and Reporting Program
NCRWQCB	North Coast Regional Water Quality Control Board
Nitrogen AR	Nitrogen Applied and Removed
NOA	Notice of Applicability
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NPS	nonpoint source
NPS Policy	State Water Board Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program
NRCS	Natural Resources Conservation Service

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Acronym/Abbreviation	Term
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
QAPP	Quality Assurance Project Plan
North Coast Water Board	North Coast Regional Water Quality Control Board
RFP	Request for Proposal
ROWD	Report of Waste Discharge
SGMA	Sustainable Groundwater Management Act
State Water Board	State Water Resources Control Board
SWAMP	Surface Water Ambient Monitoring Program
Temperature Policy	Policy for the Implementation of the Water Quality Objectives for Temperature
Trend Monitoring Report	Water Quality Trend Monitoring Report
µg/L	Micrograms per Liter
UCCE	University of California Cooperative Extension
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
Water Code	California Water Code
WDRs	Waste Discharge Requirements
WQMP	Water Quality Management Plan

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II. Definitions

The following definitions apply to Order No. R1-202X-00XX and its associated attachments, including the MRP. The terms are arranged in alphabetical order. All other terms not explicitly defined here for the purposes of this Order, the Additional Findings and Regulatory Considerations, and the MRP have the same definitions as defined by Water Code Division 7 or are explained within the Order or MRP documents.

Abandoned Well. A well is considered “abandoned” when it has been destroyed in accordance with local and state well standards. An abandoned well is not synonymous with an “inactive well” (see also Inactive Well).

Active Well. A water well that is in operation/use.

Adaptive Management. The iterative process of evaluating monitoring results, programmatic performance, and new scientific information to guide modifications to management practices and implementation schedules, with the goal of achieving water quality objectives and protecting beneficial uses. Adaptive management relies on data collected through surface water and groundwater trend monitoring and other relevant sources of information including effectiveness of implemented management practices.

All-Season Road. An agricultural road that is part of the permanent road network and is designed for year-round use. These roads have a surface that is suitable for maintaining a stable operating surface throughout the year.

Antidegradation. The State Water Board established a policy to maintain high quality waters of the State - Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California." Resolution No. 68-16 requires existing high-quality water to be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of water, and will not result in water quality less than that prescribed in the policies. When authorizing the discharge of waste into waters of the state, North Coast Water Boards are required to comply with Resolution No. 68-16. Permits or regulatory orders issued by the North Coast Water Board must result in the best practicable treatment or control of the discharge necessary to assure pollution or nuisance will not occur and maintain the highest water quality consistent with maximum benefit to the people of the state. Resolution No. 68-16 has been approved by the USEPA to be consistent with the federal antidegradation policy (40 CFR 131.12).

Appurtenant. Belonging to, pertinent to, or used for the Commercial Lily Bulb Operation.

Appurtenant Field Road. An agricultural road used for Commercial Lily Bulb Operations which connects or is used to access lily bulb fields under the ownership or

control of the landowner or operator.

Authorized Representative. An individual, agency, or entity who acts on behalf of another individual, agency, or entity (such as an approved Third-Party program staff, Enrollee, or consultant retained by an approved Third-Party program acting on behalf of an individual Enrollee or the North Coast Water Board).

Basin Plan. The Basin Plan is the North Coast Region's Water Quality Control Plan. The Basin Plan describes how the quality of the surface and groundwater in the North Coast Region should be managed to provide the highest water quality reasonably possible. The Basin Plan includes beneficial uses, water quality objectives, and a program of implementation.

Beneficial Uses. The Basin Plan establishes the beneficial uses of surface water and groundwater to be protected in the North Coast Region. Beneficial uses for the Smith River Plain can be found in Section I.E.7 of this Order.

Biotic Ligand Model (BLM). The BLM is the current EPA recommended method for determining copper concentrations protective of aquatic life on a site-specific basis and has been adopted by the State of Idaho Department of Environmental Quality and the State of Oregon Department of Environmental Quality to develop state-wide, site-specific water quality criteria for copper.

Biotic Ligand Model Instantaneous Water Quality Criteria (BLM-IWQC). A criterion developed using a set of ten parameters to account for complex chemical reactions associated with copper in the environment: pH, Dissolved Organic Carbon (DOC), Calcium (Ca), Magnesium (Mg), Sodium (Na), Sulfate (SO4), Potassium (K), Chlorine (Cl), Alkalinity, and Temperature. The IWQC is used as a water quality threshold for dissolved copper for that specific site and sampling event only. The model's output also includes a toxicity unit (numerical value) to represent the relative risk of copper toxicity in the waterbody at the time of sample collection.

Commercial Lily Bulb Operation. A Commercial Lily Bulb Operation is land planted in lily bulbs or a similar bulb crop within a 5 year period (including appurtenant field roads, agricultural structures, and areas used for activities appurtenant to the Commercial Lily Bulb Operation) with one or more of the following characteristics: (1) The landowner or operator holds a current Operator Identification Number/Permit Number for pesticide use reporting; (2) The crop and/or its product is sold; or (3) the federal Department of Treasury Internal Revenue Service form 1040 Schedule F Profit or Loss from Farming is used to file federal taxes.

Concentration. The relative amount of a substance mixed with another substance. An example is 5 mg/L of nitrogen in water or 5 ppm (parts per million).

Controllable Sediment Discharge Sources (CSDS). Areas discharging or having the

potential to discharge sediment to waters of the state in violation of water quality standards or other requirements of this Order caused or affected by human activity and may feasibly and reasonably respond to management practices.

Cover Crop. (See Ground Cover).

Discharge. A release of a waste to waters of the state, either directly to surface waters or through percolation to groundwater. Wastes from irrigated agriculture include but are not limited to earthen materials (soil, silt, sand, clay, and rock), inorganic materials (metals, plastics, salts, boron, selenium, potassium, nitrogen, phosphorus, etc.) and organic materials such as pesticides. Discharges from Commercial Lily Bulb Farms regulated by this Order include discharges to surface water and groundwater, through mechanisms such as stormwater runoff flowing from irrigated lands, irrigation tailwater, percolation or pollutants to groundwater, and runoff resulting from operational spills. These discharges can contain wastes that could affect the quality of waters of the state and impair beneficial uses.

Discharge Point. A discharge point is defined as a location where surface water discharges, which are in hydrologic connection to off-farm surface waters, leave the Enrollee's property. A discharge point is any hydrologically connected discharge that is not an agricultural drainage structure as defined above.

Disturbance. When natural conditions have been modified in a way that may result in waste discharge to waters of the state from the site. Disturbed areas are where natural plant growth has been removed, whether by physical, animal, or chemical means, or natural grade has been modified for any purpose. Disturbance includes all activities whatsoever associated with developing or modifying land for agricultural related activities or access. Disturbance activities include, but are not limited to, construction of roads, buildings, water storage areas; excavation, grading, and site clearing. Disturbance includes crop areas, storage areas where soil or chemicals (e.g., pesticides, fertilizers, compost, or biosolids) are located.

Drinking Water Supply Well. Any groundwater well that is connected to a residence, workshop, or place of business that may be used for human consumption, cooking, or sanitary purposes that is located within an enrolled Assessor Parcel Number (APN). This includes all domestic wells located within the enrolled APN, not limited to the leased property or within the farm boundary. This definition includes "dual-use" wells that are used for both irrigation and domestic purposes. The State Water Resources Control Board (State Water Board), Groundwater Ambient Monitoring and Assessment (GAMA) Program defines an individual well serving a single residential connection as a "private domestic well." For the purposes of this Order, a "private domestic well" is a Drinking Water Supply Well if it is located on the enrolled parcel and there are drinking water users of that well.

Edge-of-Field. Edge of the Farm Area producing crops including the Appurtenant Field

Roads. Point in land where the surface water drains out of the Farm Area producing areas. See also Discharge Point.

Enrollee. The owner and/or operator of the Commercial Lily Bulb Operation discharges or has the potential to discharge waste that could directly or indirectly reach waters of the State and affect the quality of any surface water or groundwater. See also Landowner, Operator.

Ephemeral Stream. A Class III watercourse. A body of flowing water that contains water for only part of the year, but more than just after rainstorms and as snowmelt as shown in the NHD shapefile. In the absence of diversion, water is flowing less than three months during a typical year and the stream does not support riparian vegetation or aquatic life. Ephemeral watercourses typically have water flowing for a short duration after precipitation events or snowmelt and show evidence of being capable of sediment transport.

Erosion. The gradual destruction of land surface by wind or water, intensified by land-clearing practices related to farming, residential or industrial development, road building, or logging.

Exceedance. A reading using a field instrument or a detection by a California State-certified analytical laboratory where the detected result is above an applicable water quality standard for the parameter or constituent.

Farm Area. The planted area and appurtenant structures, field roads, maintenance areas, mixing and loading sites, and appurtenant storage yards on a Commercial Lily Bulb Operation.

Field. A term to describe a contiguous planted area that is farmed in lily bulbs in any particular year for the purposes of monitoring, reporting and adaptive management. A Field is a contiguous block of planted lily bulbs not separated by Appurtenant Field Roads or waterbodies. Where this Order scales requirements by Management Unit, Enrollees may report data for a portion of a Field or for multiple Fields provided that the reported area has (1) the same fertilizer inputs, (2) the same irrigation management, (3) and the same management practices. See Management Unit.

Ground Cover. Ground cover refers to the following practices: (1) Cover crop can be grasses, legumes, forbs, or other herbaceous plants established in planted fields for livestock grazing, for production into hay and forage crops, or provide seasonal or year-round ground cover for conservation purposes. (2) Conservation cover is establishing and maintaining perennial vegetated cover to protect soil and water resources on lands needing permanent protective cover that will not be used for forage production. (3) Effective soil cover includes mulching, straw mulching, plant residues or other suitable materials produced off site to the land surface. Mulching is used on bare, exposed soil surfaces that are deemed to be potential critical erosion areas. In most cases, mulch will

consist of grain straw residue, but may include wood chips, leaves, composted yard waste, etc. (NRCS Conservation Practice Standards 2016[76]).

Ground Disturbing Management Practices. These measures could include but are not limited to practices to prevent erosion of exposed soil and stockpiles, including watering for dust control, establishing perimeter silt fences, and/or placing fiber rolls; minimizing soil disturbance areas; implementing practices to maintain water quality, including silt fences, stabilized construction entrances, and storm drain inlet protection; limiting construction to dry periods; and revegetating disturbed areas.

Groundwater. The supply of water found beneath the Earth's surface, usually in aquifers which can supply wells and springs.

Groundwater Protection Formula, Values and Targets. The Groundwater Protection (GWP) Formula generates GWP Values, expressed as either nitrate-N loading numbers or concentrations of nitrate in water (e.g., mg/L), reflecting the influence of total applied nitrogen, total removed nitrogen, recharge conditions, and other relevant and scientifically supported variables that influence the potential average concentration of nitrate in water expected to reach groundwater in a given township over a given time period. GWP Values are calculated based on reported INMP data and reflect discharge estimates from the bottom of the root-zone. GWP Targets considers GWP Values to establish the nitrogen loading rate necessary to comply with the Antidegradation Policy and Basin Plan.

High-Water Mark. That line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

High Vulnerability Groundwater Basin. Defined in the ESJ Order as areas "where known groundwater quality impacts exist for which irrigated agricultural operations are a potential contributor or where conditions make groundwater more vulnerable to impacts from irrigated agricultural activities." For the purposes of this Order, 'high vulnerability areas' are defined as the priority groundwater basins having a relatively high threat from salts and nutrients and would benefit from salt and nutrient management planning as defined in Groundwater Basin Evaluation and Prioritization Resolution No. R1-2021-0006.

Hydrologically Connected. Farm areas with a continuous surface flow path to a natural stream channel during a storm runoff event (also referred to as hydrologic connectivity). Connectivity usually occurs through drainage structures, drainage inlets, road ditches, gullies, and channels.

Hydrologically-Connected Undesignated Channel. Channels not part of the NHD

dataset that are hydrologically-connected to off-farm surface waters. Includes agricultural ditches.

Inactive Well. A well is considered "inactive" when it has been taken out of service but has not been destroyed (see Abandoned Well definition). An inactive well must not allow impairment of water quality within the well and/or groundwater encountered by the well.

Individual Enrollee. An Enrollee in the Lily Bulb Order who is not part of a Coalition. The Individual Enrollee is responsible for conducting all monitoring individually and reporting directly to the North Coast Water Board.

Intermittent Stream. A Class II watercourse. A body of flowing water that contains water only during or after a local rainstorm or heavy snowmelt as shown in the NHD shapefile. In the absence of diversions, water is flowing for three to nine months during a typical year, provides aquatic habitat for non-fish aquatic species, fish always or seasonally present within 1,000 feet downstream, and/or water is flowing less than three months during a typical year and the stream supports riparian vegetation.

Invasive Species. Organisms (plants, animals, or microbes) that are not native to an environment and that, once introduced establish, quickly reproduce and spread, and cause harm to the environment, economy, or human health. U.S. Department of Agriculture, Natural Resource Conservation Service website: EnviroAtlas Hydrologic Unit Codes Fact Sheet[77]. For guidance on identifying species of concern, see the Cal-IPC website: Plants A to Z[78].

Irrigation. Applying water to land areas to supply the water and nutrient needs of plants.

Irrigation Management Practices. Management practices designed to improve irrigation efficiency and reduce the amount of irrigation return flow or tailwater, and associated degradation or pollution of surface and groundwater caused by discharges of waste associated with irrigated lands.

Irrigation and Nitrogen Planning Specialist. A Certified Crop Advisor (CCA) who has completed the California Nitrogen Management exam through The California Department of Food and Agriculture (CDFA), the University of California – Davis, the American Society of Agronomy's (ASA) International Certified Crop Adviser (ICCA) Coalition and/or the CCA – Western Region (WR) Board and takes the required continuing education credits. Enrollees may self-certify their INMP if they take the CDFA Irrigation and Nitrogen Management Training for Grower Self-Certification, pass the Irrigation and Nitrogen Management Training and Exam and maintain the certification through continuing education. More information can be found at CDFA FREP Training (https://www.cdfa.ca.gov/is/ffldrs/frep/training.html).

Landowner. An individual or entity who has legal ownership of a parcel(s) of land. See also Enrollee, Operator.

Leaching. In agriculture, leaching is the loss of water-soluble plant nutrients from the soil, due to the percolation of rain and irrigation water. Leaching may also refer to the salinity control practice of applying a small amount of excess irrigation to drain down salts from the root soil profile to avoid salts from building up in the soil. In the natural environment leaching contributes to groundwater contamination. As water from rain, flooding, or other sources seeps into the ground, it can dissolve chemicals and carry them into the underground water supply.

Load. The mass of a substance discharged over a given amount of time, for example 10 mg/day or 5 kg/day.

Major Storm Event. A Major Storm Event is defined as a storm that is forecasted to produce at least one inch of precipitation within a 24-hour period and is preceded by a minimum of 72 consecutive hours with less than 0.1 inches of precipitation. A Major Storm Event has ended after at least 48 consecutive hours during which no more than 0.1 inches of precipitation has occurred in any 24 hour period. See Attachment D for guidance.

Management Unit. Where this Order allows reporting by Management Unit, Enrollees may report data for a portion of a Field or for multiple Fields provided that the reported area has (1) the same fertilizer inputs, (2) the same irrigation management, and (3) the same management practices. Management Units can be defined by the Enrollee in a manner consistent with the farming operation so long as the Enrollee tracks which Field(s) comprise each Management Unit. See Field.

Method Detection Limit. The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in accordance with USEPA Definition and Procedure for the Determination of the Method Detection Limit, Revision 2. The laboratory establishes the MDL values based on the analytical test method and the types of calibrated laboratory equipment that are used.

Monitoring. Observing and checking a feature or factor over time to determine compliance with this Order or other regulatory requirements. Monitoring in this Order includes but is not limited to surface water or groundwater sampling and analysis to evaluate water quality in connection with agricultural activities, and inspecting operations, management practice implementation and effectiveness, maintenance of on-site records, and management practice reporting.

Nitrogen Applied. Total nitrogen applied includes nitrogen in any product, form, or concentration including, but not limited to, organic and inorganic fertilizers, slow-release products, compost, compost teas, manure, extracts, nitrogen present in the soil, and

nitrate in irrigation water; it is reported in units of pounds of nitrogen per crop, per acre for each commercial lily bulb Field or nitrate loading risk unit.

Nitrogen Removed. Nitrogen Removed includes all nitrogen taken from the Field in harvested or other materials. Other materials may include leaf material, bulbs, and any other source of nitrogen removed from the field.

Nitrogen-Removal Coefficient (CN). Percent of nitrogen content in the dry matter of plant tissue. The CN multiplied by the weight of plant material removed from the Fields, can be used to estimate the nitrogen removed from the marketable portion of a crop.

Nonpoint Source (NPS) Pollution. The Basin Plan states that nonpoint sources of water pollution are generally defined as sources which are diffuse (spread out over a large area). Nonpoint sources of pollution are not subject to NPDES permitting. The wastes are generally carried off the land by runoff. Common nonpoint sources of pollution are activities associated with agriculture, timber harvest, certain mining, dams, and saltwater intrusion.

Nitrogen Management Practices. Management practices designed to reduce the nitrogen loss from agricultural lands, which occur through edge-of-field runoff or leaching from the root zone.

Operator. Person responsible for or otherwise directing farming operations in decisions that may result in a discharge of waste to surface water or groundwater, including, but not limited to, a farm/ranch manager, lessee, or sub- lessee. If enrolled, the operator is responsible for ensuring compliance with this Order and for any discharge of waste occurring on or from the operation. See also Enrollee, Landowner.

Operation. A distinct farming business, generally characterized by the form of business organization, such as a sole proprietorship, partnership, corporation, and/or cooperative. A farming operation may be associated with one-to-many individual farms/ranches.

Perennial Stream. A stream that holds water throughout the year. Also known as a Class I watercourse. In the absence of diversions, water is flowing for more than nine months during a typical year, fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or a spring, an area where there is concentrated discharge of ground water that flows at the ground surface (a spring may flow any part of the year and does not have a defined bed and banks).

Pesticide. Any substance intended to control, destroy, repel, or otherwise mitigate a pest. The term pesticide is inclusive of all pest and disease management products, including insecticides, herbicides, fungicides, nematicides, rodenticides, algicides, etc.

Planted Area. The area of the Farm Area that is planted in lily bulbs; a subset of the

Farm Area. Planted area does not include appurtenant structures or field roads.

Pollutant. The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water, including dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Pollution. Any alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following: (1) the waters for beneficial uses, (2) facilities which serve these beneficial uses. Pollution may include contamination.

Quality Assurance Project Plan. A Quality Assurance Project Plan (QAPP) integrates all technical and quality aspects of a project, including planning, implementation, and assessment.

Qualified Professional. An individual licensed in California under the Professional Engineer Act (e.g., Professional Engineer), Geologist and Geophysicist Act (e.g., Professional Geologist, Certified Engineering Geologist, or Certified Hydrogeologist), and Land Surveyors' Act (e.g., Professional Land Surveyor); a California Registered Professional Forester (RPF); or a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD), a certified soil scientist registered through the American Society of Agronomy; Certified Professional in Erosion and Sediment Control (CPSEC)™/Certified Professional in Storm Water Quality (CPSWQ)™ registered through EnviroCert International, Inc.; a or professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET). A Qualified Professional must only perform work they are qualified to complete, consistent with applicable licensing and registration restrictions, and must certify any work completed. See Business and Professions Code sections 6700-6799, 7800-7887, and 8700-8805, respectively.

Quality of the Water. The "chemical, physical, biological, bacteriological, radiological, and other properties and characteristics of water which affect its use" as defined in the California Water Code Sec. 13050(g).

Receiving Waters. Surface waters or groundwater that receive or have the potential to receive discharges of waste from irrigated lands.

Riparian Vegetation. The vegetation (including dead, dying, or decaying vegetation) along a watercourse that is distinguished from other vegetation by its dependence on the combination of soil moisture and other environmental factors provided by a watercourse.

Sediment and Erosion Control Practices. Practices used to prevent and reduce the amount of soil and sediment entering surface water in order to protect or improve water

quality.

Site-Specific Potential Effective Shade. The shade equivalent to that provided by topography and potential vegetation conditions at a site. Shade controls that are effective at correcting temperature impairments also operate to prevent impairments and provide other water quality protections such as bank stability and filtering sediment and other waste discharges.

Source of Drinking Water. Any water designated as municipal or domestic supply (MUN) beneficial use in a North Coast Water Board Basin Plan and/or as defined in State Water Board Resolution No. 88-63.

Stormwater. Stormwater runoff, snow melt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26(b)(13).

Stormwater Runoff. Precipitation water in excess of what can infiltrate the soil surface and be stored in small surface depressions.

Streamside Area. The area between the waterside edge of riparian vegetation (or the nearest edge of the High-Water Mark if riparian vegetation is not present) and the field side edge of a vegetated buffer. A vegetated buffer is not synonymous with a filter strip, which may be used as part of farming practices (e.g., equipment turn-around) and disturbed for tilling, planting, or other practices.

Surface Runoff. Precipitation, snow melt, or irrigation water in excess of what can infiltrate the soil surface and be stored in small surface depressions, a major transporter of nonpoint source wastes in rivers, streams, and lakes.

Tailwater. Runoff of irrigation water from the lower end of an irrigated field.

Toxicity Unit. A toxicity unit (TU) is a simple ratio of the measured concentration of dissolved copper to the BLM-generated criteria and is calculated by dividing the measured value by the modelled criteria. See Attachment D: Methodologies and Procedures for more information on how the ‘TU’ is calculated and used. See also, Biotic Ligand Model.

Coalition. An organization or entity that is approved to represent Enrollees under this Order and is obligated to fulfill the following responsibilities: (1) collect fees from Enrollees and submit payments to the State Water Resources Control Board; (2) manage communications between Enrollees and the North Coast Water Board; (3) provide compliance education resources for Enrollees; and (4) fulfill monitoring and reporting requirements including but not limited to submitting monitoring workplans and necessary technical material, conducting regional surface water and groundwater monitoring, and connecting Enrollees to resources that can assist the preparation and implementation of Water Quality Management Plans.

Third-Party Program. The set of requirements under this Order that a Coalition is allowed to perform on behalf of the Enrollees enrolled in that Coalition.

Total Maximum Daily Load (TMDL). The calculation of the maximum amount of a particular material that a waterbody can assimilate on a regular basis and still support beneficial uses designated for that waterbody.

Trend. A general direction in which something is developing or changing. See also Water Quality Trend.

Unfarmed Wetland. Any wetland not currently farmed or historically farmed in the lily bulb crop rotation upon enrollment in the Order. An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Vegetated Buffer. A narrow, permanent strip of dense perennial vegetation (including riparian vegetation) where no crops are grown and which is established parallel to the contours of and perpendicular to the dominant slope of the land applications area for the purposes of slowing water runoff, enhancing water infiltration, trapping pollutants bound to sediment and minimizing the risk of any potential nutrients or pollutants from reaching surface waters. A vegetated buffer is not synonymous with a filter strip, which may be used as part of farming practices (e.g., equipment turn-around) and disturbed for tilling, planting, or other practices

Watercourse Setback. A setback area adjacent to a watercourse, including streams, creeks, and other designated or undesignated channels, whether perennial, intermittent, or ephemeral, that is required to be maintained in vegetative cover in accordance with this Order for purposes of Adaptive Management. This term is distinct and independent from Streamside Areas established to implement the Temperature Policy. The Watercourse Setback is measured from the waterside edge of vegetation to the planted area of the lily bulb field.

Waste. "Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal" as defined in the California Water Code Sec. 13050(d). "Waste" includes irrigation return flows and drainage water from agricultural operations containing materials not present prior to use. Waste from irrigated agriculture includes earthen materials (such as soil, silt, sand, clay, rock), inorganic materials (such as metals, salts, boron, selenium, potassium, nitrogen, phosphorus), and organic materials such as pesticides.

Water Quality Benchmark. A concentration based on relevant water quality criteria

that is the numeric translation of applicable Water Quality Objectives. Water Quality Benchmarks are defined in Section G.1 of the Findings and included in Attachment A: Monitoring and Reporting Program. Water Quality Benchmarks for surface water are established for both acute and chronic exposure conditions. Exceedance of a Water Quality Benchmark is determined by considering both concentration and frequency within a Water Year. An acute Water Quality Benchmark is exceeded when the acute concentration is exceeded once within a Water Year, and a chronic Water Quality Benchmark is exceeded when the chronic concentration is exceeded twice within a Water Year. Receiving Water Limitations in Section II.C of this Order reference compliance with all water quality objectives, some of which are translated through Water Quality Benchmarks. Attainment of Water Quality Benchmarks demonstrates attainment of the corresponding Water Quality Objective and compliance with Receiving Water Limitations. Conversely, exceedance of a Water Quality Benchmark indicates that discharges may be causing or contributing to an exceedance of a Water Quality Objective and are, therefore, in violation of Receiving Water Limitations of the Order. Water Quality Benchmarks for groundwater are protective of applicable Water Quality Objectives. Attainment of Water Quality Benchmarks for groundwater in this Order demonstrate compliance with Receiving Water Limitations.

Water Quality Objective(s). “Limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specified area,” as defined in Sec. 13050(h) of the California Water Code. Water Quality Objectives may be either numerical or narrative and serve as Water Quality Criteria for purposes of section 303 of the Clean Water Act.

Water Quality Standard. Provisions of State or Federal law that consist of the beneficial designated uses or uses of a waterbody, the numeric and narrative water quality criteria that are necessary to protect the use or uses of that particular waterbody, and an antidegradation statement. Water quality standards include water quality objectives in the North Coast Water Board’s Basin Plan, water quality criteria in the California Toxics Rule and National Toxics Rule adopted by USEPA, and/or water quality objectives in other applicable State Water Board plans and policies. For groundwater with the beneficial use of municipal or domestic water supply, the applicable drinking water standards are those established by the USEPA or California DDW, whichever is more stringent. Under Sec. 303 of the Clean Water Act, each State is required to adopt water quality standards.

Water Quality Trend. A change in time of a measured chemical constituent that represents as aspect of the quality of the water (e.g., increasing, stable, or decreasing concentration of a constituent). The analysis of a water quality trend predicts the behavior of water quality parameters and overall water quality in the time domain.

Waters of the State. “Any surface water or groundwater, including saline waters, within the boundaries of the State” as defined in the California Water Code Sec. 13050(e).

"Waters of the state" includes all "waters of the U.S." Any significant accumulation of water above the ground surface, such as lakes, ponds, rivers, streams, creeks, springs, wetlands, and canals.

Water Year. A Water Year is defined as October 1st through September 30th of each year.

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III. Endnotes

The following endnotes apply to Order No. R1-202X-00XX only. Endnotes for the MRP shall be provided at the end of Attachment A: Monitoring and Reporting Program. Endnotes are arranged in order that they appear in the document.

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[1] The California Interagency Watershed Map of 1999 (final version Calwater 2.2.1 updated in 2014) was the State of California's working definition of watershed boundaries prior to the development of the federal Hydrologic Unit Code (HUC) system. The purpose of the Calwater dataset was to standardize the boundary delineation, coding, and naming of California watersheds by government agencies. Calwater divides the State into ten Hydrologic Regions (HR). Each HR is progressively subdivided into six smaller, nested levels: the Hydrologic Unit (HU, major rivers), Hydrologic Area (HA, major tributaries), Hydrologic Sub-Area (HSA), Super Planning Watershed (SPWS), and Planning Watershed (PWS).

[2] Lily bulb crop rotation can sometimes have longer or shorter crop rotation cycles than three-to-five years.

[3] For the purposes of this Order, pesticides include insecticides, herbicides, and fungicides.

[4] 2018 SWAMP Monitoring Report: 180101-FINAL SWAMP REPORT_Smith River.pdf https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/pdf/180116/180101-FINAL%20SWAMP%20REPORT_Smith%20River.pdf

[5] See Smith River Plain Water Quality Management Plan: Smith River Plain Water Quality Management Plan Public Review Draft February 2021. https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2021/smithmgmttplan.pdf

[6] 2025 SWAMP Report_Smith River Plain Surface Water Monitoring Report 2021-2024 https://waterboards.ca.gov/northcoast/board_info/board_meetings/10_2025/10_08/pdf/1/1-smith-report.pdf

[7] Smith River Plain Surface Water Monitoring Study 2021-2024 https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2025/25_SWAMP_MR_SRPWM.pdf

[8] Under section 9 of the ESA, it is illegal to import, export, or take endangered species for any purpose, including commercial activity. The term “take” means to harass, hunt, shoot, capture, trap, kill, collect, wound, harm, or pursue an ESA-listed species, or attempt any of these activities. See Protective Regulations for Threatened Species under the Endangered Species Act: Section 4(d) | NOAA Fisheries for more information. (https://www.fisheries.noaa.gov/national/endangered-species-conservation/protective-regulations-threatened-species-under-endangered#:~:text=Under%20section%209%20of%20the,attempt%20any%20of%

20these%20activities.)

[9] Pounds of copper itself, not pounds of a copper containing compound.

[10] Hurst, M., Wolfe, L., & Selby, P. (2024). The Effects of Vegetative Barriers on Copper in Runoff from Lily Bulb Fields. California State Polytechnic University – Humboldt. Final Report submitted to the California State University - Agricultural Research Institute (CSU-ARI) and Southern California Coastal Water Research Project. Date: 8/15/2024

[11] Fischer, R.A., Martin, C.O., Ratti, J.T., & Guidice, J. (2000). Improving Riparian Buffer Strips for Water Quality and Wildlife. U.S. Army Engineer Research and Development Center (ERDC).

[12] Cole, L.J., Stockan, J., & Helliwell, R. (2020). Managing riparian buffer strips to optimise ecosystem services: A review. Agriculture, Ecosystems & Environment, 296, 106891.

[13] See Tables I.3 and I.4 in the Findings for a consolidated list of Water Quality Benchmarks.

[14] See rb1_smith_river_jan2018.pdf (ca.gov) (https://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reglrpts/rb1_smith_river_jan2018.pdf)

[15] At the Sarina Road SWAMP Monitoring location

[16] See Aquatic Life Benchmarks and Ecological Risk Assessments for Registered Pesticides | US EPA for US EPA Aquatic Life Benchmarks (https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-and-ecological-risk)

[17] Toxicity was determined using methods developed by the UC Davis Aquatic Health Program Laboratory.

[18] See the 2018 SWAMP Report: 180101-FINAL SWAMP REPORT_Smith River.pdf (ca.gov)

[19] Hurst, M., Bright, P., Villalta, E., & Wolfe, L. (2022). The Bioavailability of Copper in the Smith River Plain. California State University - Agricultural Research Institute (ARI) and the Tolowa Dee-ni' Nation. Cal Poly Humboldt, Arcata, CA. August 15, 2022.

[20] Sandahl, J. F., M. J. B. Miyasaka, N. Koide, and H. Ueda. "A Sensory System at the Interface between Urban Stormwater Runoff and Salmon Survival." *Environmental Science & Technology*, vol. 41, no. 8, 2007, pp. 2998-3004.

[21] Olivari, Francisco A., Pedro P. Hernández, and Miguel L. Allende. "Acute Copper Exposure Induces Oxidative Stress and Cell Death in Lateral Line Hair Cells of Zebrafish Larvae." *Brain Research*, vol. 1244, 2008, pp. 1-12.

[22] Visit the North Coast Lily Bulb page to access prior studies: https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily

[23] Normalized application rates were determined by dividing application rates for each

tributary watershed by the tributary area in acres.

[24] The Water Quality Benchmark for diuron and imidacloprid in this Order are consistent with the USEPA Aquatic Life Benchmarks. The Aquatic Life Benchmark for diuron was updated in 2025. The 2025 SWAMP Report compared diuron and imidacloprid detections using benchmarks derived from UC Davis studies.

[25] View the Smith_River_Plain_2015_Groundwater_Interim_Monitoring_Report.pdf (ca.gov) https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/pdf/151209/Smith_River_Plain_2015_Groundwater_Interim_Monitoring_Report.pdf

[26] Trace concentrations are concentrations between the Method Detection Limit and the Reporting Limit.

[27] Established health levels are drinking water standards developed by the CA Department of Pesticide Regulation, the CA State Water Board, and the US EPA. Concentrations below these levels are considered protective against both acute and chronic human health impacts from pesticide exposure

[28] See Smith_River_Plain_2015_Groundwater_Interim_Monitoring_Report.pdf (ca.gov) https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/pdf/151209/Smith_River_Plain_2015_Groundwater_Interim_Monitoring_Report.pdf

[29] Smith River Management Plan, 2021. https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2021/smithmgmttplan.pdf

[30] National Oceanic and Atmospheric Administration (NMFS). 2014. Final Recovery Plan for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon (Oncorhynchus kisutch). National Marine Fisheries Service. Arcata, CA. 1841p

[31] See Essential Fish Habitat on the West Coast | NOAA Fisheries https://www.fisheries.noaa.gov/west-coast/habitat-conservation/essential-fish-habitat-west-coast

[32] 2005 Tidewater Goby Recovery Plan https://ecos.fws.gov/docs/recovery_plan/051207.pdf

[33] Portions of the Basin Plan's narrative toxicity objective have been superseded by the Statewide Aquatic Toxicity Provisions. (See Staff Report for State Policy for Water Quality Control: Toxicity Provisions, Appendix E, pp. 413-414. https://www.waterboards.ca.gov/water_issues/programs/state_implementation_policy/docs/2021/2021-toxicity-staff-report.pdf)

[34] Water Quality Benchmarks were derived from water quality criteria are generally consistent with the State Water Board's guidelines for listing impaired waters under Section 303(d) of the Clean Water Act. As a general approach, North Coast Water Board staff reviewed all available pesticide water quality criteria and selected the

most protective (i.e., lowest) values for relevant beneficial uses of surface waters and groundwater in the Smith River Plain. In surface waters, Water Quality Benchmarks (except the acute benchmark for ethoprop and the BLM-derived benchmarks for copper) are sourced from USEPA Aquatic Life Benchmarks. The BLM Instantaneous Water Quality Criteria or BLM-IWQC is a criterion developed using a set of ten parameters to account for complex chemical reactions associated with copper in the environment: pH, Dissolved Organic Carbon (DOC), Calcium (Ca), Magnesium (Mg), Sodium (Na), Sulfate (SO4), Potassium (K), Chlorine (Cl), Alkalinity, and Temperature. The IWQC is used as a water quality threshold for dissolved copper for that specific site and sampling event only. The model's output also includes a toxicity unit (numerical value) to represent the relative risk of copper toxicity in the waterbody at the time of sample collection. For groundwater Water Quality Benchmarks, the North Coast Water Board relies on the applicable Drinking Water Maximum Contaminant Level (MCL), if available. If an MCL is not available, the North Coast Water Board has selected the best available Drinking Water Standard available. Human Health Reference Levels (HHRL) are identified by California Department of Pesticide Regulation's Human Health Assessment Branch. Pesticide concentrations measured in water exceeding these reference levels indicate a health concern. They are not legally enforceable standards but can be used to identify pesticide levels in drinking water that could pose a human health risk. USEPA Chronic or Lifetime Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of chronic non-carcinogenic effects over a lifetime of exposure, assuming that 20% of the exposure to a given pesticide is from water and additional exposure is derived from another source such as food, air, or dermal contact. USEPA Acute or One-day Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of acute or up to one-day non-carcinogenic effects, assuming that the entire exposure to a given pesticide is from drinking water. Health-Based Screening Levels (HBSLs) are federal, non-enforceable water-quality benchmarks developed by the United States Geological Survey. The HBSL concentration level for diuron, for example, represents a one-in-one million cancer risk range.

[35] The toxicity unit (TU) is a simple ratio of the measured concentration of dissolved copper to the BLM-generated criteria and is calculated by dividing the measured value by the modelled criteria. See the 'Dissolved Copper Results' section below for more information on how the 'TU' is calculated and used.

[36] The BLM Instantaneous Water Quality Criteria or BLM-IWQC is a criterion developed using a set of ten parameters to account for complex chemical reactions associated with copper in the environment: pH, Dissolved Organic Carbon (DOC), Calcium (Ca), Magnesium (Mg), Sodium (Na), Sulfate (SO4), Potassium (K), Chlorine (Cl), Alkalinity, and Temperature. The IWQC is used as a water quality

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threshold for dissolved copper for that specific site and sampling event only. The model's output also includes a toxicity unit (numerical value) to represent the relative risk of copper toxicity in the waterbody at the time of sample collection.

[37] Water Quality Benchmarks were derived from water quality criteria are generally consistent with the State Water Board's guidelines for listing impaired waters under Section 303(d) of the Clean Water Act. As a general approach, North Coast Water Board staff reviewed all available pesticide water quality criteria and selected the most protective (i.e., lowest) values for relevant beneficial uses of surface waters and groundwater in the Smith River Plain. In surface waters, Water Quality Benchmarks (except the acute benchmark for ethoprop and the BLM-derived benchmarks for copper) are sourced from USEPA Aquatic Life Benchmarks. The BLM Instantaneous Water Quality Criteria or BLM-IWQC is a criterion developed using a set of ten parameters to account for complex chemical reactions associated with copper in the environment: pH, Dissolved Organic Carbon (DOC), Calcium (Ca), Magnesium (Mg), Sodium (Na), Sulfate (SO4), Potassium (K), Chlorine (Cl), Alkalinity, and Temperature. The IWQC is used as a water quality threshold for dissolved copper for that specific site and sampling event only. The model's output also includes a toxicity unit (numerical value) to represent the relative risk of copper toxicity in the waterbody at the time of sample collection. For groundwater Water Quality Benchmarks, the North Coast Water Board relies on the applicable Drinking Water Maximum Contaminant Level (MCL), if available. If an MCL is not available, the North Coast Water Board has selected the best available Drinking Water Standard available. Human Health Reference Levels (HHRL) are identified by California Department of Pesticide Regulation's Human Health Assessment Branch. Pesticide concentrations measured in water exceeding these reference levels indicate a health concern. They are not legally enforceable standards but can be used to identify pesticide levels in drinking water that could pose a human health risk. USEPA Chronic or Lifetime Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of chronic non-carcinogenic effects over a lifetime of exposure, assuming that 20% of the exposure to a given pesticide is from water and additional exposure is derived from another source such as food, air, or dermal contact. USEPA Acute or One-day Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of acute or up to one-day non-carcinogenic effects, assuming that the entire exposure to a given pesticide is from drinking water. Health-Based Screening Levels (HBSLs) are federal, non-enforceable water-quality benchmarks developed by the United States Geological Survey. The HBSL concentration level for diuron, for example, represents a one-in-one million cancer risk range.

[38] The Clean Water Act does not specifically define nonpoint source pollution, except by stating that nonpoint source is anything that is not considered a point source. A

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point source is defined under federal regulation as “any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

[39] The Antidegradation Policy: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf

[40] State Water Board Order WQ 86-17 (*Fay*), pp. 16-19.

[41] *Asociacion de Gente Unida por el Agua v. Central Valley Regional Water Quality Control Board* (2012) 210 Cal.App.4th 1255, 1262.

[42] State Water Board Order 2015-0075 (*Los Angeles MS4*), p. 23.

[43] While the baseline for the application of the state antidegradation policy is generally the highest water quality achieved since 1986, baseline water quality may be a lower level if that lower level was allowed through a permitting action that was consistent with applicable antidegradation policies, or where a water quality objective for a particular constituent was adopted after 1968, the baseline for that constituent is the highest water quality achieved since the adoption of the objective. State Water Board Order 2015-0075 (*Los Angeles MS4*) pp. 23-24, fn. 82.

[44] In the Matter of Review of Waste Discharge Requirements General Order No. R5-2012-0116 for Growers Within the Eastern San Joaquin River Watershed that are Members of the Coalition, SWRCB Order No 2018-0002 (2018): https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2018/wqo2018_0002_with_data_fig1_2_appendix_a.pdf.

[45] Questions and Answers Resolution, No. 68-16, State Water Board (Feb. 16, 1995), pp. 5-6.

[46] Questions and Answers Resolution, No. 68-16, State Water Board (Feb. 16, 1995), pp. 5-6.

[47] The State of California maintains multiple publicly accessible environmental monitoring databases and data systems that provide surface water and groundwater quality information, including: the California Environmental Data Exchange Network (CEDEN) for statewide surface water quality data (https://ceden.org/) ; GeoTracker, an online data access system of the State Water Resources Control Board (https://www.waterboards.ca.gov/oil-gas/geotracker/) ; the California Department of Pesticide Regulation’s Surface Water Database (SURF) (https://www.cdpr.ca.gov/environmental-monitoring/surface-water/) and Well Inventory Database for pesticide well sampling data (https://calpip.cdpr.ca.gov/wellInventoryDatabase.cfm) ; and the Groundwater Ambient Monitoring and Assessment (GAMA) Program’s online groundwater

quality tools (https://www.waterboards.ca.gov/gama/) .

[48] The total gross production value of the commercial lily bulb industry is estimated to be _____ and total jobs in Del North County are estimated to be ____.

[49] Note that highlighted items in this Draft Order reflect additional information to be collected in the revision phase, either as response to written comment, or though additional investigation.

[50] https://www.waterboards.ca.gov/gama/docs/hva_map_table.pdf

[51] See Monitoring and Reporting Findings for summary of the 2015 Smith River Plain Groundwater Monitoring Report.

[52] Note that this section reviews costs of compliance to the Enrollees in this Order. There are broader economic considerations not quantified in this section. For example, implementing this Order may result in positive economic impacts on the broader community through water quality benefits to tourism, recreation, or fishing.

[53] Estimated costs are generated from NRCS Conservation Practice Codes that can be referenced in the NRCS Field Office Technical Guide. https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards

[54] See the North Coast Basin Plan for applicable water quality objectives. North Coast Basin Plan June 2025 Edition https://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/250703/06_25_BP.pdf

[55] See Appendix I for definition of a Field, which has a distinct geography the Lily Bulb Order uses for planted areas of lily bulb agriculture.

[56] Agricultural pollutants can include, but is not limited to fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals and wastes associated with agricultural activities.

[57] See Appendix 1 for definition.

[58] Engineered management practices shall be designed and installed in compliance with plans and specifications prepared by a civil engineer.

[59] The waterside edge of vegetation means the line on the bank that is established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. Enrollees may refer to the definition of Waterside edge of vegetation in Appendix I and/or Attachment D: Methodologies and Procedures for examples.

[60] This Order does not authorize agricultural activities or work in an Unfarmed Wetland. Enrollees must seek coverage through the 401 Water Quality Certification and Wetlands Program (see https://www.waterboards.ca.gov/northcoast/water_issues/programs/water_quality_

certification/) for discharges of dredged or fill material to waters of the state (e.g., agricultural development or agricultural activities in Unfarmed Wetlands). An Unfarmed Wetland is any wetland not currently farmed at time of adoption of the Order. An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. (See https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf).

[61] In this case, Hydrologically Connected refers to the lake or reservoir being Hydrologically Connected to the stream, not the Farm Area.

[62] Streambank restoration within wasters of the United States or waters of the state requires separate regulatory coverage under either Clean Water Act section 404/401 or alternative waste discharge requirements. See Water Quality Certification (https://www.waterboards.ca.gov/northcoast/water_issues/programs/water_quality_certification/)

[63] Maintenance of existing watercourse crossings without the need for additional permitting by the North Coast Water Board is limited to removal of vegetation impacting the use and function of the crossing (e.g., preventing vehicle access across the crossing or limiting the flow of water through the crossing infrastructure), clearing and maintaining watercourse function using hand tools or the manual placement of energy dissipating rock.

[64] Installation of surface water diversion infrastructure requires a valid water right from the State Water Board Division of Water Rights and may require additional permit coverage from the North Coast Water Board through an approved 401 Water Quality Certification or alternate waste discharge requirements.

[65] The level of effective shade provided by vegetation when the vegetation is growing at potential. For any given location, this term is called "site- specific potential effective shade."

[66] NRCS Technical Note on Riparian Buffer Design and Species Considerations (https://www.nrcs.usda.gov/plantmaterials/idpmstn7248.pdf) and Dewalle, David. (2010). Modeling Stream Shade: Riparian Buffer Height and Density as Important as Buffer Width1. JAWRA Journal of the American Water Resources Association. 46. 323 - 333. 10.1111/j.1752-1688.2010.00423.x.

[67] Compliance education sources include formal classroom training, individual meetings with a qualified trainer, printed materials, and/or internet-based training with an approved Coalition, University of California Cooperative Extension (UCCE), Natural Resources Conservation Service (NRCS), Resource Conservation Districts (RCDs), Regional or State Water Boards, Department of Pesticide Regulation,

California Department of Fish and Wildlife, California Department of Food and Agriculture, or other organizations as approved by the Executive Officer. Compliance education requirements are consistent with "outreach and education" requirements in the Statewide Precedential Order.

[68] For example, if the Field is to be prepped and planted to lily bulbs in the summer/fall of 2028, then the WQMP is due to the North Coast Water Board on January 1, 2028.

[69] Treatment Control Management Practices are the implementation of one or more mechanical, chemical, biologic, or any other treatment technology. Treatment control Management Practices must be designed by a qualified professional and must monitor pollutant concentration entering and exiting the treatment system.

[70] See definition in Appendix I

[71] The waterside edge of vegetation means the line on the bank that is established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. Enrollees may refer to the definition of Waterside edge of vegetation in Appendix I and/or Attachment D: Methodologies and Procedures for examples.

[72] Refer to relevant NRCS Conservation Practice Codes that can be referenced in the NRCS Field Office Technical Guide. https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards

[73] See Runoff Volumes Standard Operating Procedure (Rainfall and runoff) SOP) https://www.waterboards.ca.gov/water_issues/programs/swamp/docs/cwt/guidance/512.pdf

[74] See INMP Worksheet for examples of groundwater protection management practices

[75] Guidance for electronic submittal (https://www.waterboards.ca.gov/northcoast/publications_and_forms/available_documents/pdf/2014/ECM_Letter-Guidelines.pdf).

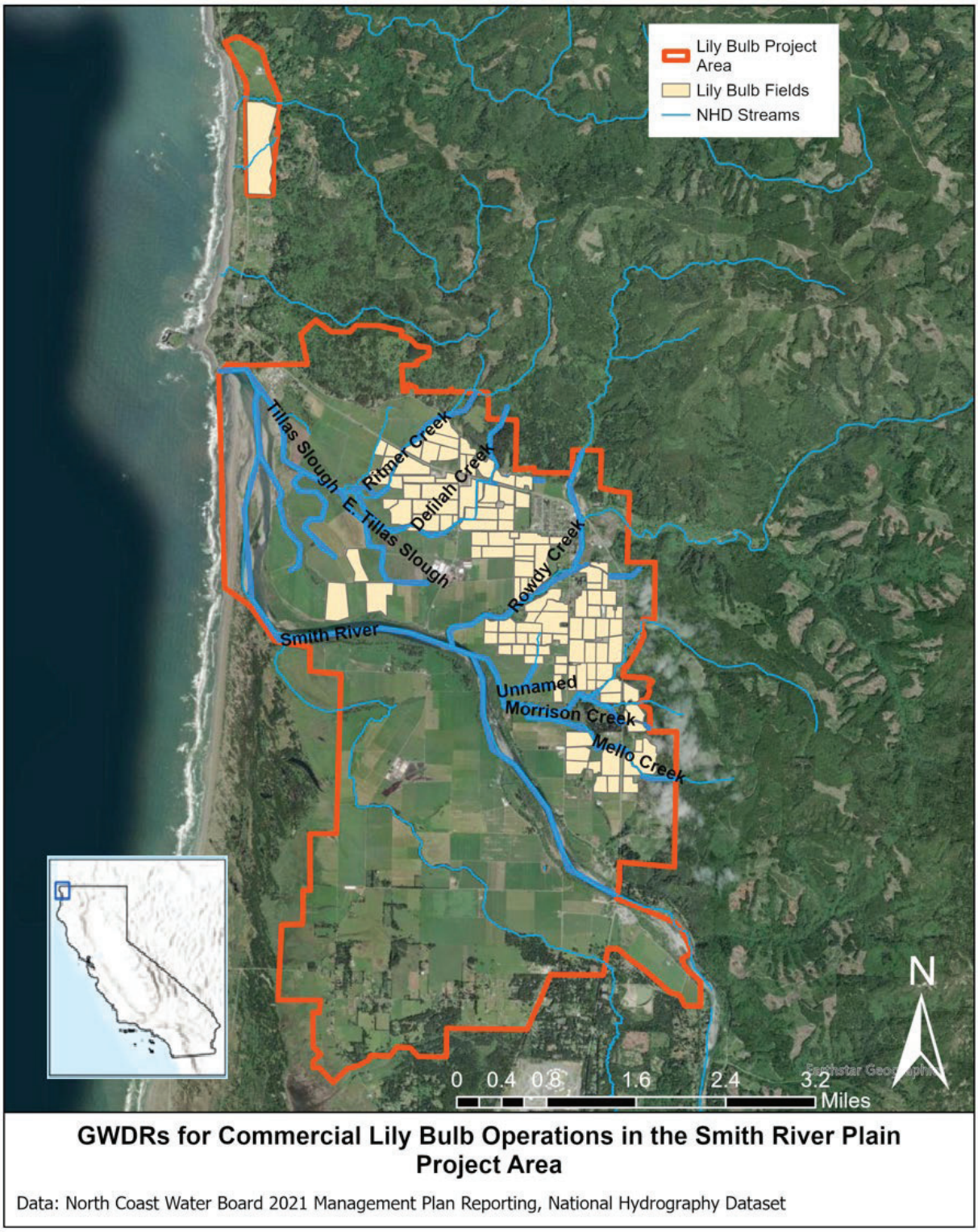
[76] Natural Resources Conservation Service: Conservation Practice Standards Informationv (https://www.nrcs.usda.gov/getting-assistance/conservation-practices).

[77] See the EnviroAtlas Hydrologic Unit Codes Fact Sheet (https://enviroatlas.epa.gov/enviroatlas/datafactsheets/pdf/Supplemental/HUC.pdf).

[78] See the Cal-IPC website: Plants A to Z (https://www.cal-ipc.org/plants/profiles/).

Appendix II: Figures

Figure I.1: Fields used for lily bulb cultivation as reported in 2024 and major coastal tributaries of the Smith River Plain



GWDRs for Commercial Lily Bulb Operations in the Smith River Plain Project Area

Data: North Coast Water Board 2021 Management Plan Reporting, National Hydrography Dataset