DRAFT ENVIRONMENTAL IMPACT REPORT FOR GENERAL WASTE DISCHARGE REQUIREMENTS FOR IRRIGATED LANDS IN THE SCOTT RIVER AND SHASTA RIVER WATERSHEDS

Prepared by:
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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, including the Scott River and Shasta River Watersheds. These watersheds include approximately 86,000 acres of irrigated agriculture of which approximately 44,000 acres are mapped as Important Farmland[1] (DOC 2024). The majority of Important Farmland is cultivated for hay and managed for irrigated pasture with some grain cultivation. 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 Irrigated Lands in the Scott River and Shasta River watersheds through general waste discharge requirements (GWDRs) hereafter referred to as the Scott and Shasta Order (or the Proposed Project) and included as Attachment A.

The North Coast Water Board prepared this Draft Environmental Impact Report (DEIR) to provide a transparent and comprehensive evaluation of the environmental effects that could occur from implementing the Proposed Project. The DEIR 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 Scott and Shasta Order would establish general WDRs for Irrigated Lands and Associated Grazing Operations within the Scott and Shasta River watersheds. The primary activity that would require an owner or operator to enroll is the application of irrigation water to 25 acres or more of agricultural land under common ownership or operational control. Enrollment is required no later than 18 months after Order adoption. The Executive Officer may require enrollment of an operation below the threshold where site-specific evidence indicates it is causing or contributing to an exceedance of water quality objectives.

"Irrigated Lands" means any operation within the Scott River or Shasta River watersheds that applies water to 25 acres or more of land for the purpose of producing crops, forage, pasture, or other agricultural commodities, including but not limited to:

(a) Flood-irrigated, sprinkler-irrigated, or drip-irrigated cropland;

(b) Irrigated pasture used for livestock grazing or hay/forage production;

(c) Land receiving applied water for frost protection, dust suppression, leaching, or other

[1] For environmental review purposes under CEQA, the categories of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland constitute 'agricultural land' (Public Resources Code Section 21060.1).

agricultural management purposes;

(d) Land on which water is applied and from which tailwater, irrigation return flows, subsurface drainage, or stormwater runoff that has contacted irrigated land discharges or has the potential to discharge to waters of the state.

“Associated Grazing Lands" means non-irrigated lands used for livestock grazing that meet both of the following criteria:

(a) The non-irrigated grazing land is located on an irrigated parcel under common ownership or operational control (including lease or management agreements) with an Irrigated Agricultural Operation enrolled under this Order;

(b) The non-irrigated grazing land is functionally integrated with the enrolled Irrigated Agricultural Operation, as demonstrated by one or more of the following:

(i) Livestock are routinely rotated between irrigated and non-irrigated portions of the operation on a seasonal or periodic basis;

(ii) The non-irrigated grazing land is used to support livestock that are primarily maintained on irrigated pasture (e.g., dry-season holding areas, calving areas, or winter rangeland for livestock that graze irrigated pasture during the irrigation season);

(iii) Feed, forage, or hay produced on the irrigated portions of the operation is used to supplement grazing on the non-irrigated land, or vice versa;

(iv) The non-irrigated grazing land and the irrigated land are managed under a single, agricultural business entity, or unified operational structure.

The Scott and Shasta 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 Scott and Shasta Order would regulate discharges from Irrigated Lands in order to implement the plans, policies, and requirements set forth in the Water Quality Control Plan for the North Coast Basin (Basin Plan) including the Scott River and Shasta River Total Maximum Daily Loads (TMDLs), and the State Water Board Irrigated Lands Regulatory Program objectives and precedents. Compliance with the Scott and Shasta Order would implement the Action Plan for the Scott River Watershed Sediment and Water Temperature TMDLs and the Action Plan for the Shasta River Watershed Temperature and Dissolved Oxygen TMDL adopted by the North Coast Water Board on December 7, 2005, and June 28, 2006, respectively. Compliance with the Scott and Shasta Order would also 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.

A. Project Objectives

Objective #1 – Attain and maintain water quality conditions protective of beneficial uses established in Chapter 2 and consistent with the water quality objectives (WQOs) established in Chapter 3 of the Basin Plan, and implement the Scott and Shasta TMDL Action Plans by:

1) Minimizing or preventing nitrate and pesticide discharges to groundwater.

2) Minimizing or preventing nutrient, oxygen consuming materials, and pesticide discharges to surface water.

3) Minimizing or preventing sediment discharges to surface water.

4) Minimizing or preventing temperature impacts to surface water from loss of riparian shade and tailwater discharges

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, the Sediment TMDL Implementation Policy, and Scott River and Shasta River TMDL Action Plans.

B. Summary of Impacts and Mitigation Measures

The analysis provided within this DEIR considers reasonably foreseeable Management Practices as examples of how the Scott and Shasta 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 Scott and Shasta Order, because it is not possible to exactly predict who will take action in response to the Scott and Shasta 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 Irrigated Lands which could be subject to the Scott and Shasta Order would be consistent with Management Practices commonly employed on Irrigated Lands in the Scott River and Shasta River watersheds. 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 Scott and Shasta Order to a less-than-significant level.

The adoption and implementation of the Scott and Shasta Order may result in adverse effects on the environment from the potential conversion of Important Farmland to a non-agricultural use and may result in conflicts with existing zoning for agriculture use or a Williamson Act contract. These two impacts may occur as a result of Riparian Vegetation Area Prohibitions and Standard Conditions 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 Important 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. The Proposed Project has the potential to significantly impact Agricultural Resources with no feasible mitigation.

Impacts to Biological Resources, Cultural Resources, and Tribal Cultural Resources were determined to be less than significant with mitigation. No Impact or Less than Significant Impacts were determined for 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.

II. Introduction

The California Regional Water Quality Control Board, North Coast Region (North Coast Water Board has prepared this Draft Environmental Impact Report (DEIR) 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 Irrigated Lands in the Scott River and Shasta River Watersheds (Scott and Shasta Order).

The Scott and Shasta Order would regulate non-point source discharges from Irrigated Lands and 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 Irrigated Lands in the Scott and Shasta River watersheds. 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[2]) from Irrigated Lands.

The Proposed Project does not address site development activities associated with the establishment of new Irrigated Lands. Impacts associated with the development of new Irrigated Lands would be subject to project-specific CEQA analysis, conclusions, and development of mitigation measures by local land use authorities and other public agencies. New Irrigated Lands would be expected to comply with conditions of the Scott and Shasta Order upon enrollment and this DEIR examines impacts that may occur related to owners or operators of Irrigated Land implementation of the Order.

This DEIR 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 DEIR 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 Scott and Shasta River Watersheds from non-point source discharges of waste from Irrigated Lands. Impairments to surface waters in these watersheds include excess sedimentation/siltation, depressed dissolved oxygen, and elevated temperature along with the threat of nutrient and pesticide discharge to groundwater and surface waters. These threats and impairments not only threaten

[2] 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.

human health, but also adversely affect aquatic life and achievement of beneficial uses.

B. Overview of Activities

The Proposed Project would involve adoption and implementation of the Scott and Shasta Order, which would continue an existing regulatory program (Scott and Shasta Waivers) and establish General Waste Discharge Requirements for Irrigated Lands in the Scott and Shasta River Watersheds. Refer to Attachment A for the Draft Scott and Shasta Order. Key elements of the Scott and Shasta Order include the following:

- 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
- Monitoring and Reporting Requirements

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 owners or operators of Irrigated Lands may undertake, construct/install, or implement to reduce their discharges. Examples include efficient irrigation, piped or lined irrigation conveyances, vegetative filter strips, retention/detention basins, riparian fencing, 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 Scott and Shasta Order. A list of reasonably foreseeable Management Practices is included as Attachment B.

C. Overview of CEQA Requirements

The basic purposes of CEQA are 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 Scott and Shasta Order that regulates discharges of waste from Irrigated Lands.

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 DEIR, 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. Organization of this DEIR

The DEIR 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 Scott and Shasta 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 DEIR.

Chapter III: Project Description. Describes the Proposed Project, including the location, purpose, and Project Objectives; proposed Scott and Shasta Order requirements; the reasonably foreseeable Management Practices that could be implemented under the Scott and Shasta 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 XI: 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 Scott and Shasta Order, and potential mitigation measures.

Chapter XII: 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 XIII: Alternatives Analysis. Presents project alternatives (including the No-Project Alternative) and provides an evaluation of each alternative in comparison with the project.

Chapter XIV: 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: References.

Attachment A: Draft General WDRs for Irrigated Lands

Attachment B: Management Practices

Attachment C: Siskiyou County General Plan Goals and Policies

Attachment D: Special Status Species

Attachment E: Estimated Costs of Compliance with Scott and Shasta Order

F. 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.

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

On January 31, 2025, 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 Scott and Shasta Order. The NOP and the attached Initial Study are available online at: https://ceqanet.opr.ca.gov/2025020048

On February 26, 2025, 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, seven timely written comment letters were received from the following entities:

1) Environmental Law Foundation, EPIC, Save California Salmon, and Water Climate Trust, and California Sportfishing Protection Alliance

2) Siskiyou County Farm Bureau

3) California Farm Bureau Federation

4) Grace Bennett

5) American Whitewater

6) California Department of Fish and Wildlife

7) Native American Heritage Commission

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
Environmental Law Foundation, EPIC, Save California Salmon, and Water Climate Trust, and California Sportfishing Protection Alliance	CEQA requires a clear statement of the need and objectives for a proposed project in its Draft Environmental Impact Report (DEIR), including an analysis of significant environmental impacts and mitigation measures. The DEIR must assess a "No Project" alternative and disclose cumulative impacts, particularly on salmon fisheries and tribal beneficial uses. Overall, CEQA mandates a thorough examination of both direct and indirect effects on the environment to ensure responsible planning and resource management.
Siskiyou County Farm Bureau	The Project should be separate WDRs and have separate CEQA analyses.
California Farm Bureau Federation	The EIR should provide relevant information, including applicable regulations, programs, and recent data on environmental conditions, market conditions, cropping practices, and their effects on water resources and regulatory impacts. The following environmental concerns must be considered and analyzed: a) accurate and complete identification of agricultural resources; b) impacts to agricultural lands; c) analysis of all impacts; d) a full range of alternatives; e) all impacts to agricultural resources must be fully mitigated; and f) social and economic impacts.
Grace Bennett	Ranchers have implemented numerous BMPs, including fencing to keep cattle out of streams, switching irrigation systems, building retention ponds, reducing grazing allotments, improving water management, and collaborating on infrastructure upgrades.

Commenter	Summary of Comments
American Whitewater	Provided information regarding extent of Water Contact Recreation and Navigation beneficial use in the two watersheds.
California Department of Fish and Wildlife	Provided information on CDFW's role and authority, analysis of impacts to biological resources, and considerations for avoidance, minimization, and minimization of impacts.
Native American Heritage Commission	Instructions related to the need and process for tribal consultation, and recommendations for cultural resources assessments.

2. Technical Advisory Group Input on Preliminary Draft Regulatory Requirements

From February 27, 2025 through March 30, 2026, the North Coast Water Board convened a Technical Advisory Group (TAG) to advise on conceptual options and preliminary draft regulatory language. The TAG was comprised of 34 individuals representing agricultural producers, tribes, environmental interests, technical service providers, partnering agencies, and community organizations. The TAG provided feedback on regulatory concepts in meetings held approximately every two months. Meeting topics included farm evaluations, enrollee category requirements, streamside area requirements, Coalition requirements, permitting and Coalition fees, and the Monitoring and Reporting Program.

3. Board Informational Updates, Workshops, and Community Outreach

In addition to the CEQA scoping process and the Technical Advisory Group described above, the North Coast Water Board conducted a series of public meetings, workshops, and field visits during development of the Scott and Shasta Order.

On May 7, 2025, the North Coast Water Board heard an informational update on the development of the Scott and Shasta Order, which included a staff presentation, an opportunity for oral public comment, and discussion among Board Members. The informational update was conducted in person and virtually. On May 8, 2025, the North Coast Water Board held a field trip to agricultural operations in the Scott River and Shasta River watersheds. The field trip was organized by the Siskiyou County Farm Bureau and attended by Board Members, staff, and members of the public.

On October 9, 2025, the North Coast Water Board held a field trip to Shackleford Creek, a major tributary to the Scott River. The field trip was organized by the Quartz Valley Indian Reservation and attended by Board Members, staff, and members of the public.

On October 10, 2025, the North Coast Water Board conducted a workshop on the conceptual framework for the Scott and Shasta Order. The workshop was conducted in person and virtually.

On January 6, 2026, North Coast Water Board staff presented concepts from the draft Scott and Shasta Order to the Siskiyou County Board of Supervisors at a public meeting and received feedback on foundational elements of the draft Order.

On February 4 and February 5, 2026, North Coast Water Board staff held public town halls in Fort Jones and Montague, respectively, to seek informal public feedback on core concepts of the draft Scott and Shasta Order. More than 150 people attended in person and virtually.

Between March and August 2026, North Coast Water Board staff attended farm tours in the Scott River and Shasta River watersheds, including a tour of the Shasta River Water Association delivery area, to discuss specific requirements of the draft Scott and Shasta Order and to receive targeted feedback from the regulated community.

Input received during these meetings, workshops, and field visits was considered in the development of the Scott and Shasta Order and this DEIR.

4. DEIR Public Review and Comment Period

The North Coast Water Board is now circulating this DEIR 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 DEIR 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 for Siskiyou 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 60-day public review period, during which the North Coast Water Board will receive and collate public and agency comments on the Proposed Project and the DEIR. During the public review period, North Coast Water Board staff will host a public workshop in at the Best Western Miner’s Inn located in Yreka, CA, Siskiyou County as indicated in the notice of availability. The purpose of the DEIR 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 DEIR.

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. The FEIR must include a list of all individuals, organizations, and agencies that provided comments on the DEIR 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 DEIR will be addressed in a FEIR. The FEIR will be a responses-to-comments document that, together with the DEIR and any related changes to the substantive discussion in the DEIR, 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 DEIR 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. (Cal. Code Regs., tit. 14, section 15094 (c)).

G. Submittal of Comments

The purpose of circulating the DEIR is to provide agencies and interested individuals with opportunities to comment on or express concerns regarding the DEIR's contents and analysis. During the public review period, the North Coast Water Board will hold a public workshop in the City of Yreka, Siskiyou 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 DEIR should be submitted (preferably via email in Microsoft Word or Adobe PDF format) and directed to the following:

Attention: Elias Scott

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 Scott and Shasta Irrigated Lands DEIR

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 DEIR also can be reviewed electronically at libraries throughout the North Coast Region.

Written comments received in response to the DEIR 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.

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 Scott River and Shasta River Watersheds. These watersheds include approximately 86,000 acres of irrigated agriculture of which approximately 44,000 acres are mapped as Important Farmland (DOC 2024). The majority of Important Farmland is cultivated for hay and managed for irrigated pasture with some grain cultivation. 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 Irrigated Lands in the Scott River and Shasta River watersheds through general waste discharge requirements (GWDRs) hereafter referred to as the Scott and Shasta Order (or the Proposed Project) and included as Attachment A.

The North Coast Water Board prepared this Draft Environmental Impact Report (DEIR) to provide a transparent and comprehensive evaluation of the environmental effects that could occur from implementing the Proposed Project. The DEIR 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 Scott and Shasta Order would establish GWDRs for Irrigated Lands and Associated Grazing Operations within the Scott and Shasta River watersheds. The primary activity that would require an owner or operator to enroll is the application of irrigation water to 25 acres or more of agricultural land under common ownership or operational control. Enrollment is required no later than 18 months after Order adoption. The Executive Officer may require enrollment of an operation below the threshold where site-specific evidence indicates it is causing or contributing to an exceedance of water quality objectives.

"Irrigated Lands" means any operation within the Scott River or Shasta River watersheds that applies water to 25 acres or more of land for the purpose of producing crops, forage, pasture, or other agricultural commodities, including but not limited to:

(a) Flood-irrigated, sprinkler-irrigated, or drip-irrigated cropland;

(b) Irrigated pasture used for livestock grazing or hay/forage production;

(c) Land receiving applied water for frost protection, dust suppression, leaching, or other agricultural management purposes;

(d) Land on which water is applied and from which tailwater, irrigation return flows, subsurface drainage, or stormwater runoff that has contacted irrigated land discharges or has the potential to discharge to waters of the state.

“Associated Grazing Lands" means non-irrigated lands used for livestock grazing that meet both of the following criteria:

(a) The non-irrigated grazing land is located on an irrigated parcel under common ownership or operational control (including lease or management agreements) with an Irrigated Agricultural Operation enrolled under this Order;

(b) The non-irrigated grazing land is functionally integrated with the enrolled Irrigated Agricultural Operation, as demonstrated by one or more of the following:

(i) Livestock are routinely rotated between irrigated and non-irrigated portions of the operation on a seasonal or periodic basis;

(ii) The non-irrigated grazing land is used to support livestock that are primarily maintained on irrigated pasture (e.g., dry-season holding areas, calving areas, or winter rangeland for livestock that graze irrigated pasture during the irrigation season);

(iii) Feed, forage, or hay produced on the irrigated portions of the operation is used to supplement grazing on the non-irrigated land, or vice versa;

(iv) The non-irrigated grazing land and the irrigated land are managed under a single, agricultural business entity, or unified operational structure.

The Scott and Shasta Order does not require enrollment of Standalone Dryland Grazing Operations, operations covered under the General Waste Discharge Requirements for Dairies, operations individually regulated under site-specific waste discharge requirements, or Irrigated Lands determined by the Executive Officer to qualify for the Stewardship Category. The Stewardship Category is available to operations that document sustained compliance together with maximized irrigation efficiency and no tailwater discharge to perennial or intermittent streams, riparian, wetland, and instream restoration across specified thresholds of stream frontage, soil health practices, and hydrologic disconnection of appurtenant agricultural roads, confirmed through a Threat-to-Water-Quality Assessment conducted by staff. Exclusion from enrollment does not relieve any discharger of obligations under the Scott River or Shasta River TMDL Action Plans, and the Executive Officer retains authority to require enrollment, technical reports, monitoring, and corrective action.

This section provides: a description of background and need for the proposed project, project area; project objectives; the requirements of the Scott and Shasta Order; project characteristics; agencies that will use this document; and anticipated conditions following adoption of the Scott and Shasta 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.

Irrigated Lands can discharge or threaten to discharge wastes to surface water and groundwater and impair beneficial uses of those waters. Stormwater runoff can result in soil erosion and deliver excess sediment to nearby streams and may also exhibit the potential to carry additional pollutants adhered to soil particles, such as manure, pesticides, and nutrients to receiving water. The removal and suppression of shade-providing trees and vegetation, via tillage, grazing, and other anthropogenic interventions along watercourses can result in increases to in-stream temperatures, reductions to the sediment and pollutant trapping potential that these areas provide, degradation of geomorphic function, simplified channel geometry, and insufficient habitat or food for critical species. Flood irrigation can also prevent achievement of the water quality objective for temperature as a result of spreading water shallowly across the landscape, reducing its thermal mass and heating it quickly from exposure to direct solar radiation and high atmospheric temperatures, and discharging heat loads contained in tailwaters to surface waters. Flood irrigation can mobilize nutrients, fine sediments, and manure and when not managed appropriately can result in discharges of waste in irrigation tailwater directly to surface water and groundwater.

Non-point source discharges from over 86,000 acres of irrigated lands in the Scott and Shasta River watersheds discharge or threaten to discharge pollutants such as sediment, pesticides, and nutrients; and can affect stream temperature from loss of riparian shade and discharge of tailwaters. The Scott and Shasta Order will regulate non-point source discharges of waste to both impaired and unimpaired/high quality waters. The Scott River watershed is on the 303(d)[3] list due to impairment from excess sediment, biostimulatory conditions, and elevated temperature and the Shasta River watershed in on the 303(d) list for elevated temperature and depressed dissolved oxygen. Both watersheds have USEPA approved TMDLs and TMDL Action Plans

[3] State and Regional Water Boards assess water quality monitoring data for California's surface waters every two years to determine if they contain pollutants at levels that exceed protective water quality standards. Water bodies and pollutants that exceed protective water quality standards are placed on the State's 303(d) List. In California, this determination is governed by the Water Quality Control Policy for developing California's Clean Water Act Section 303(d) list. U.S. EPA must approve the 303(d) List before it is considered final. Placement of a water body and pollutant on the 303(d) List requires the development of a Total Maximum Daily Load (TMDL), a water quality improvement plan. In some cases, other regulatory programs will address the impairment instead of a TMDL, or the water quality may improve as a result of remedial actions or implementation of control measures.

incorporated into the Water Quality Control Plan for the North Coast Basin for the aforementioned impairments.

B. Existing Physical Conditions

In the Scott and Shasta River watersheds, farming of hay and grain crops along with irrigated pasture are the predominant forms of irrigated agriculture. Irrigated Lands may include: (1) irrigated areas; (2) associated dry land grazing (3) agricultural buildings and storage areas; (4) irrigation systems; (5) road networks; and (6) riparian zones. There is a long history of irrigated agricultural and livestock grazing in the Scott and Shasta River watersheds dating to the late nineteenth century. In the Scott River watershed, irrigated agricultural typically occurs on farms located within the narrow alluvial valley of the Scott River and the lower reaches of its tributaries. In the Shasta River watershed, irrigated agriculture typically occurs on farms and ranches near the Shasta River and its primary tributaries. Livestock grazing in these watersheds typically occurs in the surrounding mountains and uplands with some on irrigated pasture.

Alfalfa stands are typically planted between early spring and fall preceded by soil tillage, fertilization, and herbicide application to improve growing conditions. Alfalfa water demand is typically 3 acre-feet per acre and irrigation generally occurs between early spring into fall. The hay is harvested through multiple cuttings across the growing seasons and stands may remain productive for a half dozen years. Grains such as spring and winter wheat are seeded annually preceded by soil tillage, fertilization, and herbicide application. Spring wheat is typically harvested in fall while winter wheat is harvested in the late spring with a typical water demand 1.5 acre-feet per acre. Irrigated hay and grain crops are typically planted on gently sloping leveled fields with interior and perimeter roads. Livestock grazing occurs on both irrigated and non-irrigated pasture. Irrigated pasture is typically seeded during the cooler periods of the growing season with a forage mixture that may also be cut for hay. Prior to seeding, soil tillage, fertilization and herbicide application are performed. Grazing lands are used on a rotational basis with differing levels of intensity.

Irrigation in the Scott and Shasta watersheds occurs through a variety of techniques and water sources. Along the Scott River and its tributaries, irrigation water is typically sourced from groundwater wells interconnected with surface water. In some cases, irrigation water is supplied through surface water diversions operated by both irrigation districts and private entities. In the Shasta Valley, irrigation water is sourced primarily from privately operated surface water diversions and groundwater wells interconnected with large spring complexes some of which are operated by irrigation districts. Water is conveyed from source to point of use via both open ditches and applied using flood irrigation techniques as well as using pumps/pipes and applied using a variety of sprinkler systems.

Irrigated Lands include road networks to access and transit through farms and ranches. Roads can change drainage patterns and the distribution of runoff along a hillslope. Inboard ditches and compacted road surfaces substantially increase the rate, volume,

and locations of direct runoff from these areas, which can cause the road surfaces and ditches to rapidly erode. Road cuts and fills alter drainage pathways and the distribution of mass on the hillslope, often contributing to greater rates of landslide activity. Road stream crossings may be undersized for the conveyance of peak runoff rates, and/or may be easily plugged by large debris during storms causing overtopping and/or diversion of channel flows, with resulting road crossing erosion, and/or gully erosion through diversion of channel flows to another channel or hillslope location.

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 implement the State's Non-Point Source Policy, Antidegradation Policy, and the Order must be consistent with the Basin Plan (including the Scott and Shasta TMDL Action Plans) and the Scott and Shasta TMDLs as well as 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 2004). 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, dischargers, 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 Regional 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.

Table III-1: Key ESJ Elements

Topic / Element	Precedential Language	Page No.
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 regional water board shall be precedential statewide." 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." "The requirement for all growers to submit summary data from the plans shall be precedential statewide."	35, 36
Nitrogen Applied and Nitrogen Removed Reporting	"The requirement for field-level AR data submission to the regional 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." "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…"	51, 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

Topic / Element	Precedential Language	Page No.
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 regional 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	"This 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] shall be precedential statewide for all third-party irrigated lands regulatory programs."	53
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 irrigated lands regulatory programs statewide."	62
Groundwater Trend Monitoring	"The requirement for groundwater quality trend monitoring shall be precedential for irrigated lands regulatory programs statewide…"	64

Topic / Element	Precedential Language	Page No.
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 regional 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 State and Regional 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 Scott and Shasta Order must be consistent with the Anti-Degradation Policy.

4. Scott River and Shasta River Total Maximum Daily Loads (TMDL) and Action Plans

A TMDL is the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. TMDLs are established in accordance with Section 303(d) of the Federal CWA, which requires states to identify waters not attaining applicable water quality standards, establish a priority ranking for identified impaired waters, and establish the TMDL for priority- ranked impaired waters.

The North Coast Water Board complies with Section 303(d) by periodically assessing the condition of rivers, lakes, and bays within their jurisdiction and identifying the waterbodies as "impaired" if they do not meet water quality standards. These waters, and the pollutant or condition causing the impairment, are placed on the 303(d) List of

Impaired Waters, and ranked according to factors such as the severity of the problem, potential to restore beneficial uses, availability of data, etc. TMDLs are then developed based on a schedule that accounts for priority ranking, availability of resources, and other considerations. Once adopted by the North Coast Water Board and approved by the State Water Board, Office of Administrative Law, and the U.S. Environmental Protection Agency (USEPA), TMDLs establish:

1) an allowable amount of a pollutant to a waterbody,

2) proportional responsibility for controlling the pollutant,

3) numeric indicators of water quality; and

4) implementation to achieve the allowable amount of pollutant loading.

The Shasta River Watershed was added to the Clean Water Act (CWA) Section 303(d) list in 1992 due to low dissolved oxygen and in 1994 due to elevated water temperatures. Low dissolved oxygen and elevated water temperatures have impaired many designated beneficial uses of the Shasta River and its tributaries. Several of the primary beneficial uses impaired are those uses associated with the cold-water salmonid fishery. Salmonid populations in the Shasta River watershed have declined significantly from historic levels and coho salmon are listed as threatened under the state and federal Endangered Species Acts. Low dissolved oxygen and elevated water temperatures have resulted in the non-attainment of water quality objectives for dissolved oxygen and water temperature. The Action Plan for the Shasta River Temperature and Dissolved Oxygen Total Maximum Daily Loads, hereinafter the Shasta River TMDL Action Plan, was adopted by the North Coast Water Board on June 28, 2006, (Resolution No. R1-2006-0052) and amended into the Water Quality Control Plan for the North Coast Region (Basin Plan) on January 26, 2007, following approval by the United States Environmental Protection Agency. The adoption Shasta River TMDL Action Plan Basin Plan Amendment was a regulatory action subject to the requirements of Public Resources Code section 21159. Consistent with the requirements of that section, the CEQA Environmental Checklist included an analysis of environmental impacts, mitigation measures to reduce or avoid those impacts, and alternative means of compliance that would avoid or eliminate environmental impacts. (Pub. Resources Code, § 21159, subd. (a)(1)-(3); Cal. Code Regs., tit. 14, §§ 15187, subds. (b), (c)(1)-(3), 15189.) The analysis in the CEQA Environmental Checklist[4] took into account a reasonable range of environmental, economic, and technical factors. The analysis determined that the Shasta River TMDL Action Plan Basin Plan Amendment would not have a significant adverse effect on the environment. The North Coast Water Board reviewed and considered the substitute documents and found that the analyses

[4] https://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/shasta_river/060707/24appendixh.pdf

comply with the requirements of the State Water Board's certified regulatory CEQA process.

The Shasta River TMDL Action Plan describes the implementation actions necessary to achieve the Dissolved Oxygen and Temperature TMDLs and attain water quality standards in the Shasta River watershed. The temperature source analysis in the Temperature TMDL identifies the sources (or factors) that affect the temperature of the Shasta River watershed. Five primary factors have been identified as affecting stream temperatures in the Shasta River watershed. Human activities have affected, or have a potential to affect, each of these factors. The factors include:

• Reduced stream shade resulting from agricultural practices including grazing and livestock activities;

• Tailwater return flows;

• Flow modification and diversion;

• Spring inflow; and

• Lake Shastina and minor channel impoundments.

The Shasta River dissolved oxygen source analysis in the Dissolved Oxygen TMDL identifies the primary processes affecting dissolved oxygen concentrations in the Shasta River watershed are photosynthesis and respiration of aquatic plants, nitrogenous deoxygenation (termed nitrogenous biochemical oxygen demand or NBOD), and sediment oxygen demand. The following anthropogenic sources or factors, in no specific order, adversely affect dissolved oxygen conditions in the Shasta River:

• Tailwater return flows;

• City of Yreka nonpoint and wastewater infiltration sources;

• Lake Shastina and minor impoundments;

• Agricultural practices including grazing and livestock activities that reduce riparian shade and deliver oxygen consuming materials to surface waters; and

• Flow modification and diversion.

The Shasta River TMDL Action Plan describes the implementation actions necessary to achieve the Dissolved Oxygen and Temperature TMDLs and attain water quality standards in the Shasta River watershed. Table III-2 lists actions related to the Proposed Project.

Table III-2 Related Actions from the Shasta River TMDL Action Plan

Action	Responsible Party
Submit annually to the North Coast Water Board a written summary of all range and riparian management actions taken to achieve compliance with water quality standards, the TMDLs, and the NPS Policy.	Landowners
Take appropriate permitting actions as necessary to address the removal and suppression of vegetation that provides shade to a waterbody in the Shasta River Watershed. Such actions may include, but are not limited to, prohibitions, waste discharge requirements (WDRs) or waivers of WDRs for grazing and rangeland activities, farming activities near waterbodies, streambank stabilization activities, and other land uses that may remove and/or suppress vegetation that provides shade to a waterbody.	North Coast Water Board
By January 26, 2009, and again by January 26, 2011, report in writing to the North Coast Water Board, on the measures taken to increase the dedicated cold water instream flow in the Shasta River by 45 cfs or alternative flow regime that achieves the same temperature reductions from May 15 to October 15. By January 26, 2012, provide a final report to the North Coast Water Board documenting dedicated cold water instream flow in the Shasta River in relation to the 45 cfs goal or alternative flow regime that achieves the same temperature reductions from May 15 to October 15.	Water Diverters

The Scott River Watershed was added to the Section 303(d) list in 1992 due to elevated sediment levels, in 1998 due to elevated water temperatures, and in 2012 due to observed biostimulatory conditions between Young's Dam and Boulder Creek, tributary to the Scott River. Excessive sediment loads, elevated water temperatures, and

biostimulatory conditions have impaired many designated beneficial uses of the Scott River and its tributaries. Several of the primary beneficial uses impaired are those uses associated with the cold-water salmonid fishery. Salmonid populations in the Scott River watershed have declined significantly from historic levels and coho salmon are listed as threatened under the state and federal Endangered Species Acts. Excessive sediment loads and elevated water temperatures have resulted in the non-attainment of water quality objectives for sediment, suspended material, settleable material, and water temperature.

The Action Plan for the Scott River Sediment and Temperature Total Maximum Daily Loads (Scott River TMDL Action Plan) was adopted by the North Coast Water Board on December 7, 2005, and amended into the Basin Plan on September 8, 2006, following approval by the United States Environmental Protection Agency. Adoption of the Scott River TMDL Action Plan Basin Plan Amendment was therefore a regulatory action subject to the requirements of Public Resources Code section 21159. Consistent with the requirements of that section, the CEQA Environmental Checklist and Determination included an analysis of environmental impacts, mitigation measures to reduce or avoid those impacts, and alternative means of compliance that would avoid or eliminate environmental impacts (Pub. Resources Code, 21159, subd. (a)(1)-(3); Cal. Code Regs title 14, §§ 15187, subds. (b), (c)(1)-(3) and 15189.) The analysis in the CEQA Environmental Checklist and Determination[5] took into account a reasonable range of environmental, economic, and technical factors. CEQA analysis determined that the Scott River TMDL Action Plan Basin Plan Amendment would not have a significant adverse effect on the environment. North Coast Water Board staff presented the CEQA Environmental Checklist and Determination to the North Coast Water Board, which reviewed and considered the analysis before adopting the amendment.

The Scott River TMDL Action Plan describes the implementation actions necessary to achieve the Sediment and Temperature TMDLs and attain water quality standards in the Scott River watershed. Table III-3 lists actions related to the Proposed Project.

Table III-3 Related Actions from the Scott River TMDL Action Plan

5 https://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/scott_river/092005/sr/41appendixe.ceqachecklist.pdf

Action	Responsible Party
Develop, submit, and implement an Erosion Control Plan and a Monitoring Plan for roads and sediment waste discharge sites.	Parties responsible for roads and sediment waste discharge sites.
Develop and take appropriate permitting and enforcement actions to address the human caused removal and suppression of vegetation that provides shade to a waterbody in the Scott River Watershed.	North Coast Water Board.
Develop, submit, and implement a Grazing and Riparian Management Plan and a Monitoring Plan.	Parties responsible for grazing on private lands.

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.

The Substitute Environmental Document[6] 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 would be implemented on Irrigated Lands in the Scott River and Shasta River watersheds (Figure 1). Located within Siskiyou County, the Scott River watershed (813 square miles) and the Shasta River watershed (795 square miles) are major tributaries to the Klamath River. The Shasta River watershed shares divides with the Scott River to the west, Butte Creek to the east, and the Trinity and Sacramento Rivers to the south. The Scott River watershed shares divides with the Shasta River to the east, the Trinity River to the south, and the Salmon River to the west.

The Shasta River Watershed is located in central Siskiyou County and is bounded by Mount Shasta to the south, the Klamath Mountains to the west, and the Cascade Range to the east. Within the watershed, the Shasta River Valley trends northward and is

[6] 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).

drained by the Shasta River, a tributary to the Klamath River. The Shasta River watershed consists of a north dipping and topographically rough valley floor surrounded by mountain terrain. Topography ranges in elevation from just over 2,000 feet above mean sea level (amsl) near the confluence with the Klamath River to over 14,100 ft amsl near the volcanic peak of Mount Shasta. The Shasta River flows northerly across the Shasta Valley starting above Lake Shastina which is impounded by Dwinnell Dam. Primary tributaries to the Shasta River are Parks Creek, Big Springs Creek, Willow Creek, Little Shasta River, and Yreka Creek.

The Shasta Valley Groundwater Basin, a broad northward dipping valley covered with relatively young deposits (alluvium, landslide deposits, and volcanic flows/debris), occupies over 40 percent of the watershed and contains the majority of water-bearing geologic formations, or aquifers. The groundwater system consists of a mixture of alluvial and volcanic formations, with the latter consisting of aquifer features ranging from water-laden lava tubes to water- and –sediment filled pockets within the cracks and crevices in the volcanic deposits. Much of the complexity and unique juxtaposition of markedly differing geologic formations result in a multitude of springs or diffuse wetlands where groundwater more easily discharges to the surface than into less conductive aquifer materials or where groundwater elevations are close to or exceed ground level. The discharge levels of the springs can vary over many orders of magnitude from one spring to the next and can also significantly vary seasonally at the same spring as well as year-to-year averages. The largest spring complexes, such as the Big Springs complex, contribute a significant quantity of water to the surface water features in the watershed.

The Shasta River watershed generally has a mixture of warm-summer Mediterranean and high desert environment climates with distinctive seasons of cool, wet winters and warm, dry summers. The orographic effect of the mountains to the west and south sides of the watershed creates a rain shadow in its eastern areas. The mountains forming the south and westerly boundaries of the watershed historically receive greater annual precipitation (30–70 inches) in comparison to the east side of the watershed (12–15 inches). The rainy season, which generally begins in October and lasts through April, accounts for about 80 percent of total annual rainfall.

Approximately 16,000 people live in the Shasta River watershed and its incorporated cities of Yreka, Weed, and Montague. The majority of the land within the Shasta River Watershed is under private ownership with the remaining area managed by the California Department of Fish and Wildlife (CDFW), United States Bureau of Land Management (BLM), and the United States Forest Service (USFS).

The Scott River watershed is encircled by mountain ranges with elevations that can exceed 8,000 ft above mean sea level (amsl). The Scott River Valley Groundwater Basin is formed by the relatively narrow alluvial valley of the Scott River. Much of the mainstem Scott River in its alluvial valley and the lower reaches of tributaries have been stabilized by riprap to prevent erosion, with later bank stabilization projects conducted using bioengineering approaches. The US Army Corps of Engineers built levees and

straightened the mainstem Scott for flood control in the middle of the valley in the late 1930's following catastrophic flooding. In areas where past practices have not resulted in extensive incision, general landform processes have created a wide, flat floodplain and a sinuous channel pattern where bars, islands, side and/or off-channel habitats are common. In the mid-1900s, a steam-powered mining dredge overturned the alluvial architecture of 4.25 miles of the Scott River (above river mile 51.5) in search of gold near Callahan. Prior to the mining operation, the streambed was comprised of layers of sediment with the lightest, least porous material on top and there was ample water year-round. Now, Scott River flows go subsurface in the summer and during the rainy months, the river segment is unnaturally shallow, and the riverbank is practically denuded of vegetation because native plants cannot take root in the rock piles left by the mining machine. The gradient of the Scott River through Scott Valley averages less than a 0.1% slope, typical of a broad, alluvial valley. Some of the larger tributary streams are Etna Creek, French Creek, Kidder Creek, South Fork Scott, East Fork Scott and Shackleford Creek.

Within the Scott River Valley Groundwater Basin, the Scott River flows south to north until it turns westward near Fort Jones. The Scott River flows northwest out of the groundwater basin, traveling around the Scott Bar Mountains through a steep canyon to join the Klamath River. The Scott Bar, Marble, Salmon, and Scott Mountains bound the Watershed to the north, west, southwest, and south, respectively, while hills and ridges east of the Scott River Valley divide the Scott and Shasta River watersheds. These ranges exert a strong orographic effect on incoming storms, which allows the higher elevation mountains, along the west and south side of the Scott River watershed, to receive 60 to 80 inches of precipitation annually. In contrast, the rain-shadow effect that the west-side mountains create reduces the amount of annual precipitation to 12 to 15 inches on the eastside of the watershed. Elevation of the Scott River Valley ranges from 3,130 feet at Callahan in the southern end, to 2,747 feet at Ft. Jones near the valley center, to 2620 feet at the north end. The mouth of the Scott River below Scott Bar is at 1,600 feet.

The Scott River Watershed experiences distinct seasons of a Mediterranean type. Predominant weather systems are from the northwest with diminishing levels of precipitation as systems spread southeast. Air temperatures in Fort Jones range from a mean of 69.7 F in the summer to a mean of 32.9 F in the winter. The Scott River is an inland drainage with hot dry summers. Summer temperatures commonly exceed 100 F during a four-week period including later July and early August. Average annual precipitation for the entire Scott River watershed, including high and low elevation areas, is 36 inches. Fort Jones, located at the northern end of Scott Valley, has averaged 21.8 inches since records began in 1936. In Fort Jones, rainfall has ranged from 10.1 inches to 35.07 inches, showing the wide variation that can occur. Most of the precipitation in the Scott River watershed falls on the west side, with snow prevailing during the winter above the 5,500 foot-level. Snowfall is an important component of total precipitation. Approximately 8,000 people live in the Scott River Valley Groundwater Basin and its two towns of Fort Jones and Etna. The alluvial portion of Scott River

Valley from Callhan to the lower end encompasses nearly 60,000 acres, which represents 11.5 percent of the watershed.

E. Existing Regulatory and Voluntary Programs

1. Existing Regulatory Programs

Discharges and controllable water quality factors from Irrigated Lands in the Project Area have been regulated by the Scott and Shasta Waivers (Waivers of Waste Discharge Requirements) beginning in 2006, with subsequent revisions in 2012 and 2018 (Order R1-2018-0018 and Order R1-2018-0019 for the Scott and Shasta Waivers, respectively), and renewals in 2023 and 2025. These regulatory orders waived the requirement to file a Report of Waste Discharge (ROWD) and obtain WDRs, pursuant to Water Code section 13269, for discharges addressed in the Scott River and Shasta River TMDL Action Plans, for dischargers who choose to participate in the ongoing collaborative programs including the implementation, as applicable, of the recommended measures described in the TMDL Action Plans. In the Scott River watershed, 24 ranches have been assessed for compliance with applicable conditions, representing approximately 32 percent of the stream frontage in the watershed adjacent to agricultural activities. Of these 24 ranches, 9 Grazing and Riparian Management Plans have been required and are now being implemented to address documented water quality concerns. In the Shasta, 15 Ranches have been assessed for compliance, including approximately 22 miles of the Shasta River mainstem frontage, the entire Parks Creek and Big Springs Creek frontage, and approximately 1.3 miles of the Little Shasta River. 13 ranches have been required to submit and now operate under Ranch Management and Monitoring Plans, or the equivalent as determined by North Coast Water Board staff.

2. Voluntary Water Quality Management

Since adoption of the TMDLs, owners and operators of Irrigated Lands, in coordination with watershed partners, voluntarily implemented management practices including riparian fencing, off-channel stock water systems, tailwater detention and recovery systems, riparian planting, and instream restoration projects focused on salmonid habitat improvements. These practices and projects have been supported by both the investment of individual landowners as well as agency funded grants and contracts. Additionally, a group of landowners in the upper Shasta River, below Lake Shastina and above Julien Creek, entered into a voluntary Safe Harbor Agreement with NOAA NMFS beginning in 2021. These agreements include commitments by the landowners to implement specific actions on their properties to support and improve salmonid habitat in exchange for coverage of incidental take of listed species under routine ranch management practices. The Upper Shasta Safe Harbor Agreement was remanded by a federal judge for insufficient environmental impact assessment and is currently undergoing further environmental assessment in response to this court action.

In addition to the regulatory work conducted under the Scott and Shasta Waivers, the North Coast Water Board cultivated voluntary grant-funded projects that total 6 million

dollars since the adoption of the Scott River TMDLs for sediment and temperature to support TMDL related work in the watershed. These projects have resulted in the following benefits to water quality:

- Approximately 25 acres of riparian plantings;
- 17.8 miles of riparian fencing;
- 2,200 feet of bioengineered bank restoration;
- Various geomorphic assessments;
- Hydrologic disconnection of 53 rural road treatment sites
- Reach-scale restoration planning; and
- Development of the Scott Valley Integrated Hydrologic Model, which is used by the Siskiyou County Groundwater Sustainability Agency to develop and implement the Scott Valley Basin Groundwater Sustainability Plan and is under active development guided by the State Water Resources Control Board to understand groundwater and surface water dynamics under drought conditions.

In the Shasta River Watershed, the North Coast Water Board cultivated voluntary grant-funded projects that total approximately 6 million dollars since the adoption of the Shasta River TMDLs for dissolved oxygen and temperature to support TMDL-related work in the watershed. This funding has resulted in the removal of one channel-spanning dam on the mainstem Shasta, installation of 12.3 miles of riparian fencing, 21 off-channel stock water systems, 1.4 miles of riparian plantings, two projects improving irrigation diversions on cold-water springs that resulted in an increase of spring water left instream, permanently stopped 10 cfs of tailwater from entering the Shasta River by funding the implementation of various best management practices on private land, and an updated assessment of current tailwater discharge conditions in the lower Shasta River. Continuous water quality monitoring in the Shasta River includes 12 dissolved oxygen stations, 32 temperature stations, and four meteorological stations measuring atmospheric conditions within the riparian zone. To the extent that management practices were implemented prior to initiating development of the Scott and Shasta Order, they are considered to be part of the baseline physical conditions.

F. Project Purpose and Objectives

The purpose of the Scott and Shasta Order is to:

Objective #1 – Attain and maintain water quality conditions protective of beneficial uses established in Chapter 2 and consistent with the water quality objectives (WQOs) established in Chapter 3 of the Basin Plan, and implement the Scott and Shasta TMDL Action Plans by:

1) Minimizing or preventing nitrate and pesticide discharges to groundwater.

2) Minimizing or preventing nutrient, oxygen consuming materials, and pesticide discharges to surface water.

3) Minimizing or preventing sediment discharges to surface water.

4) Minimizing or preventing temperature impacts to surface water from loss of riparian shade and tailwater discharges.

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, the Sediment TMDL Implementation Policy, and Scott River and Shasta River TMDL Action Plans.

G. Summary of the Scott and Shasta Order

The Proposed Project involves adoption of a regulatory order in the form of General Waste Discharge Requirements for the non-point source discharge of waste (to surface waters and groundwaters) from Irrigated Lands in the Scott and Shasta River watersheds. 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) from Irrigated Lands.

Key elements of the Scott and Shasta Order include the following:

- Irrigation, Nutrient, Oxygen Consuming Material 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
- Monitoring and Reporting Requirements

1. Irrigation, Nutrient, and Pesticide Management for Surface Water Protection

Enrollees would be required to implement Management Practices to prevent and minimize discharges of nutrients, oxygen-consuming materials, and pesticides, as well

as heat loads from irrigation tailwater, to surface waters. For tailwater, the Scott and Shasta Order sets water quality benchmarks that apply where tailwater leaves the enrolled parcel. The benchmarks are expressed as seasonal temperature values and as concentrations of the nutrients that contribute to the temperature, dissolved oxygen, and biostimulatory impairments in the two watersheds, and they vary by watershed, by season, and, on the mainstem Shasta River, by reach. An Enrollee with tailwater discharges would comply through one of two pathways, which the Enrollee elects.

Under the first pathway, the Enrollee would eliminate tailwater discharge to perennial and intermittent streams, so that no tailwater leaves the enrolled parcel. Under the second, the Enrollee would continue to discharge tailwater but would treat and control it so that it meets the applicable benchmarks where it leaves the parcel, and would monitor the discharge to confirm that it does. Both pathways run on a time schedule of approximately eight years from the enrollment deadline. Both begin with a period of self-directed implementation and, where the objective has not been met within the first two years, proceed to a plan prepared and certified by a qualified professional.

The two pathways differ in the outcome required rather than in the kinds of actions taken on the ground. The reasonably foreseeable Management Practices are the same for both and are the practices described below. An Enrollee eliminating discharge would size and combine them to retain tailwater on the parcel; an Enrollee treating and controlling discharge would size and combine them to meet the benchmarks. Practices may be implemented by an individual Enrollee or shared among Enrollees whose fields drain to a common point. Reasonably foreseeable Management Practices with the greatest potential for environmental impacts 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 irrigation tailwaters or stormwater. 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 an appropriate location. Maintenance activities may include periodic inspections of the basin, removal of accumulated sediment, removal of debris/trash, replacement of damaged parts, and vegetation management.
>
> Irrigation efficiency improvements such as replacing less efficient methods with

more efficient method of applying irrigation water. This may include developing and implementing an irrigation water management plan in addition to infrastructure improvements such as pumps, pipes, and sprinkler systems (e.g., center pivot, wheel line).

2. Streamside Area Management for Surface Water Protection

Enrollees would be required to establish and maintain a Streamside Area measured from the waterside edge of vegetation at ground level: 100 feet along perennial streams and the mainstems of the Scott and Shasta Rivers, 60 feet along intermittent streams, and 35 feet along ephemeral streams. The Streamside Area consists of two contiguous components. The Riparian Vegetation Area extends from the waterside edge of vegetation for an average width of 35 feet and is subject to a prohibition on tillage; within it, Enrollees must allow the natural establishment and abundance of native riparian vegetation and the essential functions that support beneficial uses. The balance of the Streamside Area is a Vegetated Buffer, within which new permanent structures appurtenant to agricultural operations, storage of chemicals, oil, or petroleum products, and placement of construction materials, refuse, or plant waste are not allowed. Existing riparian vegetation within the Streamside Area may not be removed except for restoration and native planting, work necessary for public health or safety including fire fuel management, maintenance of existing watercourse crossings and linear utilities, control of invasive species, permitted surface water diversions, and other projects approved by the Executive Officer. All-Season and Seasonal Roads existing within the Vegetated Buffer at Order adoption may retain their original footprint; Seasonal Roads must carry a minimum of 90 percent ground cover from December 15 to April 1 each year, and All-Season Roads must be improved and maintained to minimize sediment discharge. The reasonably foreseeable Management Practices with the greatest potential for environmental impacts are the tillage prohibition within the Riparian Vegetation Area and the establishment of vegetated buffer strips.

Livestock grazing within Streamside Areas is subject to eight standard conditions at enrollment, addressing browsing of riparian vegetation, trampling and loafing damage to woody vegetation, a minimum 6-inch stubble height for non-woody vegetation, limits on manure deposition in the wetted area, maintenance of livestock crossings, bank trampling, the presence of salmonid redds, and a grazing window of June through August. In lieu of the standard conditions, an Enrollee may develop and implement a Grazing and Riparian Management Plan prepared or certified by a Qualified Professional and submitted to the Executive Officer within one year of enrollment, subject to photo-point monitoring, annual reporting, and site evaluation not less than once every three years.

In lieu of meeting the Riparian Vegetation Area width, an Enrollee may mitigate the difference between riparian vegetation existing at Order adoption and the required width through restoration and protection of native riparian vegetation at another location within the same HUC-12 sub-watershed of similar or greater ecological value and function.

The Restoration Area must be no less than 200 percent of that difference, must be placed in a conservation easement with sufficient financial resources to fund 20 years of maintenance and replacement planting, and must be implemented and placed in easement within five years of Order adoption. A proposal must be submitted to the Executive Officer within six months of the enrollment deadline.

3. Sediment and Erosion Control for Surface Water Protection

Enrollees would be required to implement management practices to prevent and minimize soil erosion and discharge of sediment to surface waters. Additionally, within 10 years of the enrollment deadline, Enrollees would be required to implement and maintain the following minimum management practices on all Hydrologically Connected Appurtenant Agricultural Roads: a) Ditches are drained frequently by functional ditch relief culverts and/or rolling dips. b) Outflow from ditch relief culverts does not directly discharge to streams. c) Ditches and road surfaces drainage do not discharge (through culverts and/or rolling dips) onto active or potential landslides and/or into gullies. d) Fine sediment contributions from roads, cutbanks, and ditches are minimized by utilizing road surface shaping (outsloping, insloping, or crowning), rolling dips, ditch relief culverts, water bars, and other measures to disperse road surface runoff and reduce or eliminate sediment delivery to the surface waters. Existing culverted stream crossings must have critical dips installed at approaches where diversion potential exists, and trash barriers or deflection structures at inlets with high plug potential, within 10 years of the enrollment deadline. New and replaced crossings must be designed for the 100-year flood flow including woody debris and sediment, must not divert the stream from its channel, must be installed at the base of the fill in line and at grade with the natural channel, must have stable non-eroding abutments and stable fills, must be hydrologically disconnected from approaching road surfaces and ditches to the maximum extent feasible, and must meet California Department of Fish and Wildlife and National Marine Fisheries Service fish passage criteria where fish-bearing. 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 in a legal manner. Maintenance activities may include periodic inspections of the basin, removal of accumulated sediment, removal of debris/trash, replacement of damaged parts, and vegetation management.

Stormproofing Roads: This includes earthwork construction of rolling dips, critical dips, and outsloping to disconnect road hydrology and reduce the potential for sediment erosion and delivery to surface water.

4. Irrigation, Pesticide, and Nutrient Management for Groundwater Protection

Enrollees would be required to 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 Scott and Shasta 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. Based on ambient groundwater characterization, the 2026 Five-Year Update to Resolution R1-2021-0006, and the low nitrogen inputs characteristic of the irrigated pasture, alfalfa, grain, and grass hay operations in these watersheds, the North Coast Water Board has determined that no geographic area regulated by the Scott and Shasta Order meets the definition of a high vulnerability area under the East San Joaquin Order. The Scott and Shasta Order therefore does not require certification of Irrigation and Nutrient Management Plans, does not establish Groundwater Protection Formulas, Values, or Targets, and does not require reporting of Nitrogen Removed. Enrollees would report Nitrogen Applied — from fertilizers, from organics and compost, and via applied water — by Field or Management Unit in the annual Farm Evaluation, together with an irrigation efficiency determination of deficit, full, or over irrigation relative to the agronomic rate.

5. Monitoring and Reporting Requirements

Irrigated Lands would be required to submit property-specific water quality assessments that identify existing discharges, potential discharges, riparian conditions, critical instream habitat areas, cold water resources, irrigation efficiency measures, and infrastructure that aids in water quality management.

The Monitoring and Reporting Program consists of required monitoring applicable to all Enrollees and conditional monitoring that applies according to the compliance pathway an Enrollee elects. Required monitoring consists of Representative Groundwater Monitoring at representative wells, sampled annually for nitrate, total dissolved solids, and field parameters; and Drinking Water Supply Well Monitoring for nitrate at each Drinking Water Supply Well on an enrolled parcel, annually for three years and thereafter every five years where results remain below 5 mg/L. Conditional monitoring consists of Riparian Photo-Point Monitoring, required of Enrollees implementing a

Grazing and Riparian Management Plan; and Tailwater Monitoring, required of Enrollees electing Pathway 2, consisting of continuous temperature logging and grab sampling each Irrigation Cycle at the Point of Compliance. Required reporting consists of an annual Farm Evaluation and an annual Monitoring Report, both due March 1.

Surface water monitoring consists of Tailwater Monitoring at Points of Compliance by Enrollees electing Pathway 2, either individually at the edge of field or through an approved group monitoring network. At the close of each Irrigation Season the responsible party compiles the data, identifies each Water Quality Benchmark exceedance, and prepares a Source Determination Report identifying the enrolled parcels whose discharges caused or contributed to the exceedance. The Executive Officer may require supplemental receiving water monitoring upstream and downstream of a Point of Compliance where the discharge reaches a reach of high habitat value, a documented thermal refugium, or a reach receiving multiple tailwater discharges, or where a significant exceedance has occurred.

Groundwater monitoring consists of (1) Drinking Water Supply Well monitoring for nitrate, to identify wells exceeding the Maximum Contaminant Level of 10 mg/L nitrate plus nitrite as nitrogen and to notify well users; and (2) Representative Groundwater Monitoring

Irrigated Lands would be required to annually report relevant management practices relating to pesticide, sediment, and erosion control, riparian zone management, irrigation, tailwater, and nutrient management. 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 Irrigated Lands on water quality conditions and inform regulatory decisions over time.

H. Activities that Could Occur Under the Scott and Shasta Order

A wide array of Management Practices could be implemented under the Scott and Shasta Order to prevent and minimize nonpoint source impacts from Irrigated Lands in the Scott River and Shasta River watersheds. Management Practices that could be implemented are listed in Attachment B 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 (Scott and Shasta 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 Scott and Shasta Order compliance. Agencies that may use this EIR include, but are not limited to, the following:

1) County of Siskiyou

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

IV. Environmental Analysis

This DEIR presents the North Coast Water Board 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 Scott and Shasta Order.

The Scott and Shasta Order would require actions to minimize or prevent control water quality impacts from Irrigated Lands in the Scott River and Shasta River watersheds. Such actions may include the implementation of the following:

1) Irrigation, Nutrient, and Pesticide Management for Surface Water Protection

2) Riparian Zone Management for Surface Water Protection

3) Sediment and Erosion Control for Surface Water Protection

4) Irrigation, Nutrient, and Pesticide Management for Groundwater Protection

5) Monitoring and Reporting Requirements

The 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 Proposed Project (Scott and Shasta 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 DEIR. 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 XI 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 DEIR, 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. This DEIR uses the updated Appendix G criteria adopted in January 2022.

3. Environmental Baseline of Analysis

Irrigated Lands in the Scott River and Shasta River watersheds identified in the 2018 Conditional Waivers and subsequent renewals are required to implement the required conditions of the Waiver and some owners and operators of these Irrigated Lands have implemented management practices to comply with the Conditional Waivers. Additionally, some owners and operators of Irrigated Lands have begun to implement Projects and Management Actions described in the Scott River Valley and Shasta Valley Groundwater Sustainability Plans[7]. Many owners and operators Irrigated Lands have implemented management practices for water quality protection through voluntary state and federal conservation programs associated with the Scott River Watershed

[7] https://www.siskiyoucounty.gov/naturalresources/page/scott-valley-final-gsp

https://www.siskiyoucounty.gov/naturalresources/page/shasta-valley-final-groundwater-sustainability-plan

Council (SRWC), Shasta Watershed Conservation Group (SWCG), Scott River Water Trust, California Trout (CalTrout), Siskiyou Land Trust, The Nature Conservancy, Siskiyou County Farm Bureau, Siskiyou and Shasta Valley Resource Conservation Districts (SRCD and SVRCD, respectively), University of California Cooperative Extension (UCCE), California Department of Fish and Wildlife (CDFW), United States Fish and Wildlife Service (USFWS), the National Oceanographic and Atmospheric Administration's National Marine Fisheries Service (NOAA NMFS), and the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS).

Many owners and operators of Irrigated Lands have implemented management practices related to extraction/diversion of water for irrigation in response to historic water right adjudications and the State Water Board issued emergency regulations[8] (2022-2024) establishing minimum instream flows including:

• Upgrades to efficiency of irrigation equipment (i.e., changes to sprinkler nozzles)

• Reducing irrigation rates or frequencies

• Switching crops (e.g., alfalfa to grain)

• Fallowing of fields or corners of fields

• Reducing the number of cuttings of alfalfa (i.e., early cessation of irrigation)

The impact analysis in this DEIR focuses on the increment of change that would result from implementation of the Scott and Shasta Order, considering both ongoing and new management practices. For example, the extent to which the Scott and Shasta Order may cause Irrigated Lands 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 compliance activities with existing regulations and voluntary programs are considered part of the baseline.

The baseline differs for each resource topic and is described in the "Environmental Setting" section within each topical resource section. While the NOP was issued on January 31, 2025, the environmental analysis for the Proposed Project is considered to have commenced in summer 2024. Therefore, the baseline for this DEIR 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 DEIR, 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.

[8] https://www.waterboards.ca.gov/drought/scott_shasta_rivers/

B. Identifying Impact Significance

The analysis first determines the extent to which each of the resources could be affected by the Scott and Shasta 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 Scott and Shasta 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 Scott and Shasta 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 Scott and Shasta 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 Scott and Shasta 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 Scott and Shasta Order would apply to both existing Irrigated Lands as well as new Irrigated Lands that might in the future enroll for coverage under the Scott and Shasta Order, this EIR also assesses the impacts that would occur from a new Irrigated Lands compliance with the Scott and Shasta Order.

C. Impacts Determined to be Less Than Significant

On January 31, 2025, the North Coast Water Board transmitted an NOP, which included an attached Initial Study[9], to public agencies and persons with potential interest in the project. The Initial Study identified impacts to Cultural Resources and Tribal Cultural Resources as less than significant with mitigation, and identified No Impact or Less than Significant Impacts for 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

[9] https://files.ceqanet.opr.ca.gov/311855-1/attachment/wrR5ACzii4KCSjl6I0iyj_9lvIXuAW5jJNxlguT5xznFVHhpOYHbyvh86gHK2EnPaa5NkXDAksFFFtxQ0

Housing, Public Services, Recreation, Transportation, Utilities and Service Systems, and Wildfire. Subsequent analysis performed during preparation of this DEIR identified impacts to Biological Resources as less than significant with mitigation. Biological Resources is therefore analyzed in Chapter VII, and the Initial Study conclusions are retained for the remaining topics.

D. Mitigation Measures

Where significant adverse impacts are identified for the Scott and Shasta 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 Scott and Shasta 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).

V. Aesthetics

This section presents the regulatory and environmental settings, and an overview of the Proposed Project related to aesthetic resources.

A. Regulatory Setting

1. Federal Laws, Ordinances, Regulations, and Policies

a. The Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act provides federal protection for certain free-flowing, wild, scenic, and recreational rivers designated as components or potential components of the National Wild and Scenic Rivers System (NWSRS). This statute was passed by Congress in 1968 (Public Law 90-542; 16 U.S.C. § 1271 et seq., as amended) to preserve certain rivers with outstanding natural, cultural, or recreational values in a free-

flowing condition for the enjoyment of present and future generations.

b. National Scenic Byways Program

The National Scenic Byways Program was established by the Intermodal Surface Transportation Efficiency Act of 1991, and is implemented by Federal Highway Administration (FHWA). Under the National Scenic Byways Program, (23 USC Section 162) a roadway can be designated as a State Scenic Byway, a National Scenic Byway, or an All-American Road should it demonstrate one or more notable intrinsic qualities. Notable intrinsic qualities include, scenic, historic, recreational, cultural, archeological, or natural qualities.

c. National Forest Scenic Byway Program

National Forest Scenic Byways are roads which have been designated by the U.S. Forest Service as scenic byways. The Chief of the Forest Service, U.S. Department of Agriculture, can designate routes traversing National Forest System lands as national forest scenic byways (USDA, 2008).

2. State Laws, Ordinances, Regulations, and Policies

a. California Scenic Highway Program

The Department of Transportation (Caltrans) manages the State Scenic Highway Program. California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment (Caltrans 2025). The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, sections 260 through 263.

3. Local Laws, Ordinances, Regulations, and Policies

a. Siskiyou County General Plan

Scenic Highways Element

This element is intended to provide a guide for future legislation to protect and enhance scenic values along designated routes, and in scenic areas visible from these routes.

b. City of Weed General Plan

Open Space Element

Objective OS 3.2 Identify and protect scenic resources and viewsheds.

Policy OS 3.2.1 The City shall maximize scenic resources and viewsheds through easements and zoning ordinances.

Program OS 3.2.1.1 Identify and assess scenic resources and viewsheds.

Program OS 3.2.1.2 Establish design guidelines that ensure the protection of scenic resources and viewsheds.

Program OS 3.2.1.3 Utilize design review for development on hillsides and within scenic viewsheds to protect hillsides

Community Design Element

Objective CD 1.5 Protect the City's scenic views.

Policy CD 1.5.1 Preserve the City's natural landscape for residents and visitors to enjoy.

Program CD 1.5.1.1 Designate areas of aesthetic beauty and significance to preserve viewsheds and scenic corridors.

Program CD 1.5.1.2 Establish standards for development in areas adjacent to designated viewsheds and scenic corridors

c. City of Etna General Plan

Open Space and Conservation Element

GOAL OC-2: A comprehensive system of interconnected open space areas that maximizes the potential for habitat preservation, compatible recreation, and scenic views

d. Town of Fort Jones

Open Space and Conservation Element

GOAL OS-2: Continue to improve visual qualities within the City.

Objective OS-2: Much of Fort Jones is an attractive community with well-maintained homes and yards. This feature is attractive to new residents and makes the community more enjoyable and pleasant for existing residents. It is the objective of this goal to continue to improve the appearance of the City.

Policy OS-2A. Utilize code enforcement as a means to eliminate property deterioration, and accumulation of trash and junk that negatively impacts adjacent property and the attractiveness of the community.

Policy OS-2B. Modify the Zoning Ordinance to require landscaping in commercial and industrial parking lots.

Policy OS-2C. Work to improve the scenic quality along State Highway 3 as it proceeds through the community.

Policy OS-2D. Require street trees to be provided in new development, and encourage

citizens to provide street trees where street trees do not exist.

Policy OS-2E. Maintain sign standards in the Zoning Ordinance which will keep signs in scale with a small community and, whenever possible, compliment the City's historic theme.

City of Montague General Plan

No notable goals relevant to aesthetics are discussed in the General Plan.

City of Yreka General Plan

No notable goals relevant to aesthetics are discussed in the General Plan.

B. Environmental Setting

Visual Character and Quality of the Project Area

Irrigated Lands in the Project Area that would be subject to the Scott and Shasta Order are located in a rural agricultural setting within both incorporated cities and unincorporated areas of Siskiyou County. These lands are visible from public roads and neighboring properties and may also be partially visible from public open space areas. The Proposed Project area is defined by smaller low density urban areas, wide open vistas, farmland, mountains, and forested areas. Irrigated Lands may include equipment sheds, corrals, field roads, fuel storage, water tanks, and pesticide mixing areas. The Project Area is a rural agricultural region with scenic vistas, including a dramatic mountain ranges, forested hills, scrub and grass lands, agricultural lands along with the Scott and Shasta Rivers. Dozens of miles of local roads cross through the Project Area in addition to several miles of interstate and state highways.

Light and Glare

Existing sources of light and glare within the Proposed Project area include safety lighting, light spillage from windows and open doors, light from vehicles, street lights, and other similar light sources found in urban areas. Sources of glare include reflections from glass and metal surfaces on buildings and vehicles in the area.

Scenic Highways and Corridors

There are no designated state scenic highways within the Proposed Project area, however there are segments of several highways which are eligible for designation (CalTrans, 2018). These highways include Route 96, Route 5 and Route 3 (CalTrans, 2018). In addition, these highways are all identified in the Siskiyou County General Plan Scenic Highways Element as scenic routes which should be designed to provide attractive and pleasant driving experiences when travelling within Siskiyou County (Siskiyou County, 1974).

There is a designated federal byway in the eastern side of the Proposed Project area, known as the "Volcanic Legacy Scenic Byway", composed of Route 97 and Route 5

(CalTrans, 2018).

There is a National Forest Scenic Byway in the Proposed Project area. The Trinity Heritage Scenic Byway is located to the south and runs along Gazelle Callahan Road (FHWA, 2024).

Klamath River and Scott River are designated wild and scenic rivers located to the northwest of the Proposed Project area. These are designated due to the existence of recreational or scenic values depending on the specific location (National Wild and Scenic Rivers System, n.d.). Fish are identified as an outstandingly remarkable value (ORV) in this area, which is also a criteria for protection under the Wild and Scenic Rivers Act (National Wild and Scenic Rivers System, n.d.)

Viewer Groups and Sensitivity

Viewers of the Proposed Project area would primarily be local residents and employees of local businesses, passing motorists, and recreational users of local waterways.

Due to proximity and duration of time spent in the area, it is expected that local residents and employees of neighboring businesses would be most sensitive to changes to the viewshed. It is also expected that recreational users of local waterways would be sensitive to visual changes, particularly on the segment of the Scott River which is noted for its scenic qualities. When taking into consideration the speed of travel for passing motorists, it is expected that they would overall be the least sensitive group to any changes to the viewshed.

C. Environmental Analysis

1. Impact Analysis Methods

The analysis of the potential effects of the Proposed Project on aesthetic resources was qualitative in nature.

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. Have a substantial adverse effect on a scenic vista.

2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

3. Substantially degrade the existing visual character or quality of public views of the project area and its surroundings.

4. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

3. Impacts and Mitigation Measures

Impact AE-1: Have a substantial adverse effect on a scenic vista. (Less Than Significant)

The Scott River and Shasta River Watersheds are situated in a scenic area of north central California with expansive views of agricultural lands, mountain ranges, scrub/grass lands, and forested hills. There are abundant scenic vistas at various vantage points in the Watersheds. Implementation of management practices in response to the Scott and Shasta Order are expected to be small in scale (planting of vegetative buffers, expanded riparian zones, constructing irrigation tailwater controls, and road drainage improvements) with no large building construction anticipated. Changes to aesthetic qualities of the Scott and Shasta Watersheds that could result in response to the Scott and Shasta Order are expected to be limited to minor alterations to vegetation and topography that are low in profile (i.e., located near the ground surface) and will therefore blend into the existing landscape.

Impact AE-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. (Less Than Significant)

The Scott and Shasta Watersheds contain expansive forests and scenic rock formations in addition to well-established agricultural operations. There are no officially designated State Scenic Highways within the Project Area, although segments of Route 3, Route 5, and Route 96 are eligible for designation. The Volcanic Legacy Scenic Byway, a federally designated byway, and the Trinity Heritage Scenic Byway, a National Forest Scenic Byway, are located within the Project Area.

The types of management practices that are expected to be implemented in response to the Scott and Shasta Order would not affect these features. Reasonably foreseeable management practices anticipated to be implemented in response to the Scott and Shasta Order are intended to preserve and enhance riparian areas, including trees, enhance vegetated buffers, and to prevent or minimize erosion of both of soil and rock. Some Irrigated Lands are adjacent to these byways and to highways eligible for State Scenic Highway designation. However, reasonably foreseeable management practices would typically be small in scale and designed to enhance and protect water resources.

A management practice that requires land disturbance, such as the construction of a tailwater control basin is expected to include minor surface soil excavation or grading during construction which would be temporary in nature and would not result in permanent damage to scenic resources.

Impact AE-3: Substantially degrade the existing visual character or quality of public view of the project area and its surroundings (Less Than Significant)

As described above, Irrigated Lands subject to the Scott and Shasta Order are located in a rural agricultural setting. The visual character of the area is generally open, typified

by field crops, scrub/grasslands, mountain ranges, and forested hillsides. Implementation of management practices could result in small scale, temporary alteration of ground cover vegetation or topography that would not be highly visible and would not degrade or change the overall visual character of the rural agricultural setting or the surrounding viewshed areas. Therefore, the impacts to scenic resources would be less than significant.

Impact AE-4: Create a new source of substantial light or glare which would adversely affect day of nighttime view in the area. (Less Than Significant)

The project would not require Irrigated Lands subject to the Scott and Shasta Order to install any lighting or structures that could create light or glare and impair day or night-time views. Therefore, the impacts related to creating a new source of substantial light or glare are less than significant.

VI. 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

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 that 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 vineyards, 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.

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).

3. Local Laws, Ordinances, Regulations, and Policies

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. Relevant goals, objectives, and policies of the Siskiyou County general plan are included as Attachment C. Farmland of Local Importance is identified by County and used by DOC FMMP. Siskiyou County designated nearly 420,000 acres of Farmland of Local Importance in the Project Area.

B. Environmental Setting

1. Regional Farming and Ranching

The dominant land use on private lands in the Scott River and Shasta River watersheds is irrigated agriculture with pasture, grain, and hay comprising the primary crops along with non-irrigated pasture for livestock grazing. The Shasta River Watershed includes over 20,000 acres of Important Farmland (Prime Farmland, Unique Farmland, and Farmland of Statewide Importance), over 230,000 acres of Farmland of Local Importance, and around 100,000 acres of Grazing Land. The Scott River Watershed includes nearly 24,000 acres of Important Farmland, nearly 190,000 acres of Farmland of Local Importance, and nearly 75,000 acres of Grazing Land.

3. Forestry Resources

Forestry resources are located throughout the Scott and Shasta watersheds, particularly in surrounding mountain ranges. Forest lands may contain Irrigated Lands in the form of irrigated pasture and livestock grazing.

C. Environmental Analysis

1. Impact Analysis Methods

The analysis of the potential effects of the Proposed Project on agriculture and forestry resources was quantitative in nature. Because the Proposed Project includes a Riparian Zone prohibition on tillage-based agriculture (e.g., grain/hay crops) within a portion of the field-side edge of riparian zones. This requirement is expected to result in the conversion of approximately 3 and 5 percent of Important Farmland in the Scott River and Shasta River watersheds, respectively to another type of agriculture or non-agriculture use (e.g., untilled grazing land, riparian vegetation). Compliance with the Riparian Vegetation Area tillage prohibition is required as of the date of Order adoption, except on Irrigated Lands where the Riparian Vegetation Area is planted to a crop at the time of adoption, in which case compliance is required within three years of the date of adoption.

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 Riparian Vegetation Area Tillage Prohibition Requirement:

As described in the "Riparian Zone Management for Surface Water Protection" section of the Project Description Chapter, the Scott and Shasta Order would prohibit tillage within the Riparian Vegetation Area, applied as an average width of 35 feet across the total linear stream frontage within or abutting each enrolled parcel. Individual portions of the Riparian Vegetation Area may be narrower or wider than 35 feet, provided the average across the total linear stream frontage is at least 35 feet. Where an Enrollee owns or operates multiple enrolled parcels that are contiguous along a stream frontage, the average may be calculated across those contiguous parcels. Implementation of this prohibition may result in conversion of Important Farmland to non-agricultural use or a pastoral or nonarable agricultural use. Approximately 1,720 acres of Important Farmland[10] could potentially be converted. Given the approximately 44,000 acres of Important Farmland in Scott River and Shasta River watershed, this equates to a potential conversion of less than 4 percent of Important Farmland.

The majority of agricultural land conversion would occur to allow natural succession of riparian vegetation to provide shade to surface waters for compliance with the

[10] Area calculated from geospatial intersection of Important Farmland with Irrigated Lands expected to subject to Riparian Vegetation Area tillage prohibition.

Temperature Policy, reduce discharges of sediment, pesticides, and nutrients to surface waters, and reduce stream bank erosion. Compliance with the Riparian Vegetation Area tillage prohibition is required as of the date of Order adoption, except on Irrigated Lands where the Riparian Vegetation Area is planted to a crop at the time of adoption, in which case compliance is required within three years of the date of adoption. The potential conversion of approximately 1,720 acres of Important Farmland to non-agricultural use (or a pastoral or non-arable agricultural use) would, therefore, not be expected to occur immediately. While Important Farmland could be taken out of production under the Scott and Shasta Order due to the Riparian Vegetation Area tillage prohibition, 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, have 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 analyzing Reduced Riparian Vegetation Area tillage prohibition and Offsite Riparian Restoration alternatives (the Alternatives Analysis Chapter). The Reduced Riparian Vegetation Area tillage prohibition (50 percent reduction in width) 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 Riparian Zone tillage prohibition 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.

The Offsite Alternative would reduce but not eliminate the environmental impact to Agricultural Resources. In this alternative, Irrigated Lands would be given the option to mitigate the difference in area available for natural succession of riparian vegetation between existing conditions and proposed requirements. Mitigation would be accomplished through restoration and protection of riparian vegetation at another location within the same sub-watershed. However, the Offsite 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 the of Temperature Implementation Policy to implement site-potential effective shade. The Offsite Alternative may not achieve the same level of reductions in pollutant discharges compared to the Proposed Project due to the lesser control of sediment and temperature discharges at Irrigated Lands and the likelihood that mitigation sites would not have the same pollutant discharges as Irrigated Lands. Mitigation sites would have to be in a location not already subject to waste discharge requirements or another regulatory action. Thus, the Offsite Alternative would do less to correct the existing adverse impacts of Irrigated Lands on water quality in the Scott River and Shasta River Watersheds.

While the flexibility of Riparian Vegetation Area tillage prohibition compliance options could be helpful for some Irrigated Lands, 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 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.***

Conversion Due to Economic Impacts of Compliance Costs

In addition to agricultural land conversion from the Riparian Vegetation Area tillage prohibition, there is also potential for indirect conversion of agricultural lands due to the economic costs and impacts associated with complying with the Scott and Shasta Order.

The North Coast Water Board analyzed potential costs of compliance associated with the Proposed Project – see Attachment E. The overall cumulative costs of Management Practice implementation for a specific Irrigated Lands are speculative though because it is unknown which Management Practices will be implemented or are already being implemented. Based on information collected through implementation of the Scott and Shasta Waiver along with voluntary actions, dozens of Irrigated Lands already implement Management Practices similar to those which would be implemented under the Scott and Shasta Order. The primary costs of compliance are expected to be irrigation management, compliance with Streamside Area requirements, storm-proofing appurtenant agricultural roads, and, for Enrollees with tailwater discharges, the

practices and monitoring required to eliminate tailwater or to meet Water Quality Benchmarks at the Point of Compliance. The Order estimates tailwater recovery and reuse systems at approximately $300 to $400 per irrigated acre, tailwater retention and detention basins at approximately $50,500 to $62,000 per basin, treatment wetlands at approximately $15,000 to $20,000 per acre, and a Certified Tailwater Elimination Plan or Certified Tailwater Discharge Treatment and Control Plan at $5,000 to $15,000 per plan. The investment to stormproof roads yields long-term cost savings through reduced road maintenance. Irrigation management will result in more efficient use of water and may reduce the net cost of applying water. 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 agricultural business owners and any increased administrative/regulatory costs could adversely affect profitability. However, the potential effects of increased costs would depend specifically to each individual Irrigated Lands as well as current and future market forces. The North Coast Water Board does not find that the anticipated increased costs would be large enough to necessarily cause any Irrigated Lands, which could be subject to the Scott and Shasta Order, 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 pastoral or non-arable agricultural use. Therefore, the indirect conversion of Important Farmland attributable to the economic costs of compliance would be less than significant. This conclusion is limited to the indirect economic effects analyzed in this subsection and does not alter the significant and unavoidable determination for Impact AG-1 as a whole. Furthermore, successful implementation of the Riparian Vegetation Area tillage prohibition could protect agricultural productivity by reducing the potential for streambank erosion and loss of agricultural land from streambank failure. 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 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 local economies, communities, and cultures throughout the North Coast.

As a result, that the overall cost of complying with the Scott and Shasta Order would not indirectly contribute to a significant conversion of Prime farmland, Unique Farmland, and/or farmland of Statewide Significance to a non-agricultural use, this impact would be ***less than significant.***

Conversion Due to Implementation of Management Practices

Certain Management Practices (apart from the Riparian Vegetation Area tillage

prohibition) also could result in the conversion of some amount of Important Farmland to non-agricultural uses. For example, installation of tailwater retention/detention basins could result in an Irrigated Lands owner or operator taking 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 tailwater retention/detention basin. Because the Scott and Shasta Order would not specify the manner of compliance, it is not possible to determine which Irrigated Lands 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 the Riparian Vegetation Area tillage prohibition). However, it is not anticipated that the implementation of management practices will result in a significant number of acres being converted to a non-agricultural use. Therefore, this impact is speculative and ***less than significant.***

Conclusion

Overall, due to the anticipated potential conversion of Important Farmland resulting from compliance with the Riparian Vegetation Area tillage prohibition and the lack of feasible mitigation to lessen these impacts to less than significant, 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, including Important Farmland and land that may be under a Williamson Act contract may result in the conversion of farmland to non-agricultural (i.e., riparian habitat) uses from implementation of the Riparian Vegetation Area tillage prohibition. The requirements would only apply to Irrigated Lands that are adjacent to streams or other waterbodies and would vary based on the adjacent watercourse classification.

Much of the land that could be taken out of production as a result of the Scott and Shasta Order is zoned for agricultural use by Siskiyou County and/or is under a Williamson Act contract. Although zoning regulations vary by jurisdiction, in general, 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. The Proposed Project could result in the conversion of as much as 1,720 acres of agricultural land which could be subject to the Scott and Shasta Order to a non-agricultural use or pastoral or non-arable agricultural use. An undetermined portion of that acreage is under Williamson Act contract. Assuming most of this land is zoned for agricultural use, this conversion may conflict with the spirit of the existing zoning for agricultural use and may in some rare instances affect the eligibility of Irrigated Lands for a Williamson Act contract.

The Williamson Act is California's primary program to protect agricultural land and is fundamentally intended to prevent the conversion of agricultural lands to non-agricultural uses. Although specific Williamson Act contracts between landowners and the state could differ to some degree in their language and clauses, generally the conversion of existing agricultural land to non-agricultural uses (even for open space or riparian vegetation/habitat purposes) would be assumed to conflict with the spirit of the contract.

Prevailing case law states that as long as 50 percent or more of the land under a Williamson Act contract is in agricultural use, the remainder can be used for open space. While it is unlikely that the Riparian Vegetation Area tillage prohibition would result in more than 50 percent of a specific parcel containing Important Farmland under Williamson Act contract being converted to riparian habitat uses, this possibility cannot be entirely ruled out. 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*)

Irrigated pasture and livestock grazing may occur on forest land, timberland, or timberland zoned Timberland Production. However, implementation of management practices would not conflict with existing zoning for, or cause rezoning of forest land or timberland. 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*)

Implementation of management practices would not result in the loss of forest land or conversion of forest land to non-forest use because Irrigated Lands are typically located on parcels zoned for agriculture. While some Irrigated Lands with Associated Livestock Grazing may be located on timberlands, reasonably foreseeable management practices are not expected to prevent growing of timber. If Irrigated Lands located in timber production zones or forested lands implement management practices require conversion of timberland, that action would trigger local county land use regulations and California Department of Forestry and Fire Protection timber harvest regulations under the Forest Practice Act and associated planning and permitting processes by those agencies. Requirements of the Scott and Shasta Order would not cause conversion of forest lands. As such, ***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 Irrigated Lands subject to the Scott and Shasta Order 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***.

VII. 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

Some of the regulatory setting relevant to biological resources is described in the Hydrology and Water Quality Chapter. Refer to that section for descriptions of the following laws, regulations, and policies:

1) Porter-Cologne Water Quality Control Act,

2) Clean Water Act of 1972, Sections 303, 401, 402, and 40, and

3) Water Quality Control Plan for the North Coast Region.

1. Federal Laws, Regulations, and Standards

a. Endangered Species Act of 1973

The Endangered Species Act (ESA) (16 U.S. Code [USC] Section 1531 et seq.; 50 Code of Federal Regulations [CFR] 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 US Code [USC] Section 1532). Section 7 of the ESA (16 USC Section 1531 et seq.) outlines the procedures for federal interagency cooperation to conserve federally listed species and designated critical habitats.

b. Magnuson-Stevens Fishery Conservation and Management Act (Sustainable Fisheries Act)

The amended Magnuson-Stevens Fishery Conservation and Management Act of 1996 (16 USC Chapter 38 Section 1801–1891), also known as the Sustainable Fisheries Act,

provides for the conservation and management of all fish resources within the exclusive economic zone of the United States. It requires that all federal agencies consult with NMFS on activities or proposed activities authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat of commercially managed marine and anadromous fish species.

c. Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC Sections 703–712; 50 CFR Subchapter B) makes it unlawful to pursue, hunt, take, capture, kill, or possess any migratory birds, or part, nests, or eggs of such migratory birds, that are listed in wildlife protection treaties between the United States and Canada, Mexico, Japan, and Russia. The MBTA applies to almost all avian species that are native to California. The MBTA prohibits the take of such species, including the removal of nests, eggs, and feathers. It requires that all federal agencies consult with USFWS on activities or proposed activities authorized, funded, or undertaken by that agency that may adversely affect migratory birds. The Migratory Bird Treaty Reform Act amends the MBTA so that nonnative birds or birds that have been introduced by humans to the United States or its territories are excluded from protection under the MBTA.

Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, directs each federal agency taking actions that have or may have adverse impacts on migratory bird populations to work with USFWS to develop a memorandum of understanding to promote the conservation of migratory bird populations.

d. Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits the taking or possession of, and commerce in, bald and golden eagles, with limited exceptions (16 USC Section 668). Under the Bald and Golden Eagle Protection Act, it is a violation to “take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest or egg, thereof….” Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

2. State Agencies, Laws, and Programs

a. California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code [CFGC] Sections 2050–2098) declares that state agencies should not approve projects that would jeopardize the continued existence of a species listed under CESA as endangered or threatened or result in the destruction or adverse modification of habitat

essential to the continued existence of those species, if reasonable and prudent alternatives are available consistent with conserving the species or its habitat that would prevent jeopardy. CESA prohibits the take of any species that is state-listed as endangered or threatened, or designated as a candidate for such listing. “Take” is defined by CFGC Section 86 as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” an individual of a listed species. Under CESA, the California Department of Fish and Wildlife (CDFW) may issue an incidental take permit authorizing the take of listed and candidate species that is incidental to an otherwise lawful activity, subject to specified conditions.

b. California Fully Protected Species

CDFW has designated 37 fully protected species and prohibited the take or possession of these species at any time, and no licenses or permits may be issued for their take except for necessary scientific research or relocation of certain bird species for the protection of livestock.

c. Nesting Bird Protections

Several sections of the CFGC provide protections for nesting birds. CFGC Section 3503 states that it is unlawful to take, possess, or destroy the nest or eggs of any bird, except as otherwise provided by code or any regulation made in accordance with the code. Section 3503.5 prohibits the take, possession, or destruction of any nests, eggs, or birds in the orders Falconiformes (New World vultures, hawks, eagles, ospreys, and falcons, among others) or Strigiformes (owls). Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, projects are generally required to reduce or eliminate disturbances at active nesting territories during the nesting cycle.

d. Lake and Streambed Alteration Program

CDFW administers the Lake and Streambed Alteration Program (CFGC Section 1600 et seq.), which provides for protection and conservation of fish and wildlife resources with respect to any project that may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake. Under the program, an applicant must notify and enter into an agreement with CDFW before undertaking any activity that would substantially divert or obstruct the natural flow of any river, stream, or lake; or would substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or would deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

e. California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA) (CFGC Sections 1900-1913) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of this act prohibit the taking of listed plants from the wild and require notification, by the landowner undertaking a land use

change action, of the CDFW at least 10 days in advance of that land use change on lands in California. This allows CDFW to salvage listed plant species that otherwise would be destroyed.

f. California Wetlands Conservation Policy of 1993

The California Wetlands Conservation Policy established a policy framework and strategy that sought to:

1) Ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship and respect for private property.

2) Reduce procedural complexity in the administration of state and Federal wetlands conservation programs.

3) Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetlands conservation and restoration.

The policy established a number of statewide initiatives, including: a statewide wetlands inventory, wetlands conservation planning, improvement of wetland regulatory programs, landowner incentives, wetlands mitigation banking, and development of new wetland programs. Practically, there are a number of state and federal programs and permitting processes that serve to implement the California Wetlands Conservation Policy, including U.S. Army Corps of Engineers' Clean Water Act section 404 dredge and fill permitting process and State Water Board's Clean Water Act section 401 water quality certification process.

g. Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) requires local agencies to form Groundwater Sustainability Agencies (GSAs) to prepare Groundwater Sustainability Plans (GSPs) for the sustainable local management of groundwater. The components of SGMA related to water use and hydrology are described in the Hydrology and Water Quality Chapter. With respect to biological resources, SGMA includes requirements to identify and consider impacts to groundwater dependent ecosystems (GDEs) (The Nature Conservancy 2018). GDEs are generally defined as the plants, animals, and natural communities that rely on groundwater to sustain all or a portion of their water needs (The Nature Conservancy 2018). GDEs within the viticultural areas of the North Coast Region are discussed further in this Chapter.

3. Local and Regional Laws and Plans

a. Local Ordinances and General Plans

While the Siskiyou County General Plan includes policies the protection of biological resources within the Project Area, the County Code of Ordinances does not explicitly provide for protection or biological resources. Actions by the North Coast Water Board

(a state agency) are not required to comply with county, city, or local ordinances. However, the activities that could occur under the Proposed Project are expected to generally align and be consistent with such local ordinances and policies. Refer to Attachment C for Siskiyou County general plan goals and policies potentially applicable to the Proposed Project.

b. Habitat Conservation Plans and Natural Community Conservation Plans

Habitat Conservation Plans (HCPs) are planning documents required as part of an application for an incidental take permit from USFWS. HCPs describe the anticipated effects of the proposed taking; how those impacts will be minimized or mitigated; and how the HCP is to be funded (USFWS 2011). No HCPs were identified within Project Area based on review of online resources. Natural Community Conservation Planning (NCCP) was added to CESA in 1991 (Fish & Game Code Section 2800-2840). These provisions provide for voluntary cooperation among CDFW, landowners, and other interested parties to develop natural community conservation plans which provide for early coordination of efforts to protect listed species or species that are not yet listed. The primary purpose of an NCCP is to preserve species and their habitats, while allowing reasonable and appropriate development to occur on affected lands. NCCPs are grounded in a number of basic principles that frame the outcome of the planning process for future conservation, land use and governance. No NCCPs were identified within the Project Area based on review of online resources.

B. Environmental Setting

This section describes existing biological resources in the Project Area, focusing on Irrigated Lands that could be subject to the Scott and Shasta Order. Please refer to the Project Description chapter for a discussion of regional topography, climate, hydrology, and watersheds within the Project Area. Land cover types most directly related to the Proposed Project are described below.

1. Agricultural Land

Agricultural land in the Project Area is primarily used for cultivation of irrigated hay, irrigated pasture, and livestock grazing. Some agricultural land in the Project Area may support habitat for special-status species.

2. Riparian

Riparian land cover occurs adjacent to perennial, intermittent, and ephemeral streams. In many areas of the Scott River and Shasta River watersheds, Irrigated Lands are bordered by riparian vegetation/land cover. Mature riparian vegetation is typically woodland (i.e., tree-dominated), and its structural diversity provides multiple vegetative layers that offer high-value habitat for numerous wildlife species, including foraging opportunities, escape cover, and nesting substrate. This land cover supports many species that occur in other woodlands and many species specific to riparian communities. Younger riparian vegetation can be more scrub-like in structural composition, with a dominant tree canopy typically of willow shrubs. Riparian corridors

also serve as wildlife corridors for many common species, as this vegetation community offers unique habitat value from otherwise suboptimal habitat (e.g., tree-lined streams within or adjacent to developed areas).

Common dominant tree species in riparian areas of the Scott and Shasta River watersheds adjacent to Irrigated Lands which could be subject to the Scott and Shasta Order include Black cottonwood (Populus trichpcarpa), pacific willow (Salix lasiandra), red alder (Alnus rubra), Western Juniper (Juniperus occidentalis), Pacific Ponderosa Pine (Pinus sabiniana), Douglas Fir (Pseudotsuga menziesii), and Oregon white oak (*Q. garryana*).

3. Wetland

Wetlands may occur near or within Irrigated Lands which could be subject to the Scott and Shasta Order. 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 2018). 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 2018). Table VII-1 shows information on the acreage and types of wetlands found on Irrigated Lands which could be subject to the Scott and Shasta Order.

Table VII-1: Wetlands on Irrigated Lands in Scott River and Shasta River Watersheds

Wetland Type	Acres	Density[11]
Freshwater Emergent Wetland	14,760	16%
Freshwater Forested/Shrub Wetland	1,090	1%
Freshwater Pond	246	<1%
Riverine	3,512	4%

Different types of wetlands may include different specific species assemblages, but all

[11] Wetland density at the landscape level is equal to the wetland-type acres within Irrigated Lands divided by the total acres of Irrigated Lands multiplied by 100. Total area of Irrigated Lands in the Scott River and Shasta River Watersheds is approximately 86,000 acres.

types support facultative[12] plant species and provide potential breeding and foraging habitats for birds, amphibians, and other animals.

Wetland habitat may support any number of special-status resident or wintering bird species, such as greater sandhill crane (Antigone canadensis tabia), Swainson's hawk (Buteo swainsoni), western yellow-billed cuckoo (Coccyzus americanus occidentalis), willow flycatcher (Empidonax traillii), bald eagle (Haliaeetus leucocephalus), and bank swallow (Riparia riparia). Amphibian species that may be found in wetland features include the cascades frog (Rana cascadae) and the Scott Bar salamander (Plethodon asupak). The northwestern pond turtle (Actinemys marmorata), trinity buckwheat (Eriogonum alpinum), yreka phlox (Phlox hirsuta), Crotch's bumble bee (Bombus crotchii), Franklin's bumble bee (Bombus franklini), western bumble bee (Bombus occidentalis) are also associated with wetland areas.

Aquatic land cover includes freshwater emergent wetland (e.g., wet meadows, swales, and marshes) and riverine (e.g., streams and drainages) habitats. Wetlands are found within and adjacent to Irrigated Lands (and Associated Dry Land Grazing) which could be subject to the Scott and Shasta Order. In the Scott River watershed, the Scott River mainstem flows northward through Scott Valley, where the majority of irrigated agriculture is concentrated on the alluvial valley floor. Numerous tributary streams, including Etna Creek, Patterson Creek, Kidder Creek, Shackleford Creek, Moffett Creek, and Oro Fino Creek, descend from surrounding mountain areas and cross through or adjacent to irrigated lands before reaching the mainstem. In the Shasta River watershed, the Shasta River mainstem flows northward through Shasta Valley, where irrigated agriculture, primarily hay, pasture, and alfalfa, is widespread across the valley floor. Tributary streams such as Parks Creek, Willow Creek, Yreka Creek, and Boles Creek flow from surrounding uplands through or adjacent to irrigated agricultural lands before joining the mainstem. A distinguishing feature of the Shasta River watershed is the presence of large cold-water spring complexes, including Big Springs Creek and Little Springs Creek, which provide substantial perennial baseflow to the Shasta River even during the dry season and flow through irrigated agricultural lands.

Many streams and drainages across both watersheds 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 roughly May to October, and many experience very low or no flow during the dry summer months when irrigation demand is greatest. Perennial reaches of the Scott and Shasta rivers, spring-fed tributaries, and select lower tributary streams exhibit flow year-round and may act as migratory corridors and provide critical habitat for anadromous fish species, including coho salmon and Chinook salmon. An extensive network of constructed irrigation ditches, diversion canals, and tailwater return channels conveys water across both valley floors in close proximity to agricultural operations. Special-status species with the

[12] Facultative plants are those species that have an equal likelihood of occurring in wetlands and non-wetlands.

potential to occur in streams and drainages in the Project Area include Lower Klamath marbled sculpin, steelhead (Oncorhynchus mykiss irideus), coho salmon (Oncorhynchus kisutch, southern Oregon/Northern California ESU), and Chinook salmon (Oncorhynchus tschawytscha).

4. Rangeland and Forest land

Rangeland is a land cover/use category on which the climax or potential plant cover is composed principally of native grasses, grasslike plants, forbs, or shrubs suitable for grazing and browsing, and introduced forage species that are managed like rangeland. Forest land is at least 10 percent stocked by single-stemmed woody species of any size that will be at least 13 feet tall at maturity. Also included is land bearing evidence of natural regeneration of tree cover (cut over forest or abandoned farmland) and not currently developed for non-forest use. The vast majority of privately owned rangeland and forest land was designated by Siskiyou County as agricultural land of local importance. The dominant land cover within rangeland is shrub/scrub and grassland/herbaceous while evergreen forests are dominant within forest land. Special-status species associated with rangeland and forest land are the Siskiyou mariposa-lily (Calochortus persistens), California spotted owls (Strix occidentalis occidentalis), gray wolf (canus lupus), the fisher (Pekania pennanti), and Townsend's big-eared bat (Corynorhinus townsendii).

5. Groundwater Dependent Ecosystems

Groundwater Dependent Ecosystems (GDEs) include the plants, animals, and natural communities that rely on groundwater to supply all or a portion of their water needs. GDEs provide a variety of ecosystem services that benefit people, such as water purification, soil preservation, carbon sequestration, flood risk reduction, and recreational opportunities (The Nature Conservancy 2018). GDEs in the Project Area are primarily associated with palustrine and riverine wetlands in addition to wet meadows in the Shasta River watershed.

6. Special-Status Species

As noted above, various special-status species have potential to occur in proximity to Irrigated Lands which could be subject to the Scott and Shasta Order that may be affected by the activities conducted under the Proposed Project. A comprehensive list of special-status species determined to have potential to occur in areas within or near Irrigated Lands which could be subject to the Scott and Shasta Order is provided in Attachment D. The determination of potential for such species to occur was based on the existence of species observation records (e.g., in the California Natural Diversity Database) near Irrigated Lands which could be subject to the Scott and Shasta Order and/or whether suitable habitat for the species is reasonably likely to occur within or in immediate proximity.

Special-status species considered in this analysis include plant and animal species

protected under the ESA, CESA, the CFGC, and the CNPPA, as well as those that are considered rare, threatened, or endangered under Section 15380 of the CEQA Guidelines. Special-status species are classified as follows:

Federal endangered (FE): species designated as endangered under the ESA. An FE species is one that is in danger of extinction throughout all or a substantial portion of its range. Take of any individual of an FE species is prohibited except with prior authorization from USFWS or NMFS.

Federal threatened (FT): species designated as threatened under the ESA. An FT species is one that is likely to become endangered in the foreseeable future throughout all or a substantial portion of its range. At the discretion of USFWS or NMFS, take of any individual of an FT species may be prohibited or restricted.

Federal proposed (FP): species that have been proposed by USFWS or NMFS for listing as endangered or threatened under the ESA. Federal proposed species must be evaluated in Section 7 consultation for any federal action and normally are evaluated in the National Environmental Policy Act review of any action that may affect the species.

State endangered (SE): species designated as endangered under the CESA. These include native species or subspecies that are in serious danger of becoming extinct throughout all or a substantial portion of its range resulting from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (CESA Section 2062). Take, as defined by Section 86 of the CFGC, of any state-listed endangered species is prohibited, except as authorized by CDFW.

State threatened (ST): species designated as threatened under the CESA. These include native species or subspecies that, although not threatened currently with extinction, are likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts (CESA Section 2067). Take, as defined by Section 86 of the CFGC, of any state-listed threatened species is prohibited, except as authorized by CDFW.

State candidate (SC): species designated as a candidate for listing under the CESA. These are native species or subspecies for which the Fish and Game Commission has accepted a petition for further review under Section 2068 of the CESA, finding that sufficient scientific information exists to indicate that the petitioned action may be warranted. Take of any state-designated candidate species, as defined by Section 86 of the CFGC, is prohibited, except as authorized by CDFW.

State Species of Special Concern (SSC): a species, subspecies, or distinct population of a vertebrate animal native to California that has been determined by CDFW to warrant protection and management, intended to reduce the need to give the species formal protection as an SE, ST, or SC species.

State Fully Protected (FP): species designated as fully protected under Section 3511,

4700, 5050, or 5515 of the CFGC. FP species may not be taken at any time unless authorized by CDFW for necessary scientific research, which cannot include actions for project mitigation.

California Rare Plant Rank (CRPR): The California Native Plant Society (CNPS) Inventory of Rare, Threatened, and Endangered Plants identifies groups of species that are commonly recognized as special-status plants:

1) Rank 1A plants are presumed extinct in California;

2) Rank 1B plants are considered rare, threatened, or endangered in California and elsewhere; and

3) Rank 2B plants are rare, threatened, or endangered in California but more common elsewhere.

Western Bat Working Group (WBWG): Bat species with regionally relevant designations of “high” or “moderate” by the WBWG are commonly considered under CEQA, as these designations could have a locally significant effect on a species already imperiled to some degree. A “high” designation indicates that the species is “considered the highest priority for funding, planning, and conservation actions. Information about status and threats to most species could result in effective conservation actions being implemented should a commitment to management exist. Species is imperiled or are at high risk of imperilment.” A “moderate” designation indicates that the species warrants “evaluation, more research, and conservation actions of both the species and possible threats. The lack of meaningful information is a major obstacle in adequately assessing species’ status and should be considered a threat.”

7. Effects of Existing Impaired Water Quality on Biological Resources

Under existing conditions, discharges from Irrigated Lands which could be subject to the Scott and Shasta Order may adversely affect water quality and biological resources in the Project Area. As described in the Project Description Chapter, water quality impairments associated with discharges Irrigated Lands include elevated levels of nutrients and temperature as well as depressed levels of dissolved oxygen. Additionally, some Irrigated Lands which could be subject to the Scott and Shasta Order in close proximity to streams and other waterbodies such that riparian vegetation/buffer areas are insufficient or non-existent. In addition to causing or exacerbating water quality effects from stormwater and tailwater discharges, this lack of riparian vegetation also limits habitat for special-status species.

C. Impact Analysis

This section describes the methodology and significance criteria used in the analysis of potential impacts to biological resources from the Proposed Project. It also presents the analysis of the potential impacts of the Proposed Project and identifies mitigation measures to reduce or avoid potentially significant effects.

1. Impact Analysis

The analysis considered the potential impacts of reasonably foreseeable activities resulting from the Proposed Project on biological resources. As discussed throughout this DEIR, 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 Project would allow owners and operators Irrigated Lands which could be subject to the Scott and Shasta Order considerable discretion in how to comply with applicable requirements. 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:

1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.

2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.

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.

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.

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3. Impacts and Mitigation Measures

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 in local or regional plans, policies, or regulations, or by CDFW or USFWS. (*Less than Significant with Mitigation*)

The Proposed Project is expected to have a largely beneficial effect on biological resources, including special-status species and habitat. Among the primary objectives of the Proposed Project is to comply with 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 the Scott and Shasta TMDLs. Compliance with requirements by owners and operators of Irrigated Lands which could be subject to the Scott and Shasta Order is intended to prevent or minimize agricultural discharges of pollutants and thus at least partially correct existing impacts on water quality and aquatic habitats. Implementation of Riparian Zone requirements is intended to allow natural succession of riparian habitat which will benefit any number of special-status species that may use these areas.

Despite these largely beneficial effects, there is potential for some adverse impacts to occur from the Proposed Project from creation of tailwater control structures and changes in flood irrigation operations. If special-status plant or animal species were to occur within areas where creation of tailwater control structures and changes in flood irrigation operations were to take place, this could result in direct impacts to those species (e.g., loss of habitat).

Management practices which control tailwaters or reduce flood irrigation that may have created habitat for special-status species, have the potential impact those species through loss of habitat.

The Scott and Shasta Order includes a limits on disturbing existing, naturally occurring, and established native vegetative cover in the Riparian Zone would minimize potential for adverse effects on native plants, including any special-status plant species that may be present in proposed setback areas. If non-native species were used to establish vegetative cover within the setback area and these non-native species aggressively propagated such as to crowd out or displace native species, including possible special-status species, this could result in a significant impact; however, this potential effect would be avoided due to Scott and Shasta Order requirements. Given compliance with existing laws and regulations, including obtaining any needed permits from other agencies, as well as implementation of mitigation measure BIO-1, this impact would be ***less significant with mitigation***.

Mitigation Measure BIO-1: Avoid and Minimize Impacts on Sensitive Biological Resources

Where creation of tailwater control structures or reductions in flood irrigation could impact special-status species, as defined and listed in in this Chapter and Attachment D, Enrollees must use the least impactful effective Management Practice to avoid impacts to such species and habitat. Where implementation of management practices cannot be achieved without incurring potential impacts, Enrollees must implement the following measures to reduce potential impacts to levels that are less than significant.

1) Avoid and minimize disturbance to areas containing special-status plant or animal

species.

2) Where construction in areas that may contain sensitive biological 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 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 and/or habitat for special-status plant and animal species.

3) When conducting maintenance or repair on facilities such as tailwater control structures 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 August 31), 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.

4) 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.

Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS. (*Less than Significant with Mitigation*)

As discussed above under Impact BIO-1, the Proposed Project would have a largely beneficial impact on biological resources by preventing or minimizing discharges of pollutants from Irrigated Lands which could be subject to the Scott and Shasta Order. Additionally, Riparian Zone requirements would result in the creation/restoration of substantial riparian habitat adjacent to Irrigated Lands which could be subject to the Scott and Shasta Order. As discussed in the Agriculture and Forestry Chapter, the Riparian Vegetation Area tillage prohibition could result in approximately 1,720 acres of Important Farmland being converted to riparian vegetation or a different type of agriculture (e.g. pastoral and non-arable). While this would result in an impact on agricultural resources, Riparian Zone requirements areas would allow natural succession of riparian vegetation to occur and would benefit biological resources by providing riparian habitat.

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. Depending on 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 a local grading ordinance, implementation of Mitigation Measures BIO-2 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 effect of the Proposed Project on riparian habitat and sensitive natural communities would be largely beneficial, as it would result in the creation of open space for natural succession of riparian vegetation adjacent to Irrigated Lands which could be subject to the Scott and Shasta Order and would provide greater separation between agricultural activities and existing sensitive natural communities (e.g., riparian areas, wetlands, sensitive species habitat). 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 mitigation measure BIO-1 and BIO-2 would reduce these potential impacts. Therefore, this impact would be ***less than significant with mitigation***

Mitigation Measure BIO-2: Implement Construction Best Management Practices for Erosion Control

Where construction of Management Practices would not be subject to a local ordinance, owners and operators Irrigated Lands must implement the following measures during construction of Management Practices, or must implement alternative measures that are demonstrated to be equally or more effective: 1) Implement practices to prevent erosion of exposed soil and stockpiles, including watering for dust control, establishing perimeter silt fences, and/or placing fiber rolls. 2) Minimize soil disturbance areas. 3) Implement practices to maintain water quality, including silt fences, stabilized construction entrances, and storm drain inlet protection. 4) Where feasible, limit construction to dry periods, and 5) Revegetate disturbed areas. The performance standard for these erosion control measures is to use the best practicable treatment and control (BPTC).

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. (*Less than Significant with Mitigation*)

One of the primary objectives of the Proposed Project is to protect and restore beneficial uses and achieve water quality objectives specified in the Basin Plan in part through compliance with Temperature Implementation Policy, the Sediment TMDL Implementation Policy, and the Scott and Shasta TMDLs (see Project Objective #3 in the Project Description Chapter). As discussed above, the Proposed Project would accomplish this through implementation of the setback requirements, which would

provide greater separation between agricultural activities and existing riparian or wetland areas and would likely result in the creation of additional riparian habitat relative to baseline conditions.

As such, the effect of the Proposed Project on existing state or federally protected wetlands that may occur within or adjacent to Irrigated Lands which could be subject to the Scott and Shasta Order would be largely beneficial. As shown in Table VII-1, there are roughly 20,000 acres of wetlands within existing Irrigated Lands which could be subject to the Scott and Shasta Order, which comprises about 25 percent of Irrigated Lands which could be subject to the Scott and Shasta Order. In general, the Proposed Project would have a beneficial effect on riverine wetlands by prohibiting tillage and limiting livestock grazing adjacent to these riverine wetlands, thus reducing potential discharges of agricultural pollutants (intervening vegetation in riparian zones can provide passive filtration and detention of pollutants).

As discussed under Impact BIO-1 and BIO-2, construction/installation of certain Management Practices involving ground disturbance (e.g., sediment basins or tailwater control structures, etc.) could result in adverse effects on biological resources, including wetlands, due to erosion/sedimentation, improper management of hazardous materials, and loss of sensitive species habitat. Compliance with existing laws and regulations and implementation of Mitigation Measure BIO-2 would reduce these potential impacts to a level that is less than significant. Overall, this impact would be l***ess 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. (*Less than Significant with Mitigation*)

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 Project Area, many of which run adjacent to Irrigated Lands which could be subject to the Scott and Shasta Order, as migration corridors and for spawning habitat, seasonal movements, or the completion of critical lifecycle stages.

The Proposed Project would largely benefit these important areas by increasing the Riparian Zone width adjacent to agricultural activities. 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 will likely establish in riparian setback areas would provide habitat for migratory wildlife species and allow for improved use of migratory wildlife corridors. The reduced pollutant discharges afforded by the Proposed Project through the setback requirements and compliance with the requirements also would benefit water quality in streams and wetlands that may serve as wildlife corridors. In particular,

implementation of Management Practices to minimize erosion and delivery of sediment to surface waters. would reduce potential ongoing impacts to spawning habitats (e.g., through discharge of fine sediments) in streams adjacent to Irrigated Lands which could be subject to the Scott and Shasta Order.

The Proposed Project 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 basins, vegetated filter strips), depending on the location of such facilities on individual Irrigated Lands, could temporarily impact wildlife movement (e.g., wildlife species could avoid construction areas and associated human activity), but this potential impact would not be significant. Implementation of Mitigation Measures BIO-2, 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. (*Less than Significant)*

No County ordinances exist for the protection of biological resources within the Project Area. The implementation of Riparian Zone prohibitions and standard conditions are expected to result in improved habitat values, functions, and increased numbers of trees. As such, this impact would be ***less than significant***.

Impact BIO-6: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. (*Less than Significant*)

As described in this Chapter, no known HCPs or NCCPs are in effect on or near Irrigated Lands which could be subject to the Scott and Shasta Order. Therefore, this impact would be ***less than significant.***

VIII. Greenhouse Gas Emissions

This section presents the environmental setting and potential impacts of the Proposed Project related to greenhouse gas (GHG) emissions.

A. Regulatory Setting

Federal and state agencies regulate GHG emissions through various programs. On the federal level, the United States Department of Transportation (USDOT) and United States Environmental Protection Agency (USEPA) (USEPA and USDOT 2010) influence GHG emissions policies and programs. Generally, federal agencies influence transportation-related GHG emissions through establishment and enforcement of fuel economy standards for automobiles and trucks, funding of research and development projects related to GHG emissions reduction, and funding for transportation

infrastructure projects. At the state level, CARB is the agency with authority over different aspects of GHG such as electricity, industrial, and fuel supply emissions.

This section summarizes federal, state, and local laws, regulations, and policies pertinent to the evaluation of the Proposed Project's impacts on GHG emissions.

1. Federal Laws, Ordinances, Regulations, and Standards

At the federal level, the USEPA has developed regulations to reduce GHG emissions from motor vehicles and has developed permitting requirements for large stationary emitters of GHGs. The USEPA and National Highway Transportation Safety Administration (NHTSA) implement the Corporate Average Fuel Economy (CAFE) program which was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Compliance with the CAFE standards are determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the country. USEPA calculates a CAFE value for each manufacturer based on the city and highway fuel economy test results and vehicle sales. Based on information generated under the CAFE program, DOT is authorized to assess penalties for noncompliance.

In March 2022, CAFE standards were finalized for model years 2024 through 2026. The final rule establishes standards that require an industry-wide fleet average of approximately 49 miles per gallon (mpg) for passenger cars and light trucks. In June 2024, the NHTSA announced the final rule for model years 2027 through 2031. The final rule established standards that require an industry-wide fleet wide average of approximately 50.4 mpg in 2031 for all passenger cars and light trucks, and an industry fleet-wide average of roughly 2.851 gallons per 100 miles in 2035 for heavy-duty pickup trucks and vans. The CAFE standards will increase at a rate of 2 percent per year for passenger cars in the years 2027 through 2031 and 2 percent per year for light trucks in model years 2029 through 2031. The final heavy duty pickup trucks and vans fuel efficiency standards increase at a rate of 10 percent per year in years 2030-2032 and 8 percent per year in years 2033-2035 (NHTSA 2024).

2. State Agencies, Laws, and Programs

California regulates GHG emissions through legislation, rules, and executive orders, as described further below.

a. State of California Executive Orders

Executive Order S305. In 2005, in recognition of California's vulnerability to the effects of climate change, then-Governor Schwarzenegger issued Executive Order (EO) S305, which set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

By 2010, reduce GHG emissions to 2000 levels;

By 2020, reduce GHG emissions to 1990 levels; and

By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Executive Order S107. EO S107, which was signed by then-Governor Schwarzenegger in 2007, proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020 and directed that a Low Carbon Fuel Standard (LCFS) be established for California. CARB approved the proposed regulation to implement the LCFS in 2009.

Executive Order S1308. Then-Governor Schwarzenegger signed EO S1308 on November 14, 2008. The order called on state agencies to develop California's first strategy to identify and prepare for expected climate impacts. As a result, the *2009 California Climate Adaptation Strategy* (CAS) report was developed to summarize the best-known science on climate change impacts in the state, assess vulnerability, and outline possible solutions that can be implemented in and across state agencies to promote resiliency (CNRA 2009), and updated in 2014 (CNRA 2014). The state has also developed an Adaptation Planning Guide (California Emergency Management Agency [CEMA] 2012) to provide a decision-making framework intended for use by local and regional stakeholders to aid in the interpretation of climate science and develop a systematic rationale for reducing risks caused or exacerbated by climate change. The state's third major assessment (CNRA 2018) on climate change explores local and statewide vulnerabilities to climate change, highlighting opportunities for taking concrete actions to reduce climate-change impacts.

Executive Order B3015. Then-Governor Brown signed EO-B-3015 on April 29, 2015, which directed the following:

Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030;

Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 (80 percent below 1990 levels) reduction targets; and

Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$.

Executive Order B5518. On September 10, 2018, then-Governor Brown signed EO B5518, committing California to total, economy-wide carbon neutrality by 2045. EO B5518 directs CARB to work with relevant State agencies to develop a framework to implement these goals, and accounting that tracks progress toward this goal.

Executive Order N7920. In EO N7920, Governor Newsom states that "clean renewable fuels play a role as California transitions to a decarbonized transportation sector." EO N7920 directs as follows:

"[T]o support the transition away from fossil fuels consistent with the goals established in this Order and California's goal to achieve carbon neutrality by no later than 2045, the California Environmental Protection Agency and the California Natural Resources Agency, in consultation with other State, local and federal agencies, shall expedite regulatory processes to repurpose and transition upstream and downstream oil production facilities...."

The Governor's Order also directs CARB to "develop and propose strategies to continue the State's current efforts to reduce the carbon intensity of fuels beyond 2030 with consideration of the full life cycle of carbon."

b. State of California Policy and Legislation

Assembly Bill 32 and Senate Bill 32 – California Global Warming Solutions Act

In September 2006, then-Governor Schwarzenegger signed the California Global Warming Solutions Act (Assembly Bill [AB] 32). AB 32 (California Health and Safety Code, Division 25.5) establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction was intended to be accomplished by enforcing a statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directed CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

In 2016, Senate Bill (SB) 32 and its companion bill AB 197 amended California Health and Safety Code, Division 25.5 Section 38500 et seq. and established a new GHG reduction target of 40 percent below 1990 levels by 2030. The bills also include provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

Scoping Plan

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020. CARB developed and approved the initial Scoping Plan in 2008, outlining the regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs that would be needed to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives (CARB 2009).

Most recently, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) in December 2022. The 2022 Scoping Plan outlines the proposed framework of action for achieving the 2045 GHG target of an 85 percent reduction in GHG emissions relative to 1990 levels; the update also adds carbon neutrality as a science-based guide for California's climate work (CARB 2022). The 2022 Scoping Plan outlines how carbon neutrality can be achieved to reduce GHGs to meet the emission

targets by reducing anthropogenic emissions and expanding actions to capture and store carbon. New to the 2022 Scoping Plan is a commitment to incorporate and quantify natural and working lands as a key component to GHG reductions and actions around capture and storage of carbon. The 2022 Scoping Plan strategy for meeting the state's 2030 GHG target incorporates the full range of legislative actions and state-developed plans that have relevance to the year 2030. The 2022 Scoping Plan is heading toward the 2045 target of 85 percent below 1990 levels and carbon neutrality, including the following reductions in key sectors:

The transportation sector targets reductions based on the technology of vehicles and associated refueling infrastructure for those vehicles; the fuel used as the energy source to power vehicles and the facilities that produce them; and vehicle miles traveled (VMT), which relates to development patterns and available transportation options.

Port-related targets in the transportation sector include full implementation of the Ocean-Going Vessels (OGV) At-Berth regulation (described in more detail below), 25 percent of OGVs utilizing hydrogen fuel cell electric technology by 2045, 100 percent of cargo handling equipment being zero emission by 2037, and 100 percent of drayage trucks being zero emission by 2035.

The electricity grid sector has a target of 38 $MMTCO_2e$ in 2030 and 30 $MMTCO_2e$ in 2035, which includes a goal of generating 20 gigawatts of offshore wind by 2045 and specifies that the increased demand for electrification occurs without new fossil gas–fired resources.

The manufacturing and building sector include increased electrification of energy demand for construction equipment, as well as across many manufacturing sectors and buildings.

CO_2 removal and capture include carbon capture and storage facilities and mechanical systems to remove CO_2 from the ambient air.

Short-lived climate pollutants, including non-combustion methane emissions, are reduced with various strategies.

Natural and working lands sectors include targets to conserve natural working lands and coastal waters, and to implement actions to accelerate natural removal of carbon and improve resilience to climate change.

In the 2022 Scoping Plan, CARB recommends statewide targets of no more 226 $MMTCO_2e$ from AB 32 GHG inventory sector emissions and 7 $MMTCO_2e$ from natural and working lands, a reduction from carbon capture and sequestration due to avoided GHG emissions from industry and electric sectors of 13 $MMTCO_2e$, and a reduction of 7 $MMTCO_2e$ from CO_2 removal, including carbon sequestration on natural and working lands, as well as direct air capture and bio-energy with carbon capture and sequestration. The net 2030 GHG emissions, accounting for emissions and removal or

sequestration, is 226 $MMTCO_2e$. For the 2045 scenario in the 2022 Scoping Plan, maximum GHG emissions from AB 32 inventory sector emissions are 65 $MMTCO_2e$, emissions from working lands are 7 $MMTCO_2e$, and reductions from carbon capture and sequestration and CO_2 removal are 100 $MMTCO_2e$. This is a net reduction of 3 $MMTCO_2e$ by 2045.

Tractor-Trailer Greenhouse Gas Regulation

CARB's Tractor-Trailer Greenhouse Gas regulation reduces the energy consumption of large trucks. CARB developed this regulation to make heavy-duty tractors more fuel efficient. Fuel efficiency is improved by requiring the use of aerodynamic tractors and trailers that are also equipped with tires that have a low rolling resistance. The tractors and trailers subject to this regulation must either use USEPA SmartWay (SmartWay) certified tractors and trailers or retrofit their existing fleet with SmartWay-verified technologies. The SmartWay certification process is part of the broader voluntary program called the SmartWay Transport Partnership Program. The regulation applies primarily to owners of 53foot or longer box-type trailers and owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low-rolling-resistance tires. All owners, regardless of where their vehicle is registered, must comply with the regulation when they operate their affected vehicles on California highways. Besides the owners of these vehicles, drivers, motor carriers, California-based brokers, and California-based shippers that operate or use them also share in the responsibility for compliance with the regulation.

In-Use Off-Road Diesel Vehicle Regulation

In 2007, CARB adopted a regulation to reduce DPM and NO_X emissions from in-use, off-road, heavy-duty diesel vehicles in California. The regulation imposes limits on vehicle idling and requires fleets to reduce emissions by retiring, replacing, repowering, or installing exhaust retrofits to older engines. In December 2011, the regulation was amended to modify the compliance dates for performance standards and establish requirements for compliance with verified diesel emission control strategy technologies that reduce PM and/or NO_X emissions. The regulation is in the process of finalizing additional amendments, which would require phase-out of the oldest and highest emitting off-road engines and restrict the addition of vehicles with Tier 3 and Tier 4 interim engines. The rulemaking starting in 2024 would also require contracting entities to obtain and retain a fleet's valid Certificate of Reported Compliance prior to awarding a contract or hiring a fleet; mandate the use of R99 or R100 Renewable Diesel for all fleets, with some limited exceptions; and provide additional requirements to increase enforceability and provide flexibility for permanent low-use vehicles. EPA granted the waiver authorization request for this regulation.

AB 1346: Air Pollution: small off-road engines

Assembly Bill 1346 (AB 1346) required CARB to adopt cost-effective and

technologically feasible regulations to prohibit engine exhaust and evaporative emissions from new Small Off-Road Engines (SORE) by July 1, 2022, for engines produced on or after January 1, 2024, or as soon as CARB determines is feasible. SORE are spark-ignition engines rated at or below 19 kilowatts, and are typically used in lawn and gardening equipment, outdoor power equipment, and specialty vehicles. In determining technological feasibility, CARB is to consider emissions from SOREs in the state; timeline for zero-emission SORE development; increased electricity demand from charging zero-emission SORE; cases for both commercial and residential users of SOREs; and expected availability of zero-emission generators and emergency response equipment. In addition, CARB is to identify and make funds available for rebates or incentive funding. CARB adopted engine exhaust emission regulations for small offroad engines in compliance with AB 1346, requiring most new small off-road engines to be zero emissions by 2024. The Proposed Project may use SORE engines during construction. EPA granted the waiver authorization request for this regulation.

Portable Equipment Registration Program

The statewide Portable Equipment Registration Program (PERP) establishes a system to uniformly regulate portable engines and portable engine–driven equipment units such as generators. After being registered in this program, engines and equipment units may operate throughout the state without the need to obtain permits from individual air districts. Owners or operators of portable engines and certain types of equipment can voluntarily register their units under this program. Operation of registered portable engines may still be subject to certain district requirements for reporting and notification. Engines with less than 50 brake horsepower (hp) are exempt from this program. Some of the engines used for the Proposed Project may operate under PERP.

California Standards for Diesel Fuel Regulations

These regulations require diesel fuel with sulfur content of 15 parts per million (ppm) or less (by weight) to be used for all diesel-fueled vehicles that are operated in California. The standard also applies to non-vehicular diesel fuel, other than diesel fuel used solely in locomotives or marine vessels, which are regulated under federal and international regulations. The regulations also contain standards for the aromatic hydrocarbon content and lubricity of diesel fuels.

Truck and Bus Regulation

In 2008, CARB approved a regulation to substantially reduce emissions of DPM, NO_X, and other pollutants from existing on-road diesel vehicles operating in California. The regulation requires affected trucks and buses to meet performance standards and requirements by 2023. Affected vehicles included on-road, heavy-duty, diesel-fueled vehicles with a gross vehicle weight rating greater than 14,000 pounds. The regulation was updated in 2011 and 2014 to provide more compliance flexibility and reflect the impact of the 2008 economic recession on vehicle activity and emissions. Heavy-duty trucks used for the Proposed Project construction or operations would be required to

comply with this regulation. With the sunsetting of the drayage truck rule, drayage trucks currently fall into this regulation, which bans pre-2010 model year engines.

Advanced Clean Truck Regulation

On June 25, 2020, CARB adopted the Advanced Clean Trucks Regulation, which requires truck manufacturers to have a certain percentage of their new truck sales in California be zero-emission trucks beginning in 2024, with the percentage growing over time. Under this rule, every new truck sold in California must be zero emission by 2045.

Heavy-Duty On-Board Diagnostic System Regulations

In 2004, CARB adopted regulations requiring on-board diagnostic (OBD) systems on all 2007 and later model year heavy-duty engines and vehicles (i.e., vehicles with a gross vehicle weight rating greater than 14,000 pounds) in California. CARB subsequently adopted a comprehensive OBD regulation for heavy-duty vehicles model years 2010 and beyond. The heavy-duty OBD regulations were updated in 2010, 2013, and 2016, with revisions to enforcement requirements, testing requirements, and implementation schedules. Heavy-duty trucks used during the Proposed Project construction would be required to comply with the heavy-duty OBD regulatory requirements.

Heavy-duty Vehicle Inspection Program

The heavy-duty vehicle inspection program requires heavy-duty trucks and buses to be inspected for excessive smoke and tampering, and for compliance with engine certification labels. Any heavy-duty vehicle (i.e., a vehicle with a gross vehicle weight rating greater than 14,000 pounds) traveling in California, including vehicles registered in other states and foreign countries, may be tested. Tests are performed by CARB inspection teams at border crossings, California Highway Patrol weigh stations, fleet facilities, and randomly selected roadside locations. Owners of trucks and buses found to be in violation are subject to penalties starting at $300 per violation. Heavy-duty trucks used during project construction would be subject to the inspection program.

Advanced Clean Cars Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012 and was closely associated with the Pavley regulations, which were the first set of regulations for vehicles that addressed GHG emissions. The program required a greater number of ZEV models for the years 2015 through 2025 to control smog, soot, and GHG emissions, and included the Low-Emissions Vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, as well as ZEV regulations requiring manufacturers to produce an increasing number of pure ZEVs (i.e., battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEV) between 2018 and 2025.

In August 2022, CARB adopted the Advanced Clean Cars II (ACC II) regulation, which

builds upon and supersedes the original program. ACC II requires that 100 percent of new cars and light trucks sold in California be zero-emission vehicles by 2035, with escalating annual ZEV sales requirements beginning with the 2026 model year. The regulation also includes more stringent criteria pollutant standards for the remaining internal combustion engine vehicles sold during the transition period.

Regarding the federal regulatory landscape, the Biden administration reversed the prior administration's Final SAFE Rule and reinstated California's authority to set its own vehicle emissions standards. In March 2022, the U.S. Environmental Protection Agency (EPA) formally restored California's Clean Air Act waiver, reauthorizing the state to enforce its Advanced Clean Cars program. However, under the current Trump administration, California's regulatory authority over vehicle emissions has again faced federal challenges. In 2025, the EPA and the National Highway Traffic Safety Administration (NHTSA) initiated actions to revisit California's waiver authority and federal emissions standards, creating renewed uncertainty regarding the enforceability of California's Advanced Clean Cars and ACC II regulations. The state has indicated it will vigorously defend its authority to maintain these programs.

Advanced Clean Fleets

The advanced clean fleets regulation was adopted by CARB to require fleets that are suited for electrification to reduce emissions through requirements to phase-in the use of ZEVs for targeted fleets and requirements that manufacturers only manufacture ZEV trucks starting in the 2036 model year. California has withdrawn its request for a waiver from EPA and is not enforcing existing portions of the regulation that require a federal waiver or authorization such as the portions of the regulation that apply to high priority and drayage fleets. The state and local government fleets portion of the regulation remains unaffected.

Renewables Portfolio Standard

California adopted standards to increase the percentage of energy from renewable resources that retail sellers of electricity, including investor-owned utilities and community choice aggregators, must provide in their portfolio. The Renewables Portfolio Standard (RPS) was established in 2002 under Senate Bill (SB) 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2. Recently, SB 350, SB 100, and SB 1020 added to renewables requirements as discussed below. The standards are referred to as the RPS. Qualifying renewables under the RPS include bioenergy such as biogas and biomass, small hydroelectric facilities (30 megawatts [MW] or less), wind, solar, and geothermal energy. The CPUC and the CEC jointly implement the RPS program.

In November 2008, then-Governor Schwarzenegger signed Executive Order S1408, which expanded the State’s RPS to 33 percent renewable power by 2020. In September 2009, then-Governor Schwarzenegger continued California’s commitment to the RPS by signing Executive Order S2109, which directed CARB to enact regulations to help

the state meet its RPS goal of 33 percent renewable energy by 2020.

SB 350, also known as the Clean Energy and Pollution Reduction Act of 2015, was enacted on October 7, 2015, and provides a new set of objectives in clean energy, clean air, and pollution reduction by 2030. The objectives include the following:

- To increase from 33 percent to 50 percent by December 31, 2030, the procurement of California's electricity from renewable sources.
- To double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

On September 10, 2018, then-Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also creates new standards for the RPS goals that were established by SB 350 in 2015. Specifically, SB 100 increases required energy from renewable sources for both Investor-Owned Utilities and Publicly Owned Utilities from 50 percent to 60 percent by 2030. Incrementally, these energy providers are also required to have a renewable energy supply of 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. The updated RPS goals are considered achievable, because many California energy providers are already meeting or exceeding the RPS goals established by SB 350.

Senate Bill 1020 of 2022 (SB 1020) revises state policy requiring eligible renewable resources and zero-carbon resources to supply 90 percent of all retail sales of electricity to California end use customers by December 31, 2035; 95 percent of all retail sales of electricity to California end-use customers by December 31, 2040; 100 percent of all retail sales of electricity to California end-use customers by December 31, 2045; and 100 percent of electricity procured to serve all state agencies by December 31, 2035, as specified. It also contains provisions for cooperation between CPUC and Independent System Operators (ISOs) providing electricity for the purpose of transmission planning by allowing the exchange of confidential business information without risk of public disclosure requirements.

Low-Carbon Fuel Standard

The Low-Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S107 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products that started with a 0.25 percent reduction in 2011, and culminated in a 10 percent total reduction in 2020. In September 2018, CARB extended the LCFS program to 2030, making significant changes to the design and implementation of the program, including a doubling of the carbon intensity reduction to 20 percent by 2030.

Petroleum importers, refiners, and wholesalers can either develop their own low-carbon fuel products or buy LCFS credits from other companies that develop and sell low-

carbon alternative fuels, such as biofuels, electricity, natural gas, and hydrogen. The Port started participating in the LCFS program in January 2019 as an opt-in entity, generating credits by providing electricity to vessels through shore power, as well as providing charging infrastructure for battery-electric Class 8 on-road trucks, battery-electric cargo-handling equipment, and battery-electric light-duty vehicles.

Zero-Emission Vehicles

In March 2012, then-Governor Brown issued Executive Order B1612, establishing a goal of 1.5 million ZEVs on California roads by 2025. In addition to the ZEV goal, Executive Order B1612 stipulated that by 2015, all major cities in California must have adequate infrastructure and be " zero-emission vehicle ready;" by 2020, the state establish adequate infrastructure to support 1 million ZEVs; and by 2050, virtually all personal transportation in the state will be based on ZEVs; and GHG emissions from the transportation sector will be reduced by 80 percent below 1990 levels in 2050.

On January 26, 2018, then-Governor Brown issued Executive Order B4818, establishing a goal of 5 million ZEVs on California roads by 2030, and spurred the installation and construction of 250,000 plug-in electric vehicle chargers, including 10,000 direct-current fast chargers, and 200 hydrogen refueling stations by 2025.

In September 2020, Governor Newsom signed Executive Order N7920, which sets a new state goal that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035; that 100 percent of medium- and heavy-duty vehicles in the state be zero-emission by 2045 for all operations where feasible, and by 2035 for drayage trucks; and that 100 percent of off-road vehicles and equipment will be zero emission by 2035 where feasible. This order calls on state agencies, including CARB, the CEC, the CPUC, the Department of Finance, and others to develop and propose regulations and strategies to achieve these goals.

State Alternative Fuels Plan (AB 1007)

Assembly Bill 1007 (Pavley, Chapter 371, Statutes of 2005) required the CEC to prepare a state plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the State Alternative Fuels Plan in partnership with CARB, and in consultation with other state, federal, and local agencies. The final State Alternative Fuels Plan, published in December 2007, attempts to achieve an 80 percent reduction in GHG emissions associated with personal modes of transportation, even as California's population increases.

3. Local

a. Air District

The Siskiyou County Air Pollution Control District does not have any policies related to GHGs or CEQA.

b. Siskiyou County General Plan

Siskiyou County General Plan has the following policies relevant to GHGs:

Energy Policy (Siskiyou County 1993): Operation of business and agricultural enterprises as energy efficiently as possible based upon sound economic principles. A specific objective of this goal is a 10% improvement in 1990 business and agricultural energy efficiencies on a per capita basis by the year 2010.

Policy: Local business and agricultural participation in utility and agency efficiency programs shall be encouraged. The County shall request that local economic development efforts include distribution of business energy assistance information; and the County Agriculture Department shall maintain the same energy efficiency information and referral capabilities as the Planning Department and Building Inspector.

Policy: The County shall request that local economic development efforts monitor energy utility and agency programs for demonstration or pilot projects testing efficiency approaches of technologies relevant to Modoc business conditions and needs; and participate in such pilot projects where appropriate.

c. City of Etna General Plan

The City of Etna General Plan Open Space & Conservation Element has the following policies relevant to GHGs:

Goal OC-5: A sustainable and high-quality water supply.

Policy OC-5.2: The City supports the development, update and implementation of groundwater and surface water management plans that emphasize sustainable use and/or water quality protection.

Goal OC-8: Increased energy efficiency, where possible, to reduce costs and environmental impacts.

Policy OC-8.1: The City supports increased energy efficiency and the use and the use and deployment of sustainable energy sources.

d. City of Weed General Plan

The City of Weed 2040 General Plan has the following policies relevant to GHGs:

Goal CO 7: An energy efficient and energy independent community.

Objective CO 7.2: Expand opportunities to harness renewable energy.

Goal AQ 1: Clean air for residents and visitors.

Objective AQ 1.2: Reduce emissions from transportation related activities.

Policy AQ 1.2.1: The City shall meet California State greenhouse gas emission reduction goals as established by AB 32 and SB 375.

Policy AQ 1.2.4: The City shall streamline permit process for electric vehicle chargers.

Policy AQ 1.2.5: The City shall promote the use of low-emission vehicles, such as electric-powered, hydrogen-powered, or hybrid vehicles.

e. City of Yreka General Plan

The City of Yreka General Plan Public Health and Safety Element has the following policies relevant to GHGs:

Goal PH.7: Protect the community from risks posed by climate change.

Objective: Increase Yreka's ability to adapt and become resilient to the effects of climate change, while achieving other health and environmental benefits.

f. City of Mt Shasta General Plan

The City of Mt. Shasta General Plan has the following policies relevant to GHGs:

Goal OC-12 Strive to conserve energy resources.

Policy OC-12.1: Promote incentives for the use of site planning techniques, building orientation, building materials, and other measures that will reduce energy consumption.

Goal OC-13: Encourage the development of sustainable energy sources.

Policy OC-13.1 Work with individuals and companies to correctly site, connect and operate alternative energy systems such as wind, solar, hydro, and other sustainable sources.

Goal OC-14: Focused community planning concerning efficient energy use and conservation, and local energy production.

Policy OC-14.1: The City shall prepare a General Plan Energy Element when the City has adequate resources and is prepared to initiate such a project.

Goal OC-15: Be prepared for and respond to the impacts of climate change.

Policy OC-15-1: The City will consider the potential factors of climate change in planning community infrastructure and services.

B. Environmental Setting

1. Greenhouse Gases and Climate Change

Gases that trap heat in the atmosphere are called GHGs. GHGs allow sunlight to enter

the atmosphere, but trap a portion of the outward-bound infrared radiation, which warms the air. The process is similar to the effect of greenhouses, which are used to grow plants year-round even during cold months, which raises the internal temperature—therefore the name “greenhouse gas.”

Global climate change is a change in the prevailing weather patterns on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors) and toxic air contaminants (TACs), which are pollutants of regional and local concern. Both natural processes and human activities emit GHGs. The natural accumulation of GHGs in the atmosphere regulates the Earth’s temperature; however, emissions from human activities, such as fossil fuel-based electricity production and the use of internal combustion engines and motor vehicles, have elevated the concentration of GHGs in the atmosphere since the start of the industrial revolution. This human-caused (anthropogenic) accumulation of GHGs has contributed to an increase in the temperature of the Earth’s atmosphere and has contributed to global climate change.

Although there is disagreement as to the rate of global climate change, multiple studies published in peer-reviewed scientific journals show that 97 percent or more of actively publishing scientists agree: climate-warming trends over the past century are very likely due to human activities (NASA 2015). Emissions of carbon dioxide (CO_2) and nitrous oxide (N_2O) are byproducts of fossil fuel combustion, but are also emitted from other sources, including cement manufacture and land use changes such as converting grassland to urban development. Methane (CH_4), a highly potent GHG, results from off-gassing associated with agricultural practices and landfills, as well as from incomplete combustion of fossil fuels.

The principal GHGs are CO_2, CH_4, N_2O, sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and nitrogen trifluoride (NF_3). CO_2 is the reference gas for estimating GHG emissions; that is, the global warming potential (GWP) of CO_2 is used as the standard by which other GHGs are measured. To account for the GWP of different GHGs, emissions are often quantified and reported as CO_2 equivalents (CO_2e), a measure of how much global warming a given type and mass of GHG may cause compared to the equivalent amount of CO_2. For example, SF_6 is a GHG commonly used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF6, while comprising a small fraction of the total GHGs emitted annually worldwide, is a much more potent GHG, with 22,800 times the GWP of CO_2. GHG emissions are commonly reported in units of metric tonnes, rather than the more common U.S. short tons, because GHG emissions are commonly compared on a global scale.

GWP ratios are provided by the Intergovernmental Panel on Climate Change (IPCC). Historically, GHG emission inventories were calculated using ratios from the IPCC’s Second Assessment Report (SAR), published in 1996. The IPCC has since updated the ratios based on the latest science in its Fourth Assessment Report, Fifth Assessment

Report, and Sixth Assessment Report, published in 2007 (IPCC 2007), 2014 (IPCC 2015) and 2022 (IPCC 2022), respectively. The California Air Resources Board (CARB) currently uses GWP ratios in the Fourth Assessment Report (2007) for the statewide GHG emissions inventory (CARB 2023), and in the current version of the California Emissions Estimator Model (CalEEMod) (CAPCOA 2022) that was used to calculate CO_2e values for the Proposed Project. Compounds that are regulated as GHGs are discussed in more detail below.

Carbon Dioxide. In the atmosphere, carbon generally exists in its oxidized form as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter[1]; and evaporation from the oceans. Human-caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Natural CO_2 removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of human-made CO_2; consequently, the gas is building up in the atmosphere. CO_2 accounted for approximately 80 percent of anthropogenic GHG emissions in California in 2019 (CARB 2022).

Methane. CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation in animals, manure management, and rice cultivation are also large sources of CH_4 in California. Methane is also released at points of natural gas extraction and in leakages throughout the gas pipeline system.

The GWP of CH_4 is considered by CARB to be approximately 25 times that of CO_2 as averaged over a 100year timescale. On this timescale, CH_4 accounted for approximately 9 percent of anthropogenic GHG emissions in California in 2019 (CARB 2022). However, because CH_4 breaks down rapidly into CO_2 and water once in the atmosphere, there is growing recognition among climate scientists that a 20year time horizon is more relevant. The 20year GWP of CH_4 is between 84 and 87 times greater than that of CO_2. That means methane is a much larger contributor to California's anthropogenic GHG emissions over the shorter time frame of 20 years than originally calculated over 100 years.

Nitrous Oxide. N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for most natural source emissions. N_2O is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California. N_2O has a GWP of approximately 298 times that of CO_2, and its emissions accounted for approximately 3 percent of anthropogenic GHG emissions in California in 2019 (CARB 2022).

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride. HFCs are primarily used as substitutes for ozone-depleting substances and have global warming potentials that range from hundreds to thousands of times that of CO_2. PFCs and SF_6 are emitted from various industrial processes, including semiconductor manufacturing and electric power transmission and distribution. These accounted for approximately 6 percent of anthropogenic GHG emissions in California in 2019 (CARB 2022).

Nitrogen Trifluoride. NF_3 is primarily used in manufacturing semiconductor and liquid crystal display (LCD) panels, certain types of solar panels, and chemical lasers. The ability to measure NF_3 atmospheric concentrations has only recently become possible, and this has revealed much higher concentrations than originally assumed. This is a major cause of concern because NF_3 is an extremely potent GHG and has a GWP of 17,200 times that of CO_2 (WRI and WBCSD 2013).

2. Effects of Climate Change

Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. However, there remain significant scientific uncertainties in, for example, predictions of local effects of climate change; occurrence, frequency, and magnitude of extreme weather events; effects of aerosols; changes in clouds; shifts in the intensity and distribution of precipitation; and changes in oceanic circulation.

For California, projected effects from climate change are described in California's Fourth Climate Change Assessment (California Climate Change Center [CCCC] 2019). Based on projections using climate modeling, temperatures in California are expected to rise between 5.6 degrees °F and 8.8°F above year 2000 averages by 2050 (CCCC 2019). The predicted changes in the future climate have been found to affect the natural environment in California in the following ways (CCCC 2012, 2019):

Increased wildfire risk and wildfire severity;

Adverse effects on native freshwater fish species;

Increased ground-level ozone levels and particulate air pollution;

Earlier snowmelt and runoff;

Faster-than-historical sea level rise and increased coastal flooding; and

Impacts on the agricultural industry from population decreases of pollinators and increases of pests and disease.

These changes in California's climate and ecosystems are projected to occur because California's population is expected to increase from 40 million in 2020 to 45 million by

2050 (CDF 2023a). As the population increases, the demand for transportation, water, and electrical utilities, as well as other commodities, will increase correspondingly, resulting in an increase in the amount of anthropogenic GHG emissions anticipated under a “business as usual” scenario.

Although the possible outcomes and the feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be substantial. All these impacts would have either direct or indirect adverse effects for the residents and businesses in and near the Proposed Project area.

3. Emissions Inventories

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks (things that absorb more carbon than they release, such as plants, ocean, and soil) of GHGs is a well-recognized and useful tool for addressing human society’s contributions to climate change. This section summarizes the latest information on global, United States, California, and local GHG emission inventories.

Global Emissions

Global emissions estimates are based on country inventories developed as part of programs of the United Nations Framework Convention on Climate Change. Worldwide human-made emissions of GHGs in 2010 were approximately 49 billion metric tonnes CO_2e, including ongoing emissions from industrial and agricultural sources and emissions from land use changes (e.g., deforestation). Emissions of CO_2 in 2010 from fossil fuel use and industrial processes accounted for 65 percent of the total, while CO_2 emissions from all sources accounted for 76 percent of the total. Methane emissions accounted for 16 percent and N_2O emissions for 6.2 percent. For perspective, worldwide emissions of GHGs in 1970 were 27 billion metric tonnes CO_2e (IPCC 2015).

U.S. Emissions

In 2022, the United States emitted about 5,489.0 million metric tonnes CO_2e ($MMTCO_2e$) after accounting for land sequestration.[2] Of the major sectors nationwide, transportation accounted for the highest amount of GHG emissions (approximately 28 percent), followed by electricity (25 percent), industrial (23 percent), agriculture (10 percent), commercial and residential (13 percent). Between 1990 and 2022, total net U.S. GHG emissions decreased by 3 percent. Since peaking in 2005, total net emissions have decreased by about 16.7 percent (USEPA 2024).

State of California Emissions

CARB compiles GHG inventories for the State of California. Based on CARB’s 2022 GHG inventory data, California emitted 371.1 $MMTCO_2e$, including emissions resulting from imported electrical power (CARB 2024). Between 1990 and 2022, the population of California grew by approximately 9.7 million (from 29.8 to 39.1 million) (California

Department of Finance 2023a), representing an increase of approximately 31 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from $773 billion in 1990 to $3.60 trillion in 2022, representing an increase of approximately 365 percent (over four times the 1990 gross state product) (California Department of Finance 2023b). Despite this population and economic growth, CARB's 2022 statewide inventory indicates that California's net GHG emissions in 2022 were below 1990 levels of 431 $MMTCO_2e$, which was the 2020 GHG reduction target codified in California Health and Safety Code (HSC), Division 25.5, also known as The Global Warming Solutions Act of 2006 (AB 32). The trend is heading toward the 2030 GHG target of 260 $MMTCO_2e$ established by SB 32.

Existing Site Emissions

Stationary sources, area-wide sources, and mobile sources are the main sources of greenhouse gas emissions within the county. Stationary sources include fuel combustion, waste disposal, cleaning and surface coating, petroleum production, and industrial processes, which leads to the emission of CO_2, CH_4, and N_2O. Areawide sources include solvent evaporation from activities like pesticide and fertilizer application, asphalt paving, and refrigerants. Additional area-wide sources include wildfires, residential fuel combustion, farming operations, construction and demolition, paved road dust, waste burning and disposal, and wind-blown dust. Mobile sources of GHG pollution include on-road vehicles and off-road vehicles throughout the county. The largest contributing sources to GHG emissions throughout the county are transportation-related emissions and wildfire smoke. Wildfires can cause an increase in greenhouse gas emissions as a result of decaying or burnt trees following wildfires. The loss of forested and vegetated lands due to large scale wildfires can reduce opportunities for carbon sequestration, potentially further increasing local greenhouse gas emissions that would otherwise be mitigated by the many forests and vegetated areas in the county. Reforestation efforts throughout the county are aiming to improve local carbon sequestration, potentially offsetting future greenhouse gas emissions that occur because of wildfires.

C. Environmental Analysis

1. Impact Analysis Methods

Because the Scott and Shasta Order provides owners and operators of Irrigated Lands with flexibility regarding implementing Management Practices, it is not possible to quantify the GHG emissions that will result from activities under the Proposed Project. Thus, this section qualitatively analyzes the potential impacts of the Proposed Project with regard to GHG emissions and climate change. Effects are evaluated with respect to the anticipated changes from baseline conditions in vehicle and equipment usage, fertilizer and pesticide application, and other GHG emitting activities due to the Proposed Project.

Note that many of the products and equipment that could be used during Proposed

Project implementation could include “embedded” GHG emissions, which are not directly evident from their end uses. For example, extraction and processing of raw materials used in the manufacturing of construction equipment used during Management Practice installation may involve fossil fuel combustion and GHG emissions. Likewise, transporting equipment parts and other agricultural inputs/products to markets and ultimately to the consumer could generate GHG emissions. These relationships are complex but were generally considered in this qualitative analysis.

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) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Siskiyou County Air Pollution Control District has not drafted or adopted GHG emission significance thresholds for analysis of GHG impacts under CEQA. A quantitative analysis of GHG emissions is not possible for the Proposed Project, and it is thus not possible to compare emissions to these thresholds.

3. Impacts and Mitigation Measures

Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. ***(Less than Significant)***

A number of the reasonably foreseeable Management Practices that could occur under the Proposed Project would have negligible or beneficial effects related to GHG emissions. Practices such as cover cropping, applying pesticides in accordance with label instructions, reduction of cropping areas to allow natural succession of riparian vegetation, and excluding people and vehicles from areas to protect riparian vegetation would emit negligible amounts of GHGs. Construction of certain types of Management Practices would generate GHG emissions due to operation of gasoline- or diesel-fueled equipment (e.g., excavators, bulldozers, etc.). Management Practices such as sediment basins, vegetated filter strips, and agricultural road storm-proofing would all involve some amount of excavation/ground-disturbance, and thus construction of these features would require use of GHG-emitting equipment. Additionally, any worker vehicle trips to and from individual construction sites would add some amount of GHGs. Implementation of setback requirements also may require removal of existing cropping areas (if present within setback areas), disposal of organic debris, and planting of riparian or other vegetation, all of which could involve operation of equipment and/or vehicles and emission of GHGs. However, implementation of the riparian setback requirements that results in additional riparian vegetation may also help sequester GHGs and therefore reduce their emissions, and therefore have a net beneficial effect

(UCCE 2015).

While the specific characteristics of individual Management Practices are unknown, such individual projects would have no potential, on their own, to exceed applicable GHG emission significance criteria. In comparison to the types of construction projects that regularly occur in Siskiyou County (e.g., housing projects, commercial and industrial development), the Management Practices that could be constructed at individual Irrigated Lands as a result of the Proposed Project rank relatively low in terms of GHG emission potential.

From a cumulative standpoint, if all Irrigated Lands within the region were to construct tailwater retention/detention basins, vegetated filter strips, or storm-proof agricultural roads *at the same time*, there could be some potential for annual GHG emissions significance thresholds to be exceeded (although, still, this is somewhat speculative). However, this is not likely to occur, particularly given the fact that many of the discharge, receiving water, and application limits (which would drive Management Practice implementation) and setback requirements would be implemented over time.

It also should be noted that some amount of GHG emissions is occurring under existing conditions. Many Irrigated Lands are implementing, or have implemented, various Management Practices (see Attachment B). As such, while the Proposed Project is anticipated to result in increased Management Practice construction (and associated GHG emissions) relative to existing conditions, the GHG emissions that occur from the Proposed Project should be considered in light of the existing, ongoing GHG emissions that are occurring under existing conditions.

During Project operation, certain Management Practices or monitoring equipment/facilities could generate some amount of GHG emissions. Routine maintenance and repair of Management Practices (e.g., periodic clearing of accumulated sediment from sediment basins) may require operation of fossil fuel-powered equipment, which may generate GHG emissions.

Due to the nature of the Proposed Project and the discretion afforded to owners and operators of Irrigated Lands in how to comply with the proposed requirements, the net increase in GHG emissions due to the Proposed Project cannot be quantified. Based on the reasonably foreseeable activities, the emissions are not expected to be substantial. The Proposed Project would not create any new substantial stationary sources of GHG emissions and many of the routine maintenance and repair and monitoring activities would be relatively infrequent. GHG emissions from construction activities likely would be relatively minor overall (particularly compared to other common types of construction projects) and would most likely be spread out over time due to the compliance timeline built into the Proposed Project. Therefore, this impact would be ***less than significant***.

Impact GHG-2: Potential to conflict with an applicable plan, policy, or regulation adopted to reduce the emissions of GHGs. *(Less than Significant)*

The Proposed Project does not conflict with strategies discussed in the First Update to the AB 32 Scoping Plan or the 2017 Climate Change Scoping Plan (CARB 2017). The implementation of many reasonably foreseeable Management Practices in response to the Proposed Project, including actions to improve nutrient management, would align with strategies mentioned in the Scoping Plan and ultimately reduce emissions of some GHGs. As discussed above in Impact GHG-1, while construction of some Management Practices would generate short-term GHG emissions, these would likely be spaced out over time and would not be significant. Routine maintenance and repair of certain Management Practices, as well as monitoring activities, could generate some amount of GHG emissions, but these emissions would not be significant and would not conflict with applicable state plans, policies, or regulations.

For similar reasons, the Proposed Project is generally in line with local general plan policies regarding land use, transportation, air quality planning goals, and local CAPs. Therefore, this impact would be ***less than significant***.

IX. Cultural Resources

This section provides a background discussion of the regulatory setting, the environmental setting, an impact analysis, and mitigation measures. This section describes the potential impacts of the Proposed Project related to cultural resources. Section 15064.5(b) of the CEQA Guidelines provides that a project with an effect 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. 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 the historical resource would be materially impaired (Section 15064.5(b)(1)). A historical resource is materially impaired when a project demolishes or materially alters, in an adverse manner, those physical characteristics of the resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, an applicable register (Section 15064.5(b)(2)). It is the responsibility of the lead agency to identify potentially feasible, enforceable measures to mitigate significant adverse changes in the significance of a historical resource.

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, Regulations, and Policies

a. 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.

b. 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).

c. 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.

Projects that require federal permits, receive federal funding, or are located on federal lands must comply with 54 US Code (USC) section 306108, formally and more commonly known as Section 106 of the National Historic Preservation Act (NHPA). To comply with Section 106, a federal agency proposing a federal or federally assisted project must consider whether the project has the potential to affect historic properties and if so, must “take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places (NRHP). The implementing regulations for Section 106 are found in Title 36 Code of Federal Regulations (CFR), Part 800, as amended (2004).

The implementing regulations of the NHPA require the federal agency to identify cultural resources that may be affected by the project and determine whether the cultural resources are listed or eligible for listing on the NRHP. Resources listed or eligible for NRHP listing are called *historic properties*. To evaluate if a site, district, structure,

object, and/or building is significant and historic, and eligible for NRHP listing, the NRHP Criteria for Evaluation are applied. A resource is significant and considered a historic property when it:

1) Is associated with events that have made a significant contribution to the broad patterns of our history; or

2) Is associated with the lives of persons significant in our past; or

3) Embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; or

4) Yields, or may be likely to yield, information important in prehistory or history.

In addition, 36 CFR Section 60.4 requires that, to be considered significant and historic, resources must also exhibit the quality of significance in American history, architecture, archaeology, engineering, or culture and must possess integrity of location, design, setting, materials, workmanship, feeling, and association.

3. Local Laws, Ordinances, Regulations, and Policies

Many city and county general plans contain goals, policies, and strategies related to cultural resources. Applicable policies and strategies from these general plans generally include requirements to identify cultural resources within a proposed project area through archival research and a field study, and to preserve any significant resources, if feasible. Mitigation is often required before a permit will be granted. Many cities and counties have appointed boards or committees to review projects that have the potential to affect cultural resources, but few have requirements to consult with Native American tribes about impacts on Native American sites or include Native American individuals on their cultural resources review boards. Specific applicable general plan goals and policies for Siskiyou County are presented in Attachment C.

B. Environmental Setting

This section provides a background discussion of the pre-contact period background, ethnographic background, post-contact historic period background, protohistoric period background of the region, and known cultural resources within the Proposed Project Area.

1. Pre-Contact Native American Background

Arrington (2006) provides a summary of the precontact eras of northern California from the Paleoindian Period (ca. 8000 to 5500 B.C.), through the Borax Lake Pattern (5000 B.C. to A.D. 500), and into the Shasta Aspect of the Augustine Pattern (A.D. 500 to 1769). Numerous archaeological investigations in Shasta Valley established a foundation of information from which a chronological description more specific to the

area could be developed. Archaeological investigations along the eastern edge of the valley suggest a period of occupation attributed to seasonal hunting by Achumawi, Modoc or eastern Shasta peoples late as A.D. 1700 to 1800 (Wallace and Taylor 1952). Excavations in southern Shasta Valley along the banks of the Shasta River revealed a cultural assemblage indicative of a late pre-contact occupation with evidence of earlier occupational sequences occurring at the site (Clewett 1968; Hamusek et al. 1997). Analysis of the cultural and ecofactual material, radiocarbon dates, and obsidian hydration rim readings indicate that the Sheep Rock Shelter site (CA-SIS-266) was occupied between 600 B.C. to A.D. 700 (Ritter 1989). Precontact sites excavated in the northern portion of Shasta Valley provided a significant body of data that allowed Nilsson (1991) to develop provisional chronological sequence for Shasta Valley (Johnston and Nilsson 1983; Nilsson 1985, 1987, 1988; Nilsson et al. 1989).

The earliest distinct cultural manifestations well documented within Shasta Valley are defined as the Ager Phase which dates from 500 B.C. to A.D. 500. The artifact assemblage is characterized by Elko Corner-Notched, medium-sized side-notched and stemmed leaf-shaped projectile points manufactured nearly exclusively of Grasshopper Flat obsidians, unifacial and bifacial manos, unifacial metates, end scrapers, and side-scrapers. Lithic technology appears to have been focused on the reduction of imported, pre-formed obsidian bifaces and core reduction of local cryptocrystalline silicates and basalt materials. Faunal remains indicate dietary patterns of primarily on large and small terrestrial mammal species. Settlement patterns suggest occupation of riverbanks at the transition zone above the valley floor and the sporadic utilization of adjacent upland areas.

The Meek Phase dates from A.D. 500 to the contact era. Site assemblages from this phase include Gunther Barbed, Desert Side-Notched, and other small corner-notched projectile points, ground stone implements like those of the Ager Phase with the addition of flat-ended and cylindrical pestles and hopper mortars, and various bone tools and ornaments, shell beads, twined basketry, ceramic figurines, and pottery fragments identified as Siskiyou Utility Ware. Lithic technology patterns demonstrate a reduction strategy which was multi-faceted and material specific and include core, biface, and bipolar techniques. Site assemblages associated with the Meek Phase reveal an apparent increase in the number of obsidian sources utilized, with Medicine Lake Highland glasses and material from the Cougar Butte, Callahan, Glass Mountain, and Railroad Grade sources present. Subsistence data from Meek Phase site assemblages suggest the continued exploitation of terrestrial mammal species and the introduction of riverine resources. Based on the lack of fish bone and freshwater mollusk from Ager Phase site assemblages, Nilsson (1991) hypothesizes that shifts in subsistence patterns in favor of a broader-based economy may have occurred during the Meek Phase.

2. Ethnographic Background

The ethnographic background discusses the Shasta peoples, who fully occupied the territory within the Scott River and Shasta River basins at the time of colonization. The

Karuk, and Yurok peoples are also discussed, as they lived adjacent to or are regionally associated with the Project area and were contacted by the North Coast Water Board. These cultural groups have a long history of occupation in the area as evidenced by the numerous archaeological sites that are present. The following ethnographic overview is focused on the cultural components that may be evident within the archaeological record.

a. Shasta

The following description of traditional Shasta cultural components that could be identified within the archaeological record are adapted from Silver (1978). Silver summarizes ethnographic information regarding Shasta collected by Dixon (1907), Voegelin (1942), and Holt (1946).

The Shasta language is classified within the Hokan phylum and was spoken by all Shasta. The Shasta peoples are grouped loosely into divisions, with one in southern Oregon and three California divisions in Shasta Valley, Scott Valley, and along the Klamath River. The territory of the California divisions was bordered on the east by the Cascade Range, with Mount Shasta in the southeast. The Marble, Salmon, and Scott Mountains formed the western and southern boundaries, and the Siskiyou Mountains formed a northern barrier between the Oregon and California divisions. In the Shasta and Scott Valleys, villages were usually located at the edge of the valley where a stream came down out of the mountains, surrounded by well-recognized territories that could be utilized to collect resources. These included fishing places, hunting and gathering areas, and areas of cultivation.

Shasta families occupied dwelling houses during winter, brush shelters through spring and summer, and camped out in the mountains during fall hunts. The rectangular dwelling houses were semisubterranean, with a steeply sloping roof, dirt sidewalls, and board end walls. Conical dwelling houses were also constructed in the Shasta Valley. Houses were built facing the water and had a fireplace in the center. Furnishings consisted of wooden stools, tule pillows, and elk hide or deerskin blankets.

Large villages had an assembly house, located in the center of the village, similar to the dwelling house, but larger with an almost flat dirt-covered roof, split-board side walls, and one ridgepole. Some villages had a sweat house located near a stream and heated by direct fire. The structures were like the assembly house but smaller to accommodate 15 to 20 men. Another type of sweat house was dome-shaped, made of willow poles, pine bark slabs, and skins, and opened to the east. Menstrual huts consisted of bark-covered double lean-tos with dirt-covered roofs located near dwelling houses to the west of the village.

The Shasta divisions were organized into autonomous tribelets consisting of extended family groups that occupied a group of villages. The Shasta family was the basic social unit, with the village as the political and economic unit, and many villages consisted of one family. Each large village had a headman who preserved peace, organized event,

provided advice, and settled disputes. Shasta Valley and Scott Valley peoples had both friendly interactions and bitter feuds. Revenge was the primary reason for conflict and involved raids to avenge murder, rape, witchcraft, or insult. The Modoc conducted annual raids upon Shasta territories, against which the California divisions banded together in retaliation. While friendly with the Karuk to the west, the Shasta were apprehensive of the Hupa and Yurok who came into their territory.

Subsistence activities within the Shasta territory included hunting, fishing, gathering, and cultivation. Land management involved burning, thinning and scattering of seeds to encourage crop production. Food resources included deer, bear, small mammals, fowl, salmon, trout, suckers, eels, crawfish, turtles, muscles, acorns and other nuts, seeds, bulbs, roots, greens, and fruits. Grasshoppers and crickets were also utilized by people in the Shasta Valley. Hunting methods included tracking, driving, trapping, and smoking out game. Fishing methods included the use of, basket traps, weirs, hook and line, spears, and set, dip, seine nets, and diving for muscles. Food gathering techniques included the use of forked-stick grapples or straight poles for acorns or pinecones and digging sticks for roots. Meats were eaten fresh, roasted, parched, boiled, broiled, baked in an earth oven, or dried. Dried meat, fish, and fish bones were ground into meal and flour. Vegetable foods were eaten fresh, dried, or processed, including boiled, steamed, pounded in a mortar, leeched, parched, and powdered. Foods were stored in outdoor pits or inside in baskets or tule sacks.

Although the Shasta divisions in California rarely traded with the Klamath or Modoc, trade occurred with people from the Oregon division, the Karuk, the Hupa, and the Yurok, the Rogue River Athapaskans, and the Achumawi. The Shasta received acorns, baskets, pepperwood gourds, dentalia, haliotis and other shells from the Karuk, Hupa, and Yurok in exchange for pine nuts, obsidian blades, juniper and Wintu beads, wolf skins, woodpecker scalps, and white deer skins. The Shasta imported pine nut necklaces from the Wintu, buckskin clothing from the Warm Springs Indians, dentalia from the Rogue River Athapaskans, and obtained obsidian from the Achumawi. The Shasta Valley people made obsidian blades used by their western neighbors. Although there may have been salt deposits within Shasta territory, salt is known to have been obtained through trade with tribes along the lower Klamath River.

The Shasta utilized bone, horn, shell, skins, plant fibers, wood, and lithics to serve their needs. Scrapers, balls, wedges, arrow flakers, and salmon gigs were made of bone or horn. Spoons were made of elk kneecaps and deer skulls unless used in the menstrual hut, where spoons were made of muscle shell. Deer skins and raw hide were used to make carrying containers or stretched over a basketry framework. The Shasta relied heavily on imported baskets but also had own variety of twining techniques. Cordage and netting were made from hemp, iris, grapevine and willow. Pipes, mush paddles, digging sticks, and spoons were made of wood. Although canoes were typically purchased from the Karuk or Yurok, the Shasta did make dugouts from sugar pine logs and, in Shasta Valley, tule rafts were used. The Shasta made painted sinew backed wooden bows. Arrows with obsidian points, headless single shaft arrows or arrows with heads of wooden or bone points. Lithic were used to create cylindrical pestles,

serpentine pipe tips, obsidian knives and scrapers, and soapstone receptacles. Musical instruments were crafted from all these materials and included deer hoof rattles, bone flutes, elder flutes, and hide drums. Other entertainment included bark or wood buzzers, ring and pin games, shinny, and target games.

Clothing was made of buckskin and robes were made of deer and bear skin. Footwear consisted of buckskin ankle-length moccasins, boot-length moccasins, twined tule slippers, and kite-shaped snowshoes. Basketry caps were worn by women and buckskin caps by men. Men wore headbands set with woodpecker scalps complete with the bills, which were removed if used for women's ornamentation. Shaman wore yellow hammer feather bands for ceremony. Cranial deformation, ear and nose piercing, and tattooing were practiced. Both males and females wore ornaments of beads, shells, and feathers including ear and nose pendants. Necklaces were made of clamshell disc beads, haliotis pieces, pine nuts, bear claws, or elk teeth. Dentalia were strung as ornaments or as decoration on belts and dresses. Women of the Shasta Valley were also known to decorate their buckskin belts with beads or porcupine quill work.

Spiritual forces that had influence on the Shasta people existed in rocks and mountains, in the sun, moon, stars, and rainbow, and in many animals. Doctors managed curing powers with paraphernalia that included buckskins, fox, wolf, coyote, fisher, and otter skins, eagle feathers, yellowhammer and woodpecker tails, a pipe, red, blue, and yellow paint, and a special bucks game. Non-shamanistic knowledge of care included the use of herbs to care for the sick and injured. The Shasta preferred to bury their dead in their familial burial plot. Only individuals who died far from home were cremated so that the ashes could be carried home for burial. The deceased person’s property was burned or buried with the corpse and their dwelling house was abandoned or torn down.

b. Karuk

The following description of traditional Karuk cultural components that could be identified within the archaeological record are adapted from Bright (1978). Bright summarizes ethnographic information regarding Karuk primarily from information presented by Gifford (1939; 1940) and Kroeber and Barrett (1910).

The Karuk language is classified within the Hokan language family. Karuk language is distinctive and serves to define them in relation to the culturally similar neighboring Yurok and Hupa peoples. The territory of the Karuk stretched along the Middle Klamath River near the western boundary of Siskiyou County from Seiad to Bluff Creek, west of Orleans. Karuk populations occupied numerous villages or clusters of villages along the Klamath and Salmon Rivers. The villages were established in advantageous locations on beaches, benches, bends, and bluffs of the Klamath River and tributary streams to exploit riverine resources. Villages varied in size and consisted of rectangular semisubterranean houses constructed from roughhewn cedar planks. Each village had living houses for the women and children, small wooden huts for menstruating women, and several sweathouses for the men.

The Karuk family was the basic social unit, with the village as the political and economic unit. Rich men were the leaders within the villages based on the prestige of their wealth. Instead of chiefs, the community was regulated by the set of shared values and family life was organized on similar principles within the framework of the kinship system. Conflicts were rectified through the payment of shell money or other valuables, or else violent retaliation was initiated.

Subsistence activities within the Karuk territory included fishing, hunting, and gathering. The Karuk focused on the use of aquatic resources which were supplemented with terrestrial resources. The Karuk diet traditionally consisted mostly of salmon, deer, and acorns. Fish important to the Karuk included spring-run Chinook or king salmon, fall-run Chinook, out-migrating Chinook smolt, coho or silver salmon steelhead, trout, sucker, bullhead, sturgeon, and Pacific lamprey. Freshwater mussels were also a significance resource as food and tools. Weirs, dams, and fishing platforms were constructed to facilitate the implementation of lift nets, plunge nets, dip nets, gaffs, harpoons, and hooks. The Karuk hunted in upland areas for deer, elk, birds, and fur bearing mammals. Decoys, dogs, snares, traps, and netting were used to capture prey. Plant foods included nuts, bulbs, seeds, and greens. The major plant food harvested was acorns and the only crop they cultivated was tobacco. Salt was obtained from local natural deposits and seaweed imported from coastal Yurok. Plant foods were dried, ground, sifted, cracked, parched, leached, boiled, cooked on hot stones or in an earthen oven, or buried in wet ground. Animal products were eaten after being roasted over a fire or hot coals or dried for preservation.

Karuk trade networks were dominated by interactions with the neighboring Yurok and Hupa but were also established with their upriver Shasta neighbors. The acquisition of wealth was an important part of Karuk culture. There was an emphasis on the acquisition and possession of property, with high value placed on dentalium shells, woodpecker scalps, obsidian blades obtained through trade.

The Karuk utilized wood, stone, plant fibers, bone, horn, and shell to serve their needs. Wood was carved for storage boxes, seats and headrests, hand drills, cooking paddles, spoons, and tobacco pipes of straight wooden tube with steatite bowl. Boats were made of hollowed-out redwood logs purchased from the Yurok. Lithics were utilized to create pestles and grinding slabs, mauls and adzes, steatite dishes, small utilitarian obsidian knives, and large obsidian blades as wealth objects. Plant fibers used to make twined basketry included hazel twigs, pine roots, bear lily, woodwardia fern, and maidenhair fern. Bows were made of yew wood with sinew backing and bowstring. Arrows were of syringa wood with obsidian heads in quivers made from animal skin. Men used spoons carved from elkhorn, while women used mussel-shell spoons. Bone was used for sewing awls arrow straighteners. Entertainment items included a “tossel” (two wood blocks attached by a buckskin cord) for the stick game, strings for cat’s cradle, archery, darts, and a dice game played with mussel shells.

Clothing was typically made of buckskin, with fur capes worn in cold weather. Women wore deerskin with the hair on and donned maple bark skirts for ceremonial or curing

functions. Men wore a buckskin breechclout or leggings or went naked. Footwear consisted of buckskin moccasins with elk hide soles and snowshoes made of hazelwood with iris-cord netting and buckskin ties. Women habitually wore basketry caps with elaborative patterns, while men wore plain caps when needed for head protection. Earlobes and nasal septum were often pierced with ornaments. Women decorated themselves with digger-pine nuts, abalone and olivella shells, bear-lily braids, and silver coins for ceremonial occasions, while men wore headbands and bandoliers decorated with woodpecker scalps and other feathers.

Curing was conducted by a doctor who administered herbal medicine internally and externally. Deceased individuals were buried in a family-owned grave plot near the dwelling site. Dentalium shells were inserted in the nose and ears, and money and valuables were broken and buried with the corpse. A fence was built around the grave upon which clothes and utensils were hung and left to rot.

c. Yurok

The following description of traditional Yurok cultural components that could be identified within the archaeological record are adapted from Pilling (1978). Pilling summarizes ethnographic information regarding Yurok collected by Waterman (1920), Waterman and Kroeber (1934), and others.

The Yurok language is classified within the Algonquian family, with dialects ranging between inland and coastal settlements. The geographical limits of Yurok territory are difficult to define away from the coast, rivers, and villages because the boundaries were conceptualized as neutral zones not owned exclusively by any one group. This review recognizes Yurok territory as identified by the Yurok Tribe. The Ancestral Lands of the Yurok Tribe, as set out in the Yurok Tribe Constitution (Article 1, Section 1), are defined as follows:

The Ancestral Lands of the Yurok Tribe extend unbroken along the Pacific Ocean coast (including usual and customary off-shore fishing areas) from Damnation Creek, its northern boundary, to the southern boundary of the Little River drainage basin, and unbroken along the Klamath River, including both sides and its bed, from its mouth upstream to and including the Bluff Creek drainage basin. Included within these lands are the drainage basin of Wilson Creek, the drainage basins of all streams entering the Klamath River from its mouth upstream to and including the Bluff Creek and Slate Creek drainage basins, including the village site at Big Bar (except for the drainage basin upstream from the junction of Pine Creek and Snow Camp Creek), and the Canyon Creek (also known as Tank Creek) drainage basin of the Trinity River, the drainage basins of streams entering the ocean or lagoons between the Klamath River and Little River (except for the portion of the Redwood Creek drainage basin beyond the McArthur Creek drainage basin and except for the portions of the Little River drainage basin which lies 6 miles up from the ocean). Our Ancestral Lands include all submerged lands, and the beds, banks and waters of all the tributaries within the territory just described. Also included within the Ancestral Lands is a shared interest with other tribes

in ceremonial high country sites and trails as known by the Tribe, as well as the Tribe's usual and customary hunting, fishing and gathering sites (Yurok Tribe 1993).

Yurok territory was divided into districts comprised of village clusters unified through descent groups spoken of as a family. There were no significant settlements away from named traditional villages and boundaries between villages were precise. The Yurok had permanent settlements that included houses, smokehouses, and storage facilities. The houses were constructed with redwood split-planks while temporary shelters were built of boughs.

Subsistence activities within the Yurok territory included fishing, hunting, and gathering but focused on marine and salmon resources. Fish were the most valuable resource and a mainstay of the economy. Fishing sites included deep holes, significant back eddies, spots to set a net, or places to erect a fishing platform. Labor was organized to capture the short-duration salmon runs and to complete the smoking, packing, and storing of the fish for preservation.

Kinship relations and economic ties across tribal lines were extensive and served as the basis for trade. Access to abundant fish resources allowed Yurok to acquire products from outside their territory through trade and facilitated the acquisition of wealth and upward social mobility. Some items considered to be of value obtained through trade were obsidian blades and albino deer skins.

The Yurok utilized wood, plant fibers, hide, shell, and feathers to serve their needs. Redwood was the dominant material for woodworking, especially for the dugout canoe and paddle. Wood was also used to create pillows, stools, and storage boxes. Human effigies were created out of redwood slabs to memorialize the defeat of enemies. Bows and arrows were produced from wood as were many fishing devices. Fishing devices were also crafted from plant fibers. Weaving of plant fibers was done to produce work hats, bowls, hopper baskets, mush pots, lidded storage baskets, baby carrying baskets, burden baskets, and eel traps. Baskets were decorated with black, white, red, and yellow. Leather, shell, straw and feathers were included in garments and ceremonial regalia.

Curing was conducted through prayer and confession. Sorcery was often suspected as the source of an issue. Sorcerers had special costumes that included flint projectile points with concave bases. After the death of a Yurok individual, the body was buried, clothing and dishes were placed on the grave and storage baskets, with their bottoms broken out, were placed upside down around the grave. A fence was constructed around each grave and the top of each split redwood picket was decorated with feathers.

3. Post-Contact Historic Background

The following description of the historic era events within and around the Scott River and Shasta River watersheds is adapted from reports prepared by AES (2014), California State Water Resources Control Board (2018), and De Novo Planning Group

(2010).

a. Early Incursions

The historic era began comparatively late in the region due to geographical isolation. Although Spanish explorers and missionaries settled along coastal California in 1769, the Spanish, and later Mexican, influences did not intrude in any significant way into northernmost California.

The changes in northern California began in the late 1820s with exploration of the region by trappers, settlers, military and topographic survey expeditions, and gold seekers. Jedediah Strong Smith and Peter Skene Ogden explored current Siskiyou County in 1826 and 1827 for beaver as part of fur trade, and in 1829 a party of Hudson Bay Company trappers and explorers, led by Alexander Roderick McLeod, also passed through the area (Klamath Hydroelectric Project 2004). The fur trade was short lived in the region and had ended by the mid-1840s.

b. Miners

The area remained sparsely occupied by Euro Americans until the mid-1800s, when mining and logging attracted settlers to the area. Gold was discovered in 1851 by Abraham Thompson and his party just north of the present-day location of the City of Yreka (Hoover et al. 2002). After the gold strike, 2,000 men converged on the area, established cabins along Yreka Creek, and laid out the town of Shasta Butte City, later renamed and incorporated as the town of Yreka. Siskiyou County was established in 1852 with Yreka designated as the county seat. With two roads and stage service between Sacramento and Oregon passing through the town, Yreka became an important trading, financial, and business center for the region. From 1852 through the rest of the nineteenth century, mining served as the most basic industry in the region and has remained important to the local economy during the twentieth century as well, punctuated with periods of productivity and decline based on the geological characteristics of the mineral deposits within the region.

c. Ranchers and Loggers

Euro American settlement increased through the 1850s due to the completion of roads that brought prospectors to the region and helped to establish communities. Fertile soil and plentiful water sources provided opportunities for homesteading and the private development of agriculture and ranching.

Logging in the region began in the 1860s by small, family-run operations managed by ranching families trying to supplement their income, with larger logging enterprises having been established by the 1880s (Klamath Hydroelectric Project 2004). Initially, the lumber industry in the area supplied the settlers and miners in the region with wood for constructing houses, wagons, and flumes. The industry grew in the 1900s, first in response to the rebuilding efforts after the San Francisco earthquake of 1906, then the surge of demands for lumber to supply war efforts during WWI and the need for housing after the return of soldiers from WWII.

d. Railroad

Immigration into the area was facilitated by the construction of the railroad through the region, which provided a reliable means of transportation in the area and stimulated regional cultural and economic development. In 1867, President Ulysses S. Grant signed legislation to create a land-grant subsidy for the construction of the Oregon and California Railroad (Klamath Hydroelectric Project 2004). Constructed in 1877, the Oregon and California Railroad was the first railway through the region (Klamath Hydroelectric Project 2004). It extended from Siskiyou County, California, to Jackson County, Oregon, and facilitated travel and the transport of goods between Sacramento and Portland. The Central Pacific Railroad was constructed through Siskiyou County in 1887, with the short line of the Yreka Railroad (later called the Yreka Western Railroad) connecting the town of Yreka with the main line. The Southern Pacific Railroad Company's acquisition of the Oregon and California Railroad in 1909 facilitated the distribution of agricultural and lumber products from the region to the national market.

e. Hydroelectric

Hydroelectric development along the Klamath River began in 1891 and continued to expand throughout the first decade of the 20th century (Klamath Hydroelectric Project 2004). The resulting projects serviced the increasing power needs of both irrigation and lumber mills and a huge influx of military personnel. The development of the Klamath Hydroelectric Project played a significant role in the area's economic development, both as part of a regionally significant, locally owned and operated private utility and through the role that increased electrical capacity played in the expansion of the timber, agriculture, and recreation industries during the first six decades of the 20th century. Economic development continues in the region, but it is now driven by tourism and recreation rather than gold mining, agriculture, or logging.

4. Protohistoric Background

This section describes the post-contact impacts on California Native Americans who inhabited the Scott River and Shasta River Basins. The discovery of gold at Sutter's Mill in Coloma in 1848 caused a dramatic alteration of Native American cultural patterns in California. As immigrants rapidly entered the Northern California region, the non-Native American population increased from an estimated 4,000 Euro Americans in 1848 to 500,000 in 1850 (Bancroft 1888). The influx of primarily Euro American immigrants marked the beginning of a rapid decline of Native American populations and culture. European Americans and their economic pursuits effectively displaced Native Americans from their traditional territory, discouraged the use of traditional languages and the practice of religious ceremonies, and limited the practice of traditional subsistence activities. The experiences unique to each of the traditional culture groups of the area, Shasta, Karuk, and Yurok, are discussed below.

a. Shasta

The description of the Shasta people's experiences is based on the perspective provided by the Shasta Indian Nation (2025) and adapted from Daniels (2003), Dixon

(1907), Holt (1946), Kroeber (1963), Silver (1978), and Sturtevant (1966).

The estimated pre-contact Shasta population in California was approximately 6,000 people but by 1851 had plummeted to 3,000 people in Scott Valley, Shasta Valley, and along the Klamath River. Only two years later, military officers estimated that there were only three hundred Shasta people still living in the same valleys.

The lives of the Shasta Indian tribes of northern California and southern Oregon were altered forever by the discovery of gold along the tributaries of the Klamath River in 1850 and the resulting prospecting parties that ventured into present-day Siskiyou County. The conflict between Shasta people and the Gold Rush settlers stemmed from competing claims to the same land resources for different purposes. The proximity of Shasta villages to the mining camps resulted in physical brutality against Shasta people. The cruelty and violence to Shasta people resulted in a rapid decrease in the aboriginal population. To avoid conflict, Shasta people used forms of temporary residence in marginal land areas where they were less likely to come into direct contact with settlers.

Out of concern for the atrocities reportedly committed by both settlers and Native American people, Congress passed legislation authorizing the commissions of Redick McKee, George Barbour, and Oliver Wozencraft to seek peace with tribes in California. Redick McKee received the task of negotiating with the Shasta tribes in the northern district and despite obstacles faced for completing this particular treaty, twelve Shasta headmen signed “Treaty R” on November 4, 1851. Acting largely on local complaints in California, the U.S. Senate rejected the treaty on July 8, 1852, and placed them under an injunction of secrecy, which was not removed until January 18, 1905. Ultimately, the California state government sponsored a war against the Native American tribes within its borders and between the years of 1852-1856, both official and non-official militias acted against the tribes in Siskiyou, Modoc, and Shasta counties.

The uncertainty of the Gold Rush era led many Shasta people to embrace the hopeful future promised by the 1870 Ghost Dance, which provided hope for the rising of their ancestors and the return of their lives prior to colonization. The Ghost Dance spread among each Shasta tribe after it was adopted by a local headman who thereafter served as its disciple and converted many Shasta people. The Ghost Dance helped to revitalize Shasta communities in daily experience and in a spiritual sense by bringing the people together around a shared experience and common set of beliefs.

b. Karuk

The description of the Karuk people’s experiences is based on information from Bright (1978), the Karuk Tribe website (Karuk Tribe 2025), and the Lower Klamath Project License Surrender Draft Environmental Impact Report (California State Water

Resources Control Board 2018).

The foreign encounters in Karuk territory were probably with traders in the early 19th century but the effects of Euro American settlement on Native Americans in the region accelerated because of the California Gold Rush in the 1850s. Conflicts between Indian Tribes and Euro Americans were commonplace across Karuk territory which was overrun by unscrupulous individuals. In 1852, the whites burned most of the Indian towns as far north as the Salmon River. The Indians fled to the hills and found settler houses and farms on their village sites when they returned. Some of the Karuk refugees were given permission to build houses in unoccupied places near the farms but most were permanently displaced from their ancestral lands.

None of the 18 treaties negotiated by McKee in 1851 were ratified, and the associated Indian Reservations were never created. In 1905, under the authority of the 1891 Forest Reserve Act, the Klamath Forest Reserve was designated as public land, effectively removing Karuk claim to their traditional territorial lands. Approximately 63 of Karuk tribal members were allotted an average of 11 acres through the 1887 General Allotment Act. Through the efforts of Karuk elders, the properties in Orleans and Happy Camp were purchased in the 1970's. Since then, the Tribal Council and staff have managed to acquire 1,661 acres of additional land, with 900 of those acres placed into trust status.

The aboriginal Karuk population as of 1848 has been estimated at 2700. Military operations, social homicide, disease, and assimilation to white culture resulted in decreasing numbers of ethnically identifiable Indians. Many of the children from white fathers and Indian women adopted the contempt of white society for the Karuk traditions and rejected the culture of their Native American elders. By 1948 it was reported that less than two dozen full-blooded Karuk elders remained. Although these figures undoubtedly excluded many persons of Karuk heritage, the 1930 US census reported a total of 755 people identified as Karuk, with less than seven percent of that population fluent in the Karuk language.

Although Karuk had welcomed cultural revivalist movements in the 1870s, such as the Ghost Dance, the traditional cultural practices and the population of Karuk peoples continued to decline. It wasn’t until the revival of the World Renewal Ceremony in the 1970s, that revitalization of Karuk identity began to succeed. The Karuk persisted and contemporary Karuk continue to practice their traditional activities.

c. Yurok

The description of the Yurok people’s experiences is based on information provided by the Yurok Tribe (Yurok Tribe 2025).

When Spanish explorers Don Bruno de Heceta and Juan Francisco de la Bodega y Cuadra visited in the early 1700s, they intruded upon the Yurok village of Chue-rey and laid claim at Trinidad Head. By the early 1800s, American ships were visiting the area of Trinidad and Big Lagoon to trade furs with the coastal people but as the expeditions

increased, so did the tensions.

By 1828, the area was gaining attention because of the reports back from the American expeditions, eventually leading to an increase in non-Indian settlement. By 1849 settlers were moving into Northern California to mine gold at Gold Bluffs and Orleans. Although the Yurok initially traded and assisted the newcomers, this relationship quickly changed as settlers demonstrated hostility that resulted in the destruction of native villages and loss of life.

In response to the conflicts, the federal government sent Indian agent Redick McKee to initiate treaty negotiations. In 1851 a “Treaty of Peace and Friendship” between the United States Government and the Klamath River Indians was signed but never ratified. The Klamath River Reserve, also known as the Klamath Indian Reservation, was established by Executive Order in 1855. The Order designated the reservation lands from the mouth of the Klamath River, one mile on each side extending approximately 20 miles upriver to Tectah Creek (Sloan 2003, 2011). Other Yurok families were relocated to Fort Terwer, the Smith River Reservation, and the Hoopa Valley Reservation. Escalating conflict between Yurok and Euro Americans during the 1860s and 1870s over encroachment onto the Klamath Indian Reservation resulted in the gradual displacement of Lower Klamath Indians further upriver (Sloan 2003, 2011). As a result of the 1988 Hoopa-Yurok Settlement Act (PL-100-580), the Yurok Tribe was reorganized, and the Yurok Indian Reservation was established (Salter 2003).

Yurok engaged in commercial logging and canning. Yurok men worked the mills for the redwood timber industry, but logging practices were unregulated and resulted in the contamination of the Klamath River, depletion of the salmon population, and destruction of Yurok sites. The commercial fish canneries were established on the lower Klamath River in 1876, where all the fish was supplied by Yurok because the Lower Klamath River fishery was in Yurok control as their inherent right and their main subsistence. Rights for non-Indians to fish the river had to be negotiated with the Yurok.

Western education was imposed on Yurok children beginning in the late 1850s with the goal to eliminate the Yurok language and traditions. Children were removed from the Reservation to boarding schools, resulting in traumatic experiences and loss of connection to their families and their culture. Eventually, day schools were established on the reservation and Indian children were granted permission to enroll in public schools but many still faced prejudice and stereotypes. These hardships plagued Yurok survivors for generations and are major factors in the decline of the Yurok language and traditional ways.

Many Yurok people went to extreme measures to hold on to their traditional ways. Government policies forbade the use of traditional languages and outlawed ceremonial practices, but Yurok people made efforts to maintain connections to their traditions. The late 1970s and 1980s were a time of revitalization for the Yurok, when communities came together in support. With the guidance of many elders, young people were taught Yurok traditions and have ensured that Yurok traditional ceremonies have continued.

d. Geoarchaeological Setting

To assess the potential for buried archaeological sites within a given 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 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.

e. Geomorphic Setting

Located within Siskiyou County, the Scott River (813 square miles) and Shasta River (795 square miles) watersheds are major tributaries to the Klamath River, which drains into the Pacific Ocean. The Shasta River watershed is bounded to the north by the Siskiyou Range, to the west by the Klamath Mountains, to the east by the Cascade Range, and to the south by Mt. Shasta and Mt. Eddy. The watershed shares divides with the Scott River to the west, Butte Creek to the east, and the Trinity and Sacramento Rivers to the south. The Scott River watershed shares divides with the Shasta River to the east, the Trinity River to the south, and the Salmon River to the west. The primary geomorphic pattern in these watersheds is the Klamath Mountains, which extend over 11,000 square miles from northwestern California and southern Oregon and the Cascade Mountains on the east.

The Klamath Mountains are composed of a “series of accreted oceanic terrains that are generally older from west to east and include Paleozoic and Mesozoic marine sedimentary, volcanic, and plutonic rocks” (Meyer 2013: 15). Over this long duration of time, uplift in this mountainous region resulted in erosion acting on the Klamath Mountain without the concomitant sedimentation, which has created very few alluvium-filled valleys within the program area and the region at large.

The potential for the project area to contain buried archaeological resources was investigated using a model formulated by Meyer (2013) 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. Calculating these factors using the buried site model (Meyer 2013), a location's sensitivity was scored on a scale of 1–10 and classed as follows: lowest (<1); low (1-3); moderate (3-5.5); high (5.5-7.5); highest (>7.5).

Based on landform age and the other factors described above, the model determined that the sensitivity for buried sites in the program area varies from low to high depending on the location. A review of Meyer (2013), who prepared a model of geoarchaeological sensitivity for Caltrans District 2, indicates that the areas concentrated within the Scott Valley along the Scott River corridor—especially at the confluence of Kidder creek (just north of Etna) has the highest sensitivity for this area of the program area. Correspondingly, the corridors of the Shasta River and Willow Creek (within the Shasta watershed), North of Weed and South of Montague, also contain the highest sensitivity for buried archaeological deposits due to the more predominate alluvial fans and lower relief. 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. On the other hand, the remaining areas of landforms are considered having very low sensitivity for buried deposits due to the antiquity of the landform, or pre-Pleistocene period, which are considered to have a low probability of containing buried archaeological deposits. Indeed, the entire region of Siskiyou, County contains very little square mileage of high or very high sensitivity, whereas most of the region is considered to have a 'very low' probability of encountering buried archaeological deposits (Meyers 2013).

4. Known Cultural Resources within the greater Scott River and Shasta River Watersheds

A record search request was sent to the Northeast Information Center (NEIC) of the California Historical Resources Information System at California State University, Chico on April 4, 2025. Because of the vast size of the study area (1,029,239 acres), the record search was limited a listing of all 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 NEIC, as of April 2025, 1,008 cultural resources have been recorded within the Scott River and Shasta River watershed basins in Siskiyou County (IC File #NE25-109). The following sections provide a quantitative description of the resource attributes, relative age, and type of resource recorded within the Proposed Project Area.

a. Resource Attributes

The California Office of Historic Preservation Technical Assistance Series #13 (OHP 2025) provides resource type category definitions for cultural resources, which are found within the NEIC 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 1 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 2 provides the attributes of post-contact historic-era archaeological sites and the quantity of recorded resources exhibiting attributes within the Proposed Project Area. Table 3 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 1: 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
HP1. Unknown: No reasonable guess can be made about the historic use or function of the resource.	001
HP2. Single family property: A building constructed to house one family.	014
HP4. Ancillary building: Barns, outhouses, detached garages, carriage houses, sheds, etc.	005
HP5. Hotel/motel: Any building or group of buildings providing temporary lodging for travelers.	003
HP6. 1-3 story commercial building: Any type of building dealing with management, retail sales, or marketed services, e.g., stores, banks, gas stations, office buildings, etc.	005
HP9. Public utility building: Any building that houses services available to the public at large, e.g., firehouses, power houses, electrical substations, etc.	002
HP11. Engineering structure: A structure not covered in any other category, e.g., docks, runways, water towers, etc.	003
HP14. Government building: Any building designed to house government administration or transactions, e.g., post offices, city halls, county courthouses, etc.	010
HP15. Educational building: Any building with an educational purpose, e.g., schools, libraries, museums, etc.	001
HP19. Bridge: Any overpass for automobiles, trains, pedestrians, etc.	005
HP20. Canal/aqueduct: Any artificial waterway for transportation or irrigation. Includes large pipes, conduits, drainage ditches, and bridge-like structures for carrying water.	006
HP21. Dam: Any barrier constructed to hold back water.	003
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.	002

ATTRIBUTE WITH DEFINITION	QUANTITY
HP30. Trees/vegetation: Any plant, whether planted or growing naturally, not part of a landscape plan.	002
HP33. Farm/ranch: Any place where crops or animals are raised.	002
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.	011
HP36. Ethnic minority property: Any property closely associated with events, individuals, groups, or social patterns important in the history of an ethnic group. Includes properties designed by important ethnic group members.	001 (Chinese)
HP37. Highway/trail: Any roadway, from freeway to footpath.	001
HP43. Mine structure/building: Any structure or building connected with mining, e.g., mine shafts, head frames, stamp mills, shops, etc.	002
HP45. Unreinforced masonry building	001

Table 2: Attributes of Post-Contact Historic-Era Archaeological Sites and Quantity of Recorded Resources Exhibiting Attributes within the Proposed Project Area

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.	149

ATTRIBUTE	QUANTITY
AH3. Landscaping/orchard: Evidence of modification through contouring of the land or planting vegetation, e.g., hedgerow, orchards, terraces, and ponds.	028
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.	390
AH5. Wells/cisterns: A hole or receptacle designed to hold or provide access to water which may or may not be lined.	025
AH6. Water conveyance system: Any device constructed to transport water over a distance, e.g., flumes, pipes, ditches, canals, and tunnels.	113
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.	116
AH8. Dams: A barrier constructed to contain a body of water.	016
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.	145
AH10. Machinery: A mechanical device, e.g., mills, farm equipment, steam donkeys, windmills, etc.	025
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.	082
AH12. Graves/cemetery: Any single or multiple burial location.	010
AH15. Standing structures: Any historic building that is still standing, e.g., outhouse, shed, house, cabin, office building, barn, etc.	092
AH16. Other: There is no other category in which the site description could be placed.	093

Table 3: 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, e.g., obsidian flakes and few or no other artifacts.	250
AP4. Bedrock milling feature: Site contains one or more bedrock mortars, milling surfaces, or cupules which indicate material processing activity.	035
AP5. Petroglyphs: Site contains a stone surface which has been scored by humans in a patterned manner for a purpose other than material processing. This category includes intaglios.	001
AP6. Pictographs: Site includes any design painted on a rock surface.	002
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.	012
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.	026
AP9. Burials: The site contains human bone.	005
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.	012
AP12. Quarry: Site contains a source of lithic material with evidence of human usage.	003

ATTRIBUTE	QUANTITY
AP13. Trails/linear earthworks: Site contains natural or constructed features indicating human use, such as trails, earth works, windrows or stone fences.	002
AP14. Rock shelter/cave: A concavity within a rock surface evidencing human use.	006
AP15. Habitation debris: Site contains a deposit characterized by a wide range of artifacts, materials, or features which represent a variety of human activities.	044
AP16. Other: There is no other category in which the site description can be placed.	055

Table 4 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 ages are provided.

Table 4: 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	1
Pre-contact: The term "pre-contact" applies to all historical resources used by Native Americans prior to direct contact with non-indigenous peoples.	Object	2
Pre-contact: The term "pre-contact" applies to all historical resources used by Native Americans prior to direct contact with non-indigenous peoples.	Other	10
Pre-contact: The term "pre-contact" applies to all historical resources used by Native Americans prior to direct contact with non-indigenous peoples.	Site	126

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.	Site, Other	1
Pre-contact: The term "pre-contact" applies to all historical resources used by Native Americans prior to direct contact with non-indigenous peoples.	Unidentified	102
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.	Building	26
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.	Building, Site	5
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.	Building, Structure	1
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.	District	1
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	1

RELATIVE AGE	RESOURCE CATEGORY	QUANTITY
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, Site	1
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.	Unidentified	189
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.	Other	6
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.	Site	410
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.	Structure	26
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.	Structure, Object, Site	1

RELATIVE AGE	RESOURCE CATEGORY	QUANTITY
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.	Structure, Site	4
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	3
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.	Unidentified	1
Pre-contact, post-contact historic-era	Site	40
Pre-contact, post-contact historic-era	Unidentified	24
Pre-contact, protohistoric, post-contact historic-era	Site	1
Pre-contact, protohistoric	Site	1
Protohistoric, post-contact historic-era	Site	1
Unknown	Site	1
Unknown	Unidentified	3
Unidentified	Site	1
Unidentified	Unidentified	19

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 t hose 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 NEIC information about resource eligibility to the CRHR or NRHP, the Siskiyou County Built Environment Resource Directory indicates that there are 155 listed, eligible, or potentially eligible historical resources in the county, some of which are likely within the Proposed Project Area. 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.

C. Environmental 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

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.

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 and controllable water quality factors associated with Irrigated Lands. 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 Scott and Shasta 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 Irrigated Lands (i.e., where soils have generally been repeatedly disturbed), it is possible that some management practices could be installed adjacent to Irrigated Lands. For example, sediment basins could be installed on the periphery of Irrigated Lands in areas where previous soil disturbance has not occurred. Likewise, certain management practices that are installed within Irrigated Lands could involve excavation to a depth of soil that has not previously been disturbed (e.g., a sediment 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 Scott and Shasta 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 Scott and Shasta 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 Dischargers 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:

Enrollees 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 North Coast 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 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. 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

[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.

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)*

Similar to the potential impacts to historical and archaeological resources discussed under Impact CUL-1 and CUL-2, activities conducted to comply with the Scott and Shasta 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

[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.

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.

X. Noise

This section presents acoustic and vibration fundamentals, and the regulatory and environmental settings and potential impacts of the Proposed Project related to noise and vibration.

A. Acoustic Fundamentals

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound typically associated with human activity and that interferes with or disrupts normal activities. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, time of day, perceived importance of the noise, sensitivity of the individual, its appropriateness in the setting, and the type of activity during which the noise occurs.

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and intensity. Frequency describes the pitch of a sound and is measured in Hertz (Hz) (i.e., the number of times per second the crest of a sound pressure wave passes a fixed point), whereas intensity describes the loudness of sound and is measured in decibels (dB), using a logarithmic scale. A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB. Sound levels above about 120 dB begin to be felt inside the human ear as discomfort and eventually as pain at still higher levels. The minimum change in the sound level of individual events that an average human ear can detect is approximately 3 dB. The average person perceives a change in sound level of approximately 10 dB as a doubling (or halving) of the sound's loudness; this relation holds true for sounds of any loudness.

Different types of measurements are used to characterize the time-varying nature of sound. Below are brief definitions of these measurements and other terminology used in this chapter.

> Decibel (dB) is a measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals.
>
> A weighted decibel (dBA) is an overall frequency weighted sound level in decibels that approximates the frequency response of the human ear.
>
> Maximum sound level (Lmax) is the maximum sound level measured during a given measurement period.
>
> Minimum sound level (Lmin) is the minimum sound level measured during a given measurement period.

Equivalent sound level (Leq) is the equivalent steady-state sound level that, in a given period, would contain the same acoustical energy as a time-varying sound level during that same period.

Percentile-exceeded sound level (LXX) is the sound level exceeded during x percent of a given measurement period. For example, L10 is the sound level exceeded 10 percent of the measurement period.

Daynight sound level (Ldn) is the energy average of the weighted sound levels occurring during a 24-hour period, with 10 dB added to the weighted sound levels during the period from 10:00 p.m. to 7:00 a.m. (typical sleeping hours). This weighting adjustment reflects the elevated sensitivity of individuals to ambient sound during nighttime hours.

Community noise equivalent level (CNEL) is the energy average of the weighted sound levels during a 24hour period, with 5 dB added to the weighted sound levels between 7:00 p.m. and 10:00 p.m. and 10 dB added to the weighted sound levels between 10:00 p.m. and 7:00 a.m.

Examples of common noise levels are shown in **Table X-1.**

Table X-1. Examples of Common Noise Levels

Common Outdoor Activities	**Noise Level (dBA)**
Jet flyover at 1,000 feet	110
Gas lawnmower at 3 feet	100
Diesel truck at 50 feet traveling 50 miles per hour	90
Noisy urban area, daytime	80
Gas lawnmower at 100 feet, commercial area	70
Heavy traffic at 300 feet	60
Quiet urban area, daytime	50
Quiet urban area, nighttime	40
Quiet suburban area, nighttime	30
Quiet rural area, nighttime	20

Source: California Department of Transportation (Caltrans) 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf

B. Vibration Fundamentals

Ground-borne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be composed of a single pulse, a series of

pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hertz (Hz). Like noise, most environmental vibrations consist of a composite, or "spectrum," of many frequencies. The normal frequency range of most ground-borne vibrations that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz. Velocity or acceleration are usually used to describe the response of humans, buildings, and equipment to vibration (Federal Transit Administration [FTA] 2018). Vibration information in this document has been described in terms of the peak particle velocity (PPV), which is defined as the maximum instantaneous peak of the vibration signal (FTA 2018). Although PPV is appropriate for evaluating the potential of building damage, it is not suitable for evaluating human response and vibration velocity in decibels (VdB) is used instead.

Vibration energy dissipates as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. High-frequency vibrations reduce much more rapidly than do those characterized by low frequencies, so that in an area distant from a source, the vibrations with lower frequency amplitudes tend to dominate. Soil properties also affect the propagation of vibration. When ground-borne vibration interacts with a building, a ground-to-foundation coupling loss usually results but the vibration also can be amplified by the structural resonances of the walls and floors. Vibration in buildings is typically perceived as rattling of windows, shaking of loose items, or the motion of building surfaces. In some cases, the vibration of building surfaces also can be radiated as sound and heard as a low-frequency rumbling noise, known as ground-borne noise.

Ground-borne vibration is generally limited to areas within a few hundred feet of certain types of industrial operations and construction/demolition activities, such as pile driving. Road vehicles rarely create enough ground-borne vibration amplitude to be perceptible to humans unless the receiver is in immediate proximity to the source or the road surface is poorly maintained and has potholes or bumps.

C. Environmental Setting

1. Existing Noise Environment

Activities associated with the Proposed Project could occur on agriculture lands throughout the Scott River and Shasta River watersheds in Siskiyou County, primarily in rural areas. While the magnitude and characteristics of ambient sound in these areas could vary on a case-by-case basis; generally, the ambient noise at most areas where Proposed Project activities may occur is expected to be relatively low. Potential noise sources would include operation of off-road equipment and vehicle traffic along local roads and highways. It would also include the operation of agriculture equipment and vehicles to tend to the agriculture crops and animals. Multiple interstates, highways, and railroads pass through or near lands in the region.

2. Sensitive Receptors

As noted above, activities associated with the Proposed Project would mostly occur in

rural environments. As a result, sensitive receptors are likely to be relatively few and far between in these areas. However, in many locations, single-family homes are present within the proposed project areas where activity may occur. Additionally, there are situations where parks, recreational trails, schools, hospitals, or other sensitive land uses are located nearby where compliance activities may take place.

D. Regulatory Setting

1. Federal Laws, Policies, and Regulations

No federal laws, regulations, or policies for construction-related noise and vibration apply to the Proposed Project. However, FTA guidelines state that for evaluating daytime construction noise impacts in outdoor areas, a noise threshold of 90 dBA Leq and 100 dBA Leq should be used for residential and commercial/industrial areas, respectively (FTA 2018).

Vibration can impact both humans and buildings; therefore, thresholds have been established for both of these types of receptors. For construction vibration impacts, the FTA guidelines use an annoyance threshold of 80 VdB for infrequent events (fewer than 30 vibration events per day) and a damage threshold of 0.12 inches per second (in/sec) PPV for buildings susceptible to vibration damage (FTA 2018).

2. State Laws, Policies, and Regulations

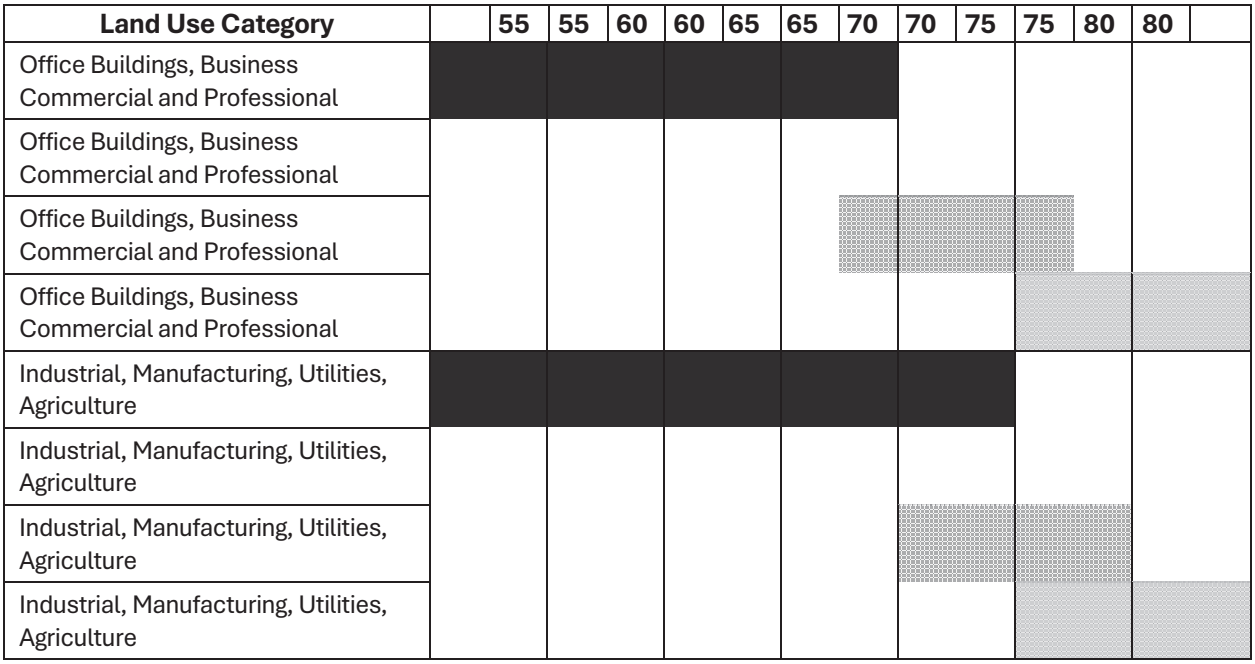
The State of California requires each local government entity to implement a noise element as part of its general plan. California Administrative Code, Title 4, presents guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. The State land use compatibility guidelines are listed in **Table X-2.**

Table X-2. **State Land Use Compatibility Standards for Community Noise Environment**

Community Noise Exposure - L_{dn} or CNEL (dB)

Land Use Category		55	55	60	60	65	65	70	70	75	75	80	80	
Residential – Low Density Single Family, Duplex, Mobile Homes														
Residential – Low Density Single Family, Duplex, Mobile Homes														
Residential – Low Density Single Family, Duplex, Mobile Homes														
Residential – Low Density Single Family, Duplex, Mobile Homes														
Residential – Multi-Family														
Residential – Multi-Family														
Residential – Multi-Family														

Land Use Category	55	55	60	60	65	65	70	70	75	75	80	80
Residential – Multi-Family												
Transient Lodging – Motels, Hotels												
Transient Lodging – Motels, Hotels												
Transient Lodging – Motels, Hotels												
Transient Lodging – Motels, Hotels												
Schools, Libraries, Churches, Hospitals, Nursing Homes												
Schools, Libraries, Churches, Hospitals, Nursing Homes												
Schools, Libraries, Churches, Hospitals, Nursing Homes												
Schools, Libraries, Churches, Hospitals, Nursing Homes												
Auditoriums, Concert Halls, Amphitheaters												
Auditoriums, Concert Halls, Amphitheaters												
Auditoriums, Concert Halls, Amphitheaters												
Auditoriums, Concert Halls, Amphitheaters												
Sports Arenas, Outdoor Spectator Sports												
Sports Arenas, Outdoor Spectator Sports												
Sports Arenas, Outdoor Spectator Sports												
Sports Arenas, Outdoor Spectator Sports												
Playgrounds, Neighborhood Parks												
Playgrounds, Neighborhood Parks												
Playgrounds, Neighborhood Parks												
Playgrounds, Neighborhood Parks												
Golf Courses, Riding Stables, Water Recreation, Cemeteries												
Golf Courses, Riding Stables, Water Recreation, Cemeteries												
Golf Courses, Riding Stables, Water Recreation, Cemeteries												
Golf Courses, Riding Stables, Water Recreation, Cemeteries												



Normally Acceptable:	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable:	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable:	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable:	New construction or development generally should not be undertaken.

Source: California Governor's OPR. 2017. State of California General Plan Guidelines.
https://lci.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf

3. Local Laws, Policies, and Regulations

The Siskiyou County General Plan Noise Element Audible noise standards that are applicable to the proposed Project are described in the Noise Element of the Siskiyou County General Plan (Siskiyou County 1978). The following reflects the land use compatibility standards set by the County's Noise Element for exterior community noise. Residential land uses are identified as the most sensitive land uses, with an established noise limit of 60 dBA. Noise limits for any new development sited within a residential area is limited to 60 to 65 dBA, with noise abatement features incorporated.

TABLE X-3 SISKIYOU COUNTY GENERAL PLAN NOISE ELEMENT: LAND USE COMPATIBILITY FOR EXTERIOR COMMUNITY NOISE

Land Use Category	Noise Ranges (L_{DN}, dBA) 1	Noise Ranges (L_{DN}, dBA) 2	Noise Ranges (L_{DN}, dBA) 3	Noise Ranges (L_{DN}, dBA) 4
Passively Used Open Space (auditoriums, parks, etc)	50	50-55	55-70	70
Residential, Motels, Hospitals, etc	60	60-65	65-75	75
Office Buildings, Light Commercial, Heavy Commercial, etc.	65	65-70	70-75	75

Noise Range 1 – Acceptable land use, no noise abatement required.
Noise Range 2 – New construction or development, noise abatement features included.
Noise Range 3 – New construction or development, noise abatement only after detailed analysis of noise reduction requirements.
Noise Range 4 – New construction or development not allowed.
*Day-night average sound level that is equal to the 24 hour A-weighted equivalent sound level with a 10 decibel penalty applied to nighttime levels.

Siskiyou County Municipal Code Limitations and standards on noise are generally enforced through a noise ordinance or a jurisdiction's municipal code. There is no adopted Noise Ordinance for Siskiyou County; thus, limits on noise are not regulated by the Siskiyou County Municipal Code.

City of Etna

The City of Etna General Plan Noise Element (City of Etna 2024) contains the following goals and policies relevant to the Proposed Project.

- **Goal 1:** To protect the existing and future citizens of Etna from the harmful effects of exposure to excessive noise.

- **Goal 2** To protect existing noise-sensitive land uses from encroachment by new uses that would generate noise levels which are incompatible with those uses, and to discourage new noise-sensitive land uses from being developed near sources of high noise levels.

- **Goal 3** To recognize that noise is an inherent by-product of many land uses and to protect the economic base of Etna by preventing the encroachment of noise-sensitive land uses into areas affected by existing noise-producing uses.

- **Goal 4** To provide sufficient information regarding the community noise environment so that existing and potential future noise impacts may be effectively

addressed in the land use planning and project review processes.

- **Goal 5** To develop strategies for abating excessive noise exposure through appropriate mitigation measures in combination with appropriate zoning to avoid incompatible land uses.

- **Policy 5:** Where a project would result in the introduction of new fixed noise sources where such sources do not currently exist, the noise generation of those sources shall be mitigated so as not exceed the interior and exterior noise level standards of Table 5 at existing noise-sensitive areas in the project vicinity.

- **Policy 6:** If a noise-generating use is proposed adjacent to vacant lands currently zoned for uses which may be developed with exterior noise sensitivity, the noise generating use shall be responsible for mitigating its noise generation to a state of compliance with the Table 5 standards using reasonable assumptions pertaining to both the likely sensitivity of the receiving land use and the noise generation of the project. At such time as that noise-sensitivity is introduced on the nearby vacant parcel(s), the proposed noise-generating use will be responsible for complying with the City's Noise Ordinance standards

- **Policy 7:** Due to variations in types of both noise-generating and noise-sensitive land uses, as well as variations in ambient conditions in the City, the City shall have the ability to set noise standards which are up to 5 dB higher or lower than the Table 5 standards if determined appropriate by the City Council and/or City Planning department staff.

- **Policy 10** All noise analyses prepared to determine compliance with the noise level standards contained within this Noise Element shall:

  - A. Be the responsibility of the applicant.

  - B. Be prepared by qualified persons experienced in the fields of environmental noise assessment and architectural acoustics.

  - C. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.

  - D. Estimate projected future (20 year) noise levels in terms of the Standards of Tables 4 and 5, and compare those levels to the adopted policies of the Noise Element.

  - E. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.

  - F. Estimate interior and exterior noise exposure after the prescribed mitigation measures have been implemented.

- **Policy 12** The City's General Plan Noise Element standards contained herein are applicable to proposed new uses. For resolving conflicts between existing uses, the City's Noise Ordinance shall be applicable.

- **Policy 13** Where exterior noise mitigation is required to achieve satisfaction with the noise standards of either Tables 4 or 5, the following priorities for mitigation shall be observed where feasible:

  - A. Use of setbacks or open space buffers.

  - B. Incorporate site planning to orient and/or shield sensitive exterior areas from view of the noise source in question.

  - C. If the noise source is fixed, utilize quieter equipment or implement noise control treatments at the source.

  - D. Solid walls should be considered a last resort for the mitigation of exterior noise levels and, if feasible, should be placed on earth berms to lessen their apparent height.

- **Policy 14** To provide a comprehensive approach to noise control, the City shall:

  - A. Develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the project review process and as may be determined necessary, through the building permit process.

  - B. Develop and employ procedures to monitor compliance with the standards of the Noise Element after completion of projects where noise mitigation measures were required.

  - C. The Noise Ordinance shall be amended to provide that noise standards contained therein will be consistent with the noise standards of this Noise Element.

- **Policy 15** To reduce impacts from groundborne vibration, all proposals for new uses which would include vibration-generating activities, or for new sensitive uses proposed in proximity to existing sources of vibration shall comply with the vibration standard established by the Federal Transit Administration Transit Noise and Vibration Impact Assessment guidelines (FTA-VA-90-1003-06).

- **Policy 16** All projects that propose to use heavy construction equipment that has the potential to create vibrations that could cause structural damage to sensitive structures within 100 feet shall be required to submit a pre-construction vibration study prior to the approval of a building permit. Projects shall be required to incorporate specified measures and monitoring identified to reduce impacts. Pile driving or blasting are illustrative of the type of equipment that could be subject to

this policy.

- **Policy 17** The following sources of noise shall be exempt from the provisions of this Noise Element:

  - A. Emergency warning devices and equipment operated in conjunction with emergency situations, such as sirens and emergency generators which are activated during power outages. The routine testing of such warning devices and equipment, including generators, is also exempt provided such testing occurs during daytime hours.

  - B. All activities occurring at public schools and public-school playgrounds and sporting fields, as such activities are not regulated at the local level.

  - C. Activities at private schools, parks or playgrounds, provided such activities occur during daytime hours (7 am – 10 pm).

  - D. Activities associated with temporary events for which a permit has been obtained from the City (i.e., parades, fireworks displays, etc.)

  - E. Construction and demolition activities located within 1,000 feet of noise sensitive land uses provided they occur during normal daytime hours, excluding Sundays and Federal Holidays, subject to the conditions imposed by City permit. For construction activities, daytime hours are defined as 7 am to 7 pm. Construction activities occurring between the hours of 7 pm and 7 am must comply with the interior noise level standards identified in Table 2 unless an exception has been granted by the City Planning Department.

  - F. Construction and demolition activities located beyond 1,000 feet of noise sensitive land uses, subject to the conditions imposed by City permit. For construction activities, daytime hours are defined as 7 am to 7 pm. G. In the event of an emergency involving agricultural activities which requires prompt action to protect crops or equipment, the City can exempt noise generated by such action from the provisions of this Element.

Table X-4

Noise Standards for New Uses Affected by Transportation Noise Sources Etna Noise Element

Land Use	Noise Sensitive1 Outdoor Area – DNL6	Noise Sensitive Interior Spaces2,3 DNL6	Noise Sensitive Interior Spaces2,3 Leq4,7
Residential	65	45	---

Land Use	Noise Sensitive1 Outdoor Area – DNL6	Noise Sensitive Interior Spaces2,3 DNL6	Noise Sensitive Interior Spaces2,3 Leq4,7
Mixed Use Residential	---	45	---
Transient Lodging, Hospitals3 & Nursing Homes	65	45	---
Theaters & Auditoriums	---	---	35
Churches, Meeting Halls, Libraries	65	---	40
Schools5	---	---	40
Office/Professional	65	---	45
Commercial/Retail Buildings	---	---	50
Playgrounds, Parks, etc.	70	---	---
Industrial	---	---	50

Notes:

1. Noise sensitive areas are defined in the acoustic terminology section. Where there are no sensitive exterior spaces proposed as part of the new use, only the interior noise level standards shall apply.
2. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
3. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
4. As determined for a typical worst-case hour during periods of use.
5. Exterior areas of school uses are not typically noise sensitive. As a result, the standards for schools are focused on the interior office and classroom spaces.
6. DNL = Day – Night Average Level (also denoted Ldn). Represents 24-hour average of noise with noise occurring during nighttime hours (10 pm to 7 am) penalized by 10 dB prior to averaging.
7. Leq = Average or “Equivalent” noise level. Represents the energy average of all noise occurring during a given period (typically 1-hour).

Table 5

Noise Standards for Locally Regulated (Non-Transportation) Noise Sources Etna Noise Element

Receiving Land Use	Period3	Exterior Areas1 Lmax4	Exterior Areas1 Leq5	Interior Spaces2 Lmax4	Interior Spaces2 Leq5
Residential	Day	75	55	60	45
	Night	65	50	45	35

Receiving Land Use	Period3	Exterior Areas1 Lmax4	Exterior Areas1 Leq5	Interior Spaces2 Lmax4	Interior Spaces2 Leq5
Mixed Use Residential	Day Night	-- --	-- --	60 45	45 35
Transient Lodging, Hospitals6 & Nursing Homes	Day Night	75 70	60 55	60 45	45 35
Theaters & Auditoriums	Day Night	75 --	55 --	40 --	35 --
Churches, Meeting Halls, Libraries	Day Night	75 70	55 50	55 55	45 40
Schools7	Day Night	-- --	-- --	55 55	40 40
Office/Professional	Day Night	80 --	60 --	60 --	45 --
Commercial/Retail Buildings	Day Night	80 --	60 --	60 --	50 --
Playgrounds, Parks, etc.	Day Night	75 --	60 --	-- --	-- --
Industrial	Day Night	80 --	60 --	60 --	50 --

Specific Notes:

8. Noise sensitive areas are defined acoustic terminology section.
9. Interior noise level standards are applied within noise-sensitive areas of the various land uses, as defined in the acoustic terminology section, with windows and doors closed.
10. Daytime hours = 7 am – 10 pm, Nighttime hours = 10 pm – 7 am.
11. Lmax = Highest measured sound level occurring during a given interval of time (Typically 1 hour).
12. Leq = Average or “Equivalent” noise level during the worst-case hour in which the building is in use.
13. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
14. Exterior areas of school uses are not typically noise sensitive. As a result, the standards for schools are focused on the interior office and classroom spaces.

General Notes Applicable to All Noise Standards and Land Uses:

a. Where the noise source in question consists of speech or music, or is impulsive in nature, or contains a pure tone, the noise standards of this table are reduced by 5 dB.
b. Where ambient noise levels exceed the noise level standards shown above, the noise standards shall be increased in 5 dB increments to encompass the ambient.
c. Reductions in the noise standards for noise sources identified in general note “A” above shall be applied after any increases warranted by elevated ambient conditions prescribed in general note “B”, subject to verification through a noise study.

The City of Etna Noise Ordinance prohibits noise level above the local ambient between 10:00 pm and 6:00 am. Noise permits are available if compliance with the noise requirements would be impractical or unreasonable a conditional and/or limited noise permit may be granted for a particular project or activity for a limited period not to exceed six months.

City of Montague

The City of Montague General Plan (City of Montague 1989) Noise Element contains the following goals and policies relevant to the Proposed Project:

- Goal 1: Identification of existing and projected noise levels in the City so that noise may be considered in the land use element and zoning ordinance.
- Goal 2: Identification of existing noise-sensitive areas in the City for protection from future noise-generation development.
- Goal 3: Identification of existing noise-generating areas for protection from future noise-sensitive new development.
- Goal 4: Definition of the community noise environment and the development of noise level contours to determine and facilitate compliance with State Noise Insulation Standards.
- Goal 5: Protect City residents from excessive noise levels.

The following policies are from the noise element:

- A) The City shall monitor community noise levels.
- IMPLEMENTATION MEASURE: City shall appoint a noise officer to monitor noise levels, receive and process complaints from City residents, and recommend noise-reducing mitigation measures to existing and future noise-generating development.
- B) The City shall enforce noise-related laws.
- IMPLEMENTATION MEASURE: City shall adopt a noise ordinance after review of State guidelines and model ordinance.
- C) The City shall regulate future development to reduce the impacts of undesirable noise levels.
- IMPLEMENTATION MEASURE: City shall adopt and comply with State Noise Insulation Standards, as contained in Title 25, Article 4 of the California

Administrative Code.

- D) The City shall consider noise impacts of all City actions.
- IMPLEMENTATION MEASURE: City shall assess the noise generating impact of its actions, especially road development and industrial development, prior to approval of the actions.
- E. The City shall consider the community noise environment in the development of land use and zoning standards.
- IMPLEMENTATION MEASURE: City shall develop a noise overlay zoning procedure during the next revision of the City zoning ordinance.

The City of Montague noise ordinance states that “No person shall unnecessarily make, continue, or cause to be made or continued, any noise disturbance.” The noise standards for the various categories of land use shall unless otherwise specifically indicated, apply to all such property within a designated zone. No person shall operate or cause to be operated any source of sound at any location within the incorporated city or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured from the inside the nearest residence or business (windows open as season norm, to exceed:

1. The noise standard for that land use as specified in Table 8.16.111 for a cumulative period of more than thirty minutes in any hour; or

2. The noise standard plus five dB for a cumulative period of more than fifteen minutes in any hour; or

3. The noise standard plus ten dB for a cumulative period of more than five minutes in any hour; or

4. The noise standard plus fifteen dB for a cumulative period of more than one minute in any hour; or

5. The noise standard plus twenty dB or the maximum measured ambient level, for any period of time.

If the measured ambient level differs from that permissible within any of the first four noise limit categories above, the allowable noise exposure standard shall be adjusted in five dB increments in each category as appropriate to encompass or reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level. If the measurement location is on a boundary between two different zones, the noise level limit applicable to the lower noise zone, plus five dB, shall apply. No specific exemptions are listed for construction, but special variances can be applied for with the Noise Control Officer.

Table X-5
EXTERIOR NOISE LIMITS
(Levels Not To Be Exceeded More Than 30 Minutes In Any Hour)

Receiving Land Use Category	Time Period	Noise Level (dBa) Noise Zone Classification (1)
One-family and two-family residential	10 p.m. - 7 a.m.	45
Multiple dwelling residential, public space	10 p.m. - 7 a.m.	50
Limited commercial	10 p.m. - 7 a.m.	55
Commercial	10 p.m. - 7 a.m.	60
Industrial	10 p.m. - 7 a.m.	70

The noise ordinance defines the vibration perception threshold shall be presumed to be a motion velocity of 0.01 in/sec over the range of one to one hundred Hz.

City of Weed

The City of Weed 2040 General Plan (City of Weed 2017) Noise Element contains the following goals and policies relevant to the Proposed Project:

- Goal NS 1: A quiet and peaceful city
  - Objective NS 1.1: Limit noise in residential areas and near sensitive receptors.
    - Policy NS 1.1.1: The City shall protect residential areas and noise sensitive receptors such as schools, senior housing, worship places, and health centers from noise generating sources.
    - Policy NS 1.1.2: New construction must be compliant with Housing and Urban Development (HUD) standards
  - Objective NS 1.2: Maintain and promote compatible mixed-use land uses.
    - Policy NS 1.2.1: The City shall not authorize excessive noise producing sources near residential areas.
  - Objective NS 1.3: Limit exposure of traffic noise along Weed's main roads.
    - Policy NS 1.3.1: The City shall adopt regulations that minimize the impact of traffic noise.
    - Policy NS 1.3.2: Limit truck parking to South Weed to reduce excessive noise at nighttime in residential and mixed-use neighborhoods.
    - Policy NS 1.3.3.1: Avoid trash collection at night or early morning.
  - Objective NS 1.4: Limit noise impacts from industry.

- Policy NS 1.4.1: The City shall adopt regulations to protect noise sensitive receptors from industrial noise sources.

- Objective NS 1.5: Limit noise impacts from construction-related activities.

- Policy NS 1.5.1: The City shall adopt regulations to limit construction-related noise.

- Objective NS 1.6: Assess noise from the future train station.

- Policy NS 1.6.1: The City shall evaluate rail-related noise.

The City of Montague's noise ordinance exempts temporary use of construction equipment from its noise ordinance standards.

City of Yreka

The City of Yreka General Plan (City of Yreka 1998) Noise Element contains the following goals and policies relevant to the Proposed Project:

- Goal 1: To protect the existing and future citizens of Yreka from the harmful effects of exposure to excessive noise. More specifically, to protect existing noise-sensitive land uses from new uses that would generate noise levels which are incompatible with those uses. And to discourage new noise-sensitive land uses from being developed near sources of high noise levels.

- Goal 2: To protect the economic base of Yreka by preventing the encroachment of noise-sensitive land uses into areas affected by existing noise-producing uses. More specifically, to recognize that noise is an inherent by-product of many industrial processes and to prevent new noise-sensitive land uses from being developed in areas affected by existing industrial noise sources.

- Goal 3: To provide sufficient noise exposure information so that existing and potential future noise impacts may be effectively addressed in the land use planning and project review processes.

The following relevant policies are from the noise element:

- Policy 9: Noise associated with construction activities shall be exempt from the noise standards.

- Policy 10: Construction activities shall be limited to the hours of 7 a.m. to 5 p.m. unless an exemption is received from the City to cover special circumstances.

- Policy 11: All internal combustion engines used in conjunction with construction

activities shall be muffled according to the equipment manufacturers' requirements.

There is no adopted Noise Ordinance for the City of Yreka.

Town of Fort Jones

The Town of Fort Jones General Plan Noise Element (Town of Fort Jones 2006) contains the following goals and policies relevant to the Proposed Project:

- GOAL NE-1: To protect the health and safety of the residents of the City by providing an environment free from excessive noise.
  - **Objective NE-1:** The basic objective of this goal is to separate residential and other noise sensitive uses from activities generating excessive noise.
    - **Policy NE-1B.** New noise sensitive uses and new noise generating uses have the responsibility of meeting the standards in **Table 10** below. For example, if a developer proposes an apartment next to an existing industry, the apartment developer is responsible to provide mitigation to meet **Table 10** standards. Conversely, if a new industry is proposed near an existing apartment, the industrial developer would be responsible for providing noise mitigation to achieve compliance with **Table 10**.
    - **Policy NE-1C.** Noise reduction techniques may include but are not limited to sound insulation, dual pane windows, building orientation, setbacks, fencing and earth mounds.
    - **Policy NE-1D.** The City shall require a professionally prepared noise analysis when noise appears to be a development issue. It shall be the responsibility of the project applicant to show compliance with the standards of this Element.
    - **Policy NE-1E.** Zoning districts, which permit noise sources that could affect adjacent residential use should contain standards that will reduce the effect of noise at the property line to acceptable standards.

The Town of Fort Jones noise ordinance has the following relevant noise limits:

(a) No person shall produce or allow to be produced by any machine, or device or any combination of the same a noise level above the local ambient noise level Monday—Friday between the hours of 10:00 p.m. and 6:00 a.m., and Saturday—Sunday between the hours of 10:00 p.m. and 8:00 a.m. The applicability of this subsection to sound performances and special events shall be at the discretion of the responding officer.

Airports

Siskiyou County owns and operates Butte Valley Airport, Happy Camp Airport, Scott Valley Airport, Siskiyou County Airport, and Weed Airport. The Dunsmuir-Mott Airport and Montague-Yreka Rohrer Field are also operated within the county and contribute to aviation-related noise.

E. Environmental Analysis

This discussion describes the methodology and significance criteria that were used to analyze noise impacts. It then presents the analysis of the potential environmental impacts of the Proposed Project on noise resources.

1. Impact Analysis Methods

This impact analysis uses a qualitative approach to evaluate the potential direct and indirect impacts to noise 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 Scott and Shasta Order are not known and cannot be known at this time. Additionally, it is not known which management practices might be implemented on which Irrigated Lands.

Therefore, the analysis considers generally the noise and groundborne vibration impacts that could occur on Irrigated Lands in the Scott River and Shasta River watersheds 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) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies,

2) Generate of excessive groundborne vibration or groundborne noise levels, or

3) For a project located within-the vicinity of a private airstrip or-an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

3. Impacts and Mitigation Measures

Impact NOI-1: Generate a substantial temporary or permanent increase in ambient

noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (*Less than Significant*).

Impact NOI-2: Generate excessive groundborne vibration or groundborne noise levels (Less than Significant)

The Scott and Shasta Order could involve earthmoving and construction activities by Irrigated Lands. Construction would generally be small in scale, short-term in duration, and could temporarily generate noise above ambient levels. Increased noise levels would likely be associated with heavy equipment operation associated with construction of certain management practices.

For example, noise levels from activities such as road construction and/or maintenance would not exceed the existing levels and the loudest activities from other construction actions can be planned during peak daily noise. There is no adopted Noise Ordinance for Siskiyou County; thus, limits on noise are not regulated by Siskiyou County Municipal Code. An insignificant acreage of Irrigated Lands lies within the incorporated cities of Fort Jones, Montague, Weed, and Yreka. General Plan policies and goals, along with ordinances in these cities typically exempt noise impacts from agricultural and/or temporary construction activities from. Nonetheless, construction activities that may result from compliance with the Scott and Shasta Order would not result in substantial noise, and the impacts would be less than significant.

Impact NOI-3: For projects located within the vicinity of a private airstrip or-an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels (No Impact)

The Scott and Shasta Order would not cause any permanent increase in ambient noise levels, including aircraft noise. An insignificant quantity of reasonably foreseeable management practices could be located within an airport land use plan or within two miles of a public airport or public use airport. The use of heavy equipment for the construction and installation of certain management practices could result in temporary increases in existing noise levels, but the noise associated with heavy equipment use is not any louder than noises that would typically occur within the vicinity of a private airstrip. Therefore, it would not expose people living within an area subject to an airport land use plan or living within two miles of an airport to excessive noise and thus, no impact would occur.

XI. 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

Federal law does not address TCRs, although Traditional Cultural Properties are addressed in Section 106 of the National Historic Preservation Act (NHPA). However, actions under the Proposed Project are not expected to require federal permits or occur on federal land; therefore, the NHPA would not apply.

2. State Laws, Ordinances, Regulations, and Policies

a. California Environmental Quality Act

Assembly Bill 52 (Statutes of 2014, Chapter 532), which went into effect on July 1, 2015, requires that lead agencies under 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. Under the same bill, 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.

As defined in PRC Section 21074(a), TCRs are:

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); or

    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.

In addition to Section 21074(a) above, TCRs are further defined under Section 21074(b) and (c) as follows:

1) 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; and

2) 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 tribal cultural resource if it conforms to the criteria of subdivision (a) [of Section 21074].

Mitigation measures for TCRs may be developed in consultation with the affected California Native American tribe in accordance with PRC Section 21080.3.2 or Section 21084.3. The latter section identifies mitigation measures that include avoidance and preservation of TCRs and treating TCRs with culturally appropriate dignity, consideration of 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 on May 26, 2022, to request a comprehensive list of all tribes within the North Coast Region. The NAHC responded on July 13th with a list that contained the contact information for six tribes. On December 16, 2024, the North Coast Water Board sent six 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 DEIR 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 North Coast Water Board if they wished to consult on the Proposed Project in accordance with PRC Section 21080.3.1. Of the six tribes contacted, no tribe responded in writing to the notice. North Coast Water Board staff sought appointments with tribal staff to discuss the Order within their tribal jurisdictions and met with two tribes in person. One tribe indicated that the project is outside its tribal area and declined formal consultation, but requested that listening sessions be held within its tribal territory. The list of individual tribes contacted are listed below, with tribes that provided a response to the invitation to consult marked with an asterisk (*).

Table XI-1 Tribal Consultation

Tribe	Contact	Notification Date	Notes
Shasta Indian Nation	Chairman Crowe	12/16/2024	
Shasta Nation	Chairman Hall	12/16/2024	
Quartz Valley Indian Reservation	Chairman Benett	12/16/2024	
Karuk Tribe	Chairman Attebery	12/16/2024	
Pulikla Tribe of Yurok People	Chairperson Murphy	12/16/2024	
Yurok Tribe	Chairman James	12/16/2024	

3. Local Laws, Ordinances, Regulations, and Policies

Because the passage and implementation of PRC Section 21080.3.1 is relatively recent, TCRs are rarely identified in city and county general plans. However, since the passage of Senate Bill 18 in 2004, which requires consultation with California Native American tribes during the development of a general plan, many cities and counties

have included requirements for consultation with the California Native American tribes traditionally and culturally affiliated with the area during development of their general plans or substantial general plan updates. Attachment C lists potentially applicable goals and policies in general plans for Siskiyou County.

B. Environmental Setting

This section provides a description of the six California Native American Tribes listed by NAHC as traditionally and culturally affiliated with the geographic area of the Proposed Project. The six California Native American Tribes identified by the NAHC are Shasta Indian Nation, Shasta Nation, Quartz Valley Indian Reservation, Karuk Tribe, Pulikla Tribe of Yurok People, and Yurok Tribe. The California Native American tribal communities of Shasta decent traditionally inhabited the territory within the Scott River and Shasta River basins and share a cultural heritage with the Karuk and Yurok peoples downstream through the tributaries of these watersheds that connected the region.

1. California Native American Tribes

a. Shasta Indian Nation

The Shasta Indian Nation is a non-federally recognized California Native American tribal community culturally and traditionally affiliated with the Scott River and Shasta River watershed basins. The members of the Shasta Indian Nation maintain a connection to their heritage based on descent from Shasta peoples who inhabited the fertile bottomlands of northern Siskiyou County. The following description of the Shasta Indian Nation is adapted from the Shasta Indian Nation website (Shasta Indian Nation 2025), Carpelan and Hall (2000), and Sarmento (2021).

By the turn of the twentieth century, this group of Shasta had made efforts to remain living on their ancestral territory by controlling a land base obtained through allotments, marrying into landowning families, and through outright purchase. By 1968, the last bit of property held by the Shasta community was sold and the Shasta people were scattered because of limited economic opportunities and the absence of a land base (Sarmento 2021). Some Shasta descendants still reside at the Grande Ronde and Siletz Reservations in Oregon.

Although the Shasta Indian Nation has not been formally recognized as a sovereign entity by the federal government and no reservation was designated, the Shasta Indian Nation continues the process they began in 1984 of applying for federal recognition. The Tribe has also been in consultation with the state of California about the possibility of having some of their ancestral lands returned to them based on the mitigation measures for the Lower Klamath Project License Surrender and Governor Gavin Newsom’s directive to return “excess land” to California tribes.

b. Shasta Nation

The Shasta Nation is a non-federally recognized California Native American tribal community culturally and traditionally affiliated with the Scott River and Shasta River watershed basins. Members of the Shasta Nation can trace their descent back to an ancestor who lived on their traditional lands in the Scott River and Shasta River watersheds on June 2, 1852. The following description of the Shasta Nation is adapted from “The Shasta History” by Carpelan and Hall (2000).

On August 28, 1982, the Shasta Nation, consisting of the Shasta and Upper Klamath Indians, filed for Federal Recognition with the Federal Government. In 1984, the Petition was submitted to the Federal Acknowledgement Committee in Washington, D. C. The Federal Recognition process continues today.

As of 2000, there were approximately 1500 people enrolled in the Tribe. Members of the Shasta Nation include those who had received land allotments on the Quartz Valley Indian Reservation and the Shasta and Upper Klamath Indians who still live in their traditional communities.

c. Quartz Valley Indian Reservation

The Quartz Valley Indian Community of the Quartz Valley Reservation of California (QVIR/Tribe) is a sovereign, federally recognized California Native American tribe based in western Siskiyou County. Many current QVIR Tribal members share a Shasta heritage of cultural and traditional affiliation to the Scott River and Shasta River watersheds. The following description of the Quartz Valley Indian Community of the Quartz Valley Reservation is adapted from information provided by the Tribe (Quartz Valley Indian Reservation 2025).

The QVIR was originally established as a sovereign, self-governing, federally recognized American Indian Tribe because of the Indian Reorganization Act of June 18, 1934, or Wheeler-Howard Act. The Tribe adopted its constitution and by-laws on June 15, 1939, but lost its federal status on January 20, 1967, because of the California Rancheria Termination Act of 1958. Federal recognition was restored on December 22, 1983, through the US Federal Court decision Tillie Hardwick, et al. v. United States of America, et al. (Case #C-79-1710-SW).

The Hardwick decision also restored 129.64 acres of the original 605 acres of reservation lands to the Tribal trust. The reservation currently consists of approximately 210 acres, comprised mostly of trust land with some fee parcels. The reservation sits on the cusp of bottomlands and heavily forested mountains in a sub-valley of Scott Valley. Shackleford Creek, a tributary of Scott River, runs through QVIR.

QVIR is governed by its General Council comprised of adult Tribal members. The General Council selects a nine-member Business Council, which includes the Tribal chair, vice chair, secretary, and treasurer as executive positions. The General Council

also elects members to Health, Enrollment, Housing, Hardship, and Culture boards. The current Tribal mission is stated as:

While on earth we must practice stewardship, protection, and enhancement of the air we breathe, the water we drink, the soil that supports us, and the lives we cherish. It is our duty to protect and enhance these resources for the continued prosperity of the Quartz Valley Indian Tribe and our fellow brothers and sisters we share this earth with.

In partial fulfillment of the mission statement, the tribe employs several fulltime and part-time positions to operate the Tribal Environmental Protection Department. Current achievements are creek restoration projects, salmon surveys, water quality monitoring, establishment of a native garden, and the recent opening of a microbiology lab for testing the Tribe's ground water.

Other Tribal services include Education, Social Services, Indian Child Welfare, and a domestic violence program. The Tribe's Anav Tribal Health Clinic provides medical, dental, and behavioral health care to QVIR members and other Native and non-Native area residents. Other Departments host various annual events, including water/salmon festivals; a health fair; a week-long, youth-oriented Culture Camp; and a Gathering of Native Americans. The QVIR also offers periodic traditional culture events/classes in such areas as language, drum-making, dressmaking, basket weaving, and storytelling.

d. Karuk

The Karuk Tribe is a sovereign, federally recognized California Native American tribe based out of Happy Camp, in western Siskiyou County. The traditional territory of the Karuk was adjacent the Proposed Project area, along the Middle Klamath River near the western boundary of Siskiyou County. The Karuk maintain a cultural and traditional affiliation with and interest in the Scott River and Shasta River basins through the connection of these watersheds as tributaries of the Klamath River. The following information regarding the Karuk Tribe has been adapted from the Karuk Tribe official website (Karuk Tribe 2025), the general overview provided by Bright (1978), and the Lower Klamath License Surrender Draft Environmental Impact Report (California State Water Resources Control Board 2018).

The Karuk Tribe has been federally recognized since 1979 and is designated as a Self-Governance Tribe under Indian Self-Determination Act of 1975. The Karuk Tribe constitution was initiated in April 1985. The mission of the Karuk Tribe "is to promote the general welfare of all Karuk people, to establish equality and justice for our tribe, to restore and preserve Tribal traditions, customs, language and ancestral rights, and to secure to ourselves and our descendants the power to exercise the inherent rights of self governance" (Karuk Tribe 2025).

No reservation was established in Karuk territory, instead Karuk peoples settled on reservation lands in Scott Valley, on white settlements, or remained near former village

sites. The Karuk occupied an ancestral territory of approximately 1.4 million acres. Currently, the Karuk own 652 acres held in trust by the federal government or owned by the Tribe in fee-simple status.

Karuk are one of the largest tribes in California with approximately 4,800 members. Karuk tribal members still engage in traditions, including hunting, gathering, use of the Karuk language, basket-making, fabrication of regalia, practice of traditional religious ceremonies, and stewardship of natural resources. The incorporation of ritual, spiritual, and technical elements of their culture in the management and enrichment of local ecosystems are articulated in the Karuk Tribe's Ecocultural Resources Management Plan and implemented by their Natural Resources Department.

e. Pulikla Tribe of Yurok People

The Pulikla Tribe of Yurok People is a sovereign, federally recognized California Native American tribe based out of Klamath, in western Del Norte County. The traditional territory of the Yurok people was downstream from the Proposed Project area, but the members of the Pulikla Tribe of Yurok People maintain a cultural and traditional affiliation with and interest in the Scott River and Shasta River basins through the connection of these watersheds as tributaries of the Klamath River. The following information regarding the Pulikla Tribe of Yurok People has been adapted from the official Pulikla Tribe of Yurok People website (2025).

The Tribal Citizens of the Pulikla Tribe of Yurok People remain on their ancestral lands and waters that include the lower Klamath River and tributary watersheds, high country, coast and lagoons along the Pacific Ocean, and the coastal waters west to the horizon. Their identity and cultural lifeways are inextricably tied to this place.

Eighteen treaties were negotiated in California, including one with the "Pohlik or Lower Klamath River Tribe", however none of the treaties were ratified by the United States Senate. In 1855, President Pierce established the Klamath River Reservation (Klamath River Military Reserve) by Executive Order. The headquarters for the Klamath River Reservation was the Waukell Agency, located on the same river flat as the present-day Pulikla Tribe. In 1891, President Harrison enacted an Executive Order that enlarged the Hoopa Valley Indian Reservation to include the Klamath River Reservation and Connecting Strip (known as the "Extension" or "Addition"). There were Indian allotments and homesteads made on the Extension and the land encompassing present-day Pulikla tribal lands. Through several purchases, Augusta "Gus" Ressighini acquired the homestead land on Waukell Flat. As part of the Hoopa Valley 1937 contractual land acquisition project, the United States purchased 228 acres of land on the lower Klamath River in 1938, including the land on Waukell Flat, with the intent to provide trust land for Indigenous People residing on the Klamath River and coast in Del Norte and Humboldt Counties. Several Yurok families took up residence and, in 1939, the Pulikla Tribe of Yurok People was formally proclaimed an Indian Reservation.

In 1975, several people residing and affiliated with the Pulikla Tribe of Yurok People stood together and formally created a non-traditional form of government with a constitution. The Tribe was named the Coast Indian Community of Yurok Indians of the Resighini Rancheria. The Tribe established housing, developed community, pursued economic ventures, and built up the tribal governmental operations and services. Tribal citizens continued to practice traditional fishing, hunting and gathering activities both on Tribal land and throughout their ancestral territory.

The Hoopa-Yurok Settlement Act (HYSA) of 1988 effectively split the Hoopa Valley Indian Reservation into two, creating the Yurok Reservation which surrounded the Pulikla Tribe. The HYSA also required that the Coast Indian Community of Yurok Indians of the Resighini Rancheria had to decide on whether to merge with the Yurok Tribe or maintain their distinct sovereign status. Resighini Rancheria citizens voted to stay a distinct Tribe, maintaining their federal recognition status, reservation trust land, government-to-government relationship with the United States, rights, assets, and trust resources, and retaining a more traditionally sized tribal government.

In 1998, the General Council of the Rancheria changed the name of the Tribal government to Resighini Rancheria, then in 2024, the Citizens of the Tribe voted to change the name to Pulikla Tribe of Yurok People. The Pulikla Tribe of Yurok People is governed by a Tribal Council consisting of five Tribal Citizens. The Tribal Council is sworn to preserve and protect the best interests of the Pulikla Tribe and its Citizens according to the Tribal Constitution. The Tribe continues to seek to build capacity to serve the needs of our Tribal Citizens and govern within their territory.

f. Yurok Tribe

The Yurok Tribe is a sovereign, federally recognized California Native American tribe based out of Klamath, Del Norte County. The traditional territory of the Yurok people was downstream from the Proposed Project area, but the members of the Yurok Tribe maintain a cultural and traditional affiliation with and interest in the Scott River and Shasta River basins through the connection of these watersheds as tributaries of the Klamath River. The following description of the Yurok Tribe is adapted from information provided on the Yurok Tribe website (2025).

The Yurok Indian Reservation, located in Del Norte and Humboldt Counties, California, encompasses approximately 57,000 acres, and consists of a strip of land beginning at the Pacific Ocean and extending a mile along each side of the Klamath River to a distance of about 45 miles upriver, just above the confluence of the Klamath and Trinity rivers. The Yurok Tribe is currently the largest Tribe in California, with more than 5,000 enrolled members. The Tribe provides numerous services to the local community and membership and is engaged in initiatives that include the Hoopa-Yurok Settlement Act, dam removal, natural resources protection, sustainable economic development enterprises, and land acquisition.

"The mission of the Yurok Tribe is to exercise the aboriginal and sovereign rights of the Yurok People to continue forever our Tribal traditions of self-governance, cultural and spiritual preservation, stewardship of Yurok lands, waters and other natural endowments, balanced social and economic development, peace and reciprocity, and respect for the dignity and individual rights of all persons living within the jurisdiction of the Yurok Tribe, while honoring our Creator, our ancestors and our descendants" (Yurok

C. Environmental Analysis

1. Impact Analysis Methods

This analysis evaluates potential impacts to TCRs that may result from implementation of management practices and other actions that could occur under the Proposed Project. Potential impacts have been compared against the thresholds of significance discussed below.

2. Thresholds of Significance

For the purposes of this analysis, based on Appendix G of the State CEQA Guidelines, the Proposed Project would result in a significant impact to TCRs if it would:

1) Cause a substantial adverse change in the significance of the tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resource Code section 5020.1(k), or

    b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth is subdivision (c) of Public Resources Code section 5024.1. in applying the criteria set forth in subdivision (c) of Public Resource Code section 5024.1, the lead agency shall consider 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)

The Proposed Project encompasses a broad geographical region that is rich in tribal resources and was home to a large number of Native American tribes, or tribelets, prior to colonization. These indigenous communities are represented today by descendants who maintain a strong cultural connection to their ancestral lands.

Many of the reasonably foreseeable management practices that could be implemented under the Proposed Project 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 Irrigated Lands 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.

While Proposed Project activities would have limited to no potential to substantially affect sites, features, places, or cultural landscapes that could be TCRs, 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., tail water control structures, 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 Irrigated Lands. 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 Irrigated Lands that have not been subject to prior disturbance. Facilities such as sediment 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 Irrigated Lands, could be installed to depths below the prior disturbance limits (e.g., excavation for construction of a sediment 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.

Implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 would reduce potential impacts to TCRs to ***less than significant with mitigation***.

XII. 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 XIV-1. Table XIV-1, that was developed based on review of information available on the SWRCB Scott River and Shasta River Watersheds Emergency Regulation website. For each resource topic evaluated, the possible impacts are considered cumulatively in light of similar possible impacts as the Scott and Shasta 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)).

Table XII-1: Reasonably Foreseeable Future Related Projects

Related Project	Project Summary	Activities that Could Affect Resources Similar to the Proposed Project
Scott River and Shasta River Watersheds Baseline Minimum Flow Requirements	Setting of minimum stream flow requirements which could reduce water availability for agriculture under certain conditions	Water diversion management

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.

B. Evaluation of Cumulative Impacts

1. Agriculture and Forestry

In the cumulative context, implementation of Scott River and Shasta River Watersheds Baseline Minimum Flow Requirements may cause a change the type and intensity of agriculture but not directly result in conversion of agricultural land to non-agricultural uses. Therefore, the cumulative impact on agricultural resources from the Proposed Project and Scott River and Shasta River Watersheds Baseline Minimum Flow Requirements is less than significant.

Given the land use policies in the Siskiyou County General Plan, it is reasonable to assume that development in the Project Area will not result in conversion of agricultural

land to urban and built-up land. This is not considered a significant cumulative impact on agricultural resources.

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 involving ground disturbance are expected to occur within existing Irrigated Lands and Appurtenant Agricultural Roads 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 and undocumented human remains.

Development projects on Important Farmland in the Project Area are not expected given the land use polices in the Siskiyou County General Plan; therefore, with implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 and the fact that most Management Practices would take place within disturbed areas of Irrigated Lands, the Proposed Project's contribution to this cumulative impact would be less than considerable.

XIII. Alternatives Analysis

A. Introduction

This chapter analyzes alternatives to the North Coast Water Board adopting the Scott and Shasta Order. The chapter describes the alternatives screening and development process and the list of alternatives considered in the draft environmental impact report (DEIR). The chapter analyzes the environmental impacts of the alternatives considered in comparison to the Scott and Shasta 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 Scott and Shasta Order is to:

Objective No. 1 – Attain and maintain water quality conditions protective of beneficial uses established in Chapter 2 and consistent with the water quality objectives (WQOs) established in Chapter 3 of the Basin Plan, and implement the Scott and Shasta TMDL Action Plans by:

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

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, the Sediment TMDL Implementation Policy, and Scott River and Shasta River TMDL Action Plans.

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 Scott and Shasta 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 Scott and Shasta Order would be implemented entirely within Siskiyou County. With the exception of potential conversion of agricultural land to riparian/vegetative buffers due to Riparian Zone tillage prohibitions, the Scott and Shasta Order would not involve a significant change to an existing land use that could conflict with the County of Siskiyou 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 Scott and Shasta 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, the Sediment TMDL Implementation Policy, the Scott and Shasta TMDL Action Plans, and other relevant statutes and water quality plans and policies (i.e., No Net Loss Policy for Wetlands). 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 Scott and Shasta 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 DEIR 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 DEIR 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 DEIR, the Scott and Shasta 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 Scott and Shasta 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). Specifically, Riparian Vegetation Area tillage prohibitions in the Scott and Shasta Order could result in the conversion of up to approximately 1,720 acres of Important Farmland, less than four percent of the Important Farmland in the two watersheds, to riparian vegetation or to a pastoral or nonarable agricultural use.

2) Conflict with existing zoning for agricultural use or a Williamson Act contract (Impact AG-2). As noted above, the Riparian Vegetation Area tillage prohibition in the Scott and Shasta Order could result in the conversion of up to approximately 1,720 acres of Important Farmland to non-agricultural uses. The majority of this conversion would occur on lands zoned for agricultural use, and the conversion would conflict with the intent of agricultural zoning districts. An undetermined portion of that acreage would occur on lands under Williamson Act contract. Although Williamson Act contracts protect open space uses as well as agricultural uses, this amount of conversion would conflict with the primary intent of the Williamson Act.

It is also important to consider that the Scott and Shasta Order is specifically designed to support correction of existing unacceptable water quality impairments caused in part by discharges from Irrigated Lands. Therefore, even though the Scott and Shasta 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 DEIR because they are required by statute or would meet most of the Scott and Shasta Order objectives, are potentially feasible, and would avoid or substantially reduce one or more potentially significant impact of the Scott and Shasta Order:

1) No Project (Readopt Scott and Shasta Conditional Waiver)

2) Reduced Riparian Vegetation Area tillage prohibition

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 Scott and Shasta Order. No alternatives were considered but dismissed from full analysis in the DEIR.

1. No Project Alternative

a. Description

Under the No Project Alternative, the North Coast Water Board would not adopt the

proposed Waste Discharge Requirements (WDRs) for Irrigated Lands in the Scott and Shasta River watersheds. Instead, the North Coast Water Board would continue to regulate nonpoint source discharges from Irrigated Lands through readoption or renewal of the existing Scott River TMDL Conditional Waiver (Order No. R1-2018-0018) and the Shasta River TMDL Conditional Waiver (Order No. R1-2018-0019).

The Scott River and Shasta River Conditional Waivers were originally adopted in 2006 as part of the implementation of the Scott River Sediment and Temperature TMDL Action Plan and the Shasta River Temperature and Dissolved Oxygen TMDL Action Plan, respectively. Both Waivers were subsequently renewed in 2012 (Order Nos. R1-2012-0084 and R1-2012-0083) and substantially revised in 2018 (Order Nos. R1-2018-0018 and R1-2018-0019). The 2018 revisions updated what had been management measure guidance in prior orders to become required conditions of compliance and included updated planning, monitoring, and reporting requirements. The 2018 Orders were subsequently renewed on a short-term basis by Order No. R1-2023-0005, extending coverage through October 7, 2025, and again by Order No. R1-2025-0011, extending coverage through October 7, 2026. Both short-term renewals retained all terms, conditions, and monitoring and reporting requirements of the 2018 Orders without modification.

Under the No Project Alternative, the North Coast Water Board would readopt the Conditional Waivers, maintaining the existing regulatory framework. The key features of this framework are as follows:

Enrollment and Registration - Neither the Scott River nor the Shasta River Conditional Waiver requires active enrollment by Dischargers as a condition of obtaining coverage. Under the Scott River Conditional Waiver, Dischargers who are not required to submit plans and are not otherwise notified by North Coast Water Board staff need not file anything with the North Coast Water Board so long as they meet the conditions of the Waiver. Under the Shasta River Conditional Waivers, landowners who do not receive a letter requiring development and submittal of plans or other documentation need not file anything with the North Coast Water Board and need not submit annual reports, so long as they meet the eligibility criteria and conditions of the Waiver.

Management Plans - Both Conditional Waivers authorize the North Coast Water Board Executive Officer, on an as-needed, site-specific basis, to require the development, submittal, and implementation of management plans. The Scott River Conditional Wavier provides for Grazing and Riparian Management Plans and Erosion Control Plans. The Shasta River Conditional Wavier provides for Ranch Management Plans and Tailwater Management Plans. Plans can range from simple submittals describing practices implemented to minimize, control, and prevent discharges to comprehensive documents identifying existing sources of waste, management practices employed, and monitoring and reporting programs to document actions taken and their effectiveness. The level of detail required in a plan is dependent on site-specific characteristics and is specified in writing by the Executive Officer.

Monitoring and Reporting - Under both Conditional Waivers, the Executive Officer may direct individual Dischargers to develop and implement site-specific monitoring and reporting plans. Monitoring and reporting may include photo documentation, evaluation and documentation of instream and near-stream management measures, stream temperature monitoring, collection of tailwater data including water temperature, nutrients, dissolved oxygen, and estimates of tailwater discharge volumes, annual summaries of progress toward implementing management measures, and results of specific monitoring requirements. However, there is no comprehensive monitoring and reporting program applicable to all Irrigated Lands; monitoring and reporting are required only of those Dischargers specifically directed by the Executive Officer.

Management Measures - Both Conditional Waivers specify management measures that Dischargers must implement as conditions of compliance. These include requirements related to riparian area management, grazing management, livestock exclusion, tailwater management, tillage practices, erosion control, nutrient management, and proper storage and handling of pesticides and petroleum products. The Scott River Conditional Waiver focuses on discharges of sediment and elevated solar radiation loads, as well as tailwater and animal waste discharges. The Shasta River Conditional Waiver addresses discharges of fine sediment, nutrients, other oxygen consuming materials, elevated solar radiation loads, and warm and nutrient-rich irrigation tailwater.

Risk-Based Implementation - Both Conditional Waivers direct staff to focus implementation efforts on those activities and Dischargers that pose the highest risk to water quality. Factors used to determine risk include type and intensity of land use, proximity to streams, and the length of stream adjacent to such activities. This risk-based prioritization has guided the assessment of ranches and the requirement for management plans on a site-specific basis.

Scope of Coverage - The Scott River Conditional Waiver covers discharges associated with activities not explicitly covered by other North Coast Water Board permits, including ranching operations adjacent to waterways and rural roads not associated with active timber harvest plans, as well as discharges of irrigation tailwater and animal waste from agricultural operations. The Shasta River Conditional Waiver similarly covers ranching operations adjacent to waterways and rural roads, as well as discharges related to increased temperature, impoundment of surface waters, fine sediments, oxygen consuming materials, animal waste, and warm and nutrient-rich irrigation tailwater.

Progress to Date - As documented in Order No. R1-2025-0011, implementation of the Conditional Waivers has resulted in measurable progress in both watersheds. In the Scott River watershed, 24 ranches have been assessed for compliance, representing approximately 33 percent of the stream frontage adjacent to agricultural activities, and 9 Grazing and Riparian Management Plans have been required and are being implemented. Approximately $6 million in grants and contracts has been allocated since adoption of the Scott River TMDLs, resulting in approximately 25 acres of riparian plantings, 17.8 miles of riparian fencing, 2,200 feet of bioengineered bank restoration, hydrologic disconnection of 53 rural road treatment sites, reach-scale restoration

planning, and development of the Scott Valley Integrated Hydrologic Model. In the Shasta River watershed, 15 ranches have been assessed, including approximately 22 miles of the Shasta River mainstem frontage, the entire Parks Creek and Big Springs Creek frontage, and approximately 1.3 miles of the Little Shasta River, with 13 ranches now operating under Ranch Management and Monitoring Plans or equivalent plans. Approximately $6 million in grants and contracts has been allocated since adoption of the Shasta River TMDLs, resulting in removal of one channel-spanning dam, installation of 12.3 miles of riparian fencing, 21 off-channel stockwater systems, 1.4 miles of riparian plantings, 2 projects improving irrigation diversions on cold-water springs, and permanent elimination of 10 cubic feet per second of tailwater discharge to the Shasta River. Continuous water quality monitoring is ongoing in both watersheds.

Under the No Project Alternative, the North Coast Water Board would continue this existing regulatory approach through readoption of the Conditional Waivers. No new enrollment requirements, permitting structure, or comprehensive monitoring and reporting program would be established.

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 DEIR for informational purposes, it does not fully satisfy the Proposed Project objectives for several reasons.

Under the No Project Alternative, the North Coast Water Board would readopt the existing Scott River and Shasta River Conditional Waivers, maintaining the current regulatory framework that has been in place, through successive iterations, since 2006. While readoption would avoid the regulatory gap that would result from allowing the Conditional Waivers to expire on October 7, 2026, it would perpetuate the structural limitations of the existing framework that have been identified by the North Coast Water Board itself as insufficient for the long-term regulation of agricultural discharges in these watersheds.

Neither the Scott River nor the Shasta River Conditional Waiver requires active enrollment by Dischargers as a condition of obtaining coverage. Dischargers who are not specifically required by the Executive Officer to submit plans or otherwise notified by North Coast Water Board staff need not file anything with the North Water Board so long as they meet the conditions of the respective Conditional Waivers. As a result, the North Water Board lacks a complete accounting of all Irrigated Lands subject to the Conditional Waivers and cannot systematically verify compliance across the program area. Both Conditional Waives rely upon the Executive Officer to require, on an as-needed, site-specific basis, the development of management plans and site-specific monitoring and reporting. While this targeted, risk-based approach has yielded meaningful and measurable progress, after nearly two decades of implementation it has reached only a portion of the operations in each watershed — approximately 32 percent of the stream frontage adjacent to agricultural activities in the Scott River watershed and

a comparable proportion in the Shasta River watershed. This approach does not constitute a comprehensive monitoring and reporting program applicable to all Irrigated Lands, and without such a program there is no adequate adaptive management feedback loop to systematically assess the quality of surface waters and groundwaters affected by commercial agricultural discharges on a watershed-wide basis.

Readoption of the Conditional Waivers would also be inconsistent with the North Coast Water Board's own stated policy direction. Finding 18 of both the 2018 Scott Order and the 2018 Shasta Order explicitly states that, following the expiration or replacement of the 2018 Orders, the North Coast Water Board intends to address water quality concerns associated with agriculture through a permitting program more consistent with approaches implemented in other parts of the state, potentially incorporating a tiered structure, active enrollment procedures, and payment of fees. Both the 2023 short-term renewal (Order No. R1-2023-0005) and the 2025 short-term renewal (Order No. R1-2025-0011) were adopted expressly to provide continued regulatory coverage while staff developed new WDRs — not as a long-term continuation of the waiver approach. Finding 13 of Order No. R1-2023-0005 states that staff began work in earnest to develop WDRs aligned with the State Water Board's Irrigated Lands Regulatory Program precedential requirements established in Order WQ 2018-0002 (East San Joaquin Order). Finding 14 of Order No. R1-2025-0011 documents that staff determined additional environmental analysis for the more rigorous WDRs is warranted, and that significant progress has been made on the draft WDRs, with CEQA scoping initiated on February 1, 2025. Finding 19 of Order No. R1-2025-0011 states that the North Coast Water Board intends to consider adoption of updated Scott and Shasta WDRs that align with applicable policies by October 7, 2026. Readoption of the Conditional Waivers rather than adoption of WDRs would contradict this clearly and repeatedly expressed intent.

Furthermore, readoption of the Conditional Waivers would be inconsistent with the precedential requirements of the East San Joaquin Order (Order WQ 2018-0002), which establishes statewide expectations for the regulation of irrigated agricultural discharges. The existing Conditional Waivers, which lack active enrollment, a tiered permitting structure, comprehensive monitoring and reporting, and a fee structure, do not align with the regulatory framework contemplated by the State Water Board for irrigated lands programs across California.

Additionally, readoption would perpetuate a resource-intensive, individual enforcement approach. The 2023 renewal order acknowledged that staff diversion to emergency drought response beginning in 2021 slowed ranch assessment progress, and that work to revise the Conditional Waivers consistent with Finding 18 could not be completed prior to the 2018 Conditional Waivers’ expiration. This experience underscores the vulnerability of a regulatory approach that depends heavily on staff-initiated, site-by-site engagement rather than a self-implementing program with enrollment requirements, standardized monitoring and reporting obligations, and tiered compliance expectations. The existing approach, while effective at the individual ranch scale, has proven unable to achieve comprehensive watershed-wide coverage within a reasonable timeframe

given available staff resources and competing demands.

For these reasons, although readoption of the Conditional Waivers would maintain a baseline level of regulatory coverage and avoid a regulatory gap, the No Project Alternative does not meet the basic objectives of the Proposed Project, is inconsistent with the North Coast Water Board's stated policy direction and the State Water Board's precedential requirements, and is not considered a feasible long-term regulatory approach. This DEIR does not consider the No Project Alternative in further detail beyond the analysis required by CEQA.

2. Reduced Riparian Vegetation Area Tillage Prohibition Alternative

a. Description

Under the Reduced Riparian Vegetation Area Tillage Prohibition Alternative (Reduced Tillage Prohibition Alternative), tillage would be prohibited within a Riparian Vegetation Area of reduced width. The prohibition would be applied as an average width of 17.5 feet across the total linear stream frontage within or abutting each enrolled parcel, a 50 percent reduction from the 35-foot average width required under the Proposed Project. As under the Proposed Project, individual portions of the Riparian Vegetation Area could be narrower or wider than the average, provided the average across the total linear stream frontage is maintained, and the average could be calculated across contiguous enrolled parcels under common ownership or operational control.

In this alternative, there would be no change to the balance of Scott and Shasta Order requirements, prohibitions, or allowed activities. Streamside Area widths would not change. The reduction would apply only to the portion of the Streamside Area within which tillage is prohibited, and the area released from the tillage prohibition would be managed as Vegetated Buffer. Requirements for Vegetated Buffers, for livestock grazing in Streamside Areas, and for the Riparian Vegetation Area Restoration option would be unchanged, as would the timeline for compliance.

Implementing the Riparian Vegetation Area tillage prohibition as proposed in the Scott and Shasta Order would result in conversion of Important Farmland (Prime Farmland, Unique Farmland, and Farmland of Statewide Importance) to non-agricultural use or to a pastoral or nonarable agricultural use. Reducing the required average width by half would reduce the area subject to the prohibition to approximately 860 acres of Important Farmland, compared to approximately 1,720 acres under the Proposed Project, thereby reducing but not eliminating that impact.

b. Screening Analysis

Consistency with Project Objectives

The Reduced Tillage Prohibition Alternative would meet Project Objective #2 and partially meet Project Objectives #1 and #3 in the sense that implementing the Alternative as proposed would achieve goals of the Temperature Policy and Scott/Shasta

TMDL Action Plans to a lesser degree and by maintaining a prohibition against removal of riparian vegetation in a smaller area than the Proposed Project in some cases.

However, the Reduced Tillage Prohibition Alternative may not achieve the same level of reductions in pollutant discharges and protection of beneficial uses compared to the Scott and Shasta Order due to the lesser control of sediment discharges and temperature impacts. Thus, the Reduced Tillage Prohibition Alternative would do less to correct the existing adverse impacts of Irrigated Lands on water quality in the Scott River and Shasta River watersheds.

Overall Conclusion: The Reduced Tillage Prohibition Alternative would potentially meet some of the project objectives for the Scott and Shasta Order.

c. Feasibility

Economic Feasibility: The Reduced Tillage Prohibition Alternative would potentially be less costly to implement than the Proposed Project, as there would be less Important Farmland converted to non-agricultural use by the Riparian Vegetation Area tillage prohibition. The Scott and Shasta Order requires compliance with the Riparian Vegetation Area tillage prohibition is required as of the date of Order adoption, except on Irrigated Lands where the Riparian Vegetation Area is planted to a crop at the time of adoption, in which case compliance is required within three years of the date of adoption providing time for owners and operators of Irrigated Lands to adjust to the tillage prohibition and for certain owner and operators to realize a portion of the value of hay stand establishment located with the tillage prohibition area. Therefore, the Reduced Tillage Prohibition Alternative would be economically feasible.

Environmental Feasibility: The Reduced Tillage Prohibition Alternative would be less beneficial to water quality than the Proposed Project. The Reduced Tillage Prohibition 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 Tillage Prohibition Alternative could result in more owners and operators of Irrigated Lands removing existing riparian vegetation adjacent to their fields. However, the extent and severity of this potential impact is speculative because it is unknown which owners and operators of Irrigated Lands 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 Tillage Prohibition Alternative would not be infeasible.

Legal Feasibility: The Reduced Tillage Prohibition Alternative is considered to potentially meet Project Objectives and thus would be potentially legally feasible.

Social Feasibility: The Reduced Tillage Prohibition Alternative would not appear to conflict with any policy or social goal of the North Coast North Coast Water Board. For the purposes of this analysis, the Reduced Tillage Prohibition Alternative is considered potentially feasible from a social standpoint.

Technical Feasibility. The Reduced Tillage Prohibition Alternative would not require any additional monitoring and reporting from what is proposed in the Scott and Shasta Order. As such, the Riparian Vegetation Area e Alternative would be feasible from a technical standpoint.

Overall Conclusion: The Reduced Tillage Prohibition Alternative is potentially feasible.

Potential to Reduce or Eliminate One or More Significant Environmental Impacts

The Reduced Tillage Prohibition Alternative would reduce but not eliminate 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 Tillage Prohibition Alternative includes a tillage prohibition area smaller than the Proposed Project, it could result in the potential conversion of approximately 860 acres of Important Farmland to a pastoral/nonarable agricultural use or a non-agricultural use as compared the potential conversion of up to 1,720 acres for the Proposed Project (see Agriculture and Forestry Chapter). The Reduced Tillage Prohibition Alternative would reduce but not eliminate the conversion of land zoned for agricultural use and/or under Williamson Act contract) to a non-agricultural use as compared to the Proposed Project.

However, while the Reduced Tillage Prohibition Alternative would reduce the environmental impacts mentioned above, it would achieve less of the Proposed Project's beneficial effects on the environment. As discussed above, the North Coast Water Board does not find that the Reduced Tillage Prohibition Alternative would achieve the same level of reductions in pollutant discharges compared to the Proposed Project. Thus, Reduced Tillage Prohibition Alternative would do less to correct the existing adverse impacts of Irrigated Lands on water quality in the North Coast Region.

Additionally, not implementing the Riparian Vegetation Area tillage prohibition of Proposed Project 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 Tillage Prohibition 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 Tillage Prohibition Alternative would lessen or reduce the Scott and Shasta 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 and Williamson Act contracts. This alternative would not avoid some conversion of Important Farmland,

as approximately 860 acres would still be subject to the Riparian Vegetation Area tillage prohibition and undergo conversion.

No other components of the Reduced Tillage Prohibition Alternative would be anticipated to result in the substantial conversion of Important Farmland; however, like the Scott and Shasta Order, the Reduced Tillage Prohibition Alternative would allow owners and operators of Irrigated Lands discretion with respect to the types of Management Practices that they may choose to implement, and some types of Management Practices (e.g., tailwater control structure, vegetated filter strips) could result in relatively small areas of farmland being taken out of production (i.e., due to the footprint of these facilities).

The Reduced Tillage Prohibition Alternative also would likely reduce the costs of compliance for owners and operators or Irrigated Lands relative to the Scott and Shasta Order, and thus could reduce potential for economic effects to indirectly result in the conversion of agricultural land to non-agricultural uses, although this potential impact is largely speculative. Overall, the Reduced Tillage Prohibition Alternative's impact on agriculture and forestry resources would be **significant and unavoidable**.

ii. Other impacts:

Biological Resources: Because the Riparian Vegetation Area tillage prohibition area is reduced in this alternative, in theory, additional riparian vegetation could be removed in comparison to the Scott and Shasta Order. The extent and severity of this potential impact is unknown and speculative, however, as owners and operators of Irrigated Lands 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 Scott and Shasta Order requirements would allow for attenuation of pollutant discharges from Irrigated Lands, provide shading for stream temperature regulation, provide additional habitat for a variety of species, and provide improved water quality for downstream uses. The Reduced Tillage Prohibition Alternative would not achieve these beneficial effects on biological resources to the same degree as the Scott and Shasta Order. Nevertheless, from a CEQA perspective, the Reduced Tillage Prohibition 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 Tillage Prohibition Alternative could have similar impacts on cultural resources to the extent that this alternative could result in additional riparian vegetation removal as compared requirements of the Scott and Shasta Order. Removal of riparian vegetation 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 Scott and Shasta Order and Reduced Tillage Prohibition

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 Scott and Shasta TMDLs/Action Plans, 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 Irrigated Lands. 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 Tillage Prohibition Alternative would reduce, but not eliminate, the significant and unavoidable effects of the Proposed Project related to conversion of Important 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 Irrigated Lands. 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 XV-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 DEIR and as shown in Table XV-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.

Table XIII-3: Ranking of the Proposed Project and Alternatives with Respect to Primary Environmental Costs and Benefits

Relevant Cost	**Proposed Project**	**Reduced Tillage Prohibition Alternative**
Conversion of Agricultural Lands to Non-Agricultural Uses or Pastoral/Nonarable Ag	3	2
Construction-Related Effects from Implementation of Management Practices	2	2
Compliance Costs for Growers	2	2
Relevant Benefit	**Proposed Project**	**Reduced Tillage Prohibition Alternative**
Protection / Creation of Riparian Vegetation and Habitat	1	2
Long-Term Water Quality Benefits from Implementation of Management Practices	1	2
Overall Effectiveness of Discharge Reduction / Water Quality Protection	1	2
Cumulative Score[1]	**10**	**12**

Note: Lower cumulative score indicates higher ranking (i.e., is better).

XIV. 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 Irrigated Lands are already implementing some 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 three full-time jobs could be created. Even if the actual number just for the sake of argument, 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 project areas. 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 Scott and Shasta Order.

Reasonably foreseeable Management Practices under the Proposed Project with the greatest potential for environmental impacts would require temporary workers during the construction phase. For example Management, construction of tailwater retention/detention basins Pt would require construction workers for ,. It is anticipated that implementing these Management Practices would rely on construction workers in the local work force and construction would be short term, and therefore, would have a small overall effect on job creation within the Project area. Therefore, the Proposed Project would not have growth inducing impacts.

B. 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).

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
AQ	Air Quality
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
CN	Nitrogen Removal Coefficient
CSDS	Controllable Sediment Discharge Sources
CUL	Cultural Resources
CWA	Clean Water Act
DDW	State Water Board, Division of Drinking Water
DEIR	Draft Environmental Impact Report
DWR	Department of Water Resources

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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
eNOI	Electronic Notice of Intent
GEO	Geology and Soils
GHG	Greenhouse Gas
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HAZ	Hazardous Materials
HUC	Hydrologic Unit Code
HWQ	Hydrology and Water Quality
ILRP	Irrigated Lands Regulatory Program
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

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Acronym/Abbreviation	Term
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
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
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

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B. Definitions

The following definitions apply to the Draft Environmental Impact Report (EIR) for General Waste Discharge Requirements for Irrigated Lands in the Scott River and Shasta River watersheds. 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).

Adaptive Management. The iterative process of modifying existing management practices or incorporating new scientific and programmatic information into the implementation of management practices to ensure the goals of the Order are achieved.

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, Regional Water Boards are required to comply with Resolution No. 68-16. 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 Agricultural Roads. Unpaved or minimally improved vehicle pathways on enrollable parcels used in connection with the Irrigated Agricultural Operation, including but not limited to ranch roads, field access roads, equipment paths, livestock travel lanes, and irrigation infrastructure access routes. Does not include public roads maintained by a federal, state, or local government agency, or private roads subject to a separate regulatory instrument addressing sediment discharge.

Associated Grazing Lands. Non-irrigated lands used for livestock grazing that meet both of the following criteria:

(a) The non-irrigated grazing land is located on an irrigated parcel under common ownership or operational control (including lease or management agreements) with an Irrigated Agricultural Operation enrolled under this Order;

(b) The non-irrigated grazing land is functionally integrated with the enrolled Irrigated Agricultural Operation, as demonstrated by one or more of the following:

(i) Livestock are routinely rotated between irrigated and non-irrigated portions of the operation on a seasonal or periodic basis;

(ii) The non-irrigated grazing land is used to support livestock that are primarily maintained on irrigated pasture (e.g., dry-season holding areas, calving areas, or winter rangeland for livestock that graze irrigated pasture during the irrigation season);

(iii) Feed, forage, or hay produced on the irrigated portions of the operation is used to supplement grazing on the non-irrigated land, or vice versa;

(iv) The non-irrigated grazing land and the irrigated land are managed under a single, agricultural business entity, or unified operational structure.

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 grower 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 to be protected in the North Coast Region. Beneficial uses for surface water and groundwater have been identified in waterbodies within the Region: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PRO), Groundwater Recharge (GWR), Freshwater Replenishment (FRSH), Navigation (NAV), Hydropower Generation (POW), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Commercial and Sport Fishing (COMM), Cold Freshwater Habitat (COLD), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), Preservation of Areas of Special Biological Significance (ASBS), Preservation of Areas of Special Rare, Threatened, or Endangered Species (RARE), Marine Habitat (MAR), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), Shellfish Harvesting (SHELL), Estuarine Habitat (EST), Aquaculture (AQUA), Native American Culture (CUL), Flood Peak Attenuation/Flood Water Storage (FLD), Wetland Habitat (WET), Water Quality Enhancement (WQE), Subsistence Fishing (FISH), Inland Saline Water Habitat (SAL).

Certified Tailwater Elimination Plan (CTEP). A plan developed and certified by a Qualified Professional under Pathway 1 that describes engineered practices or system modifications to prevent tailwater discharge from the Enrollee's Field(s) or Operation(s). The plan must include a field map, site analysis, elimination design, quantitative demonstration, verification monitoring provisions, and implementation schedule.

Certified Tailwater Discharge Treatment and Control Plan (CTMP). A plan developed and certified by a Qualified Professional that describes engineered or certified management practices to achieve Water Quality Benchmarks at the Point of Compliance. The plan must include a field map, site analysis, management practice

descriptions, quantitative demonstration supported by field-collected data, effectiveness monitoring, and implementation schedule.

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 outreach and 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.

Compliance Pathway. One of two regulatory approaches through which Enrollees with tailwater discharges achieve compliance with Water Quality Benchmarks: Pathway 1 (Certified Tailwater Elimination Plan) or Pathway 2 (Treat and Control). Enrollees elect a pathway within 180 days of enrollment.

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).

California Rapid Assessment Method (CRAM) is a cost effective and technically defensible method for assessing wetlands across California. More information can be found at https://www.cramwetlands.org.

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 agricultural operations regulated by this Order include discharges to surface water and groundwater, through mechanisms such as stormwater runoff flowing from irrigated lands, stormwater runoff conveyed in Agricultural Drainage Structures, and runoff resulting from frost control or operational spills. These discharges can contain wastes that could affect the quality of waters of the state and impair beneficial uses.

Discharge Category. The classification (Category 1, 2, or 3) assigned to an enrolled operation for purposes of determining tailwater temperature monitoring methodology and frequency during the Irrigation Season, based on estimated discharge volume and duration. Category 1: High Volume/Chronic (> 50 gpm, > 72 hrs). Category 2: Moderate Volume/Intermittent (10–50 gpm, 24–72 hrs). Category 3: Low Volume/Incidental (< 10 gpm, < 24 hrs). Assigned by the Executive Officer.

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 the enrolled Assessor Parcel Number (APN). This includes all domestic wells located within the enrolled APN, not limited to the leased property or within the ranch 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.

Early Season. The first phase of the Irrigation Season, April 1 through June 15, during which the applicable Water Quality Benchmark for tailwater temperature is 61°F (16.0°C) watershed-wide. Corresponds to the smolt outmigration and juvenile rearing period for anadromous salmonids.

Enrollee. A Landowner or Operator enrolled in the Agricultural operation Order. 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, Roads, maintenance areas, mixing and loading sites, areas of livestock confinement, and appurtenant storage yards on a agricultural operations.

Farm Evaluation. A self-assessment document prepared by the Enrollee describing the operation's irrigation practices, tailwater generation, management measures, and

compliance status. Submitted as part of enrollment and updated as required by the Order.

Field. A discrete, contiguous area of irrigated agricultural land managed as a single unit for irrigation purposes, bounded by identifiable features such as ditches, roads, fence lines, property boundaries, or changes in crop type or irrigation method.

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

Waterside edge of vegetation. 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.

HUC-8, HUC-10, and HUC-12 Watersheds. Derived from Watershed Boundary Dataset maps developed by the U.S. Department of Agriculture, Natural Resources Conservation Service to define and compare true watersheds and hydrologic units and their applications for watershed assessment. The Watershed Boundary Dataset maps the full areal extent of surface water drainage for the United States, using a hierarchal system of nesting hydrologic units at various scales, each with an assigned hydrologic unit code (HUC). HUC-8 maps the subbasin level, analogous to medium-sized river basins. HUC-12 is a more local sub-watershed level that captures tributary systems.

Hydrologic Disconnection. The physical modification of an Appurtenant Agricultural Road such that stormwater runoff from the road surface and associated cut-and-fill slopes is dispersed onto adjacent vegetated hillslopes or into engineered infiltration features before reaching any watercourse, ditch, or conveyance draining to a water of the state. A road is considered hydrologically disconnected when no continuous surface flow path exists between the road drainage and a Class I or Class II watercourse during a 2-year recurrence interval storm event.

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 Agricultural Drainage Structures , drainage inlets, road ditches, gullies, and channels. A natural stream is a Water of the State (Reference the State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State here:

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https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf)

Hydrologically Connected Undesignated Channel. Channels not part of the NHD dataset that are Hydrologically Connected to off-farm surface waters. Includes above-ground Agricultural Drainage Structures.

Important Farmland. Important Farmland. For purposes of CEQA analysis, the sum of land area classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, as mapped by the California Department of Conservation Farmland Mapping and Monitoring Program and as identified in Public Resources Code section 21060.1 and Appendix G of the CEQA Guidelines. Farmland of Local Importance and Grazing Land are also mapped by the Farmland Mapping and Monitoring Program and are included within "Agricultural Land" as defined by Government Code section 65560, subdivision (c), but are not Important Farmland for purposes of this DEIR.

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.

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.

Individual Enrollee. An Enrollee in this Order that elects to not enroll through or participate in a Coalition.

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[i]. For guidance on identifying species of concern, see the Cal-IPC website: Plants A to Z[ii].

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

Irrigation Cycle. The operational execution of a scheduled water application event, encompassing the systematic activation, operation, and deactivation of an irrigation system across all designated zones, fields, or management units within a defined timeframe to meet specific soil moisture or crop demand requirements.

Irrigated Lands. Irrigated Lands means any operation within the Scott River or Shasta River watersheds that applies water to 25 acres or more of land for the purpose of producing crops, forage, pasture, or other agricultural commodities, including but not limited to:

(a) Flood-irrigated, sprinkler-irrigated, or drip-irrigated cropland;

(b) Irrigated pasture used for livestock grazing or hay/forage production;

(c) Land receiving applied water for frost protection, dust suppression, leaching, or other agricultural management purposes;

(d) Land on which water is applied and from which tailwater, irrigation return flows, subsurface drainage, or stormwater runoff that has contacted irrigated land discharges or has the potential to discharge to waters of the state.

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

Irrigation Season. April 1 through October 1 of each year. The period during which seasonal tailwater temperature benchmarks apply to discharges to perennial streams. Divided into Early Season (Apr 1–Jun 15), Mid-Season (Jun 16–Aug 31), and Late Season (Sep 1–Oct 1).

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

Late Season. September 1 through October 1. Final phase of the Irrigation Season. Temperature benchmark: 56°F (13.3°C) watershed-wide; 55°F in Shasta Reaches 3 and 4. Critical overlap between active irrigation and fall spawning migration. Last period during which seasonal temperature benchmarks apply.

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.

Management Practices. Practices or combination of practices including, but not limited to, structural and non-structural (operational) controls that may be applied before, during and after waste producing activities to eliminate or reduce the generation of nonpoint source discharges and the introduction of pollutants into receiving waters.

Master 1 Scenario. The modeled thermal regime of the Shasta River mainstem representing baseline conditions with: (1) riparian shade increased to site potential conditions, (2) tailwater return flows modified so they do not cause heating of receiving water, (3) Big Springs Creek temperature reduced 4°C, and (4) Parks Creek temperature reduced 2°C — without the 45 cfs dedicated cold water instream flow increase. Master 1 5-day average daily maximum temperatures at the three TMDL

compliance points are 18.1°C (64.6°F) at RM 24.1, 18.4°C (65.1°F) at RM 15.5, and 20.8°C (69.4°F) at RM 5.6. Approximately 70% of the temperature reductions in the full water quality compliance scenario are attributed to Master 1; approximately 30% are attributed to the flow increase. Master 1 temperatures are the direct basis for the reach-specific tailwater temperature Water Quality Benchmarks in Table A.8 of Attachment A: MRP.

Maximized Irrigation Efficiency. The condition in which an owner or operator achieves the highest practicable ratio of water beneficially used by the crop to total water applied, evaluated through two complementary factors: (1) Distribution Uniformity (DU) meeting method-specific benchmarks (Surface/Flood ≥ 70%; Sprinkler/LESA ≥ 80%/75%; Drip/Micro ≥ 85%); and (2) Water Application Management demonstrating that water is applied at or near the agronomic rate matching crop evapotranspiration demand. For surface/flood irrigation, a tailwater capture and reuse system must be installed and operational in combination with DU to qualify.

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.

Mid-Season. The middle phase of the Irrigation Season, June 16 through August 31, during which the applicable Water Quality Benchmark for tailwater temperature is 64°F (17.8°C) watershed-wide. Corresponds to peak irrigation demand, lowest streamflows, highest ambient temperatures, and the juvenile oversummer rearing and adult Chinook holding period.

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 agricultural operations or nitrate loading risk unit.

Nitrogen Removed. Nitrogen Removed includes all nitrogen taken from the agricultural operation in harvested or other materials. Other materials may include wheat straw, orchard prunings, almond hulls, etc. In the case of perennial crops, Nitrogen Removed also includes the nitrogen annually sequestered in the permanent wood.

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.

Offsite Sources. Discharges that originate from an area not located on the Enrollee's enrolled parcel and flow onto the Farm Area.

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. 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 Class I watercourse. In the absence of surface flow modifications by human activities, a watercourse that maintains continuous surface flow year-round under normal hydrologic conditions and is designated for Cold Freshwater Habitat (COLD) and/or Spawning, Reproduction, and/or Early Development (SPWN) beneficial uses. For purposes of this Order, the seasonal tailwater temperature benchmarks in Tables A.7, A.8, and A.9 of Attachment A: MRP apply to tailwater discharged to perennial streams during the Irrigation Season.

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.

Point of Compliance (POC). The location at which tailwater discharge compliance with Water Quality Benchmarks is determined. The Point of Compliance is located at the lowest elevation where tailwater discharges from irrigated parcel(s) to perennial streams (from April 1 to October 1) and intermittent streams (From April 1 to June 15). must be monitored at the Point of Compliance. These Points of Compliance must be located on concentrated tailwater flow paths at the outlets of hydrologically-connected tailwater drainage areas.

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.

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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 Certified Crop Adviser (CCA) certified through the American Society of Agronomy International Certified Crop Adviser Program, where acting within the scope of a certification applicable to tailwater control or irrigation water management planning; 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).

Reach-Specific Temperature Benchmark. A Water Quality Benchmark for tailwater temperature that applies to a specific geographic reach of the Shasta River mainstem, as established in Table 2 – Section II. Seven reaches are defined from Dwinnell Dam (RM 41) to the Klamath River confluence (RM 0). Reach-specific benchmarks are derived directly from the Master 1 Table 6.6 Maximum Temperature Values in the Shasta River Temperature TMDL (Chapter 6) and implement the TMDL tailwater load allocation of "no net increase in receiving water temperature." Where both a reach-specific benchmark and a watershed-wide benchmark apply, the more stringent controls.

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

Riparian Vegetation Area. Riparian Vegetation Area is the area that includes riparian 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 permanent or intermittent stream) and riparian vegetation canopy, which is the more-or-less continuous cover of

branches and foliage formed collectively by the crowns of adjacent trees and other woody species adjacent to a watercourse.

Riparian Zone. The Riparian Zone is comprised of two contiguous components: a Riparian Vegetation Area and a Vegetated Buffer in which different requirements are applied. A Riparian Zone 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, Wetlands, and Hydrologically Connected Lakes, Ponds, or On-Stream Reservoirs. See also Riparian Vegetation Area and Vegetated Buffer.

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 Determination Report. A report prepared as part of the Monitoring and Reporting Program that evaluates monitoring data from downstream tailwater monitoring stations to identify which Enrollee(s) and Field(s) are contributing to observed Water Quality Benchmark exceedances.

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.

Standalone Dryland Grazing Operation. A livestock grazing operation on non-irrigated rangeland or pasture that is not under common ownership or operational control with an enrolled Irrigated Agricultural Operation, or that does not meet the functional integration or hydrologic nexus criteria for Associated Grazing Lands. Not required to enroll under this Order but remains subject to Executive Officer authority under the Water Code and applicable TMDL implementation requirements.

Stewardship Category. An exemption from enrollment available to Irrigated Lands that demonstrate sustained compliance and achievement of specified environmental performance criteria, including maximized irrigation efficiency, riparian/wetland/instream restoration, soil health improvement, and road hydrologic disconnection. Subject to application, Threat-to-Water-Quality Assessment, annual reporting, periodic reassessment, and revocation provisions.

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.

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. Irrigation water applied to agricultural land that subsequently runs off the land surface, through any conveyance, including subsurface drainage systems., or via any other conveyance. into a water of the state. Includes irrigation return flows and precipitation runoff that has commingled with or contacted land to which irrigation water has been applied within the preceding 72 hours.

Tailwater Neighborhood. A cluster of tailwater discharges concentrated along a specific reach of the Scott or Shasta River where flood irrigation is prevalent and the river corridor traverses the valley floor. Multiple discharges along the same reach create cumulative thermal, nutrient, and sediment loading with compound effects exceeding any individual discharge.

Tillage. The mechanical manipulation, digging, or turning of soil to prepare a seedbed, manage crop residue, and control weeds.

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.

Unstable Area. Areas showing evidence of mass downslope movement such as debris flow, landslides, rockfall, and hummock hill slopes with undrained depressions upslope. Examples are landforms exhibiting slip surfaces roughly parallel to the hillside; landslide scars and curving debris ridges; fences, trees, and telephone poles that appear tilted; and tree trunks that bend uniformly as they enter the ground. Active sand dunes are unstable landforms.

Vegetated Buffer. A permanent strip of dense perennial vegetation (including riparian vegetation and perennial crops) where limited agriculture may occur 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.

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 Scott 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 Benchmarks (WQB). Parameter-specific numeric values listed in Section II.E of the Order which are translations of narrative Water Quality Objectives and TMDL load allocations

Water Quality Control. The “regulation of any activity or factor which may affect the quality of the waters of the State and includes the prevention and correction of water pollution and nuisance” as defined in the California Water Code Sec. 13050(i). 133. Water Quality Criteria. Levels of water quality required under Sec. 303(c) of the Clean Water Act that are expected to render a body of water suitable for its designated uses. Criteria are based on specific levels of pollutants that would make the water harmful if used for drinking, swimming, farming, fish production, or industrial processes. The California Toxics Rule adopted by USEPA in April 2000, sets numeric Water Quality Criteria for non-ocean waters of California for federal priority pollutants. See also Water Quality Objectives.

Water Quality Objectives. “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. 135. 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 includes 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.

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.

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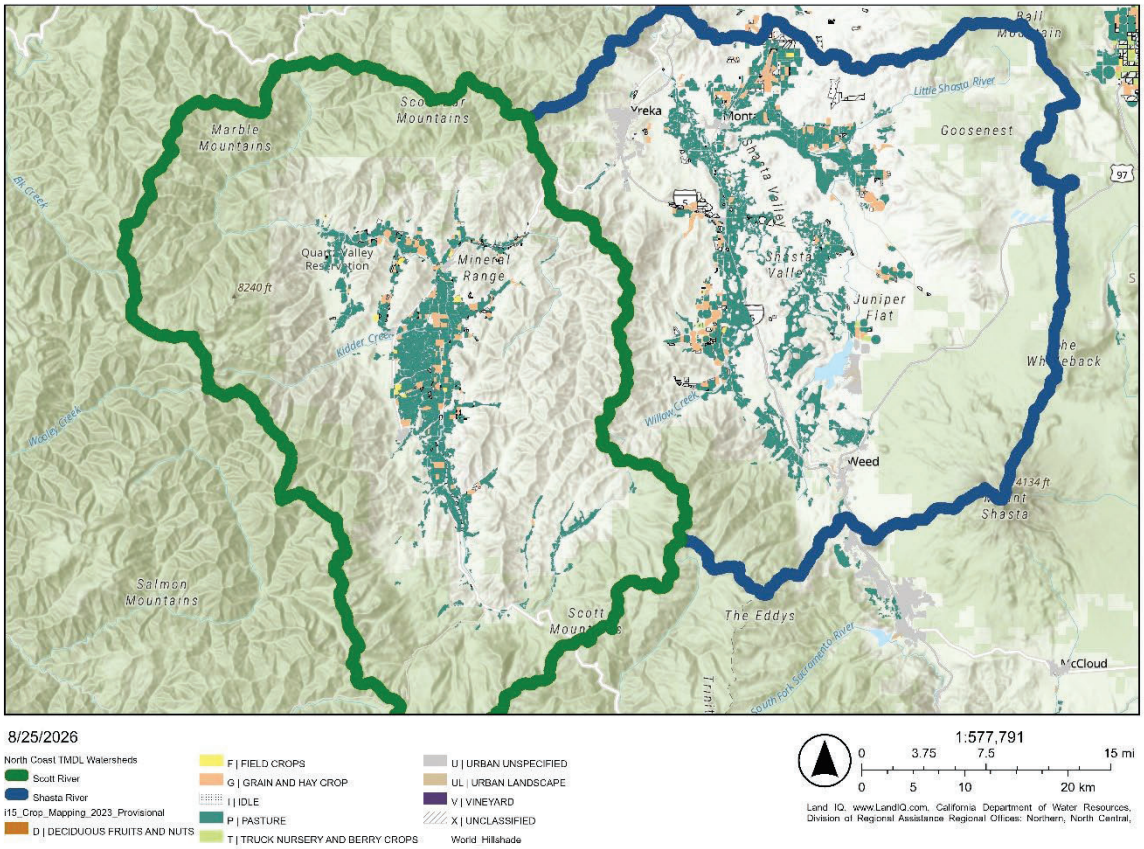
APPENDIX III: Figure 1: Project Location

Scott and Shasta Location Map



8/25/2026

North Coast TMDL Watersheds
Scott River
Shasta River
i15_Crop_Mapping_2023_Provisional
D | DECIDUOUS FRUITS AND NUTS
F | FIELD CROPS
G | GRAIN AND HAY CROP
I | IDLE
P | PASTURE
T | TRUCK NURSERY AND BERRY CROPS
U | URBAN UNSPECIFIED
UL | URBAN LANDSCAPE
V | VINEYARD
X | UNCLASSIFIED
World_Hillshade

1:577,791
0 3.75 7.5 15 mi
0 5 10 20 km

Land IQ, www.LandIQ.com, California Department of Water Resources, Division of Regional Assistance Regional Offices: Northern, North Central,

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