



Eel River Trail Project

Initial Study & Proposed Mitigated Negative Declaration

City of Rio Dell

November 10, 2023



Initial Study & Proposed Mitigated Negative Declaration Eel River Trail Project

Prepared for:



City of Rio Dell

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Prepared by:



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1. Project Information

Project Title	Eel River Trail Project
Lead Agency Name & Address	City of Rio Dell 675 Wildwood Ave. Rio Dell, California 95562 USA
Contact Person, Phone Number, Email	Kyle Knopp, City Manager, (707) 764-3532, knoppk@cityofriodell.ca.gov
Project Location	Rio Dell, CA
General Plan Land Use/Zoning Designation	Natural Resources (NR) Public Facility (PF)

1.1 CEQA Requirements

This Project is subject to the requirements of the California Environmental Quality Act (CEQA). The lead agency is the City of Rio Dell (City). The purpose of this Initial Study is to provide a basis for deciding whether to prepare an Environmental Impact Report, a Mitigated Negative Declaration, or a Negative Declaration. This Initial Study is intended to satisfy the requirements of the California Environmental Quality Act, CEQA, (Public Resources Code, Div 13, § 21000-21177), and the CEQA Guidelines (California Code of Regulations, Title 14, § 15000-15387). CEQA encourages lead agencies and applicants to modify their Projects to avoid significant adverse impacts.

§ 15063(d) of the State CEQA Guidelines states the content requirements of an Initial Study as follows:

- A description of the Project including the location of the Project;
- An identification of the environmental setting;
- An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
- A discussion of the ways to mitigate the significant effects identified, if any;
- An examination of whether the Project would be consistent with existing zoning, plans; and other applicable land use controls; and
- The name of the person or persons who prepared or participated in the Initial Study.

1.2 Background and Need

The Project would construct a Class I Shared Use Path (pedestrian and bicycle trail) from Edwards Drive to Davis Street. The Project is entirely within the Rio Dell City limits. Currently an informal social trail exists within the Project Area along the general alignment of the proposed trail with several offshoots that lead to the Eel River. These trails are not created or maintained by the City, but the trails are well worn in, indicating that the public is continuously using these trails year after year. The purpose of the Rio Dell Eel

River Trail Project is to create recreational opportunities for neighbors and visitors of Rio Dell, which would enhance the ability to recreate in a safe, accessible, and family-friendly manner.

The paved trail would be constructed roughly at existing grade parallel to the Eel River through the undeveloped vegetated area along the top of riverbank. The Project would provide a safe walking and biking route for Rio Dell, and in addition to safety and connectivity improvements, the trail would provide opportunities for nature study and recreation.

Additionally, the Project is a potential alignment segment for the Eureka-to-Scotia Trail, a potential trail connection proposed by the Humboldt County Association of Governments (HCAOG) from the Eureka Waterfront Trail into the Eel River Valley (HCAOG 2016). This study was commissioned to support ongoing efforts to develop a regional trail system connecting the cities of Trinidad, Arcata, Eureka, Fortuna, and Rio Dell and unincorporated communities south to Scotia and northeast to the City of Blue Lake.

Project Goals

Goals of the Project specifically include:

- Provide safe pedestrian and non-motorized vehicle travel between Edwards Drive and Davis Street.
- Promote non-motorized transit to reduce climate-related impacts, including VMT, and improve public health.
- Increase access and opportunities for nature study.

1.3 Proposed Project Summary

The Project would construct approximately 1,600 feet of Class I shared use path (pedestrian, bicycle) with associated trailhead improvements. The Project would provide a safe walking and biking route from Edwards Drive to Davis Street over the current informal social trails within the Project Area. In addition to safety and connectivity improvements, the trail would provide opportunities for nature study and recreation.

The trail would be an asphalt-concrete paved Class I shared use path, with a ten-foot wide paved trail (five feet per travel lane) with two-foot gravel shoulders on each side. The trail may be narrowed to 8-foot minimum paved width in limited locations where unavoidable site constraints exist. The trail shoulders may also be paved.

The Project would be designed in accordance with applicable standards, including the 2022 California Building Code (CBSC 2022), Humboldt Low Impact Development Stormwater Manual (NCSC 2021), Guide for the Development of Bicycle Facilities (AASHTO 2012), Urban Bikeway Design Guide (NACTO 2014), the California Manual on Uniform Traffic Control Devices (Caltrans 2023), and the 2010 Americans with Disabilities Act Standards for Accessible Design (DOJ 2010). The project should also follow the Public Right-of-Way Accessibility Guidelines (PROWAG, US Access Board 2023) which state that a “shared use path” contain a “pedestrian access route”, which is required to be accessible to and traversable by individuals with disabilities. The PROWAG defines a shared use path as a multi-use path designed primarily for use by bicyclists, pedestrians, and other authorized motorized and non-motorized users, for transportation purposes, and that may also be used for recreation, and further states that shared use paths are physically separated from motor vehicle traffic by an open space or barrier and are either within the highway or other public right-of-way.).

1.4 Project Location

The Project is located in the City of Rio Dell, Humboldt County, California. Rio Dell is situated on the Pacific Coast, approximately 20 miles south of the City of Eureka (Appendix A - Figure 1).

The Project would be located on approximately 6.8 acres on parcel designated as Assessor's Parcel Number (APN) 053-011-028, 053-011-024, 053-011-017, 053-011-009, 053-011-005, 053-051-015, and 053-051-014. This would include both City owned land and private property through easements.

The Project Area is located east of US 101 within the Eel River floodplain between Edwards Drive and Davis Street (Appendix A - Figure 2). The proposed 0.3-mile alignment is parallel to the Eel River and is currently riparian habitat, vegetated, and undeveloped. The alignment is adjacent to the Rio Dell Wastewater Treatment Plant (WWTP) to the south and the River's Edge RV Park to the north.

The Project is located within the Eel River Valley Drainage Basin with the Eel River being immediately to the southeast of the Project. The entire trail alignment is within the mapped Federal Emergency Management Agency (FEMA) 100-year flood zone (Figure 6 – FEMA Flood Zones). No portion of the Project Area is within the California Coastal Zone or a Tsunami Hazard Area (Humboldt County 2023f).

1.5 Project Description

The Project includes the following project elements:

Trail Surface and Shoulders

The trail would be an asphalt-concrete paved Class I shared use path, with a ten-foot wide trail (five feet per travel lane) and two-foot wide gravel shoulders. The trail may be narrowed in limited locations where unavoidable site constraints exist and the shoulders may be paved where necessary for vehicle access or as appropriate between railings, walls, or engineered slopes.

Tree and Vegetation Removal

Vegetation removal would be required for general clearing and grubbing within the Project Area. Tree removal of Willow, Alder, and Poplar would also occur (Appendix A – Figure 5).

Grading

Grading would need to occur along the entire trail alignment to achieve accessible slopes and suitable trail width. Minor cut slopes would be necessary, with cut depths up to approximately 4-feet, including depth needed to construct the trail base. Similarly, fill would be placed and compacted along the alignment to establish the trail prism with fill depths ranging from 1 to 9-feet. The trail structural section would be comprised of aggregate base and asphalt, approximately 1.5-feet deep.

To protect the trail slope from flooding, rock slope protection (RSP) would be placed along sections of the trail adjacent to the WWTP.

Ancillary Trail Features

Ancillary trail features may include benches, waste receptacles, interpretive signage, and other features related to public access and education. Features would generally be installed adjacent to the primary trail alignment.

Striping and Signage

The trail would include striping and directional signage that would indicate two travel directions and other signs as needed to ensure the safety of trail users. Interpretive signage along the trail would highlight the surrounding environment or historical resources.

Trailhead Development

The Project would include trailheads at Edwards Drive and Davis Street. Trailhead improvements would generally include trailhead information kiosks, trailhead signs, trail signposts, other signage, benches, and waste receptacles.

The Davis Street trailhead would include an accessible switchback style ramp structure to transition from the upper road grade down to the lower trail grade. The ramp may also include stairs adjacent to the ramp. The Edwards Drive trailhead will include parking.

Lighting

An existing utility pole at the Edwards Drive parking area would be utilized to provide lighting to the vicinity. This would increase visibility and safety. No lighting is proposed along the length of the trail between the two trailheads.

Vehicular Parking

The gravel parking lot at the end of Edwards Drive would be paved and improved to include approximately 12 parking stalls including one ADA stall with an accessible path to the trail.

Drainage and Stormwater Improvements

Some existing drainage structures such as culverts would be extended or upgraded as required, with or without headwalls, to promote drainage of the trail. Additional drainage infrastructure (such as drainage inlets and new storm drain piping) would direct drainage at the Edwards Drive parking area into a bioretention feature.

The trail shoulder would slope away from the traveled way at 2 percent to 5 percent to reduce ponding and minimize debris from flowing onto the trail path. An interceptor swale would be constructed uphill of the trail to capture drainage which would otherwise flow over the trail. The swale would be directed to existing or new culverts which will pass under the trail to the river.

Mitigation Areas

To the greatest extent feasible, any required compensatory mitigation for riparian vegetation or sensitive natural communities (SNC) impacts would occur on-site within proximity to the trail alignment. To this extent, approximately 1.64 acres of pampas grass would be removed and restored to riparian habitat as part of compensatory mitigation. Weed management tools such as mowers, weed whackers, weed wrenches or extractors (for removing woody stems), or hand pulling would be utilized as feasible. Herbicides would be allowed during maintenance activities. Additional invasive species management may be implemented on an as-needed basis.

1.6 Project Construction

Construction Schedule

Construction is anticipated to take 12 months to complete, commencing in approximately January 1, 2024, to December 31, 2024. If feasible, vegetation clearing outside of the nesting bird season would occur first, by March 15 or after August 15.

Construction Activities and Equipment

All construction activities would be accompanied by both temporary and permanent erosion and sediment control best management practices (BMPs). Project construction would include the following activities:

- Clearing, grubbing, and tree removal – To clear the trail alignment.
- Grading/Excavation – Throughout the Project Area to achieve grade and dimensions to accommodate the trail, parking areas. The excavation depth would be approximately two feet.
- Hauling – Transport of material to and from the Project Area.
- Jackhammering/Grinding – Site preparation/removal of existing material.
- Lighting and Electrical– At Edwards Drive parking area.
- Concrete Paving and Structures – Parking stalls.
- Hot Mix Asphalt Paving – Along the trail alignment, parking area, and trailheads.
- Striping and Sign Installation – Along the trail alignment.
- Erosion Control – to minimize erosion and prevent sediment from leaving the project area.

Equipment required for construction would include:

- | | | |
|-------------------|------------------|----------------------------|
| – Large excavator | – Backhoe Loader | – Concrete Truck |
| – Scraper | – Skid Steer | – Concrete Pump Truck |
| – Mini Excavator | – Dump Truck | – Water Tender |
| – Bulldozer | – Paver | – Tracked Manlift/Forklift |
| – Grader | – Large Roller | – Small Crane |
| – Loader | – Small Roller | |

Jackhammers or similar pieces of equipment may be necessary to support removal of existing material. It is not anticipated that any temporary utility extensions, such as electric power or water, would be required for trail construction. Water from legal sources would be used for dust control, compaction, and re-vegetation.

Construction Access

The Project Area would be primarily accessed at Edwards Drive but may also utilize Davis Street.

Establish Exclusion Areas and Erosion Control

The Project Area is directly adjacent to the Eel River. Erosion control Best Management Practices (BMPs) would be installed prior to construction and maintained until the site is stabilized to minimize sedimentation.

Considerations for Protected Species

Vegetation and tree removal would be required. To minimize potential impacts to birds, vegetation could be removed prior to March 15 or after August 15 to avoid the nesting bird season. If vegetation removal or ground disturbance cannot be confined to work outside of the nesting season, a qualified biologist would conduct pre-construction surveys within the vicinity of the Project Area, to check for nesting activity of native and migratory birds and to evaluate the site for presence of raptors and special-status bird species. If active nests were detected within the construction footprint or within the construction buffer established by the Project biologist, the biologist would flag a buffer around each nest. Buffers will vary in size considerate of the existing noise and disturbance setting, proximity of the nest to the construction area, species-specific needs, and California Department of Fish and Wildlife requirements. Please see Section 3.4 (Biological Resources) for impact analysis related to nesting birds, special status plants, and other wildlife species.

Stockpiling and Staging

Stockpiling and staging areas would be located on the Edwards Drive gravel parking area as well as on gravel area on southern portion of the parcels for the City Wastewater Treatment Plant. Project activities at stockpiling and staging areas have been included in environmental analysis.

Within the stockpiling and staging area, BMPs would be utilized to prevent materials and hazardous materials from impacting the environment. Excess soils, aggregate base, and construction materials would be stored on site within designated stockpiling and staging areas. Excess materials may be re-used onsite for backfill and finished grading. Excess materials would not be stockpiled or disposed of onsite once the Project is complete. The contractor would haul additional excess materials off site for beneficial re-use, recycling, or legal disposal.

Groundwater Dewatering

Groundwater dewatering is generally not expected but may be required. However, if needed, temporary groundwater dewatering would involve pumping water out of a trench or excavation area. Groundwater would typically be pumped to a settling pond, settling tank, or into a dewatering bag. Dewatering water may also be percolated back into the ground (in uplands). Discharge to regulated waters/wetlands would not occur.

Site Restoration and Closure

Following construction, the contractor would demobilize and remove equipment, supplies, and construction wastes. The disturbed areas (not part of the trail or parking lot) would be restored to pre-construction conditions or stabilized with a combination of grass seed (broadcast or hydroseed), straw mulch, rolled erosion control fabric, and other plantings/revegetation. If required, revegetation would include replanting and any potential compliance monitoring in support of mitigation required by resource agencies for impacts to regulated habitats, such as riparian vegetation.

1.7 Maintenance and Operation

The City would maintain and operate the Eel River Trail as a City facility within their jurisdictional area. Following construction, general operation and maintenance activities associated with the proposed Project would be limited to typical trail maintenance, including annual inspections, trash/debris removal, vegetation management, repaving, and striping. The alignment would be maintained by the City on an as-needed basis to maintain the trail in good condition and provide a safe environment for all trail users.

1.8 Regulatory Permits, CEQA, and NEPA

The City would be the CEQA lead agency for the Project. An Initial Study/Proposed Mitigated Negative Declaration is the anticipated CEQA pathway. The Project has not received any federal funding and therefore is not subject to the National Environmental Policy Act (NEPA). It is not anticipated that the Project would impact regulated jurisdictional three-parameter wetlands. Riparian habitat removed by the Project would require a California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement and a Waste Discharge permit with the Regional Water Quality Control Board (RWQCB). Remove of riparian vegetation will require compensatory mitigation in coordination with CDFW and the RWQCB.

The Project would not directly or indirectly impact anadromous waterways; therefore, no consultation with the National Marine Fisheries Service (NMFS) under Section 7 of the Endangered Species Act would occur. The Project is not expected to require consultation with the U.S. Fish and Wildlife Service (USFWS), as potential impacts to federal special status plants or wildlife species are not anticipated.

The Project would likely require grading permits from the City.

1.9 Compliance with Existing Regulations and Standard BMPs

The Project would obtain coverage under the North Coast Regional Water Quality Control Board (NCRWCB), Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activities (General Permit). The City would submit permit registration documents (notice of intent, risk assessment, site maps, SWPPP, annual fee, and certifications) to the Water Board. The SWPPP would address pollutant sources, BMPs, and other requirements specified in the Order. The SWPPP would include erosion and sediment control measures, dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment. A Qualified SWPPP Practitioner would oversee implementation of the Project SWPPP, including visual inspections, sampling and analysis, and ensuring overall compliance.

Implementation of Geotechnical Design Recommendations

The Project would be designed and constructed in compliance with site-specific recommendations made in the Report of Geotechnical Investigation (LACO 2022). This would include design in accordance with recommendations for earthwork, such as site clearing, cut/fill slopes, subgrade preparation, material for fill, compaction requirements, and culvert installation. The geotechnical recommendations would be incorporated into the final plans and specifications for the Project and would be implemented during construction.

1.10 Tribal Consultation

The City has sent out requests for consultation of proposed Projects from California Native American tribes pursuant to Public Resources Code Section 21080.3.1. Under Assembly Bill (AB) 52, notification letters were sent to the Bear River Band of the Rohnerville Rancheria and the Wiyot Tribe on September 11, 2023. Responses were received on October 3, 2023, from the Bear River Band of the Rohnerville Rancheria which agreed with the mitigation recommendations from the Cultural Resources Investigation Report by the Archaeological Research and Supply Company (See Section 3.5).

2. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages:

- | | | |
|--|--|---|
| ☐ Aesthetics | ☐ Greenhouse Gas Emissions | ☐ Public Services |
| ☐ Agricultural & Forestry Resources | ☐ Hazards & Hazardous Materials | ☐ Recreation |
| ☐ Air Quality | ☐ Hydrology & Water Quality | ☐ Transportation |
| ☐ Biological Resources | ☐ Land Use & Planning | ☐ Tribal Cultural Resources |
| ☐ Cultural Resources | ☐ Mineral Resources | ☐ Utilities & Service Systems |
| ☐ Energy | ☐ Noise | ☐ Wildfire |
| ☐ Geology & Soils | ☐ Population & Housing | ☐ Mandatory Findings of Significance |

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there would not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION would be prepared.
- ☐ I find that the proposed MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Kyle Knopp
City Manager

Date

11/7/23

3. Environmental Analysis

3.1 Aesthetics

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?				✓
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public Views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			✓	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

The proposed Project would be constructed at an undeveloped site adjacent to the Eel River, the Rio Dell Waste Water Treatment Plant (WWTP), and River's Edge RV Park. The Project would construct a shared use trail ten feet wide and approximately 1,600 foot long. The Project would include associated trail improvements, such as the paved Edwards Drive parking area and benches.

a) Have a substantial adverse effect on a scenic vista? (No Impact)

For purposes of determining significance under CEQA, a scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. The project site is located adjacent to the Eel River, a designated wild and scenic river (DOI 1981).

The Project trail traverses the riparian vegetation of the Eel River and does not include river access. The trail would have a low profile. The tallest Project elements would be the lighting feature at the Edwards Drive parking area, however this would utilize an existing utility pole. The Project would require the removal of Willow, Alder, and Poplar trees (Appendix A – Figure 5). The removal of these trees would be visibly screened by buffering juxtaposed riparian vegetation. The on-site mitigation removal of invasive pampas grass along the northern portion of the Project Area would be replanted with native vegetation, enhancing the scenic riparian vegetation. The Project would not interfere with the open and natural characteristics of the City's scenic vistas. Therefore, construction and operation of the Project would have no detrimental effect on scenic vistas. No impact would result.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (No Impact)

According to the California Scenic Highway Mapping System, there are no designated, State, or Federal, scenic highways, or byways, in the Project vicinity (Caltrans 2023). US 101 is eligible for designation and is located approximately 0.2 mile west of the Project Area but, due to topography and tall vegetation, the Project Area is not readily visible from US 101. There are no structures or historic buildings in the Project Area, and there are also no rock outcroppings. Some existing trees would be removed within the Project Area, however this would not significantly damage the scenic resource from US 101 (Appendix A – Figure 5). Due to the absence of a designated state scenic highway in or immediately adjacent to the Project, or views of the Project Area from an eligible state scenic highway, no impact would occur.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public Views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality? (Less Than Significant Impact)

The proposed Project would not be located in an urban area, per CEQA Guidelines Section 15387, because Rio Dell has a population of less than 50,000 (US Census 2020). Thus, CEQA asks if the Project would substantially degrade the existing visual character or quality of public view of the site and its surroundings. The existing visual setting includes an undeveloped riparian vegetation of the Eel River, consisting of grasses, shrubs, and trees.

Visual elements of the Project include a 1,600 foot long paved Class I trail, trailheads, a paved parking area at Edwards Drive, and ancillary trail features such as benches and signage. This use is principally permitted by the Project Area's Natural Resources land use and zoning. Public view of the Project Area is currently limited due to dense riparian vegetation, and from private and City owned property to the west. The Project Area would have public accessible views from the north, east, and south, however Project elements visible from these directions would be mostly screened by dense riparian vegetation. Project elements visible from the north Davis Street would include signage, stairs, and a paved trail. Project elements from the south Edwards Drive would include the paved Edwards Drive parking area, signage, lighting on the existing utility pole, and the paved trail. Project elements visible from east Eel River would include the mitigation area where invasive pampas grass would be removed and replanted with native vegetation.

The visual quality resulting from the Project would not be diminished or be inconsistent with the existing visual character of pre-Project viewsheds from local landmarks as the Project elements are low-profile and would be buffered by dense riparian vegetation. The potential impact as it relates to zoning and other regulations governing scenic quality would also be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Less Than Significant Impact)

Existing sources of night lighting in the Project Area include the WWTP and adjacent residential homes. The Project would include lighting installation to improve safety and visibility at the Edwards Drive parking area. Lighting infrastructure would be installed on an existing utility pole.

This lighting improvement to the site will comply with City requirements specified in City Code 17.30.230 (15). The new light would be mounted on an existing utility pole above the ground. The light would be downcast, and the fixture would be equipped with a hood (i.e., light would be shielded).

Exterior lighting would be designed to protect wildlife and night-time views, including views of the night sky. The Project would be designed to be consistent with the recommendations of the International Dark-Sky Association, which includes standards for fixtures, shielding, placement, height, and illumination levels. To comply with these requirements, lighting for the Project would be the minimum lumens necessary, directed downward, and shielded. This would ensure lighting is contained within the site and does not cause significant lighting and glare impacts for surrounding land uses. A less than significant impact would occur.

3.2 Agriculture and Forest Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) 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 use?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) 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))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) 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?				✓

There are no agricultural or forestry zoning or such land uses within the Project Area (Rio Dell 2015).

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance)? (No Impact)

As of the date of this ISMND, the Department of Conservation (DOC)'s Farmland Mapping and Monitoring Program has not been completed for Humboldt County. Therefore, lands within the Project Area have not been formally analyzed by the DOC to determine if they meet the criteria for being designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

For this analysis, "Agricultural Soils" and "Prime Agricultural Soils" designations via the Humboldt County WebGIS online mapping tool were utilized, which utilizes soils data from the Natural Resources Conservation Service (NRCS). According to the Humboldt County WebGIS, the Project Area does not include Prime Agricultural Soil (Humboldt 2023a). The USGS Soil Report also shows that the Project Area consists of 35% of the soil series 100— Water and Fluvents, 0 to 2 percent slopes and 65% of the soil series 210— Dungan, 0 to 2 percent slopes (Appendix E of Appendix D). Only the 210 series is identified as Prime farmland if irrigated. However, the Project Area is not irrigated and has is not being used now nor has it been used for agricultural purposes. The Project would not remove agricultural land from production or result in a change in land use, as there is no such land presently zoned for agricultural use within the Project Area. No impact would result.

b) Conflict with Agricultural Zoning or Williamson Act Contract? (No Impact)

There are no agricultural zoning or active Williamson Act contracts within the Project Area (Rio Dell 2015, Humboldt County 2023a, 2023b). Zoning within the Project Area is discussed further in Section 3.11 (Land Use and Planning). Therefore, construction and operation of the Project would have no effect on agricultural zoning or Williamson Act contracts because none exist within the Project Area. No impact would result.

c, d) Conflict with Forest Land Zoning or Convert Forest Land? (No Impact)

There are no forest lands, timberland, or timberland zoned Timberland Production in the Project Area; therefore, no forest land or timberland would be converted to non-forest or non-timberland use (Rio Dell 2015). No impact would result.

e) Convert Farmland or Forest? (No Impact)

The Project would include the removal of approximately 55 trees with a minimum diameter at breast height (dbh) of 6 inches (Appendix A – Figure 5). However, these trees are not considered forest resources. Potential biological impacts associated with tree removal are discussed in Section 3.4 (Biological Resources). There are no other changes in the existing environment caused by the Project that would impact farmland or forest land in or adjacent to the Project Area. No impact would result.

3.3 Air Quality

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?		✓		
b) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?		✓		
c) Expose sensitive receptors to substantial pollutant concentrations?		✓		
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

The Project is located within the Humboldt County portion of the North Coast Air Basin (Air Basin) which is managed by the North Coast Unified Air Quality Management District (NCUAQMD). The NCUAQMD monitors air quality; enforces local, State, and federal air quality regulations for counties within its jurisdiction; inventories and assesses the health risks of Toxic Air Contaminants (TACs); and adopts rules that limit pollution.

a) Conflict with or obstruct implementation of the applicable air quality plan? (Less than Significant with Mitigation)

This impact relates to consistency with an adopted attainment plan. Within the Project vicinity, the NCUAQMD is responsible for monitoring and enforcing local, state, and federal air quality standards. Humboldt County is designated 'attainment' for all National Ambient Air Quality Standards. Pursuant to California Ambient Air Quality Standards, Humboldt County is designated attainment for all criteria air pollutants except PM₁₀. Humboldt County is designated as "non-attainment" for the State's PM₁₀ standard.

PM₁₀ refers to inhalable particulate matter with an aerodynamic diameter of less than 10 microns. PM₁₀ includes emission of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM₁₀ emissions include unpaved road dust, smoke from wood stoves, construction dust, open burning of vegetation, and airborne salts and other particulate matter naturally generated by ocean surf. Therefore, any use or activity that generates airborne particulate matter may be of concern to the NCUAQMD. The proposed Project would create PM₁₀ emissions in part through vehicles coming and going to the Project Area and the construction activity associated with the Project.

To address non-attainment for PM₁₀, the NCUAQMD adopted a Particulate Matter Attainment Plan in 1995. This plan presents available information about the nature and causes of PM₁₀ standard exceedances and identifies cost-effective control measures to reduce PM₁₀ emissions to levels necessary to meet California Ambient Air Quality Standards. However, the NCUAQMD states that the plan, "should be used cautiously as it is not a document that is required in order for the [NCUAQMD] to come into attainment for the state

standard” (NCUAQMD 2023). Therefore, compliance with applicable NCUAQMD PM₁₀ rules is applied as the threshold of significance for the purposes of analysis. NCUAQMD Rule 104 Section D, Fugitive Dust Emissions, is applicable to the Project.

Rule 104, Section D – Fugitive Dust Emissions is used by the NCUAQMD to address non-attainment for PM₁₀. Pursuant to Rule 104 Section D, the handling, transporting, or open storage of materials in such a manner, which allows or may allow unnecessary amounts of particulate matter to become airborne, shall not be permitted. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to covering open bodied trucks when used for transporting materials likely to give rise to airborne dust and the use of water during the grading of roads or the clearing of land. During earth moving activities, fugitive dust (PM₁₀) would be generated. The amount of dust generated at any given time would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Unless controlled, fugitive dust emissions during construction of the Project could be a potentially significant impact, therefore, Mitigation Measure AQ-1 would be incorporated to comply with NCUAQMD’s Rule 104 Section D.

Operation of the Project would include periodic maintenance including annual inspections, trash/debris removal, drainage maintenance, vegetation management, infrequent paving repair, repaving, and striping. These activities would generally be supported by vehicles and the use of hand-held tools. These activities would not result in a substantial generation of fugitive dust. Therefore, a less than significant impact from the operation of the Project would result.

Mitigation

Implementation of Mitigation Measures AQ-1 is proposed to reduce the potential impact related to PM₁₀ fugitive dust by requiring dust reduction measures during construction.

Mitigation Measure AQ-1: Measures to Reduce Air Pollution

The contractor shall implement the following measures during construction:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, active graded areas, excavations, and unpaved access roads) shall be watered two times per day in areas of active construction as necessary.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph, unless the unpaved road surface has been treated for dust suppression with water, rock, wood chip mulch, or other dust prevention measures.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with the manufacturer’s specifications.

- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The NCUAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

With implementation of Mitigation Measure AQ-1, the Project would implement relevant fugitive dust (PM₁₀) controls during construction and would not conflict with applicable air quality plans. This impact would be reduced to a less-than-significant level with mitigation.

b) Result in a cumulatively considerable net increase in any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard? (Less than Significant with Mitigation)

The Project's potential to generate a significant amount of criteria pollutants of concern during Project construction and operation is assessed in this Section. As noted above, Humboldt County is designated nonattainment of the State's PM₁₀ standard. The County is designated attainment for all other state and federal standards. Potential impacts of concern will be exceedances of state or federal standards for PM₁₀. Localized PM₁₀ is of concern during construction because of the potential to emit fugitive dust during earth-disturbing activities.

Construction

Localized PM₁₀

The Project would include clearing and grubbing, grading, vegetation removal, and asphalt paving. Generally, the most substantial localized air pollutant emissions would be dust generated from site clearing, demolition, and grading. If uncontrolled, these emissions could lead to both health and nuisance impacts. Construction activities would also temporarily generate emissions of equipment exhaust and other air contaminants. The Project's potential impacts from equipment exhaust are assessed separately below.

The NCUAQMD does not have formally adopted thresholds of significance for fugitive, dust-related particulate matter emissions above and beyond Rule 104, Section D which does not provide quantitative standards. For the purposes of analysis, this document uses the Bay Area Air Quality Management District (BAAQMD) approach to determining significance for fugitive dust emissions from Project construction. The BAAQMD bases the determination of significance for fugitive dust on a consideration of the control measures to be implemented. If all appropriate emissions control measures recommended by BAAQMD are implemented for a project, then fugitive dust emissions during construction are not considered significant. BAAQMD recommends a specific set of "Basic Construction Measures" to reduce emissions of construction generated PM₁₀ to less than significant. Without incorporation of these Basic Construction Measures, the Project's construction-generated fugitive PM₁₀ (dust) would result in a potentially significant impact.

The Basic Construction Measure controls recommended by the BAAQMD are incorporated into Mitigation Measure AQ-1. These controls are consistent with NCUAQMD Rule 104 Section D, Fugitive Dust Emission and provide supplemental, additional control of fugitive dust emissions beyond that which would occur with Rule 104 Section D compliance alone. Therefore, with incorporation of Mitigation Measure AQ-1, the Project would result in a less than significant impact for construction-period PM₁₀ generation and would not violate or substantially contribute to an existing or projected air quality violation.

Regional Criteria Pollutants

The NCUAQMD does not have established CEQA significance criteria to determine the significance of impacts that would result from projects such as the proposed Project; however, the NCUAQMD does have criteria pollutant BACT thresholds for new or modified stationary source projects proposed within the NCUAQMD's jurisdiction. For construction emissions, the NCUAQMD has indicated that emissions are not considered regionally significant for projects whose construction would be of relatively short duration, lasting less than one year. NCUAQMD has indicated that it is appropriate for lead agencies to compare proposed construction emissions that last more than one year to its BACT thresholds for stationary sources identified in Rule 110(E)(1), which are:

- Nitrogen Oxides – 40.0 tons per year, 50.0 pounds per day
- Reactive Organic Gases – 40.0 tons per year, 50.0 pounds per day
- PM₁₀ – 15.0 tons per year, 80.0 pounds per day
- Carbon Monoxide – 100 tons per year, 50.0 pounds per day

CalEEMod version 2022.1.1.19 was used to estimate air pollutant emissions from Project construction (Appendix B – Air Quality Modeling Results). Material hauling volumes were provided by the Project's Design Team. The Project's estimated construction emissions are provided in Table 3.3-1 and 3.3-2 for annual and daily emission rates, respectively. As shown in the tables, the Project would not exceed the NCUAQMD's thresholds of significance. Therefore, the Project's construction emissions are considered to have a less than significant impact.

Table 3.3-1 Annual Construction Regional Pollutant Emissions

Parameter	Maximum Annual Emissions (tons/year)			
	ROG	NO _x	CO	PM ₁₀
Project Construction (2024)	0.14	1.35	1.52	0.48
NCUAQMD Stationary Source Thresholds	40.0	40.0	100	15.0
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Table 3.3-2 Daily Construction Regional Pollutant Emissions

Parameter	Average Daily Emissions (pounds/day)			
	ROG	NO _x	CO	PM ₁₀
Project Construction (2024)	0.78	7.38	8.31	2.61
NCUAQMD Stationary Source Thresholds	50.0	50.0	500.0	80.0
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Operation

Following construction, operation of the Project would not include any stationary sources of air emissions. Project operation and maintenance would generate less than one new on-road trip per week on average. The BAAQMD's 2022 CEQA Guidelines provides screening criteria for determining if a Project could potentially result in significant operational impacts from GHG. As provided by the BAAQMD's CEQA Guidelines, if the Project is less than the screening level, and is consistent with the methodology used to develop the screening criteria, then its air quality emissions may be considered less than significant.

The applicable operational criteria pollutant screening level is 175 acres for a city park. At an estimated impervious surface footprint of approximately 1.1 acres the Project would be substantially less than the BAAQMD's operational greenhouse gas screening level for a city park. Therefore, Project operation would result in a less than significant impact on air quality.

c) Expose sensitive receptors to substantial pollutant concentrations? (Less than Significant with Mitigation)

Sensitive receptors include school-aged children (schools, daycare, playgrounds), the elderly (retirement community, nursing homes), the infirm (medical facilities and offices), and those who exercise outdoors regularly (public and private exercise facilities, parks). The nearest sensitive receptors to the Project Area include residential homes located approximately 200 feet west of the Project area.

BAAQMD's Basic Construction Measures included in Mitigation Measure AIR-1 (BMPs to Reduce Air Pollution) minimize idling times for trucks and equipment to five minutes (as required by the California Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, included in Title 13, Section 2485 of California Code of Regulations [CCR]) and ensures construction equipment is maintained in accordance with manufacturer's specifications.

Project construction activities may occur over approximately 1 year. Due to distance to the nearest potential receptor, the limited duration and activity for construction, the linear nature of the project site, and the implementation of Mitigation Measure AIR-1, which would control fugitive dust, the Project would not result in the exposure of sensitive receptors to substantial pollutant concentrations. Therefore, with implementation of Mitigation Measure AIR-1, the construction-related impact would be less than significant with mitigation.

Following construction, operation of the Project would not include any stationary sources of air emissions. Project operation and maintenance would generate less than one new on-road trip per week on average. This would not result in new emissions that will result in substantial long-term operational emissions of criteria air pollutants that will substantially affect sensitive receptors. Therefore, Project operation will not expose nearby sensitive receptors to a less than significant impact.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (Less than Significant)

Implementation of the Project would not result in major sources of odor. The Project type is not one of the common types of facilities known to produce odors (i.e., landfill, coffee roaster, wastewater treatment facility, etc.). Minor odors from the use of equipment during construction activities would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance. The Project emissions or odors caused by construction would not adversely affect a substantial amount of people.

Following construction, Project operations would not result in any major sources of odor or emissions. Therefore, a less than significant impact related to both Project construction and operation would result.

3.4 Biological Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) 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 the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?		✓		
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				✓
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

A botanical memorandum and wetland delineation were prepared by GHD to evaluate the potential for any special status plants, SNCs as well as wetlands, within the Project Area, and is included as Appendix C and D. A wildlife potential to occur table was created by GHD and is included as Appendix E.

- a) 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 the California Department of Fish and Game or U.S. Fish and Wildlife Service? (Less Than Significant with Mitigation)**

Special-status Plant Species

Special status plant species under State jurisdiction include those listed as endangered, threatened, or as candidate species by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA). Plant species on CNPS California Rare Plant Ranking (CRPR) Lists 1A,

1B and 2A and 2B are considered eligible for state listing as endangered or threatened pursuant to the California Fish and Game Code and CDFW has oversight of these special status plant species as a trustee agency. As part of the CEQA process, such species should be considered as they meet the definition of Threatened or Endangered under Sections 2062 and 2067 of the California Fish and Game Code. There are occasions where CRPR List 3 or 4 species might be considered of special concern particularly for the type locality of a plant, for populations at the periphery of a species range, or in areas where the taxon is especially uncommon or has sustained heavy losses, or from populations exhibiting unusual morphology.

Additionally, CDFW maintains lists of special plants. These lists include a species conservation ranking status from multiple sources, including FESA, CESA, and federal departments with unique jurisdictions, CNPS, and other non-governmental organizations. Based on these sources, CDFW assigns a heritage rank to each species according to their degree of imperilment (as measured by rarity, trends, and threats). These ranks follow NatureServe's Heritage Methodology, in which all species are listed with a G (global) and S (state) rank (Appendix C). Species with state ranks of S1-S3 are also considered highly imperiled.

Seasonally appropriate floristic surveys for special status plants were conducted in the Project Area by GHD on April 26, 2022, July 13, 2022, August 24, 2022, and revisited due to a boundary adjustment on May 3, 2023, and June 15, 2023. No special status plants were detected in the Project Area (Appendix C).

Based on database searches, historical records, and an overview of the primary literature, six special status plant species were determined to have moderate potential and 11 plant species have a low potential to occur within the BSA (Appendix C). There were no special status plant species with a high probability of occurring in the BSA.

Twenty-two additional special status plant species were thought to have a low or no likelihood of occurring within the Project Area (Appendix C). Given that required protocol level plant surveys are completed with no detections of sensitive plant species during the initial survey, the impact on special-status plants is considered less than significant.

Special Status Wildlife Species

A database search of the California Natural Diversity Database (CNDDDB; CDFW 2023a), and U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC; USFWS 2023) was conducted. The potential for wildlife to occur was evaluated at the level of the Biological Study Area (BSA), which includes the PSB and a buffer of 500 feet to account for audible and visual disturbances to wildlife species.

CDFW maintains a list of special status species (CDFW 2023b). This list includes species' conservation ranking status from multiple sources, including FESA, CESA, and federal departments with unique jurisdictions, and other non-governmental organizations. Based on these sources, CDFW assigns a heritage rank to each species according to their degree of imperilment (as measured by rarity, trends, and threats). These ranks follow NatureServe's Heritage Methodology, in which all species are listed with a G (global) and S (state) rank. All special status species tracked by the CNDDDB and IPaC with a moderate to high potential to occur within the BSA are considered.

Special Status Mammal Species

Three special status bat species, the Silver-haired Bat (*Lasionycteris noctivagans*), Western Red Bat, (*Lasiurus frantzii*), and Yuma Myotis (*Myotis yumanensis*), have a moderate potential to occur within the BSA. No other special status mammal species have a moderate to high potential of occurring within the BSA (Appendix E).

- Silver-haired Bat (*Lasionycteris noctivagans*), CDFW Special Animals List, G3G4 / S3S4, Moderate potential.
- Western Red Bat (*Lasiurus frantzii*), CDFW Species of Special Concern, G4/S3, Moderate potential.
- Yuma Myotis (*Myotis yumanensis*), CDFW Special Animals List, G5/S4, Moderate potential.

Habitat for these three special status bat species (riparian forest, tree bark, crevices, etc.) is present within the BSA. Construction of the Project could impact special-status bat species through the removal or modification of vegetation or potential bat roosts.

Mitigation

The Silver-haired Bat, Western Red Bat, and Yuma Myotis have a moderate potential to occur based on the presence of suitable habitat within the BSA. Mitigation Measure BIO-1 would be incorporated into the Project.

Mitigation Measure BIO-1: Avoidance and Minimization Measures to Protect Special Status Bats

- Remove confirmed or presumed-occupied bat roost habitat only during seasonal periods of bat activity (when bats are volant, i.e., able to leave roosts) between March 1 and April 15 or September 1 and October 15, when evening temps rise above approximately 45 degrees F, and when no rainfall greater than ½ inches has occurred in the last 24 hours.
- If trees or structures cannot be removed during the volant period, i.e., Project activities occur during the bat maternity season which generally occurs April 16 through August 31, a qualified biologist shall conduct surveys within suitable habitat for special status bats. Survey methodology shall include visual examination with binoculars and may optionally utilize ultrasonic detectors or fecal collection for genetic testing to determine if special status bat species utilize the vicinity.
- Surveys shall be conducted by a qualified biologist within seven days prior to construction in any areas where potential maternity roosts may be disturbed/removed. The preconstruction surveys for bats should occur within identified suitable areas at dusk and/or dawn.
- Surveys shall include a visual inspection of the impact area and any large trees/snags with cavities or loose bark or crevices within infrastructure. If the presence of a maternity roost is confirmed, an appropriate buffer distance would be established in consultation with the CDFW to ensure that construction noise would remain below disturbance thresholds for bats. If no bat utilization or roosts are found, then no further study or action is required. If bats are found to utilize the BSA, or presence is assumed, a bat specialist should be engaged to advise the best method to prevent impact.
- No work shall occur at night.

Implementation of Mitigation Measure BIO-1 would reduce potential impacts to special status bat species to a less-than-significant level.

Special Status Bird Species

There are four federally and/or state listed bird species with a moderate to high potential to occur (Marbled Murrelet; *Brachyramphus marmoratus*, Bald Eagle; *Haliaeetus leucocephalus*, Bank Swallow; *Riparia riparia*, and Northern Spotted Owl; *Strix occidentalis caurina*) within the BSA (likely fly overs). In addition, there are eight other special status bird species with a moderate to high potential to occur within the BSA.

No other special status bird species have a moderate to high potential of occurring within the BSA. In addition to these special status bird species, common, migratory, and native nesting birds are also protected under the Migratory Bird Treaty Act (MBTA) and Fish and Game Code (FGC).

- Marbled Murrelet (*Brachyramphus marmoratus*), Federally Threatened / State Endangered, G3 / S2, Moderate potential.
- Bald Eagle (*Haliaeetus leucocephalus*), Federally Delisted / State Endangered, G5 / S3, High potential.
- Bank Swallow (*Riparia riparia*), State Threatened, G5 / S3, Moderate potential.
- Northern Spotted Owl (*Strix occidentalis caurina*), Federally Threatened / State Threatened, G3G4T3 / S2, Moderate potential.
- Cooper's Hawk (*Accipiter cooperii*), CDFW Special Animals List, G5 / S4, High potential.
- Sharp-shinned Hawk (*Accipiter striatus*), CDFW Special Animals List, G5 / S4, High potential.
- Great Blue Heron (*Ardea herodias*), CDFW Special Animals List, G5 / S4, High potential.
- American Peregrine Falcon (*Falco peregrinus anatum*), CDFW Fully Protected, G4T4 / S3S4, Moderate potential.
- Yellow-breasted Chat (*Icteria virens*), CDFW Species of Special Concern, G5 / S4, Moderate potential.
- Black-crowned Night Heron (*Nycticorax nycticorax*), CDFW Special Animals List, G5 / S4, High potential.
- Osprey (*Pandion haliaetus*), CDFW Special Animals List, G5 / S4, High potential.
- Yellow Warbler (*Setophaga petechia*), CDFW Species of Special Concern, G5 / S3, High potential.

If special status and/or native migratory birds are nesting within or within proximity to the BSA, these special status and protected migratory birds could be injured or killed via clearing and grubbing of vegetation or limbing and removal of trees, and/or potentially displaced from habitat, resulting in a potentially significant impact. In addition, noise and visual disturbance from Project construction could result in an impact.

The Marbled Murrelet is unlikely to nest within the BSA but may fly through or over the BSA from the ocean to reach nesting locations. There are not suitable large nesting trees for this species within the BSA. There are historic observations from the 1990's approximately 1.5 miles south of the BSA (CDFW 2023a). In addition, other observations within further proximity to the BSA are also from the 1990's (CDFW 2023a). Due to only historic observations of this species within proximity to the BSA, the Project will not have a significant impact on Marbled Murrelets.

The Bald Eagle is unlikely to nest within the BSA but may fly through or over the BSA while foraging. Large, old growth trees are not available within the BSA for this species to nest. There are recent observations documented in proximity to the BSA (eBird 2023). Due to the lack of nesting habitat within the BSA for this species, the Project will not have a significant impact on Bald Eagles.

The Bank Swallow requires vertical banks or cliffs with fine textured sandy soils near a water source to nest. The species was documented in 2023 within the BSA (eBird 2023). The BSA may provide suitable foraging and nesting habitat for this species. However, the PSB does not contain suitable nesting habitat. If this species is nesting within the BSA, there could potentially be a significant impact.

The Northern Spotted Owl (NSO) is unlikely to nest within the BSA but may incidentally fly through or over the BSA while foraging primarily during nighttime hours. Large trees suitable for nesting or roosting are not present within the BSA. The CDFW BIOS Spotted Owl Viewer shows the nearest Activity Center (HUM0503) is approximately 0.5 miles east of the BSA. The nearest nest from Activity Center HUM0503 is approximately 0.3 miles from the BSA, with a positive detection in 2018. There is an observation of this

species from another Activity Center within the BSA, but the observation is dated from 2003. USFWS designated critical habitat is approximately 12 miles east of the BSA.

The *Northern Spotted Owl Auditory and Visual Disturbance Support Tool* (USFWS 2020) was used to estimate anticipated auditory and visual disturbance from Project activities. Based on the construction equipment expected to be used, local topography, land uses, and vegetative cover, Project construction is expected to produce auditory disturbance of approximately 300 feet and visual disturbance of approximately 100 feet. Given the distance from the BSA to the documented activity centers, Project-related construction noise would not significantly or directly impact nesting NSO, as there are no active nests within 300 feet.

Indirect impacts from loud noise or visual stimuli could temporally impact NSO while foraging, which primarily occurs during nighttime hours. Flushing an adult and/or juvenile NSO by sound and/or visual stimuli could harm the owl by increasing the risk of predation, exposure to heat stress, and nest failure. However, this impact will be brief and limited to the immediate area surrounding the BSA. Adult and juvenile NSO in the area would be anticipated to use the extensive suitable habitat further to the east of the Project site for foraging, if temporarily disturbed by construction noise. Mitigation Measure BIO-3 has been incorporated into the Project to ensure any potential impact to NSO foraging remains less than significant.

Mitigation

Special status, migratory, and nesting birds have a moderate to high potential to occur based on observations within or within proximity to the BSA or the presence of suitable habitat. Mitigation Measure BIO-2 and Mitigation Measure BIO-3 would be incorporated into the Project.

Mitigation Measure BIO-2: Protect Special Status, Migratory, and Nesting Birds

- Ground disturbance and vegetation clearing shall be conducted, where feasible, during the fall and/or winter months and outside of the avian nesting season (which is generally assumed to occur between March 15 – August 15) to avoid any direct effects to special-status and protected birds. Ground disturbance and vegetation clearing that cannot be confined to the fall and/or winter outside of the nesting season, shall require that a qualified biologist conduct pre-construction surveys within the vicinity of the BSA, to check for nesting activity of native birds and to evaluate the site for presence of raptors and special status bird species. The biologist shall conduct at minimum a one-day pre-construction survey within the seven-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the nesting season, a qualified biologist shall conduct a supplemental avian pre-construction survey before Project work is reinitiated.
- To account for the potential for the Bank Swallow to occur within the BSA, the qualified biologist shall additionally and specifically search for Bank Swallow nests within the BSA during the pre-construction survey. The survey shall also include raptor scans due to the potential for the Bald Eagle and other special status raptors to occur.
- If active special-status species nests are detected within the construction footprint, or within 500 feet of construction activities, the biologist shall flag a buffer around each nest. Construction activities shall avoid nest sites until the biologist determines that the young have fledged, or nesting activity has ceased. If nests are documented outside of the construction (disturbance) footprint, but within 500 feet of the construction area, buffers shall be implemented as needed. In general, the buffer size for non-special-status species will be determined on a case-by-case basis in consultation with the CDFW and, if applicable, with USFWS. Buffer sizes shall take into account

factors such as (1) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; (2) distance and amount of vegetation or other screening between the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds.

- If active nests are detected during the survey, the qualified biologist shall monitor all nests at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified biologist, disturb nesting activities (e.g., excessive noise), shall be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified biologist shall immediately implement adaptive measures to reduce disturbance. These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed or nesting activity has ceased, placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, and/or reorienting and/or relocating construction equipment to minimize noise at noise sensitive receptors.

With the implementation of Mitigation Measure BIO-2, potential impacts to special status, migratory, and nesting birds would be reduced to a less-than-significant level.

Mitigation Measure BIO-3: Avoidance and Minimization Measures to Protect Northern Spotted Owl

- Any above-ambient background noise producing work using heavy equipment, trucks or chainsaws shall occur only during daytime hours between sunrise to sunset during the NSO Coast Redwood Region breeding season (February 1 – July 31).
- No work shall occur during the night.

Implementation of Mitigation Measure BIO-3 would reduce potential impacts to the Northern Spotted Owl to a less-than-significant level.

Special Status Amphibian and Reptiles Species

There are three special status amphibian and reptile species that have a moderate to high potential to occur within the BSA. No other special status amphibian and reptile species have a moderate to high potential of occurring within the BSA (Appendix E).

- Western Pond Turtle (*Emys marmorata*), CDFW Species of Special Concern, G3G4 / S3, Moderate potential.
- Northern Red-legged Frog (*Rana aurora*), CDFW Species of Special Concern, G4 / S3, High potential.
- Foothill Yellow-legged Frog - North Coast DPS (*Rana boylei* pop. 1), CDFW Species of Special Concern, G3T4 / S3, High potential.

The Western Pond Turtle occurs in both permanent and intermittent waters, including marshes, streams, rivers, ponds, and lakes. The Eel River and sandy banks within the BSA are suitable for this species. Construction activities in suitable nesting or foraging areas have the potential to significantly impact this species.

Northern Red-legged Frogs are generally found near permanent water, but can be found far from water, in damp woods and meadows, during the non-breeding season. Potential habitat exists within and adjacent to

the Eel River and riparian areas, as well as wetland areas in the vicinity of the WWTP pond and ditches. Because suitable habitat is present, and they have been observed within two miles of the BSA, there is a potential for impacts to Northern Red-legged Frogs if they are present during construction activities. Impacts to Northern Red-legged Frogs could potentially occur to egg masses or tadpoles within wetted areas, or to adults out of water, on land during and after the breeding season.

Foothill Yellow-legged Frogs occur in partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Potential habitat exists within and adjacent to the BSA. Because suitable habitat is present, and they have been observed within three miles of the BSA, there is a potential for impacts to Foothill Yellow-legged frogs if they are present during construction activities.

Mitigation

Two special status amphibian species (Northern Red-legged Frog and Foothill Yellow-legged Frog) and one special status reptile species (Western Pond Turtle) have a moderate to high potential to occur based on recorded observations and the presence of suitable habitat within and nearby the BSA. Mitigation Measure BIO-4 would be incorporated into the Project.

Mitigation Measure BIO-4: Protect Special Status Amphibian and Reptiles Species

- All on-site personnel shall attend a Worker Environmental Awareness Training (WEAT) conducted by a qualified biologist that includes a discussion about the legal protection of protected resources and avoidance and minimization measures to be implemented during Project activities.
- A pre-construction survey for Northern Red-legged Frog, Foothill Yellow-legged Frog, and Western Pond Turtle shall occur within seven days of Project-related ground disturbance within areas of suitable habitat within the BSA. The biologist shall relocate any individuals that occur within this area to nearby suitable habitat outside of the Project work zone.
- If special status amphibian or reptile species are observed during preconstruction surveys, or the biologist assumes presence based on habitat conditions, a biological monitor shall be present for all work activities occurring within suitable habitat that may impact these species. If these species are encountered during construction, activities in the vicinity shall cease until appropriate corrective measures have been implemented or it has been determined by the biologist that the species will not be harmed. The biologist may employ stop work authority until the individual (s) have left the vicinity, or may relocate individuals to an appropriate habitat adjacent to the work area. Any special status individuals that are trapped, injured, or killed, shall be reported immediately to CDFW.
- In the event that a Northern Red-legged Frog is observed in an active construction zone, the contractor shall halt construction activities in the area and contact the biological monitor. If the frog moves out of the construction zone on its own before the biological monitor relocates it, the biological monitor may authorize work to continue.

Implementation of Mitigation Measure BIO-4 will reduce potential impacts to special status amphibians and reptiles to a less-than-significant level.

Special Status Fish Species

The BSA encompasses the Eel River in which eight special status fish species are known to occur.

- Coho Salmon - Southern Oregon / Northern California ESU (*Oncorhynchus kisutch* pop. 2), Federally Threatened / State Threatened, G5T2Q / S2, Present.

- Steelhead - Northern California DPS Summer-run (*Oncorhynchus mykiss irideus* pop. 48), Federally Threatened / State Endangered, G5T2Q / S2, Present.
- Steelhead - Northern California DPS Winter-run (*Oncorhynchus mykiss irideus* pop. 49), Federally Threatened, G5T2Q / S2, Present.
- Chinook Salmon - California Coastal ESU (*Oncorhynchus tshawytscha* pop. 17), Federally Threatened, G5T2Q / S2, Present.
- Green Sturgeon - Northern DPS (*Acipenser medirostris* pop. 2), CDFW Species of Special Concern, G2T1 / S1, Present.
- White Sturgeon (*Acipenser transmontanus*), CDFW Species of Special Concern, G4 / S2, Present.
- Pacific Lamprey (*Entosphenus tridentatus*), CDFW Species of Special Concern, G4 / S3, Present.
- Western Brook Lamprey (*Lampetra richardsoni*), CDFW Species of Special Concern, G4G5 / S3S4, Present.

Though the BSA encompasses the Eel River, no in-water work is proposed. Thus, there would be no impact to special status fish species.

Special Status Invertebrate Species

The BSA encompasses the Eel River, which is suitable aquatic habitat for three special status mollusk species that all have a moderate potential to occur. Additionally, there is suitable habitat within the BSA for one special status bee species that has a high potential to occur.

- California Floater (*Anodonta californiensis*), CDFW Special Animals List, G3Q / S2?, Moderate potential.
- Western Ridged Mussel (*Gonidea angulata*), CDFW Special Animals List, G3 / S2, Moderate potential.
- Western Pearlshell (*Margaritifera falcata*), CDFW Special Animals List, S1S2, Moderate potential.
- Obscure Bumble Bee (*Bombus caliginosus*), CDFW Special Animals List, G2G3 / S1S2, High potential.

Though the BSA encompasses the Eel River, no in-water work is proposed. Thus, there would be no impact to special status mollusks.

One special status invertebrate, the Obscure Bumble Bee (*Bombus caliginosus*), has a high potential to occur within the BSA. Their populations have experienced severe declines range wide. These declines are poorly understood, largely because they overlap with *Bombus vosnesenskii*, a common bee that is difficult to distinguish from *B. caliginosus* in the field (Xerces Society 2020). However, there are observations of this species approximately five miles from the BSA (Bumble Bee Watch 2023). No other special status invertebrate species have a moderate to high potential of occurring within the BSA (Appendix E).

Mitigation

The Obscure Bumble Bee has a high potential to occur based on recorded observations in proximity to the BSA and the presence of suitable habitat. Mitigation Measure BIO-5 would be incorporated into the Project.

Mitigation Measure BIO-5: Avoidance and Minimization Measures to Protect Special Status Bees

- Vegetation shall be cleared if feasible during late fall to early spring months (October to April) to avoid peak flight season, minimize impacts to floral resources, and reduce the potential for floral resources to draw bumble bees into the Project Area.

- If feasible, ground-disturbing activities in areas with suitable Obscure Bumble Bee habitat shall be completed prior to May.
- If ground-disturbing activities in areas with suitable habitat for the Obscure Bumble Bee occur after May 1, a qualified biologist shall scout the area for Western Bumble Bee immediately prior to the initial ground disturbance, with particular attention to floral resources and nest sites. The qualified biologist shall use non-capture photography surveys. If feasible, based on the Rusty Patched Bumble Bee survey guidelines, species will not be physically handled.
- CDFW will be immediately notified of any Obscure Bumble Bee sightings by the qualified biologist. If a colony is identified, disturbance near the colony shall pause until suitable avoidance measures can be determined in coordination with CDFW. If an individual is identified, work shall pause until the individual leaves the area of disturbance.
- If possible, the Project shall not use pesticides. If necessary, the application shall be direct and as local as possible to reduce drifting. The pesticide shall ideally be applied when plants are not in bloom, in winter or fall, and/or at dusk or night when bees are not flying.

Implementation of Mitigation Measure BIO-5 would reduce potential impacts to special status bees to a less-than-significant level.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? (Less Than Significant with Mitigation)

Sensitive Natural Communities (SNCs) are habitats and plant communities so designated by the CDFW and listed in the Sensitive in the CNDDDB and on the California Sensitive Natural Communities List. The SNCs are broken down to alliance and association levels for vegetation types affiliated with ecological sections in California. CDFW considers alliances and associations with a state rank of S1 to S3 to be Sensitive. The BSA contains three Natural Communities, two of which are listed as Sensitive by CDFW (Table 3.4-1, Appendix A – Figure 4). Areas not mapped as a vegetation community contain ruderal vegetation or isolated trees that do not form a homogenous community (Appendix C). All forest and shrubland communities in the Project Area are Riparian as defined by RWQCB, and CDFW. The Project is also within an Environmentally Sensitive Habitat Area (ESHA) and Streamside Management Area (SMA) as defined by the City of Rio Dell (Rio Dell 2015).

Table 3.4-1 Vegetation Communities in the Project Area

Alliance	Association	Global Rank	State Rank	CDFW Sensitive	Acres
Arroyo willow thickets (<i>Salix lasiolepis</i>)	<i>Rubus</i> spp.	G4	S4	No	0.27
Black cottonwood forest and Woodland (<i>Populus trichocarpa</i>)	<i>Salix lasiolepis</i>	G5	S3	Yes	2.65
Red alder forest (<i>Alnus rubra</i>)	<i>Salix lasiolepis</i> / <i>Rubus</i> spp.	G4	S3	Yes	1.69
Total Acres Riparian					4.61

Arroyo willow thickets

The Arroyo willow thickets shrubland alliance is dominated by arroyo willows (*Salix lasiolepis*) in the tall shrub or low tree canopy at greater than 50% relative cover in the shrub canopy, or greater than 30% relative cover with blackberries (*Rubus* spp.). This *Salix lasiolepis* – *Rubus* association of this alliance is not considered sensitive by CDFW.

The arroyo willows are present in this stand at approximately 95% absolute cover with an understory of 20% cover California blackberry (*Rubus ursinus*), and 5% Himalayan blackberry (*Rubus armeniacus*).

Black cottonwood forest and woodland

The black cottonwood forest and woodland alliance is dominated by black cottonwood (*Populus trichocarpa*) at greater than 5% absolute cover and greater than 30% relative cover in the tree canopy, with a variety of other possible tree species including red alder (*Alnus rubra*) and arroyo willow in the tree canopy. Black cottonwood in this stand is present at approximately 20% absolute cover, and 77% relative over within the tree canopy with arroyo willow at approximately 19% relative cover. This stand has a dense understory of California blackberry with some Himalayan blackberry intermixed.

The Black cottonwood forest and woodland alliance and all associations are considered sensitive by CDFW.

Red alder forest

The red alder forest alliance is dominated by red alder at greater than 50% relative cover in the tree layer with a variety of other possible tree species including black cottonwood and arroyo willow. Red alder in this stand is present at approximately 59% relative cover in the tree canopy with arroyo willow at approximately 36% relative cover and may be considered the *Alnus rubra* / *Salix lasiolepis* – *Rubus* spp. association.

The red alder forest alliance and all associations are considered sensitive by CDFW. Based on the current design, the Project would impact SNCs and riparian vegetation for a total of approximately 0.78 acres of permanent impacts based on the current level of design, and which may slightly change as the design advances. Temporary and permanent impacts are summarized in Table 3.4-2.

Table 3.4-2 Riparian and SNC impacts

Alliance	Status	Temporary Impact (Acres)	Permanent Impact (Acres)
Arroyo willow thickets (<i>Salix lasiolepis</i>)	Riparian	0.05	0.18
Black cottonwood forest and Woodland (<i>Populus trichocarpa</i>)	SNC/Riparian	0.21	0.40
Red alder forest (<i>Alnus rubra</i>)	SNC/Riparian	0.25	0.20

Mitigation

The Project would impact SNCs and riparian vegetation. Mitigation Measure BIO-6 would be incorporated into the Project.

Mitigation Measure BIO-6: Compensate for Loss of SNCs and Riparian Vegetation

Construction within mapped Sensitive Natural Communities and riparian vegetation shall be avoided to the greatest extent practicable. If impacts are unavoidable, mitigation will occur at a minimum ratio of 1:1. A Mitigation and Monitoring Plan shall be prepared in coordination with State resource

agencies. Onsite locations for mitigation shall be prioritized. If suitable locations for onsite mitigation are not sufficiently available, offsite mitigation shall occur.

The Plan shall be acceptable to State agencies with jurisdiction and include the following elements: proposed mitigation ratios; description and size of the restoration or compensatory area; site preparation and design; plant species; planting design and techniques; maintenance activities; plant storage; irrigation requirements; success criteria; monitoring schedule; and remedial measures. The ratio and conditions of mitigation will be negotiated in consultation with the City and State resource agencies with jurisdiction over sensitive natural communities. The Plan shall be implemented by the City.

Implementation of Mitigation Measures BIO-6 would reduce potential impacts to SNCs and riparian vegetation to a less-than-significant level.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (No Impact)

Wetland delineations were conducted by GHD on October 13, 2022, and again on May 3, 2023, when the Project boundary was expanded, to determine the extent of wetlands and other waters within the Project Area based on hydrophytic vegetation, hydric soils, and wetland hydrology using methods and indicators outlined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Appendix D).

The BSA broadly contains two palustrine emergent wetlands (detention pond, discharge channel), and two ditches are present in the PSB; however, none are jurisdictional to the United States Army Corps of Engineers (USACE) or the State Regional Water Quality Control Board (SRWQCB) because they are overflow from the WWTP and are design features of the plant (Appendix D). No impacts to wetlands would result.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (No Impact)

Project construction and operations do not include in-water work or any other activity that might impede fish migration. Terrestrial Project construction and operations do not include construction of any barriers to wildlife migration (e.g., fencing, highly developed roadway, or large structures). No impact would result.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Less Than Significant)

The Conservation and Open Space Element of the City of Rio Dell's General Plan outlines conservation goals and policies regarding development, and utilization of natural resources such as water and its hydraulic force, forests, soils, rivers and other waters, fisheries, wildlife, minerals, and cultural resources (Rio Dell 2015). Open space goals include limiting hillside development, creek and river setback areas, biologically sensitive habitat, and natural forests.

The surrounding natural environment, including the Eel River, streams, riparian areas, bluffs, and forested hillsides are signature assets for the City. As such the City has placed a high priority on retaining and enhancing these resources. Policies relevant to the Project include:

- Policy CO 5.2-3: Protect distinctive natural vegetation such as riparian corridors and mixed evergreen forests by maintaining the natural features as a whole. Preservation of individual trees or features rather than the larger habitat does not satisfy this policy.
- Policy CO 5.4-1: Support the acquisition, development and maintenance of park and recreation areas that provide recreation activities, including trails identified in the Circulation Element.

The Project would develop a trail that would enhance recreational opportunities within Rio Dell, meeting Policy 5.4-1. For Policy CO 5.2-3, though the Project would impact riparian vegetation as explained in section (b) above the Project would maintain a low profile and would, through mitigation, remove invasive pampas grass and replant with native vegetation to enhance the riparian corridor.

The City of Rio Dell General Plan also regulates ESHA's, as defined in City code 17.30.080, as anadromous fish streams, perennial and intermittent streams, sensitive species rookeries and nest sites, wetlands, riparian areas and habitats of rare and endangered plants and animals (Rio Dell 2015). "Riparian corridor" is defined as the area between the top of streambanks or hinge-points of the streambanks containing riparian vegetation and adjacent upland area. The code further defines "Streamside Management Area" (SMA) as Fifty 50 feet, measured as the horizontal distance from the hinge-point of the riparian corridor on each side of perennial streams. The Project would be developing within an SMA, thus the impact could be potentially significant.

Mitigation

The Project would include development within a SMA. Mitigation Measure BIO-7 would be incorporated into the Project.

Mitigation Measure BIO-7: Avoidance and Minimization Measures to Protect Streamside Management Areas

Per City Code 17.30.080 (4), mitigation measures for development within Streamside Management Areas shall, at a minimum, include:

- Retaining snags unless felling is required by CAL-OSHA, or by California Department of Forestry (CALFIRE) forest and fire protection regulations, or for public health and safety reasons, approved by the appropriate agency. Felled snags shall be left on the ground if consistent with fire protection regulations as long as they have no economic value.
- Retain live trees with visible evidence of use as nesting sites by hawks, owls, eagles, osprey, herons, or egrets.
- Replanting of disturbed areas with riparian vegetation (including such species as alders, cottonwoods, willows, Sitka spruce, etc.) shall not be required unless natural regeneration does not occur within two years of the completion of the development project.
- Erosion control measures for development within Streamside Management Areas shall include the following:
 - During construction, land clearing and vegetation removal shall be minimized.
 - Construction sites shall be mulched with natural or chemical stabilizers to aid in erosion control and insure re-vegetation.

- Long slopes shall be minimized to increase infiltration and reduce water velocities down cut slopes by such techniques as soil roughing, serrated cuts, selective grading, shaping, benching, and berm construction.
- Concentrated runoff shall be controlled by the construction and continued maintenance of culverts, conduits, non-erodible channels, diversion dikes, interceptor ditches, slope drains or appropriate mechanisms. Concentrated runoff will be carried to the nearest drainage course. Energy dissipaters may be installed to prevent erosion at the point of discharge where discharge is to natural ground or channels.
- Runoff shall be controlled to prevent erosion by on-site or off- site methods. On-site methods include, but are not limited to, the use of infiltration basins, percolation pits, or trenches. On-site methods are not suitable where high groundwater or slope stability problems would inhibit or be aggravated by on-site retention or where retention will provide no benefits for groundwater recharge or erosion control.

Implementation of Mitigation Measures BIO-6 and BIO-7 would reduce potential impacts to the SMA to a less-than-significant level.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (No Impact)

There are no adopted Habitat Conservation, Community Conservation, or approved local, regional, or state habitat conservation plans that apply to the Project Area. No impact would result.

3.5 Cultural Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?				✓
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		✓		
c) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

The cultural resources study area is described as the Area of Potential Effect (APE). A Cultural Resources Investigation Report (CRI) was prepared for the project by the Archaeological Research and Supply Company (ARSC 2023). The studies assessed the potential for surficial and/or buried archaeological and historical resources in the proposed improvement area through the completion of the following:

- Records and literature search at the Northwest Information Center (NWIC) of the California Historical Resources Information Center (CHRIS);
- Further literature review of publications, files, and maps for ethnographic, historic-era, and prehistoric resources and background information;
- Communication with the Native American Heritage Commission (NAHC) to request a review of the Sacred Lands File and contact information for the appropriate tribal communities;
- Contact with the appropriate local Native American Tribes; and
- Pedestrian survey of the project area.

Study results were used as a technical basis for evaluating potential impacts to historic and archaeological resources under CEQA.

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? (No Impact)

A Cultural Resources Investigation Report (CRI) was completed in January 2023 by the Archaeological Research and Supply Company (ARSC 2023). Record searches indicated five known historic resources within 0.5 mile of the APE, none are identified within the APE. ARSC conducted a field site-survey of the APE in January 2023. Based on the findings of the CRI, there are no historic resources within the Project Area. Thus, no impact would result.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (Less than Significant Impact with Mitigation)

A CRI was completed in January 2023 by the Archaeological Research and Supply Company (ARSC 2023). Record searches indicated a prehistoric village site being identified within the Rio Dell area, but it has not been located by contemporary archaeologists. Given that this survey and previous investigations located only sparse prehistoric resources, it is likely that that this landform was not as appealing to

prehistoric or historic use as other options in the surrounding geography. The prehistoric findings are likely related to land utilization for subsistence activities associated with nearby habitation areas in the vicinity of Rio Dell (ARSC 2023).

Native American tribes and the NAHC were contacted to discuss the proposed Project through the CRI process. Consultation between ARSC and the Bear River Band of the Rohnerville Rancheria occurred. The Bear River Tribal Historic Preservation Officer (THPO) requested that a copy of the final CRI report be submitted to them to afford the opportunity for further comment. As of March 5th, no further information has been received.

To ensure potential impacts to archeological resources remain less than significant, Mitigation Measure CR-1 would be implemented to establish protocols from ARSC for inadvertent archaeological discovery.

Mitigation

Implementation of Mitigation Measures CR-1 would reduce the potential impact to archaeological resources by requiring procedures that shall be taken in the event of inadvertent discovery.

Mitigation Measure CR-1: Inadvertent Discovery of Archaeological Material

A pre-construction meeting shall be held with field contractors, where the protocols for inadvertent discovery (described below) would be communicated. The following provides means of responding to the circumstance of a significant discovery implementation of the proposed undertaking. If cultural materials for example: chipped or ground stone, historic debris, building foundations, or bone are discovered during ground-disturbance activities, work shall be stopped within 50 feet of the discovery, per the requirements of CEQA (Revised Guidelines, Title 14 CCR 15064.5 (f)). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the materials, and offered recommendations for further action. Tribal representatives shall be notified.

Implementation of Mitigation Measure CR-1 would reduce the potential impacts to a less-than-significant level during construction because a plan would be implemented to address discovery of unanticipated archaeological resources and to preserve and/or record those resources consistent with appropriate laws and requirements.

c) Disturb any human remains, including those interred outside of formal cemeteries? (Less than Significant Impact with Mitigation)

While the CRI did not determine archaeological resources were likely to be present within the APE, inadvertent discovery of human remains may still occur. In the event that human remains are encountered during construction, Mitigation Measure CR-2 would be implemented to ensure any potential impact would be less than significant.

Mitigation

Implementation of Mitigation Measure CR-2 would be implemented regarding discovery of human remains by requiring procedures that shall be taken in the event of inadvertent discovery.

Mitigation Measure CR-2: Inadvertent Discovery of Human Remains

- All work shall stop and per CA Health and Safety Code Section 7050.5:
- Call the Humboldt County Coroner: (707) 445-7242.

- The Coroner will determine if the remains are of prehistoric/historic Native American origin. If the remains are Native American, then;
- The Humboldt County Coroner will contact the Native American Heritage Commission within 24 hours.
- The NAHC is responsible under CA PRC 5097.98. (a) for identifying the most likely descendant (MLD) immediately and providing contact information. Within 48 hours the MLD may contact the landowner, and with landowner permission inspect the location, making subsequent recommendations regarding the most appropriate disposition of their descendent.

Implementation of Mitigation Measure CR-2 would reduce the potential impacts to a less-than-significant level during construction because a plan would be implemented to address discovery of unanticipated human remains and to preserve and/or record those resources consistent with appropriate laws and requirements.

3.6 Energy Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?		✓		
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				✓

a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation? (Less than Significant with Mitigation)

Construction of the Project would involve a variety of earthwork and construction practices, involving the use of heavy equipment as discussed in Section 3.3 (Air Quality). Construction would require the use of fuels, primarily gas, diesel, and motor oil. Construction emissions were estimated using CalEEMod version 2022.1.1 and were estimated to be approximately 291 MTCO₂e from all construction activities (Appendix B). Peak travel associated with Project construction would consist of approximately 28-80 vehicular trips per day, and construction equipment would remain staged in the Project Area once mobilized. Excess soils and construction materials would be stored on-site within previously designated staging areas only. Excess soils may be re-used on-site for backfill and finished grading.

Inefficient construction-related operations would also be avoided due to the measures in Mitigation Measure AQ-1 (BMPs to Reduce Air Pollution). Equipment idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes or less (as required by Mitigation Measure AQ-1). Because construction would not encourage activities that would result in the use of large amounts of fuel and energy in a wasteful manner, and the incorporation of Mitigation Measure AQ-1 would reduce idling time, impacts related to the inefficient use of construction-related fuels would be less than significant with mitigation.

Operation of the Project would include periodic maintenance including annual inspections, trash/debris removal, drainage maintenance, vegetation management, infrequent paving repair, repaving, and striping. In the event of storm damage, more significant repairs to the trail may be needed. These activities would generally be supported by vehicles and the use of hand-held tools. The use of fossil-fuel powered equipment to support these operational and maintenance activities would be periodic and short-term (occurring intermittently). These activities would not result in a substantial increase in energy use, and would not result in inefficient, wasteful, or unnecessary consumption of fuels or other energy resources. By promoting bicycle and pedestrian transit, the Project would have a beneficial reduction on energy resources consumed by automobiles.

Project operation and maintenance would generate less than one new on-road trip per week on average with motorized access limited to light maintenance. The potential for wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant with the incorporation of Mitigation Measure AQ-1.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (No Impact)

The Project would not conflict with or inhibit the implementation of the State Energy Action Plan, Senate Bill (SB) 1389, SB 100, Assembly Bill (AB) 1007, or other State regulations. The Project would not inefficiently utilize energy due to incorporation of Mitigation Measure AQ-1, which limits idling time and provides measures to protect air quality. The Project would temporarily require the use of equipment in order to construct the components of the Project; however, these activities would be temporary and would not interfere with the broader energy goals of the State. Operationally, the Project may reduce automobile-related energy consumption by promoting and supporting pedestrian and bicycle transit. The Project would include lighting in one key location. Electrical lighting would require a small amount of electricity and would not conflict or obstruct state or local plans for renewable energy or energy efficiency. The majority of California's energy-related plans are not directly applicable to the Project or its operations; however, the Project complies with those plan requirements that apply. The Project would therefore not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. No impact would result

3.7 Geology and Soils

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?				✓
ii. Strong seismic ground shaking?			✓	
iii. Seismic related ground failure, including liquefaction?				✓
iv. Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?			✓	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on, or off, site landslide, lateral spreading, subsidence, liquefaction or collapse?				✓
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				✓
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✓		

The Project Area is gently sloping into the Eel River Valley Drainage Basin. Regional geology is likely influenced by seismic activity as a result of the relatively close proximity of the Mendocino Triple Junction to the Project. The Project is located approximately three miles south of the Little Salmon fault zone (CGS 2023). The Project Area is comprised of 35% of the soil series 100— Water and Fluvents, 0 to 2 percent slopes and 65% of the soil series 210— Dungan, 0 to 2 percent slopes (Appendix E of Appendix D). A geotechnical report has been prepared for the Project (LACO 2022). Please see Figure 3-NRCS Soils in Appendix A.

a, i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. (No Impact)

According to the California Geological Survey (CGS), there are no Alquist Priolo Fault Zones in the Project Area (CGS 2023). The Project would have no impact with regard to the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map. The nearest fault zone is the Holocene-age Little Salmon fault zone approximately three miles north of the Project (CGS 2023). Project activities, which include shallow excavation and repaving, would not cross any known fault. No impact related to fault rupture would result.

a, ii) Strong seismic ground shaking? (Less Than Significant)

The Project is situated within a seismically active area close to several seismic sources capable of generating moderate to strong ground motions. Because the Project is located within a seismically active area, the probability that strong ground shaking associated with large magnitude earthquakes would occur during the design life of the Project is high. The Humboldt County coast is a highly active tectonic region that has been subjected to numerous earthquakes of low to moderate strength and occasionally to very strong earthquakes. Seismicity in the region is attributed primarily to the Mendocino Triple Junction, or the interaction between the Pacific, Gorda, and North American plates.

Project implementation would not increase the risk of strong seismic ground shaking or exposure to strong seismic ground shaking above existing conditions. The project would be designed and constructed in conformance with the site-specific recommendations contained in the geotechnical report prepared for the project and California Building Code regulations, which include seismic standards. By following the recommendations contained in the geotechnical report, the construction and operation of the project would result in a less than significant impact. Therefore, the impact to people and structures from strong seismic ground shaking would be less than significant.

a.iii, a.iv, c, d) Liquefaction, landslides, or otherwise unstable soils? (No Impact)

Liquefaction is a phenomenon involving loss of soil strength and resulting in fluid mobility through the soil. Liquefaction typically occurs when loose, uniformly sized, saturated sands or silts are subjected to repeated shaking in areas where the groundwater is less than 50 feet below ground surface. In addition to the necessary soil and groundwater conditions, the ground acceleration must be high enough, and the duration of the shaking must be sufficient for liquefaction to occur. The Project is not located in a mapped liquefaction hazard zone (LACO 2022, Humboldt County 2023e). The anticipated Project loads are relatively light and differential settlement that may arise from potential liquefaction would not adversely affect the serviceability of the trail (LACO 2022). No impact would occur.

The Project Area is gently sloped under 5 percent, and well away from any significant slopes (LACO 2022). There is no evidence of recent active landslides and slope stability is considered relatively stable. Thus, landslides within or near the Project are unlikely to occur, and the potential for landslide occurrence is not increased by the Project.

Expansive soils can cause considerable distress to roads and building foundations as they “rise-and-fall” in accordance with the cycles of soil wetting (swelling) and drying (shrinking). Soils with high percentages of silicate clays are those that have the potential for shrinking and swelling. Mapping by the NRCS shows the

development footprint of the Project to have a percentage of clay content of 24 percent with a Plasticity Index value of 9.2 (Appendix E of Appendix D). Thus, those soils are considered to have a low potential for expansion. The project is not anticipated to encounter expansive soils. A geotechnical report has been prepared prior to construction, and the Project would follow the recommendations contained within the geotechnical report. Thus, the construction and operation of the Project would result in a less than significant impact. No impact would result.

b) Result in substantial soil erosion or the loss of topsoil? (Less Than Significant Impact)

Construction activities, including cut, fill, removal of vegetation, and operation of heavy machinery will disturb soil and, therefore, have the potential to cause erosion. Erosion and sediment control provisions prescribed in the City of Rio Dell Code and NCRWQCB regulations would be required as part of the Project. Erosion control measures would include but not be limited to silt fences, straw wattles, soil stabilization controls, site watering for controlling dust, and/or sediment detention basins. Section 1.9 requires development and implementation of a SWPPP in accordance with the State General Construction Permit. These mandatory ordinance requirements and permits are designed to maintain potential water quality impacts at a less than significant level during and post construction. Therefore, the potential soil erosion impact would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (No Impact)

The Project does not propose the installation or modification of septic tanks or wastewater disposal systems, and it produces no wastewater. Some existing drainage structures such as culverts would be extended or upgraded as required, which may include culverts for the WWTP discharge features. Any modified culvert for the WWTP discharge features would maintain existing drainage flows. Therefore, construction and operation of the Project would have no impact on wastewater infrastructure.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (Less Than Significant with Mitigation)

Paleontological resources are the remains or traces of prehistoric animals and plants. Paleontological resources, which include fossil remains and geologic sites with fossil-bearing strata are non-renewable, scarce, and are a sensitive resource afforded protection under environmental legislation in California.

State law requires reasonable mitigation of adverse environmental impacts that result from development of public land and affect paleontological resources (PRC § 30244).

Project construction does not require deep excavation, and depths would be approximately 1 to 9 feet. It is unlikely that Project construction will impact potentially significant paleontological resources because most of the Project occurs in relatively newly deposited alluvium. However, the possibility of encountering a paleontological resource during construction cannot be completely discounted, therefore, the impact related to the potential disturbance or damage of previously undiscovered paleontological resources, if present, is considered potentially significant.

Mitigation

Implementation of Mitigation Measure GEO-1 would reduce the impact of construction activities on potentially unknown paleontological resources to a less than significant level by addressing discovery of unanticipated buried resources and preserving and/or recording those resources consistent with appropriate laws and requirements.

Mitigation Measure GEO-1: Inadvertent Discovery of Paleontological Resources

In the event that fossils are encountered during construction (i.e., bones, teeth, or unusually abundant and well-preserved invertebrates or plants), construction activities shall be diverted away from the discovery within 50 feet of the find, and a professional paleontologist shall be notified to document the discovery as needed, to evaluate the potential resource, and to assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the material, if it is determined that the find cannot be avoided. The paleontologist shall make recommendations for any necessary treatment that is consistent with currently accepted scientific practices. Any fossils collected from the area shall then be deposited in an accredited and permanent scientific institution where they will be properly curated and preserved.

With incorporation of Mitigation Measure GEO-1, potential impacts would be reduced to a less than significant level through the production of a plan to address discovery of unanticipated paleontological resources.

3.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?		✓		
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				✓

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Less than Significant with Mitigation)

NCUAQMD has not adopted regulations regarding the evaluation of greenhouse gas (GHG) emissions in a CEQA document and has not established CEQA significance criteria to determine the significance of impacts with regard to GHGs. The NCUAQMD has stated that they would not comment adversely on the use of thresholds of significance from the Bay Area Air Quality Management District (BAAQMD) for projects within Humboldt County. However, the BAAQMD has recently revised their adopted recommended CEQA thresholds of significance for GHG. The BAAQMD's Justification Report for the newly adopted greenhouse gas thresholds identifies the thresholds as specific for 'development projects' of commercial/residential development and other projects which include governmental. The Project may not be considered commercial/residential; however, emissions can still be modeled with relative accuracy based upon the construction and operational elements of the Project. Per the Justification Report:

The Air District has developed these thresholds of significance based on typical residential and commercial [including governmental] land use projects and typical long-term communitywide planning documents such as general plans and similar long-range development plans. As such, these thresholds may not be appropriate for other types of projects that do not fit into the mold of a typical residential or commercial project or general plan update.

Lead agencies should keep this point in mind when evaluating other types of projects. A lead agency does not necessarily need to use a threshold of significance if the analysis and justifications that were used to develop the threshold do not reflect the particular circumstances of the project under review. Accordingly, a lead agency should not use these thresholds if it is faced with a unique or unusual project for which the analyses supporting the thresholds as described in this report do not squarely apply. In such cases, the lead agency should develop an alternative approach that would be more appropriate for the particular project before it, considering all of the facts and circumstances of the project on a case-by-case basis.

Additionally, the BAAQMD's Justification Report states:

There is no proposed construction-related climate impact threshold at this time. Greenhouse gas emissions from construction represent a very small portion of a project's lifetime GHG emissions. The proposed thresholds for land use projects are designed to address operational GHG emissions which represent the vast majority of project GHG emissions. (BAAQMD 2022)

The BAAQMD's thresholds do not include guidance for trails development, or to construction-generated emissions. Therefore, this analysis applies the following threshold of significance:

- 1,100 metric tons of carbon dioxide (Bright-line Emissions): applied to total Project emissions (including annualized construction emissions.)

The Sacramento Metropolitan Air Quality Management District's (SMAQMD) and South Coast Air Quality Management District's (SCAQMD) recommended GHG methodology and thresholds for construction and operational impacts were applied to inform the second threshold identified above. For Project construction, SMAQMD has a threshold of 1,100 metric tons of carbon dioxide (MTCO_{2e}) per year threshold of significance (SMAQMD 2021). SCAQMD recommends a threshold of 1,100 MTCO_{2e} applied to construction and operation; SCAQMD recommends that construction emissions be amortized over the life of the project, defined as 30 years, and added to the operational emissions for comparison against the threshold of significance.

Bright-Line Emissions

In order to assess the potential impact of construction-generated emissions, the construction GHG emissions are annualized over an assumed 30-year project lifespan, added to operational emissions, and compared against a threshold of 1,100 MTCO_{2e}.

Project construction activities would result in exhaust emissions from on-road trucks, worker commute vehicles, and off-road heavy-duty equipment. Construction would require clearing, earthmoving, and delivery equipment, as used for similar Projects. Construction emissions were estimated using CalEEMod version 2022.1.1.19. Project construction was estimated to generate approximately 291 MTCO_{2e} from all construction activities, or 9.7 MTCO_{2e} per year when annualized over the assumed 30-year lifespan of the Project. Project operation and maintenance would generate less than one new on-road trip per week on average with motorized access limited to light maintenance; therefore, operational GHG emissions would be negligible and not quantified. Project emissions of 9.7 MTCO_{2e} per year (annualized construction plus operations) would be less than the 1,100 MTCO_{2e} threshold. Therefore, the Project's impact would be less than significant.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (No Impact)

The California Air Resource Board (CARB) 2022 Scoping Plan identifies a path to meet the SB 32 GHG, as well as reducing anthropogenic GHG emissions to 85 percent below 1990 levels by 2045, and achieving carbon neutrality by 2045 or earlier, consistent with Assembly Bill 1279 (AB 1279). The 2022 Scoping Plan includes measures to move to a zero-emissions (decarbonized) transportation sector and phasing out the use of natural gas in residential and commercial buildings. The 2022 Scoping Plan would also reduce emissions of short-lived climate pollutants (SLCPs) and includes mechanical CO₂ removal and carbon capture and sequestration actions, as well as natural working lands management and nature-based strategies. The plan's measures are identified in Table 2-2 and Table 2-3 of the 2022 Scoping Plan. The measures are statewide and programmatic in nature. The 2022 Scoping Plan is largely advisory, as CARB does not directly regulate many of the sectors identified by the plan's measures.

The 2022 Scoping Plan states that local action by municipalities can support and amplify efforts to reduce GHGs. Local government decisions play a critical role in supporting state-level measures to contain the growth of GHG emissions associated with the transportation system and the built environment. Local actions, provided in Appendix D of the 2022 Scoping Plan, are not required by statutory or gubernatorial

direction, and are not binding, but contain guidance and information regarding actions that other jurisdictions may choose to take that complement the 2022 Scoping Plan measures. However, the 2022 Scoping Plan measures are broad policy and regulatory initiatives that would be implemented at the state level and do not relate to the construction and operation of individual projects such as the Project.

The Project is analyzed for consistency with the 2022 Scoping Plan in Table 3.8-2 – Consistency Analysis Between Project and 2022 Scoping Plan. As shown in the table, the Project is consistent with the actions for the Scoping Plan scenario outlined in 2022 Scoping Plan for AB 32 GHG inventory sectors. Therefore, the Project would not conflict with AB 1279 or the 2022 Scoping Plan and would result in no impact.

Table 3.8-1 Consistency analysis between Project and 2022 Scoping Plan

Scoping Plan Sector and Action	Consistency/Applicability Determination
GHG Emissions Reductions Relative to the SB 32 Target – 40% below 1990 levels by 2030.	Not Applicable – This is a statewide measure that cannot be implemented by the Project or lead agency.
Smart Growth / Vehicle Miles Traveled (VMT) – VMT per capita reduced 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045.	Not Applicable – This is a statewide measure and VMT reduction goal that is not applicable to all individual projects due to regional variations and growth projections. Regardless, the Project would not increase VMT as it would be a promote pedestrian and bicycle use.
Light-duty Vehicle (LDV) Zero Emission Vehicles (ZEVs) – 100% of LDV sales are ZEV by 2035	Consistent. – This is a statewide measure that cannot be implemented by the Project or lead agency. However, the standards would be applicable to the light-duty vehicles that would access the Project Area during construction and operation.
Truck ZEVs – 100% of medium-duty (MDV)/HDV sales are ZEV by 2040 (AB 74 University of California Institute of Transportation Studies [ITS] report).	Consistent. – This is a statewide measure that cannot be implemented by the Project or lead agency. However, the standards would be applicable to the trucks that may access the Project Area during operation.
Aviation – 20% of aviation fuel demand is met by electricity (batteries) or hydrogen (fuel cells) in 2045. – Sustainable aviation fuel meets most or the rest of the aviation fuel demand that has not already transitioned to hydrogen or batteries.	Not Applicable – This is a statewide measure that cannot be implemented by the Project or lead agency. The Project does not involve an aviation uses.
Ocean-going Vessels (OGV) – 2020 OGV At-Berth regulation fully implemented, with most OGVs utilizing shore power by 2027. – 25% of OGVs utilize hydrogen fuel cell electric technology by 2045.	Not Applicable – The Project does not involve an ocean-going vessels.
Port Operations – 100% of cargo handling equipment is zero-emission by 2037. – 100% of drayage trucks are zero emission by 2035.	Not Applicable – The Project does not involve a port.

Scoping Plan Sector and Action	Consistency/Applicability Determination
Freight and Passenger Rail – 100% of passenger and other locomotive sales are ZEV by 2030. – 100% of line haul locomotive sales are ZEV by 2035. – Line haul and passenger rail rely primarily on hydrogen fuel cell technology, and others primarily utilize electricity.	Not Applicable – The Project does not involve freight or passenger rail.
Oil and Gas Extraction – Reduce oil and gas extraction operations in line with petroleum demand by 2045.	Not Applicable – The Project does not involve or gas extraction.
Petroleum Refining – CCS on majority of operations by 2030, beginning in 2028. Production reduced in line with petroleum demand.	Not Applicable – The Project does not involve or petroleum refining.
Electricity Generation – Sector GHG target of 38 million metric tons of carbon dioxide equivalent (MMTCO₂e) in 2030 and 30 MMTCO₂e in 2035. – Retail sales load coverage. – 20 gigawatts (GW) of offshore wind by 2045. – Meet increased demand for electrification without new fossil gas-fired resources.	Not Applicable – This measure would apply to electricity providers. The Project is not an electricity provider.
New Residential and Commercial Buildings – All electric appliances beginning 2026 (residential) and 2029 (commercial), contributing to 6 million heat pumps installed statewide by 2030.	Consistent – The Project does not include residential or commercial buildings.
Existing Residential Buildings – 80% of appliance sales are electric by 2030 and 100% of appliance sales are electric by 2035. – Appliances are replaced at end of life such that by 2030 there are 3 million all-electric and electric-ready homes—and by 2035, 7 million homes—as well as contributing to 6 million heat pumps installed statewide by 2030.	Not Applicable – The Project does not include residential buildings.
Existing Commercial Buildings – 80% of appliance sales are electric by 2030, and 100% of appliance sales are electric by 2045. – Appliances are replaced at end of life, contributing to 6 million heat pumps installed statewide by 2030.	Not Applicable – The Project does not include commercial buildings.
Food Products – 7.5% of energy demand electrified directly and/or indirectly by 2030; 75% by 2045.	Not Applicable – The Project does not include agricultural or mass food production.
Construction Equipment – 25% of energy demand electrified by 2030 and 75% electrified by 2045.	Not Applicable – Although the Project would involve the use of construction equipment, construction would occur in 2024, prior to the electrification goal. Additionally, the Lead Agency or Project would not own the construction fleet used.

Scoping Plan Sector and Action	Consistency/Applicability Determination
Chemicals and Allied Products; Pulp and Paper – Electrify 0% of boilers by 2030 and 100% of boilers by 2045. – Hydrogen for 25% of process heat by 2035 and 100% by 2045. – Electrify 100% of other energy demand by 2045.	Not Applicable – This measure would apply to the energy sources for pulp and paper manufacturers. The Project is not pulp or paper manufacture.
Stone, Clay, Glass, and Cement – CCS on 40% of operations by 2035 and on all facilities by 2045. – Process emissions reduced through alternative materials and CCS.	Not Applicable – This measure would apply to the direct GHG emissions from CCS industries. The Project is not a CCS industry.
Other Industrial Manufacturing – 0% energy demand electrified by 2030 and 50% by 2045.	Not Applicable – This measure would apply to the energy sources for industrial manufacturers. The Project is not an industrial manufacturer.
Combined Heat and Power – Facilities retire by 2040.	Not Applicable – This measure would apply to the existing combined heat and power energy facilities. The Project is not combined heat and power facility.
Agriculture Energy Use – 25% energy demand electrified by 2030 and 75% by 2045.	Not Applicable – The Project does not include agricultural production.
Low Carbon Fuels for Transportation – Biomass supply is used to produce conventional and advanced biofuels, as well as hydrogen.	Not Applicable – This measure would apply to the bulk fuel providers. The Project is not a fuel provider.
Low Carbon Fuels for Buildings and Industry In 2030s blended in pipeline. Renewable hydrogen blended in fossil gas pipeline at 7% energy (~20% by volume), ramping up between 2030 and 2040. In 2030s, dedicated hydrogen pipelines constructed to serve certain industrial clusters.	Not Applicable – This measure would apply to natural gas utilities and energy providers. The Project is not an energy provider.
Non-combustion Methane Emissions – Increase landfill and dairy digester methane capture. – Some alternative manure management deployed for smaller dairies. – Moderate adoption of enteric strategies by 2030. – Divert 75% of organic waste from landfills by 2025. – Oil and gas fugitive methane emissions reduced 50% by 2030 and further reductions as infrastructure components retire in line with reduced fossil gas demand.	Consistent – The Project does not include a landfill or dairy. The Project would reduce construction waste with implementation of state mandated recycling and reuse mandates.
High GWP Potential Emissions – Low GWP refrigerants introduced as building electrification increases, mitigating HFC emissions.	Consistent – The Project would not include any refrigerants

Source of Scoping Plan Reduction Measures: CARB 2022

3.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
e) For a project located within 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 result in a safety hazard or excessive noise for people residing or working in the project area?				✓
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			✓	

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Less Than Significant Impact)

Construction of the Project would include the transport and use of common hazardous materials inherent to the construction process, including petroleum products such as fuel and lubricants for construction equipment and vehicles, paints, concrete curing compounds, and solvents for construction of Project improvements. These materials are commonly used during construction, are not acutely hazardous, and would be used in relatively small quantities.

Hazardous materials storage, handling, and transportation must comply with an interconnected matrix of local, State, and Federal laws. Hazardous materials used during construction of the Project would be subject to applicable regulations, including California Health and Safety Code Section 25531, Division 20, Chapter 6.5, and other standards enforced by the various departments and boards under the California

Environmental Protection Agency (Cal/EPA). The Project would be subject to Cal/EPA hazardous materials regulations consolidated under the State's Unified Program enforced by the Department of Toxic Substances Control (DTSC), the State Water Resources Control Board (SWRCB), NCRWQCB, NCUAQMD, and the Department of Resources Recycling and Recovery (CalRecycle). The Cal/EPA administers the Unified Program via local Certified Unified Program Agencies (CUPAs). The CUPA for Humboldt County is the Humboldt County Division of Environmental Health (HCDEH). The HCDEH Hazardous Materials Unit has jurisdiction over the Project area and is tasked with local CUPA inspections and compliance. Project activities involving the transport, use, storage, and disposal of hazardous materials would be in accordance with established rules and regulations.

Project construction specifications would require the management of hazardous materials to comply with applicable laws, rules, and regulations. During Project construction, the contractor would be required to contain hazardous materials and avoid exposure to workers, the public, and surrounding environment during construction. An appropriate facility would be utilized for the legal disposal of any hazardous materials generated.

The Project would be required to implement stormwater management requirements during construction in accordance with the SWRCB General Construction Storm Water Permit (Section 1.9). Stormwater management requirements for addressing materials management would be required, including proper material delivery and storage, spill prevention and control, and management of concrete and other wastes, as described in Section 3.10 (Hydrology and Water Quality).

The established regulatory framework, BMPs, and requisite construction protocols provide appropriate risk mitigation and hazard protections; thus, the Project would not create a significant hazard to the public or environment from hazardous materials. Because the City and its contractors would be required to comply with existing and future hazardous materials laws and regulations addressing the transport, storage, use, and disposal of hazardous materials, the potential to create a significant hazard to the public or the environment during Project construction would be less than significant.

Following construction, operation of the Project would require intermittent maintenance and repair, which could involve hazardous materials such as gasoline. The operational risk posed by intermittent maintenance and repair of the water tanks and pipes specific to hazardous materials is low. The potential to create a significant hazard to the public or the environment during Project operation would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (Less Than Significant Impact)

The Project would utilize heavy machinery to perform some construction-related tasks including grading, excavation, and transportation of materials. There is always the possibility when equipment is operating that an accident could occur, and fuel or other contaminants could be released onto the soil. Equipment on site would be required to have emergency spill cleanup kits immediately accessible in the case of any fuel or oil spills. If construction equipment must be washed, it would be washed off-site. Thus, any potential impact would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (No Impact)

There are no existing or proposed schools within one-quarter mile of the Project. The Monument Middle School is located approximately 0.6 mile northwest of the Project. Construction activities are assumed to include the use of hazardous materials such as fuels, lubricants, degreasers, paints, and solvents. These materials are commonly used during construction, are not acutely hazardous, and would be used in small quantities. Numerous laws and regulations ensure the safe transportation, use, storage, and disposal of hazardous materials (see Impact discussion in Section 3.9 (a) and (b) above). Although construction activities could result in the inadvertent release of small quantities of hazardous substances, a spill or release at a construction area is not expected to endanger individuals at nearby schools given the nature of the materials, the small quantities that would be used, and the distance of the schools from the Project Area. Therefore, because the City and its contractors would be required to comply with existing and future hazardous materials laws and regulations covering the transport, use, and disposal of hazardous materials, and because of the nature and quantity of the hazardous materials to be potentially used by the Project, and because the Monument Middle School is beyond one-quarter mile, there would be no impact related to the use of hazardous materials and school during construction. Project operations would have a no impact on Monument Middle School, or any other school.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (No Impact)

The Project Area is not located on, or within one mile of, a site listed in the DTSC EnviroStor database (DTSC 2023). The Project is also not located on a cleanup site as mapped in the GeoTracker database, though there are 12 closed sites within one mile of the Project, the closest being a Leaking Underground Storage Tank (LUST) approximately 400 feet northwest (Rio Dell City, WWTP (T0602300488)) and one active site located approximately 0.5 mile west (BP Mini Mart / Rio Dell (T0602300108)) (SWRCB 2023). Off-site construction activities are not planned, and impacts related to these off-site closed cleanup sites or the active Chevron USA-Marine Terminal would not occur. No impact would result.

e) For a Project located within 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 result in a safety hazard or excessive noise for people residing or working in the Project Area? (No Impact)

The nearest airport is the Rohnerville Airport (KFOT), which is located approximately 4.4 miles north of the Project Area. The KFOT is covered by the 2021 Airport Land Use Compatibility Plan (ALUCP) prepared for the Humboldt County Airport Land Use Commission (ALUC) by ESA. The Project is not located within an airport land use plan or within two miles of a public airport. Therefore, no impact would result.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (No Impact)

The City does not have their own Emergency Operations Plan (EOP); however, the Project Area is covered under the Humboldt County EOP (Humboldt County 2015). The Humboldt County EOP identifies the emergency response and evacuation policies and procedures for hazards related to earthquake, tsunami,

extreme weather, flooding/flash flooding, landslides, transportation accidents, hazardous materials, interface wildlife fire, energy shortage, offshore toxic spill, civic disturbance, terrorist activities, and national security (Humboldt County 2015).

The Humboldt County EOP establishes a structure for Humboldt County Operation Area agencies to respond to large-scale emergencies requiring multiagency participation or activation of the Humboldt County Emergency Operations Center (EOC) (Humboldt County 2015). Hazard mitigation and risk assessment strategies for Humboldt County Operation Area are formalized in the Humboldt County Operational Area Hazard Mitigation Plan (HMP).

The Project would not impair implementation or physically interfere with the Humboldt County EOP, or Humboldt County HMP. Once constructed, operational use of the Project would include pedestrian transit between Edwards Drive and Davis Street. Thus, emergency response or evacuation via existing roadways would not diminish compared to existing conditions. As the Project would not impair implementation of an emergency response plan or evacuation plan, no impact would occur.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (Less Than Significant Impact)

Wildland fire is addressed in Section 3.20 (Wildfire). As noted in Section 3.20, the Project would not expose people or structures to a significant risk from wildland fires, thus a less than significant impact would result. Please see Section 3.20 for further discussion of the Project as it relates to wildland fire risks.

3.10 Hydrology and Water Quality

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		✓		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				✓
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?			✓	
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			✓	
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			✓	
iv. Impede or redirect flood flows?			✓	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			✓	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓

The Project is located in the Eel River Valley Drainage Basin with the Eel River being immediately to the east of the Project approximately 300 feet.

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? (Less Than Significant with Mitigation)

Two palustrine emergent wetlands (detention pond, discharge channel), and two ditches are present in the Project Area; however, none are jurisdictional to the USACE or the SRWQCB because they are overflow from the Rio Dell Treatment Plant and are design features of the plant (Appendix D). Therefore, the Project is not required to obtain necessary Clean Water Act permits from the Regional Board and the United States Army Corps of Engineers (USACE).

Construction activities such as site clearing, grading, excavation, and material stockpiling, placement of aggregate base, and related construction activities could leave soils exposed to rain or surface water runoff that may carry soil contaminants (e.g., nutrients or other pollutants) into waterways adjacent to the site, degrade water quality, and potentially violate water quality standards for specific chemicals, dissolved oxygen, suspended sediment, or nutrients to surface waters. The greatest potential Project construction impacts to water quality would result from sediment mobilization. This impact is considered to be potentially significant.

The proposed Project is anticipated to disturb over one (1) acre of land, therefore compliance with State Water Board Order No. 2009-0009 would be required which would regulate stormwater runoff from Project construction activities. Project operations would obtain coverage under State Water Resources Control Board Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities, as amended by Order No. 2012-0006. In compliance with the National Pollutant Discharge Elimination System requirements, a Notice of Intent would be prepared and submitted to the North Coastal Regional Water Board prior to undertaking construction, providing notification and intent to comply with the State of California Construction General Permit (CGP). In addition, a SWPPP would be prepared for pollution prevention and control prior to initiating site construction activities.

The Construction SWPPP would be written by a Qualified SWPPP Developer (QSD) and would identify and specify the use of best management practices (BMPs) erosion control, sediment control, off-site tracking control, wind erosion control, non-stormwater management control, and waste management and materials pollution control. A sampling and monitoring program would be included in the Construction SWPPP that meets the requirements of the CGP to ensure the BMPs are effective. A Qualified SWPPP Practitioner (QSP) would oversee implementation of the Plan, including visual inspections, sampling and analysis, and overall compliance with the SWPPP and CGP.

Implementation of BMPs summarized in Section 1.9, as well as mitigation measure BIO-7 of this IS/MND would reduce potential water quality impacts during Project construction activities to a less-than-significant level by requiring measures to minimize erosion, sediment, and pollutant contribution to surface waters.

Following construction, operation and maintenance of the Project would not result in a new point discharge. Stormwater runoff would be detained within stormwater bioretention features onsite, with groundwater flow towards the Eel River. Therefore, less than significant operational impact would result.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin? (No Impact)

The Project is located in the Eel River Valley Drainage Basin (1-010), which has a SGMA Basin Priority of Medium and is not listed as Critically Overdrafted (DWR 2023). The Eel River Valley Groundwater Sustainability Plan applies within the Eel River Valley Drainage Basin (HCGSA 2022). Contractor-supplied water would be used during construction for dust suppression on work areas. Use of groundwater is not anticipated for construction of the Project. Similarly, the Project would not decrease groundwater supplies or interfere with groundwater management.

The geotechnical investigation did not identify groundwater at depths of five feet below ground surface (bgs) (LACO 2023). Project grading depth would be up to approximately four feet with a fill depth ranging from 1 to 9 feet. During construction, isolated and short-duration groundwater dewatering may occur as

needed and would be small in scale and limited to shallow groundwater only. Construction-related impact on groundwater levels would not result.

Following construction, the Project would not utilize groundwater and would not result in an increase in population or employment that would indirectly increase groundwater demand. The Project would not alter groundwater recharge. Therefore, the Project would not create a deficit in aquifer volume or a lowering of water levels. The Project is not expected to result in any change in the use or recharge of groundwater. No construction or operational impact to groundwater resources would result.

c, i) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site? (Less Than Significant Impact)

The Project is gently sloped and drains east towards the Eel River. Project construction would not significantly alter existing topography in manner that would result in a change of the existing drainage pattern or contribute to substantial erosion or siltation on- or off-site. The stormwater treatment design would incorporate Low Impact Development (LID) facilities to capture and infiltrate the stormwater runoff. Drainage infrastructure (such as drainage inlets and new storm drain piping) would direct drainage at the Edwards Drive parking area into an LID facility. The Project trail shoulder would slope away from the traveled way at 2 percent to 5 percent to reduce ponding and minimize debris from flowing onto the trail path. An interceptor swale would be constructed uphill of the trail to capture drainage which would otherwise flow over the trail. The swale would be directed to existing or new culverts which will pass under the trail and discharge below the trail, well above the Eel River. This would also serve to buffer from potential water quality impacts. Fine sediments would also be captured and settled out into the bioretention/infiltration ponds.

Erosion and sedimentation measures would be implemented during construction to avoid impacts to water quality, including those related to siltation (see impact “a” above). The Project would be required to adhere to measures and conditions to be included in a SWPPP to prevent erosion-related impacts during construction (see Section 1.9). Substantial on- or off-site erosion and siltation would not result, and the potential construction-related impact from erosion and siltation would be less than significant.

c, ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? (Less Than Significant Impact)

The Project would have a net increase of approximately 1.1 acres of impervious surface. The Project is also located within a FEMA flood zone (Appendix A – Figure 6). The Project would not significantly alter existing drainage patterns onsite through the construction of parking areas along Edwards Drive and through the asphalt trail; however, stormwater associated with the Edwards Drive parking area would be detained and treated on-site through LID facilities, with groundwater flow continuing towards the Eel River. Stormwater along the trail would be captured by an interceptor swale and infiltrated under the trail to the river. Off-site drainage patterns would not be altered.

The overall stormwater design approach for the site would be developed using a LID approach to mimic the site’s predevelopment hydrology by using techniques that infiltrate, filter, store, and detain runoff close to the source of rainfall with non-structural controls and conservation design measures as much as practicable. The stormwater treatment design would also incorporate vegetated swales, LID facilities, and

subsurface infiltration piping to capture and infiltrate the stormwater runoff. The stormwater generated from the impervious surfaces of the project would be directed towards existing and new drainage structures, as well as an interceptor swale and LID facilities, to detain and infiltrate stormwater onsite.

Aside from the increase impervious surface area, the Project does not include elements that would increase surface runoff or necessitate significant design features to accommodate flooding. New vegetated interceptor swales and bio retention facilities, LID facilities, and subsurface infiltration piping incorporated into the Project design would support stormwater infiltration. Additionally, in compliance with Section 1.9, the Project would develop a SWPPP to be approved by the NCRWCB, and the Project would be designed to meet NCRQWB and MS4 permit storm water requirements. The Project would not cause on- or off-site flooding. The potential impact would be less than significant.

c, iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (Less Than Significant)

As discussed above in Section 3.10 (c) (ii), the Project would include new stormwater drainage facilities in a combination of new vegetated interceptor swales and bioretention facilities, LID facilities, drainage inlets, and new storm drain piping. These facilities would treat all runoff on-site, consistent with MS4 permit standards. Construction projects disturbing one or more acres of land are regulated by the Construction General Permit (CGP). The City reviews project Stormwater Pollution Prevention Plans for compliance with the CGP.

Additionally, in compliance with the measures outlined in Section 1.9 of this IS/MND, the Project would develop a SWPPP to be approved by the NCRWQCB, and the Project would be designed to meet MS4 and NCRWQCB storm water requirements. The Project would not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The impact would be less than significant.

c, iv) Impede or redirect flood flows? (Less Than Significant)

The project is located in a FEMA 100-year and 500-year flood zone associated with the Eel River (Appendix A – Figure 6). Project elements include a paved trail, parking area, and ancillary trail features such as benches, waste receptacles, interpretive signage, and other features related to public access and education. The Project maintains existing drainage patterns and does not include any elements that would impede or redirect flood flows. Any potential impact on the impediment or redirection of flood flows would be less than significant.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation? (Less Than Significant Impact)

The project is located in a FEMA 100-year and 500-year flood zone associated with the Eel River (Appendix A – Figure 6). As the Project is located within the flood zone, construction would not occur during flood conditions (see Section 1.6 – Construction Schedule). Thus, there would be no potential for a flood-related release of pollutants during construction. Any potential construction related impact would be less than significant.

The Project Area is not located near a larger isolated body of water that may be affected by a seiche. The Project Area is not located within a tsunami hazard zone. No impact from a seiche or tsunami would result.

The Project does not include unsecured elements that could be washed away during a flood. Operational maintenance of the Project may involve trash/debris removal, occasional repair, and vegetation maintenance (e.g., trimming), which could involve hazardous materials (e.g., small equipment fuel). However, these materials would not be stored within the Project Area and thus would not be released into the environment in the event of a flood event. Any potential operational related impact would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (No Impact)

The relevant water quality control plan is the NCRWQCB's Basin Plan, which establishes thresholds for key water resource protection objectives for both surface waters and groundwater. The Eel River Valley Groundwater Sustainability Plan applies within the Eel River Valley Drainage Basin (HCGSA 2022). The Project does not involve the use of groundwater resources and would not impact the quantity or quality of groundwater availability in the Eureka Plain Basin. All stormwater would be detained and treated on-site, with groundwater flow towards the Eel River.

The Project would be required to obtain coverage under SWRCB's CGP, which would include development and implementation of a SWPPP. Adherence to these regulatory requirements and associated requisite monitoring would ensure a conflict with the Basin Plan does not occur. No impact would result.

3.11 Land Use and Planning

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?				✓
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✓

This section evaluates the potential impacts related to land use, as it applies to construction and operation of the Project. The Project is located within the City of Rio Dell, and therefore subject to the City of Rio Dell General Plan land use designations.

a) Physically divide an established community? (No Impact)

The Project is located on undeveloped land between Edwards Drive and Davis Street. Operationally, the Project would enhance pedestrian connectivity between Edwards Drive and Davis Street. The Project would not physically divide an established community. No impact would result.

c) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (No Impact)

As defined by the 2015 City of Rio Dell General Plan, the Project Area land use and zoning designation is Natural Resources (NR) and Public Facility (PF) (Rio Dell 2015). NR regulations are defined within City Code 17.20.120. The Project would be the creation of a new recreational trail and is a principally permitted use within City Code 17.20.120 (1) (b) Public recreation where compatible with resource management and protection. Therefore, the Project is consistent with existing zoning.

The PF portion of the Project would be utilized solely as a staging area, and no Project elements would be located within during operation.

The Project would meet and/or support the following City of Rio Dell General Plan goals and policies:

- Policy CO 5.4-1. Support the acquisition, development and maintenance of park and recreation areas that provide recreation actives, including trails identified in the Circulation Element.
- Policy CE 3-1. Provide an extensive network of pedestrian, including the physically disabled and bicycle pathways to support community health and provide safe alternatives to automobile use.
- Policy CO 5.2-1: Riparian areas within the City shall be protected when adjacent development projects are proposed.
- Policy CO 5.2-2: Maintain and expand the tree canopy within and outside the developed areas of the City.

- Policy CO 5.2-3: Protect distinctive natural vegetation such as riparian corridors and mixed evergreen forests by maintaining the natural features as a whole. Preservation of individual trees or features rather than the larger habitat does not satisfy this policy.
- Policy CO 5.4-1: Support the acquisition, development and maintenance of park and recreation areas that provide recreation activities, including trails identified in the Circulation Element.

Additionally, the Project does not conflict with City municipal code regulations, including but not limited to those defining Environmentally Sensitive Habitat Areas (ESHA) (Code 17.30.080) (See Section 3.4). Therefore, the Project would not conflict with an applicable land use plan, policy, or regulation. No impact would result.

3.12 Mineral Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓

This section evaluates the potential impacts related to mineral resources associated with the Project.

a, b) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (No Impact)

The Project would require minor use of rock, gravel, sand, and other similar materials for construction, but is not expected to have any significant impact on locally available minerals or mineral resources valuable to the region or the State. Additionally, the Project Area is not designated by the City of Rio Dell General Plan, or any other local land use plans, as having locally important mineral resources within the Project Area, nor is it mapped as a SMARA parcel (Rio Dell 2015). No impact would occur.

3.13 Noise

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in generation of 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?			✓	
b) Result in generation of excessive groundborne vibration or noise levels?			✓	
c) 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?				✓

Current noise conditions on the Project Area consist of the noise associated with the adjacent WWTF and River's Edge RV Park. The nearest sensitive receptors, consisting of residential homes, are located approximately 200 feet west of the Project Area.

- a) **Result in generation of 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)**

Construction

Construction of the proposed project would temporarily increase noise in the immediate vicinity of the project site. The temporary noise increases would result from use of construction equipment for the project, as well as from increased traffic as construction workers commute to and from the project site.

Sensitive noise receptors adjacent to and near the project include residential housing, with the nearest residence being located on Hilltop Road approximately 200 feet west of the Project. The project would generate temporary noise during construction. As the Project is linear in nature, the noise associated with construction activities would move along the alignment as work is conducted, resulting in intermittent increases at the adjacent sensitive receptors during the construction phase that would shift as construction progresses. Construction activities would be limited to daytime work hours between 7:00 a.m. to 7:00 p.m., Monday through Friday, though occasional work may occur on Saturdays. Construction noise levels would vary based on the type of equipment as summarized in Table 3.13-1 below.

Table 3.13-1 Construction Equipment Reference Noise Levels as Measured at 50'

Equipment	Noise Level (dB ¹)	Equipment	Noise Level (dB)
Horizontal Boring Hydraulic Jack	80	Jackhammer	85
Front end loader or Backhoe	80	Paver or Roller	85
Excavator	85	Dump truck	84

Source: Federal Highway Administration, 2006

Sound from a point source is known to attenuate at a rate of -6 dB for each doubling of the distance to the receptor. For example, a noise Equivalent Continuous Level (Leq) of 84 dB as measured at 50 feet from the noise source would attenuate to 78 dB Leq at 100 feet from the source and to 72 dB Leq at 200 feet from the source to the receptor. Based on the reference noise levels in Table 3.13-1, the noise levels generated by construction equipment at the Project site may reach a maximum of approximately 85 dB Leq at 50 feet during site excavation and construction.

Short-term noise performance standards during daytime hours for the City of Rio Dell range from a maximum of 90 dB(A) – 115 dB(A), depending on the duration. No elements of construction would exceed 90 dB(A) limit at 50 feet, and thus would not exceed the limit at 200 feet to the nearest sensitive receptor (Table 3.13-1). The Project would be fully permitted and would comply with the terms of approved permits, including those that may specifically address noise limitations. As the construction phase would be temporary and construction activities would be intermittent and limited to between 7:00 a.m. and 7:00 p.m., potential noise impacts generated during the construction phase would be less than significant. Thus, construction of the Project would not conflict with a City noise standard.

Operation

Once the Project is constructed, recreational users would not generate a significant amount of noise in excess of City standards. Noise associated with the operation of the trail would generally consist of typical human speech, sporadic dog barks, and use of non-motorized modes of transportation including bicycles, scooters, and skateboards. The use of motors, pumps, or other mechanical appurtenance capable of creating a stationary noise source would not occur. Therefore, Project operation would not result in noise levels exceeding the City's noise standards. Operational noise would be consistent with City standards. A less than significant impact would result.

b) Result in generation of excessive groundborne vibration or noise levels? (Less Than Significant Impact)

The City has not established groundborne vibration limits. However, Caltrans recommends a vibration limit of 0.5 inches/second peak particle velocity (PPV) for buildings structurally sound and designed to modern engineering standards, 0.3 inches/second PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.08 inches/second PPV for ancient buildings or buildings that are documented to be structurally weakened. No known buildings that are documented to be structurally weakened or ancient adjoin the Project Area. Therefore, the 0.5 inches/second PPV limit would apply when considering the potential for groundborne vibration levels to result in a significant vibration impact.

¹ "dB" is a weighted decibel measurement for assessing hearing risk and, therefore, is used by most regulatory compliance.

The noise and vibration evaluation assessed typical vibration levels that could be expected from construction equipment at a distance of 25 feet, inclusive of required equipment and methods for construction. Project construction activities, such as drilling, the use of jackhammers, and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may generate substantial vibration in the immediate vicinity.

Table 3.13-2 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet (Caltrans 2019). High-power or vibratory tools and rolling stock equipment (e.g., tracked vehicles, compactors), may generate substantial vibration in the immediate vicinity. Vibratory rollers typically generate vibration levels of 0.210 inches/second PPV at a distance of 25 feet. Vibration levels are highest close to the source and attenuate with increasing distance. Vibration levels would vary depending on soil conditions, construction methods, and equipment used.

Table 3.13-2 Typical Vibration Levels for Construction Equipment Used During Project Construction (Caltrans 2019)

Equipment	Reference PPV at 25 ft (in./sec)
Vibratory Roller	0.210
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003
Crack-and-Seat Operations (specific pavement rehabilitation process)	2.4

Project-related activities would not involve the use of explosives or other intensive construction techniques that could generate significant groundborne vibration or noise. The Project may also utilize a vibratory roller, large bulldozer, and jackhammer.

Vibration impacts to residences are anticipated to be minor and below the Caltrans advisory of 0.5 inches/second PPV for buildings that are found to be structurally sound but where structural damage is a major concern, as the closest residences are located approximately 200 feet away from the Project Area. Minor vibration adjacent to mechanized equipment and road treatments during construction work would be generated only on a short-term basis. Therefore, groundborne vibration and noise would have a less than significant impact.

Following construction, operation of the Project would not result in groundborne vibration or groundborne noise. Project operation would not generate vibration, except in instances where larger repairs to the trail or parking area might be required. These conditions would be short-term and temporary (taking from one to several weeks to complete depending on the extent of damage or other circumstances); therefore, no operational impact would result.

- c) 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? (No Impact)**

The nearest airport is the Rohnerville Airport (KFOT), which is located approximately 4.4 miles north of the Project Area. The KFOT is covered by the 2021 Airport Land Use Compatibility Plan (ALUCP) prepared for the Humboldt County Airport Land Use Commission (ALUC) by ESA. The Project is not located within the ALUCP Noise Contours for KFOT (ESA 2021). Therefore, Project construction would not exacerbate existing airport noise. No impact would result.

3.14 Population and Housing

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				✓
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

This section evaluated the Project's potential effect on population and housing. The 2020 population for the City of Eureka was estimated to be 3,379 people (US Census 2020).

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (No Impact)

The Project would not be growth-inducing and would not result in the need for construction of new homes or businesses directly or indirectly. No new roads, extension of water or sewer utilities, or other infrastructure would be installed or constructed that would indirectly allow for additional residential units or commercial uses to be constructed. Further, the Project does not include any residential units or other development that would directly induce population growth. Given the modest level of construction required for the Project, it is reasonable to anticipate that workforce requirements for construction can be met through the local labor force within the region. Maintenance of the proposed trail would be performed by existing City staff. Due to these reasons, the Project would not induce population growth directly or indirectly, and no impact would result.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (No Impact)

Implementation of the Project would not displace existing housing units or residents. The construction of replacement housing would not be necessary. No impact would result.

3.15 Public Services

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire Protection?			✓	
Police protection?			✓	
Schools?			✓	
Parks?			✓	
Other public facilities?			✓	

- a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for public services? (Less Than Significant)**

As a non-motorized transportation facility, the Project would not necessitate any related new or altered public service facilities. The Project would solely be used for recreational and non-motorized transportation purposes. The Project Area currently receives fire protection services from the Rio Dell Fire Protection District and police services through the Rio Dell Police Department. The Project is not expected to substantially increase the need for patrols by local law enforcement or emergency services. The Project may ultimately have the beneficial effect of reducing the need for patrols by encouraging more public use and discouraging unwanted activity in the area. As discussed in Section 3.14 (Population and Housing), implementation of the Project would not directly or indirectly induce population growth and, therefore, would not require expanded fire or police protection facilities to maintain acceptable service ratios, response times, or other performance objectives. The potential impact related to fire and law enforcement would be less than significant.

The Project would not result in an increase in student population, and therefore, no new or expanded schools would be required. As the Project would provide an additional recreational opportunity in the community and would not increase the population, it is anticipated that there would be sufficient service ratios with regard to parks. Operationally maintenance of the trail is within the City's existing capacity. Overall, impact related to public services would be less than significant.

3.16 Recreation

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?			✓	

Recreational facilities adjacent to the Project Area include the Eel River, Fireman's Park, and the Scotia Ballpark, among others.

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (Less than Significant Impact)

The Project proposes a new recreational amenity within the City of Rio. The proposed trail would increase non-motorized transportation in the area making it convenient and safer for users to access additional recreational opportunities. The trail would provide access between Edwards Drive and Davis Street. The Project Area is adjacent to the Eel River; however, the proposed Project would not provide additional access to the Eel River.

Given the number of existing parks and recreational options available adjacent to the Project Area, the Project would not increase use of a park such that substantial physical deterioration would result. The additional use is within the current capacity of each park.

The proposed trail is a recreational facility that could encourage the construction of other reasonably foreseeable recreational facilities, predominantly other connecting trails, or related amenities through the Eureka-to-Scotia Trail. Such future projects would be subject to CEQA review and other environmental approvals, as applicable, once proposed, and are considered under cumulative effects in Section 3.21 – Mandatory Findings. The potential impact would remain less than significant.

b) Include or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? (Less than Significant Impact)

The proposed trail is a recreational facility that could encourage the construction of other reasonably foreseeable recreational facilities, predominantly other connecting trails, or related amenities. Such future projects would be subject to CEQA review and other environmental approvals, as applicable, once proposed, and are considered under cumulative effects in Section 3.21 – Mandatory Findings. The potential impact would remain less than significant.

3.17 Transportation

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?				✓
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			✓	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				✓
d) Result in inadequate emergency access?			✓	

The Project would create a trail between Edwards Drive and Davis Street.

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? (No Impact)

The Project would construct a trail along a riparian corridor to enhance recreational opportunity and increase walking and biking connectivity within the City of Rio Dell in a safe and family-friendly manner. The proposed Project would not constitute an extension of the City of Rio Dell roadway network.

Construction would result in vehicle trips by construction workers and haul-truck trips for material deliveries via US 101 from the north and south, and along Wildwood Avenue. Construction-related traffic would be temporary, would vary on a daily basis, and would be distributed over the course of a workday and work week. No road or lane closures would be required for the Project. The temporary construction impact on the circulation system would be less than significant.

Once complete, the proposed Project is not expected to significantly increase vehicle traffic on local streets and would not increase the area's population or redirect traffic patterns. Vehicle traffic may increase slightly to the Project's improved or newly established trailheads. Additionally, by providing a safe and convenient trail for alternative modes of transportation, the Project could reduce the number of vehicle trips taken by residents and visitors, effectively reducing vehicular traffic and circulation in the area.

The Project is consistent with multiple plans and policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities further described in Section 3.11 (Land Use and Planning). The following plans all identify the Project, inclusive of the Project Area, as a priority project or a project that would help to improve regional accessibility for pedestrians and bicyclists: The Humboldt Regional Bicycle Plan Update (HCAOG 2018), Humboldt County Regional Trails Master Plan (HCAOG 2010), Eureka-to-Scotia Trail Corridor Assessment (HCAOG 2016). The Project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. Therefore, no impact would result.

b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)? (Less Than Significant Impact)

Pursuant to SB 743 and the current CEQA Guidelines, evaluation of a project's potential transportation impact requires consideration of vehicle miles traveled (VMT), which refers to the amount and distance of automobile travel attributable to a project. Section 15064.3, subdivision (b), of the CEQA Guidelines lists the criteria for analyzing transportation impacts from proposed projects. The criteria are broken into four categories, including land use projects, transportation projects, qualitative analysis, and methodology. Transportation projects that reduce, or have no impact on, VMT should be presumed to cause a less than significant transportation impact. This section was recently added by the state legislature in an attempt to separate CEQA's purpose and role from traffic or other issues related to ease of use of single occupancy vehicles.

Examples of projects that result in the potential to increase VMT include:

- Changes in land use
- Expanded roadways (e.g., new roads, additional lanes)
- Private development
- Expanded public service facilities, such as new police stations, new fire stations, or new administrative buildings
- Residential development, such as a new sub-division

The proposed Project includes none of the above listed elements and does not include any component that could be characterized as resulting in a potential increase in VMT. To the contrary, the Project will promote non-motorized transportation. By promoting multi-modal transportation, the Project will, by its very nature, reduce VMT throughout the Project Area and would thus not result in an environmental impact under CEQA. Instead, the Project would result in an environmental benefit by reducing the existing VMT within the City of Rio Dell.

The proposed Project would not increase the length of roadway, add new roadways, or increase the number of travel lanes. Any increase in VMT related to trailhead development and vehicular use would be *de minimis* and balanced by the Project's VMT reducing measures to promote non-motorized transit. By promoting non-motorized transportation, the Project would reduce VMT through the Project Area. The impact would be less than significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (No Impact)

The Project would pave the parking area at Edwards Drive; however existing road geometry would not change. The Project does not include any other new roadway or feature that would impede safe lines of sight, affect geometric designs of roadways, or result in a transportation hazard. There would be no impact.

d) Result in inadequate emergency access? (Less Than Significant)

The proposed 1,600 feet trail would be adjacent to existing streets and would include access from Edwards Drive and Davis Street. The trail would not slow or hinder emergency response, would not require additional emergency services, and would maintain emergency access to all trail segments; therefore, a less than

significant impact would result during construction. Following construction, the trail would also be accessible to emergency responders. Thus, a less than significant impact would result.

3.18 Tribal Cultural Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historic Resources, or in a local register of historic resources as defined in Public Resources Code section 5020.1(k)?		✓		
b) Cause a substantial adverse change in the significance of a tribal cultural resource that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1? In applying the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.		✓		

a, b) Cause a substantial adverse change in the significance of a tribal cultural resource? (Less Than Significant with Mitigation)

CEQA requires lead agencies to determine if a proposed Project would have a significant effect on tribal cultural resources. The CEQA Guidelines define tribal cultural resources as: (1) a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or (2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code Section 5024.1(c), and considering the significance of the resource to a California Native American tribe.

Under Assembly Bill (AB) 52, notification letters were sent to the Bear River Band of the Rohnerville Rancheria and the Wiyot Tribe, on September 11, 2023. The AB 52 process gives tribes 30 days of receipt of the formal notification to initiate consultation which would end on October 11, 2023. A response was received from the Bear River Band of the Rohnerville Rancheria on October 3, 2023, who indicated no concerns with the Project outside of a recommendation for inadvertent discovery protocols which are incorporated as CR-1 and CR-2. No other responses were received before October 11, 2023. Therefore, with CR-1 and CR-2, a less than significant impact would occur.

3.19 Utilities and Service Systems

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				✓
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				✓
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			✓	

New water, sewer, telecommunication, and power utility connections to the Project Area would not be required.

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? (No Impact)**

The Project is a proposed trail that does not require water, sewer, gas, or telecommunications. The Project includes proposed lighting at the Edwards Drive parking area. An existing utility pole at the Edwards Drive parking area would be utilized to provide lighting to the vicinity to increase visibility and safety. No new power utility infrastructure would be required. Therefore, a no impact would occur.

- b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years? (No Impact)**

The proposed Project would not create an increased demand for domestic water service. The Project would require relatively small quantities of water during the construction phase (e.g., for dust control and concrete/asphalt applications). The Project's water demands would not be substantial and can be met by

existing entitlements and resources. The Project would not induce population growth or result in land uses that would increase demand for water supplies. Therefore, the Project would not result in the need for the construction of new water facilities, or the expansion of existing facilities. No impact would result.

c) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments? (No Impact)

The Project does not involve sewerage facilities or wastewater treatment and would not impact existing municipal sewerage infrastructure or result in a demand increase on existing wastewater treatment capacity. Restrooms are not included in the Project. No impact would result.

d, e) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? (Less Than Significant Impact)

The solid waste providers in the area are Recology and the Humboldt Waste Management Authority (HWMA). The proposed Project would generate solid waste during both construction and operation. Construction solid waste would include the one-time temporary generation of construction waste associated with the proposed construction. Excess soils and construction materials would be stored within designated staging areas. Excess materials may be re-used on site for backfill and finished grading. Excess materials would not be stockpiled on-site once the Project is complete. The contractor would haul additional excess materials off site for beneficial re-use, recycling, or legal disposal. Solid waste collected as a part of the Project would be disposed of via Recology or HWMA.

The Project may include waste receptacles, spaces for recycling bins, and pet waste stations. Solid waste collected as a part of the Project would be disposed of via Recology or HWMA. Solid waste produced in the County is trucked to State licensed landfills located in Anderson, California and Medford, Oregon in compliance with local, State, and federal regulations pertaining to solid waste disposal. These facilities have sufficient capacity to serve the Project's solid waste disposal needs; therefore, a less than significant impact would result.

3.20 Wildfire

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				✓
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			✓	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				✓
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes?			✓	

The Project is entirely located within a Local Responsibility Area (LRA) in which suppressing wildfire is primarily the responsibility of the local jurisdiction, i.e., the local fire department (Humboldt County 2023c). The Project is located within a moderate Fire Hazard Severity Zone (FHSZ) (Humboldt County 2023d). The nearest land classified as a very high fire hazard severity zone is approximately 1.6 miles west of the Project Area (CAL FIRE 2007). The Project Area is served by the Rio Dell Fire Protection District. The closest fire station to the Project Area is the Rio Dell Fire Station located approximately 0.7 mile northwest of the Project.

a) Substantially impair an adopted emergency response plan or emergency evacuation plan (No Impact)

The City does not have their own Emergency Operations Plan (EOP), however a review of the Humboldt County EOP (Humboldt County 2015) indicates that the Project would not permanently impair emergency response activities nor established evacuation routes. The Project operation would not impair implementation or physically interfere with an established emergency response or evacuation plan; see Section 3.9 (Hazards and Hazardous Materials, Impact (f)) for discussion of the Project's effect on emergency response and evacuation plans.) The Project would not permanently impede access to any existing roads or pedestrian ways within the Project Area. No impact would result.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? (Less than Significant Impact)

The Project Area includes topography that is gently sloped to the east with the Eel River approximately 300 feet east. Grasses, shrubs, and other vegetation are present along the Project Area. The vegetated portions

could be susceptible to wildfire during Project construction or operation, as a result of accidental ignition. During construction, all hazardous materials and construction equipment would be appropriately used and stored pursuant to applicable regulations. During operation, the Project would not house any pollutants within the Project Area that may be released if a wildfire occurred. Furthermore, the Project does not include any structures built for human occupancy. Most trail users would be within the Project Area for a short period of time given the purpose is for passive recreational use. Due to the temporary nature of construction, the minimal amount of hazardous materials anticipated to be stored during the construction phase, the fact that the Project is not located within an area of very high fire risk, and given that the Project does not include any structures to be used for human occupancy, the Project would not exacerbate wildfire risks and thereby expose users to pollutants. A less than significant impact would result.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (No Impact)

Development of the Project would not result in a need to expand infrastructure to the Project Area or in the immediate vicinity of the Project. New roads for fire defense, expanded water sources, or new power lines would not be required. New lighting would be installed at the Edwards Drive parking to an existing utility pole, therefore not increasing the risk of wildfire above existing conditions. No impact would result.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes? (Less than Significant Impact)

Project construction would not expose people or structures to significant risk. The Project Area includes topography that is gently sloped with low risk of landslides. Fire ignition risk associated with construction activities is low. A potential wildfire would be quickly extinguished due to the close presence of the fire station. It would be unlikely the parcel would succumb to wildfire as a result. A less than significant impact would result.

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Does the project:				
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			✓	
c) Have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?			✓	

- a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (Less Than Significant with Mitigation)**

As evaluated in this IS/MND, the Project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory.

Mitigation measures are listed herein to reduce impacts related to Air Quality, Biological resources, Cultural Resources, Energy Resources, Geology and Soils, Greenhouse Gas Emissions, Hydrology and Water Quality, Tribal Cultural Resources. With implementation of the required mitigation measures, impacts would be less than significant.

- b) Does the Project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)? (Less than Significant Impact)**

Cumulative impacts are defined as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (CEQA Guidelines § 15355). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The City of Rio Dell was consulted and provides a list of past, present, and reasonably foreseeable future projects within and near the Project Area, including their anticipated construction schedules (if known). One project, the Painter Street Sewer Line Replacement Project, would be located near the Project Area. This would upsize an existing wastewater line. The impacts associated with the proposed Project analyzed in this IS/MND would not add appreciably to any existing or foreseeable future significant cumulative impact, such as visual quality, cultural resources, biological, traffic impacts, or air quality degradation. Incremental impacts, if any, would be negligible and undetectable. Any applicable cumulative impacts to which this Project would contribute would be mitigated to a less-than-significant level. Because the proposed Project would not result in significant impacts after mitigation the proposed Project would not contribute to any significant cumulative impacts which may occur in the area in the future. Therefore, the impact would be less than significant.

- c) Does the Project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly? (Less Than Significant Impact)**

The Project has been planned and designed to avoid significant environmental impacts. As discussed in the analysis throughout Section 3 of this IS/MND, the Project would not have environmental effects that would cause substantial adverse direct or indirect effects on human beings. The impact would be less than significant.

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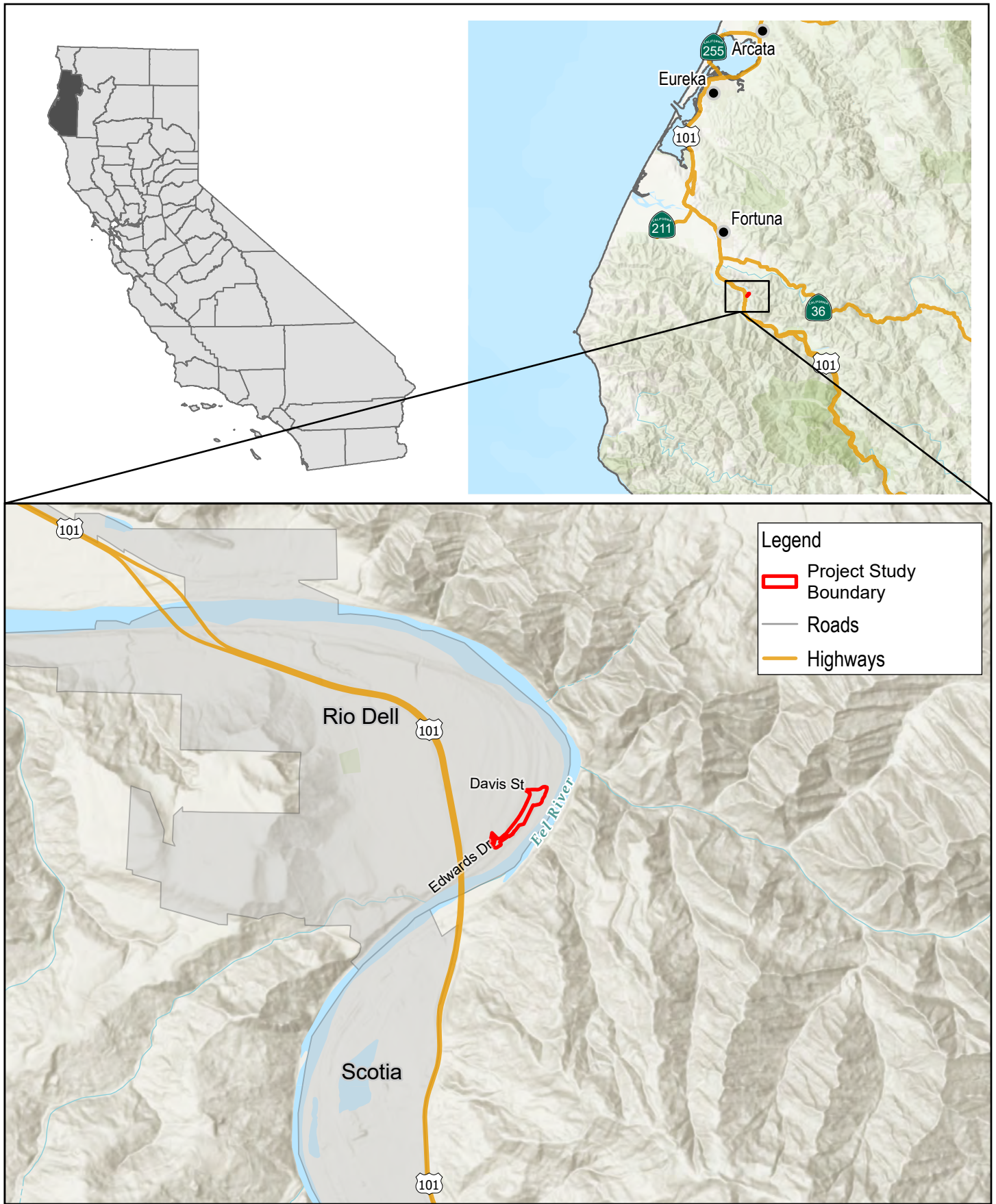
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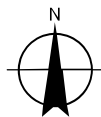
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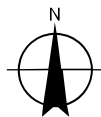
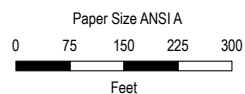


City of Rio Dell
Eel River Trail
ISNMD

Project No. 12592002
Revision No. -
Date Sep 2023

Vicinity Map

FIGURE 1



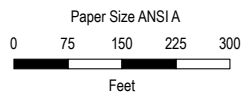
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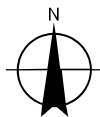
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Project Study Boundary

FIGURE 2



Map Projection: Lambert Conformal Conic
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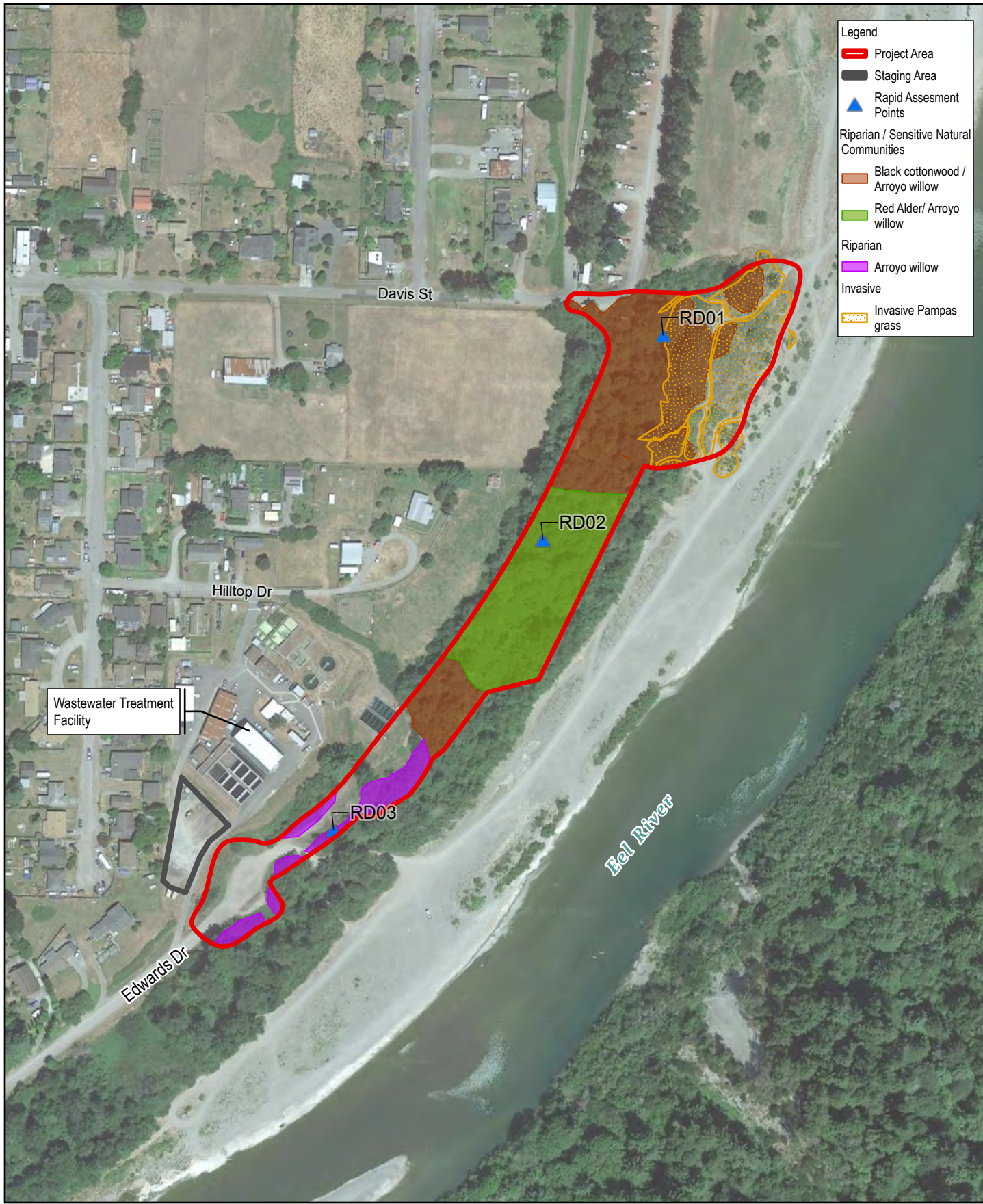


City of Rio Dell
Eel River Trail
ISMND

Project No. 12592002
Revision No. -
Date Sep 2023

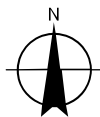
NRCS Soils

FIGURE 3





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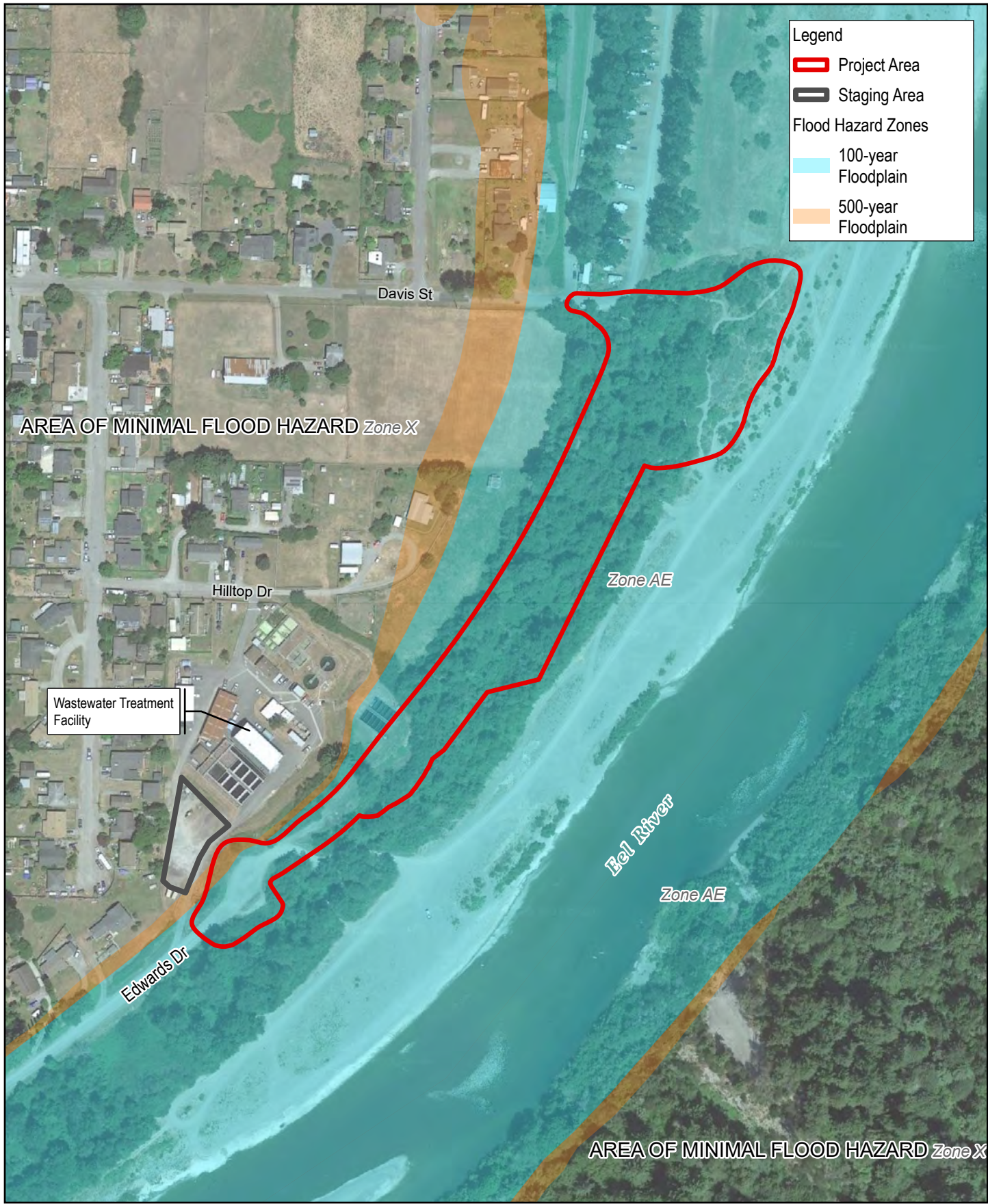


City of Rio Dell
Eel River Trail
Botanical Memo

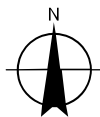
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Revision No. -
Date Oct 2023

Impacted Trees to be Removed

FIGURE 5



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City of Rio Dell
Eel River Trail

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7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Eel River Trail Project
Construction Start Date	1/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.90
Precipitation (days)	73.4
Location	40.4972650385391, -124.09354469520338
County	Humboldt
City	Rio Dell
Air District	North Coast Unified APCD
Air Basin	North Coast
TAZ	116
EDFZ	2
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.19

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Linear	0.30	Mile	1.00	0.00	—	—	—	—

Parking Lot	12.0	Space	0.11	0.00	0.00	0.00	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.03	23.5	25.5	0.05	1.04	7.58	8.62	0.96	3.56	4.51	—	5,356	5,356	0.18	0.25	5,439
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.34	22.7	26.3	0.05	0.99	7.55	8.54	0.92	3.55	4.46	—	5,527	5,527	0.18	0.26	5,608
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.78	7.38	8.31	0.02	0.33	2.28	2.61	0.30	1.07	1.37	—	1,732	1,732	0.06	0.08	1,757
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.14	1.35	1.52	< 0.005	0.06	0.42	0.48	0.05	0.20	0.25	—	287	287	0.01	0.01	291

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
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Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.03	23.5	25.5	0.05	1.04	7.58	8.62	0.96	3.56	4.51	—	5,356	5,356	0.18	0.25	5,439
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.34	22.7	26.3	0.05	0.99	7.55	8.54	0.92	3.55	4.46	—	5,527	5,527	0.18	0.26	5,608
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.78	7.38	8.31	0.02	0.33	2.28	2.61	0.30	1.07	1.37	—	1,732	1,732	0.06	0.08	1,757
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.14	1.35	1.52	< 0.005	0.06	0.42	0.48	0.05	0.20	0.25	—	287	287	0.01	0.01	291

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	4.04	7.48	0.01	0.19	—	0.19	0.17	—	0.17	—	1,199	1,199	0.05	0.01	1,203
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.50	0.92	< 0.005	0.02	—	0.02	0.02	—	0.02	—	148	148	0.01	< 0.005	148
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.5	24.5	< 0.005	< 0.005	24.6
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.43	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	53.6	53.6	< 0.005	< 0.005	54.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.63	6.63	< 0.005	< 0.005	6.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.10	1.10	< 0.005	< 0.005	1.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.3. Linear, Grading & Excavation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.76	16.6	17.5	0.03	0.78	—	0.78	0.72	—	0.72	—	2,840	2,840	0.12	0.02	2,850
Dust From Material Movement	—	—	—	—	—	7.09	7.09	—	3.43	3.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.76	16.6	17.5	0.03	0.78	—	0.78	0.72	—	0.72	—	2,840	2,840	0.12	0.02	2,850
Dust From Material Movement	—	—	—	—	—	7.09	7.09	—	3.43	3.43	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.52	4.91	5.19	0.01	0.23	—	0.23	0.21	—	0.21	—	840	840	0.03	0.01	843
Dust From Material Movement	—	—	—	—	—	2.10	2.10	—	1.01	1.01	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.90	0.95	< 0.005	0.04	—	0.04	0.04	—	0.04	—	139	139	0.01	< 0.005	140
Dust From Material Movement	—	—	—	—	—	0.38	0.38	—	0.19	0.19	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.52	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	71.6	71.6	< 0.005	< 0.005	73.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.91	0.29	0.02	0.02	0.34	0.36	0.02	0.09	0.12	—	1,363	1,363	0.01	0.22	1,430
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.57	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	71.5	71.5	0.01	< 0.005	72.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.99	0.30	0.02	0.02	0.34	0.36	0.02	0.09	0.12	—	1,363	1,363	0.01	0.22	1,428
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.16	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.2	21.2	< 0.005	< 0.005	21.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Hauling	0.01	0.57	0.09	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	403	403	< 0.005	0.06	423
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.51	3.51	< 0.005	< 0.005	3.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.10	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	66.8	66.8	< 0.005	0.01	70.0

3.5. Linear, Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71	6.74	9.89	0.02	0.33	—	0.33	0.30	—	0.30	—	1,626	1,626	0.07	0.01	1,631
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71	6.74	9.89	0.02	0.33	—	0.33	0.30	—	0.30	—	1,626	1,626	0.07	0.01	1,631
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.83	1.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	200	200	0.01	< 0.005	201
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.15	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	33.2	33.2	< 0.005	< 0.005	33.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.65	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.5	89.5	0.01	< 0.005	91.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.71	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.4	89.4	0.01	< 0.005	90.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	11.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	1.86
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.7. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	13.4	13.7	0.02	0.59	—	0.59	0.55	—	0.55	—	2,210	2,210	0.09	0.02	2,217
Demolition	—	—	—	—	—	0.33	0.33	—	0.05	0.05	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.37	0.38	< 0.005	0.02	—	0.02	0.01	—	0.01	—	60.5	60.5	< 0.005	< 0.005	60.8
Demolition	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.0	10.0	< 0.005	< 0.005	10.1
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.57	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	71.5	71.5	0.01	< 0.005	72.6

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.41	0.06	< 0.005	0.01	0.07	0.07	0.01	0.02	0.02	—	280	280	< 0.005	0.04	293
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.96	1.96	< 0.005	< 0.005	2.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.66	7.66	< 0.005	< 0.005	8.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.27	1.27	< 0.005	< 0.005	1.33

3.9. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.63	15.2	15.4	0.02	0.72	—	0.72	0.66	—	0.66	—	2,519	2,519	0.10	0.02	2,527
Dust From Material Movement	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.08	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.8	13.8	< 0.005	< 0.005	13.8
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.28	2.28	< 0.005	< 0.005	2.29
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.43	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	53.6	53.6	< 0.005	< 0.005	54.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	0.30
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	0.05

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	4.90	6.53	0.01	0.23	—	0.23	0.21	—	0.21	—	992	992	0.04	0.01	995
Paving	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.6	13.6	< 0.005	< 0.005	13.6
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.25	2.25	< 0.005	< 0.005	2.26
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.65	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.5	89.5	0.01	< 0.005	91.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	134

Architectu ral	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	1.84
Architectu ral Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	0.30
Architectu ral Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	1/1/2024	3/1/2024	5.00	45.0	—
Linear, Grading & Excavation	Linear, Grading & Excavation	1/30/2024	6/27/2024	5.00	108	—
Linear, Paving	Linear, Paving	8/29/2024	10/30/2024	5.00	45.0	—
Demolition	Demolition	1/1/2024	1/15/2024	5.00	10.0	—
Grading	Grading	1/18/2024	1/20/2024	5.00	2.00	—

Paving	Paving	6/10/2024	6/17/2024	5.00	5.00	—
Architectural Coating	Architectural Coating	6/18/2024	6/25/2024	5.00	5.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	1.00	8.00	162	0.38
Linear, Grubbing & Land Clearing	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	97.0	0.37
Linear, Grading & Excavation	Excavators	Diesel	Average	1.00	8.00	158	0.38
Linear, Grading & Excavation	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Grading & Excavation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	97.0	0.37
Linear, Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Linear, Paving	Rollers	Diesel	Average	1.00	8.00	80.0	0.38
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	130	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	132	0.36
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	97.0	0.37
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	4.00	33.0	0.73
Demolition	Excavators	Diesel	Average	1.00	6.00	158	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Excavators	Diesel	Average	1.00	8.00	162	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	7.50	9.53	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	7.16	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	10.0	9.53	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	0.00	7.16	HHDT,MHDT
Linear, Grading & Excavation	Hauling	18.5	20.0	HHDT

Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	12.5	9.53	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	7.16	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	10.0	9.53	LDA,LDT1,LDT2
Demolition	Vendor	—	7.16	HHDT,MHDT
Demolition	Hauling	3.80	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	9.53	LDA,LDT1,LDT2
Grading	Vendor	—	7.16	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	9.53	LDA,LDT1,LDT2
Paving	Vendor	—	7.16	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	9.53	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.16	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	0.00	0.00	282

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	—	—	1.00	0.00	—
Linear, Grading & Excavation	15,000	1,000	1.00	0.00	—
Demolition	0.00	0.00	0.00	150	—
Grading	—	—	2.00	0.00	—
Paving	0.00	0.00	0.00	0.00	1.11

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Linear	1.00	100%
Parking Lot	0.11	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	13.1	annual days of extreme heat
Extreme Precipitation	23.4	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	25.5	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	3.91
AQ-PM	2.89
AQ-DPM	3.56
Drinking Water	8.48

Lead Risk Housing	61.5
Pesticides	10.6
Toxic Releases	8.20
Traffic	2.75
Effect Indicators	—
CleanUp Sites	78.0
Groundwater	81.3
Haz Waste Facilities/Generators	0.00
Impaired Water Bodies	51.2
Solid Waste	91.0
Sensitive Population	—
Asthma	71.5
Cardio-vascular	91.7
Low Birth Weights	40.5
Socioeconomic Factor Indicators	—
Education	44.6
Housing	54.6
Linguistic	1.81
Poverty	66.6
Unemployment	92.9

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	38.00846914
Employed	17.38739895

Median HI	21.32683177
Education	—
Bachelor's or higher	19.11972283
High school enrollment	100
Preschool enrollment	12.24175542
Transportation	—
Auto Access	26.17733864
Active commuting	41.02399589
Social	—
2-parent households	25.25343257
Voting	38.11112537
Neighborhood	—
Alcohol availability	55.39586809
Park access	28.51276787
Retail density	2.784550237
Supermarket access	25.94636212
Tree canopy	96.03490312
Housing	—
Homeownership	44.28333119
Housing habitability	76.88951623
Low-inc homeowner severe housing cost burden	62.60746824
Low-inc renter severe housing cost burden	84.81971
Uncrowded housing	66.03361992
Health Outcomes	—
Insured adults	48.58206082
Arthritis	0.0
Asthma ER Admissions	6.5

High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	12.4
Cognitively Disabled	6.7
Physically Disabled	10.8
Heart Attack ER Admissions	0.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	25.4
Elderly	34.5
English Speaking	86.9
Foreign-born	1.6

Outdoor Workers	4.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	87.3
Traffic Density	3.0
Traffic Access	0.0
Other Indices	—
Hardship	42.3
Other Decision Support	—
2016 Voting	23.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	42.0
Healthy Places Index Score for Project Location (b)	32.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Parking area and trail construction. Default Phase durations for Parking Area. Project-specific phase durations for Trail (linear construction). Demolition for Parking Area covers all project demolition
Construction: Off-Road Equipment	Project-Specific Inputs for Demolition phase, and all Trail (Linear) phases

Appendix C

Botanical Memorandum

Memorandum

August 14, 2023

To	Kyle Knopp, City Manager		
Copy to	Luke Halonen GHD, PE		
From	Jane Cipra, GHD, Botanist Christian Hernandez, GHD, Environmental Scientist	Tel	+1 707 267-2206
Subject	Rio Dell – Eel River Trail – Botanical Memo	Project no.	12592002

1. Introduction

1.1 Purpose

The purpose of this botanical memorandum is to provide a CDFW protocol biological site assessment and map of Sensitive Natural Communities (SNCs) to support the Rio Dell Eel River Trail in obtaining baseline conditions for botanical resources within the Project Study Boundary (PSB).

1.2 Project Description

The Project would construct an approximately 0.32-mile Class I Shared Use Path (pedestrian and bicycle trail) from Edwards Drive to Davis Street. The trail would be a paved pathway on top of the undeveloped vegetated surface and would be aligned parallel to the Eel River. The Project would provide a safe walking and biking route for Rio Dell, and in addition to safety and connectivity improvements, the trail would provide opportunities for nature study and recreation.

1.3 Location/Project Area

The Project is located on approximately 6.7 acres along the Eel River between Davis Street and the Rio Dell Treatment Plant, in the City of Rio Dell, Humboldt County, California (**Appendix A, Figures 1, 2**). The Project is located on seven parcels including Assessor's Parcel Numbers (APNs): 053-011-028, 053-011-024, 053-011-017, 053-011-009, 053-011-005, 053-051-015, and 053-051-014.

This document is in draft form. The contents, including any opinions, conclusions or recommendations contained in, or which may be implied from, this draft document must not be relied upon. GHD reserves the right, at any time, without notice, to modify or retract any part or all of the draft document. To the maximum extent permitted by law, GHD disclaims any responsibility or liability arising from or in connection with this draft document.

2. Methods

2.1 Preliminary Investigations/Database Scoping

Prior to site visits, database scoping for sensitive plant species that may occur within the vicinity of the PSB was conducted by GHD botanists. The scoping encompassed nine U.S. Geological Survey (USGS) 7.5 minute quadrangles (quads) including the Scotia quad where the project is located, and the surrounding eight quads (Fortuna, Hydesville, Owl Creek, Taylor Peak, Redcrest, Buckeye Mountain, Bull Creek, and Weott). Databases queried included the California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDDB, CDFW 2022a), the California Native Plant Society (CNPS) Rare Plant Inventory (CNPS 2022), and the US Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC, USFWS 2022b). Other sources of data used for preliminary investigations include the Natural Resource Conservation Service (NRCS) Soil Survey, and the USFWS National Wetland Inventory (NWI, USFWS 2022c).

2.2 Field Survey Methods

Site visits were conducted by GHD Botanists Christian Hernandez and Jane Cipra (hereafter surveyors), on April 26, 2022, July 13, 2022, August 24, 2022, and revisited due to a boundary adjustment on May 3, 2023, and June 15, 2023. The botanical surveys were floristic following the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities by the California Natural Resource Agency (CDFW 2018) and General Rare Plant Survey Guidelines by the Endangered Species Recovery Program (USFWS 2002a). The special status plant surveys were conducted by walking the PSB and identifying all plant species encountered to the lowest taxonomic level necessary for rare plant identification. Nomenclature follows The Jepson Manual (Baldwin et al. 2012).

Natural Communities and Sensitive Natural Communities (SNCs) were identified using the Manual of California Vegetation, Second Edition (Sawyer et al. 2009, CNPS 2022b). SNCs are vegetation Alliances or Associations with a state rarity rank of S1-S3 and/or are ranked as Sensitive by California's Vegetation Classification and Mapping Program (VegCAMP) (CDFW 2022b).

Stands of invasive pampas grass (*Cortaderia jubata*) were mapped in the northeastern portion of the PSB. This mapping only includes stands of more or less continuous cover (within and outside of forest canopy) but does not include isolated individuals under the forest canopy.

An aquatic resource delineation was conducted for the Project and results are presented in a separate report: Rio Dell – Eel River Trail Wetland Delineation (GHD 2023).

3. Results

3.1 Climate, Hydrology, and Topography

The climate of Humboldt County is characterized by moderate temperatures and heavy precipitation. The mean annual precipitation within the PSB is 35 to 80 inches, the mean annual air temperature is 50°F to 55°F, and the average frost-free period is 275 to 330 days (NRCS 2022). The PSB is within the Eel River watershed, is comprised of flat to undulating terrain, and is at an elevation of approximately 50 to 90 feet above sea level.

Based on the National Wetlands Inventory (NWI), the northeastern portion of the PSB contains Freshwater Forested Shrub Wetland and Riverine Wetland. See the Aquatic Resources Delineation Report for more details about the vegetation, soils and hydrography in the PSB.

3.2 Soils

According the NRCS Soil Survey, the PSB is comprised of 65.2% Dungan, 0 to 2% slopes, and 34.8% Water and Fluvents 0 to 2% slopes (**Appendix A, Figure 3**, NRCS 2022).

Dungan is derived from alluvium and is found on alluvial fans and flood-plain steps. This soil is well drained and not rated as a hydric soil. The depth to the water table is about 39 to 61 inches.

Fluvents are derived from alluvium and is found on point bars on channels. This soil type is somewhat excessively drained and is not rated as a hydric soil. The depth to the water table is more than 80 inches.

3.3 Natural Communities and Sensitive Natural Communities

The PSB contains three Natural Communities, two of which are listed as Sensitive by CDFW (**Table 1, Appendix A, Figure 4**). Areas not mapped as a vegetation community contain ruderal vegetation or isolated trees that do not form a homogenous community. See the Rapid Assessment forms for these communities for details about community composition and structure (**Appendix B**) All forest and shrubland communities in the PSB are Riparian as defined by USFWS, and CDFW. The Project is also within an Environmentally Sensitive Habitat Area (ESHA) and Streamside Management Area (SMA) as defined by the City of Rio Dell (City of Rio Dell 2014).

Table 1 Natural Vegetation Communities in the PSB.

Alliance	Association	Global Rank	State Rank	CDFW Sensitive	Acres
Arroyo willow thickets (<i>Salix lasiolepis</i>)	<i>Rubus</i> spp.	G4	S4?	No	0.27
Black cottonwood forest and woodland (<i>Populus trichocarpa</i>)	<i>Salix lasiolepis</i>	G5	S3	Yes	2.65
Red alder forest (<i>Alnus rubra</i>)	<i>Salix lasiolepis</i> / <i>Rubus</i> spp	G4	S3	Yes	1.69
Total Acres Riparian					4.61

Arroyo willow thickets

The Arroyo willow thickets shrubland alliance is dominated by arroyo willows (*Salix lasiolepis*) in the tall shrub or low tree canopy at greater than 50% relative cover in the shrub canopy, or greater than 30% relative cover with blackberries (*Rubus* spp.). This *Salix lasiolepis* – *Rubus* association of this alliance is not considered sensitive by CDFW.

The arroyo willows are present in this stand at approximately 95% absolute cover with an understory of 20% cover California blackberry (*Rubus ursinus*), and 5% Himalayan blackberry (*Rubus armeniacus*).

Black cottonwood forest and woodland

The black cottonwood forest and woodland alliance is dominated by black cottonwood (*Populus trichocarpa*) at greater than 5% absolute cover and greater than 30% relative cover in the tree canopy, with a variety of other possible tree species including red alder (*Alnus rubra*) and arroyo willow in the tree canopy. Black cottonwood in this stand is present at approximately 20% absolute cover, and 77% relative cover within the tree canopy with arroyo willow at approximately 19% relative cover. This stand has a dense understory of California blackberry with some Himalayan blackberry intermixed.

The Black cottonwood forest and woodland alliance and all associations are considered sensitive by CDFW.

Red alder forest

The red alder forest alliance is dominated by red alder at greater than 50% relative cover in the tree layer with a variety of other possible tree species including black cottonwood and arroyo willow. Red alder in this stand is present at approximately 59% relative cover in the tree canopy with arroyo willow at approximately 36% relative cover and may be considered the *Alnus rubra* / *Salix lasiolepis* – *Rubus* spp. association.

The red alder forest alliance and all associations are considered sensitive by CDFW.

3.4 Special Status Plants

The database scoping detailed in Section 2.1 showed 39 special status plant species known to occur within a 9-quad vicinity of the PSB (**Appendix C**). Based on species specific habitat requirements and habitat availability within the PSB, six special status plant species were determined to have moderate potential and 11 have a low potential to occur within the PSB (**Appendix D**). There were no special status plant species with a high probability of occurring in the PSB.

A total of 89 plant species were observed during the botanical surveys (**Appendix E**). No special status plants species were observed within the PSB.

3.5 Invasive plants

A total of 1.56 acres of pampas grass stands were mapped within the northeast portion of the PSB, and an additional 0.08 acre was mapped immediately outside of the PSB (**Appendix A, Figure 4**). Approximately 0.72 acre of this pampas grass occurs under the canopy of black cottonwood trees and 0.92 acre is outside of the woodland. These stands range from 10 to 50% cover. Isolated pampas grass hummocks are present further west under the forest canopy, but were not mapped individually.

A total of 17 invasive plant species with a California Invasive Plant Council (Cal-IPC) rating of high or moderate are present in the PSB (**Table 2**). All other non-native species in the PSB have a rating of “limited” or no rating.

Table 2 Invasive plant species present in the PSB.

Scientific name	Common Name	Cal-IPC rating	Lifeform
<i>Centaurea solstitialis</i>	yellow star-thistle	High	annual herb
<i>Cirsium vulgare</i>	bull thistle	Moderate	perennial herb
<i>Conium maculatum</i>	poison hemlock	Moderate	perennial herb
<i>Cortaderia jubata</i>	pampas grass	High	perennial grass
<i>Cynosurus echinatus</i>	dogtail grass	Moderate	annual grass

Scientific name	Common Name	Cal-IPC rating	Lifeform
<i>Cytisus scoparius</i>	Scotch broom	High	shrub
<i>Delairea odorata</i>	Cape ivy	High	perennial herb
<i>Dipsacus fullonum</i>	wild teasel	Moderate	perennial herb
<i>Festuca arundinacea</i>	reed fescue	Moderate	perennial grass
<i>Festuca perennis</i>	Italian rye grass	Moderate	annual/perennial grass
<i>Foeniculum vulgare</i>	fennel	Moderate	perennial herb
<i>Hedera helix</i>	English ivy	High	vine, shrub
<i>Hordeum murinum</i>	foxtail barley	Moderate	annual grass
<i>Mentha pulegium</i>	pennyroyal	Moderate	perennial herb
<i>Oxalis pes-caprae</i>	Bermuda buttercup	Moderate	perennial herb
<i>Rubus armeniacus</i>	Himalayan blackberry	High	shrub
<i>Vinca major</i>	periwinkle	Moderate	perennial herb

Explanation of Cal-IPC ratings:

High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate – These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Watch – These species have been assessed as posing a high risk of becoming invasive in the future in California.

3.6 Habitat Conservation Plans and Natural Community Conservation Plans

Habitat Conservation Plans (HCP) and Natural Community Conservation Plans (NCCP) are site-specific plans to address effects on sensitive species of plants and animals. According to the CDFW BIOS Viewer version 5.108.157, the PSB is not located within any Habitat Conservation Plans and/or Natural Community Conservation Plans.

4. Summary

Vegetation within the PSB consists of three Natural Communities: arroyo willow thickets, black cottonwood forest and woodland, and red alder forest. Black cottonwood and red alder forests are considered Sensitive by CDFW and all three communities are considered Riparian by USFWS and the City of Rio Dell. The entire project area is considered an ESHA and a SMA by the City of Rio Dell; however, development of trails within an SMA is allowable as long as fish and wildlife resources and water quality are not degraded and vegetation clearing is kept to a minimum.

Based on species specific habitat requirements and habitat availability within the PSB, six special status plant species were determined to have moderate potential to occur within the PSB. No special status species were observed in the PSB and no special status species have a high potential to occur within the PSB.

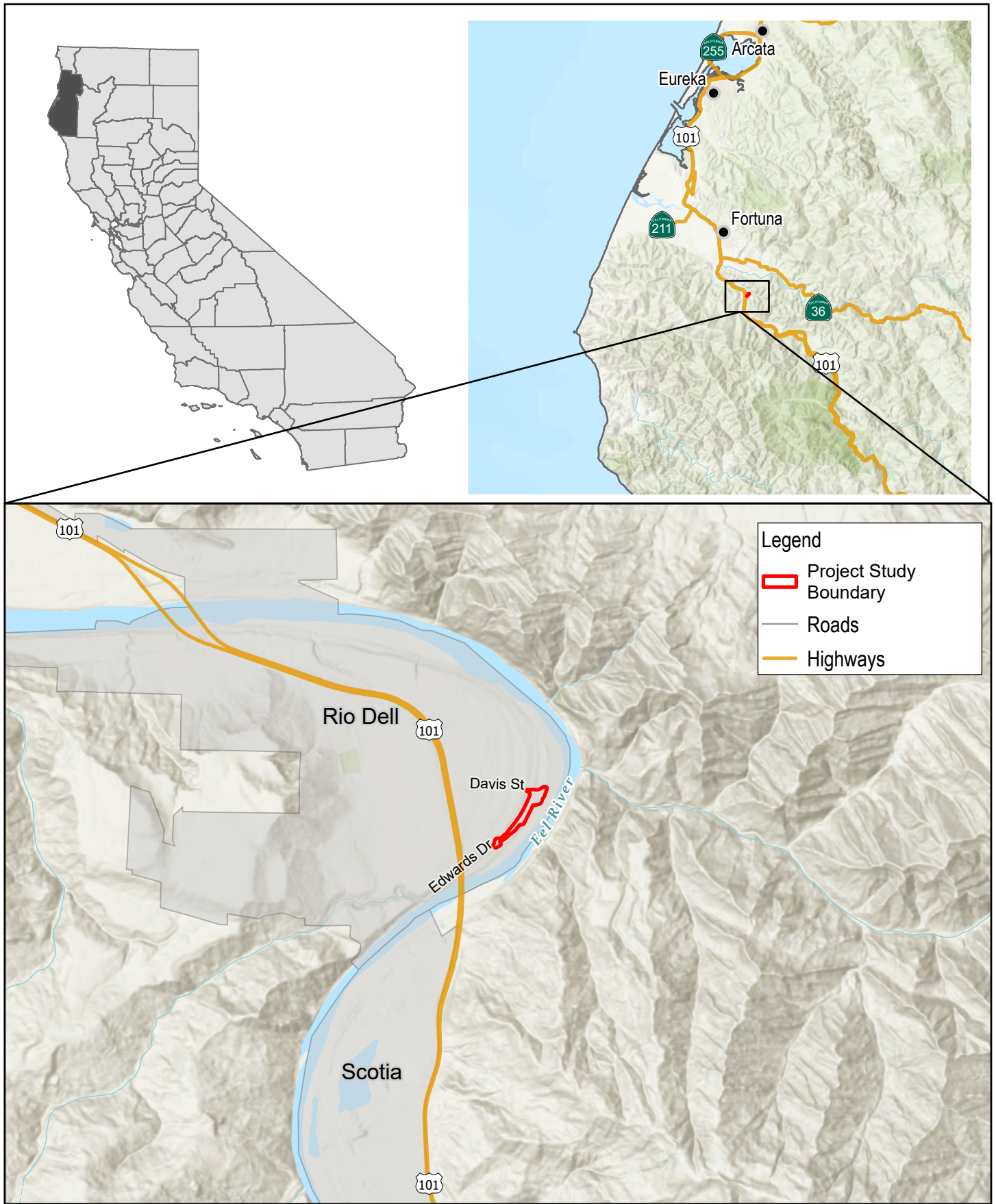
No HCPs or Critical Habitat were determined to be within the Project Area.

5. References

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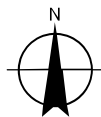
Appendix A

Figures



Paper Size ANSI A
0 1,000 2,000 3,000
Feet

Map Projection: Mercator Auxiliary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxiliary Sphere



**City of Rio Dell
Eel River Trail
Botanical Memo**

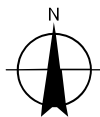
Project No. **12592002**
Revision No. **-**
Date **Jun 2023**

Vicinity Map

FIGURE 1



Paper Size ANSI A
 0 75 150 225 300
 Feet



Map Projection: Lambert Conformal Conic
 Horizontal Datum: North American 1983
 Grid: NAD 1983 StatePlane California 1 FIPS 0401 Feet



City of Rio Dell
 Eel River Trail
 Botanical Memo

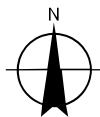
Project No. 12592002
 Revision No. -
 Date Aug 2023

Project Study Boundary

FIGURE 2



Paper Size ANSI A
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 Feet



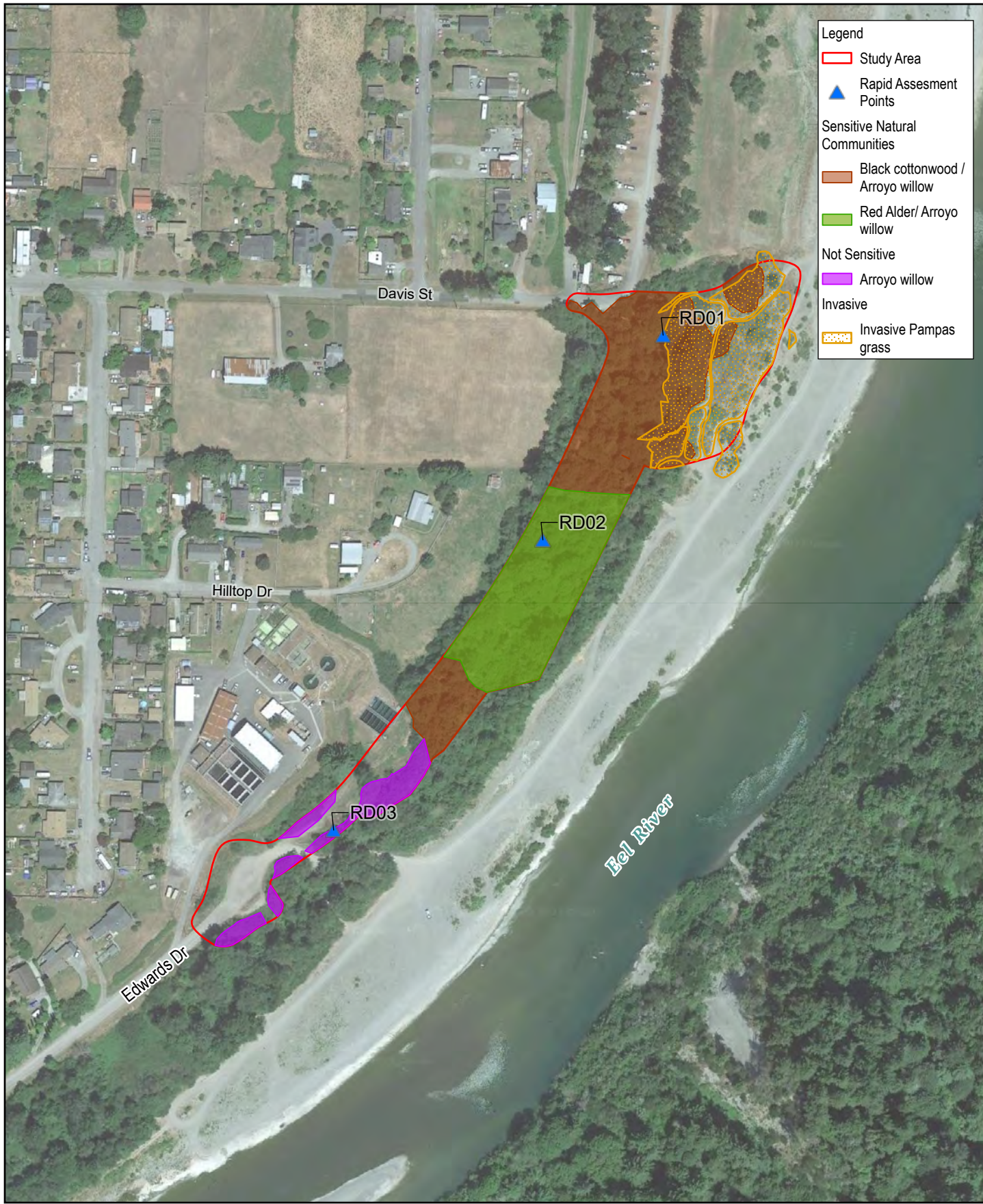
Map Projection: Lambert Conformal Conic
 Horizontal Datum: North American 1983
 Grid: NAD 1983 StatePlane California 1 FIPS 0401 Feet

City of Rio Dell
 Eel River Trail
 Botanical Memo

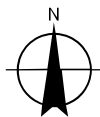
Project No. 12592002
 Revision No. -
 Date Aug 2023

NRCS Soils

FIGURE 3



Paper Size ANSI A
0 75 150 225 300
Feet



Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California 1 FIPS 0401 Feet

City of Rio Dell
Eel River Trail
Botanical Memo

Project No. 12592002
Revision No. -
Date Aug 2023

**Sensitive
Natural Communities**

FIGURE 4

Appendix B

Rapid Assessment Forms

Combined Vegetation Rapid Assessment and Relevé Field Form
(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type: Alliance <u>Populus trichocarpa</u>	Association
I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION			circle: Relevé or (RA)
Database #: <u>RD 01</u>	Date: <u>8/24/22</u>	Name of recorder: <u>Jane Cipra</u>	
	UID:	Other surveyors:	
		Location Name: <u>Rio Dell Trail</u>	
GPS name: <u>E054</u>		For Relevé only: Bearing°, left axis at ID point _____ of Long / Short side	
UTME _____		UTMN _____ Zone: 11 <u>NAD83</u> GPS error <u>(ft)</u> m/ PDOP <u>1.5</u>	
Decimal degrees: LAT <u>40.498984</u> LONG <u>-124.091976</u>			
GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) _____ bearing ° _____ inclination ° _____			
and record: Base point ID _____ Projected UTM: UTME _____ UTMN _____			
Camera Name:		Cardinal photos at ID point:	
Other photos:			
Stand Size (acres): <1, (1-5) >5 Plot Area (m²): 100 / _____ Plot Dimensions _____ x _____ m RA Radius <u>30</u> m			
Exposure, Actual °: _____ NE NW SE SW Flat Variable Steepness, Actual °: _____ 0° 1-5° >5-25° >25			
Topography: Macro: top upper mid lower bottom Micro: convex flat concave undulating			
Geology code: _____ Soil Texture code: _____		Upland or Wetland/Riparian (circle one)	
% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)			
H ₂ O: BA Stems: <u>3</u> Litter: <u>90</u> Bedrock: _____ Boulder: _____ Stone: _____ Cobble: _____ Gravel: _____ Fines: <u>7</u> =100%			
% Current year bioturbation _____ Past bioturbation present? Yes / (No) % Hoof punch _____			
Fire evidence: Yes / No (circle one) If yes, describe in Site history section, including date of fire, if known.			
Site history, stand age, comments: <u>Riparian stand of Populus trichocarpa with Salix lasiolepis, Baccharis pilularis, and Cortaderia jubata in understory</u>			
Disturbance code / Intensity (L,M,H): _____ "Other" _____			
II. HABITAT DESCRIPTION			
Tree DBH: <u>T1</u> (<1" dbh), <u>T2</u> (1-6" dbh), <u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> multi-layered (T3 or T4 layer under T5, >60% cover)			
Shrub: <u>S1</u> seedling (<3 yr. old), <u>S2</u> young (<1% dead), <u>S3</u> mature (1-25% dead), <u>S4</u> decadent (>25% dead)			
Herbaceous: <u>H1</u> (<12" plant ht.), <u>H2</u> (>12" ht.)			
Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)			
Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)			
III. INTERPRETATION OF STAND			
Field-assessed vegetation Alliance name: <u>Populus trichocarpa</u>			
Field-assessed Association name (optional): _____			
Adjacent Alliances/direction: _____			
Confidence in Alliance identification: L M (H) Explain: _____			
Phenology (E,P,L): Herb _____ Shrub _____ Tree _____ Other identification or mapping information: _____			

(Revised March 27, 2018)

SPECIES SHEET

% NonVasc cover: _____ Total % Vasc Veg cover: 90

Height Class - Conifer tree / Hardwood tree: 1 8 **Regenerating Tree:** **Shrub:** 4 **Herbaceous:** 3

Height classes: 1= $\leq 1/2$ m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10= ≥ 50 m

Stratum categories: T=Tree, A = SApling, E = SEedling, S = Shrub, H= Herb, N= Non-vascular

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

☐
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Page 2

Combined Vegetation Rapid Assessment and Relevé Field Form
(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type: Alliance <u>Alnus rubra</u> Association
I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION		circle: Relevé or (RA)
Database #: <u>RD02</u>	Date: <u>8/24/22</u>	Name of recorder: <u>Jane Cipra</u>
	UID:	Other surveyors:
		Location Name: <u>Rio Dell Trail</u>
GPS name: <u>E054</u> For Relevé only: Bearing°, left axis at ID point ____ of Long / Short side		
UTME _____ UTMN _____ Zone: 11 NAD83 GPS error: ft./ m./ PDOP _____		
Decimal degrees: LAT <u>40.497828</u> LONG <u>124.092818</u>		
GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) _____ bearing° _____ inclination° _____		
and record: Base point ID _____ Projected UTM's: UTME _____ UTMN _____		
Camera Name: _____ Cardinal photos at ID point: _____		
Other photos: _____		
Stand Size (acres): <1, (1-5) , >5 Plot Area (m²): 100 / _____ Plot Dimensions _____ x _____ m RA Radius <u>30</u> m		
Exposure, Actual °: _____ NE NW SE SW Flat Variable Steepness, Actual °: _____ 0° 1-5° >5-25° >25		
Topography: Macro: top upper (mid) lower bottom Micro: convex (flat) concave undulating		
Geology code: _____ Soil Texture code: _____ (Upland) or Wetland/Riparian (circle one)		
% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)		
H ₂ O: BA Stems: <u>3</u> Litter: <u>87</u> Bedrock: _____ Boulder: _____ Stone: _____ Cobble: _____ Gravel: _____ Fines: <u>10</u> =100%		
% Current year bioturbation _____ Past bioturbation present? Yes / No % Hoof punch _____		
Fire evidence: Yes / No (circle one) If yes, describe in Site history section, including date of fire, if known.		
Site history, stand age, comments: <u>Alder stand with isolated Populus.</u>		
Disturbance code / Intensity (L,M,H): _____ / _____ / _____ / _____ / _____ "Other" _____ / _____		
II. HABITAT DESCRIPTION		
Tree DBH: T1 (<1" dbh), T2 (1-6" dbh), T3 (6-11" dbh), T4 (1-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover)		
Shrub: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead)		
Herbaceous: H1 (<12" plant ht.), H2 (>12" ht.)		
Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)		
Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)		
III. INTERPRETATION OF STAND		
Field-assessed vegetation Alliance name: <u>Alnus rubra</u>		
Field-assessed Association name (optional): _____		
Adjacent Alliances/direction: _____ / _____ / _____		
Confidence in Alliance identification: L M (H) Explain: _____		
Phenology (E,P,L): Herb _____ Shrub _____ Tree _____ Other identification or mapping information: _____		

(Revised March 27, 2018)

SPECIES SHEET

% NonVasc cover: _____ Total % Vasc Veg cover: 95

Height Class - Conifer tree / Hardwood tree: 1 / 8 **Regenerating Tree:** **Shrub:** 3 **Herbaceous:**

Stratum categories: T=Tree, A = SApling, E = SEedling, S = Shrub, H= Herb, N= Non-vascular

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

Unusual species: _____

Combined Vegetation Rapid Assessment and Relevé Field Form
(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type:	Alliance <u>Salix lasiolepis</u>	
			Association	
I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION				
Database #:	Date:	Name of recorder:	circle: Relevé or (RA)	
<u>RD03</u>	<u>8/24/22</u>	<u>Jane Cipra</u>		
	UID:	Other surveyors:		
		Location Name:	<u>Rio Dell trail</u>	
GPS name: <u>E054</u>		For Relevé only: Bearing°, left axis at ID point _____ of Long / Short side		
UTME _____	UTMN _____	Zone: <u>11</u>	NAD83 GPS error: ft./ m./ PDOP _____	
Decimal degrees: LAT <u>40.496183</u>		LONG <u>124.094294</u>		
GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) _____ bearing ° _____ inclination ° _____				
and record: Base point ID _____ Projected UTM's: UTME _____ UTMN _____				
Camera Name:		Cardinal photos at ID point:		
Other photos:				
Stand Size (acres): <1, (1-5) >5 Plot Area (m²): 100 / _____ Plot Dimensions _____ x _____ m RA Radius / <u>0</u> m				
Exposure, Actual °: _____ NE NW (SE) SW Flat Variable Steepness, Actual °: _____ 0° (1-5°) > 5-25° > 25				
Topography: Macro: top upper (mid) lower bottom Micro: (convex) flat concave undulating				
Geology code: _____ Soil Texture code: _____ (Upland) or Wetland/Riparian (circle one)				
% Surface cover: (Incl outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)				
H20: BA Stems: <u>3</u> Litter: <u>87</u> Bedrock: Boulder: Stone: Cobble: Gravel: <u>5</u> Fines: <u>5</u> =100%				
% Current year bioturbation _____ Past bioturbation present? Yes / (No) % Hoof punch _____				
Fire evidence: Yes / No (circle one) If yes, describe in Site history section, including date of fire, if known.				
Site history, stand age, comments: <u>Willow stands on either side of road</u>				
Disturbance code / Intensity (L,M,H): _____ / _____ / _____ "Other" _____				
II. HABITAT DESCRIPTION				
Tree DBH: T1 (<1" dbh), T2 (1-6" dbh), T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover)				
Shrub: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead)				
Herbaceous: H1 (<12" plant ht.), H2 (>12" ht.)				
Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)				
Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)				
III. INTERPRETATION OF STAND				
Field-assessed vegetation Alliance name: <u>Salix lasiolepis</u>				
Field-assessed Association name (optional): _____				
Adjacent Alliances/direction: _____				
Confidence in Alliance identification: L M (H) Explain: _____				
Phenology (E,P,L): Herb Shrub Tree Other identification or mapping information: _____				

(Revised March 27, 2018)

SPECIES SHEET

% NonVasc cover: Total % Vasc Veg cover: 100

Height classes: 1=<1/2m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10=>50m

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

Unusual species: _____

Appendix C

Database Searches (CNDDDB, CNPS, and IPaC)

CNDDDB 9-Quad Species List 333 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC	-	4012441	SCOTIA	Mapped	Animals - Amphibians - Ascaphidae - Ascaphus truei
Animals - Amphibians	Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC	-	4012348	REDCREST	Mapped and Unprocessed	Animals - Amphibians - Ascaphidae - Ascaphus truei
Animals - Amphibians	Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC	-	4012431	BULL CREEK	Mapped	Animals - Amphibians - Ascaphidae - Ascaphus truei
Animals - Amphibians	Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC	-	4012338	WEOTT	Mapped	Animals - Amphibians - Ascaphidae - Ascaphus truei
Animals - Amphibians	Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC	-	4012338	WEOTT	Mapped	Animals - Amphibians - Ranidae - Rana aurora
Animals - Amphibians	Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC	-	4012348	REDCREST	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana aurora
Animals - Amphibians	Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC	-	4012441	SCOTIA	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana aurora
Animals - Amphibians	Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC	-	4012442	TAYLOR PEAK	Mapped	Animals - Amphibians - Ranidae - Rana aurora
Animals - Amphibians	Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC	-	4012358	OWL CREEK	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana aurora
Animals - Amphibians	Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC	-	4012452	FORTUNA	Mapped	Animals - Amphibians - Ranidae - Rana aurora
Animals - Amphibians	Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC	-	4012451	HYDESVILLE	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana aurora
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	4012451	HYDESVILLE	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	4012452	FORTUNA	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	4012358	OWL CREEK	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	4012442	TAYLOR PEAK	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	4012441	SCOTIA	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	4012348	REDCREST	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei

Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	4012338	WEOTT	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	4012431	BULL CREEK	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	4012432	BUCKEYE MTN.	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC	-	4012431	BULL CREEK	Mapped	Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus
Animals - Amphibians	Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC	-	4012338	WEOTT	Mapped and Unprocessed	Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus
Animals - Amphibians	Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC	-	4012348	REDCREST	Mapped	Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus
Animals - Amphibians	Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC	-	4012442	TAYLOR PEAK	Mapped	Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus
Animals - Amphibians	Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC	-	4012441	SCOTIA	Mapped	Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus
Animals - Amphibians	Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC	-	4012358	OWL CREEK	Mapped	Animals - Amphibians - Rhyacotritonidae - Rhyacotriton variegatus
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	4012451	HYDESVILLE	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	4012358	OWL CREEK	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	4012442	TAYLOR PEAK	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	4012348	REDCREST	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	4012441	SCOTIA	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	4012432	BUCKEYE MTN.	Mapped	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	4012431	BULL CREEK	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter gentilis	northern goshawk	ABNKC12060	None	None	SSC	-	4012442	TAYLOR PEAK	Unprocessed	Animals - Birds - Accipitridae - Accipiter gentilis
Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	4012451	HYDESVILLE	Mapped	Animals - Birds - Accipitridae - Accipiter striatus

Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	4012441	SCOTIA	Mapped	Animals - Birds - Accipitridae - Accipiter striatus
Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	4012348	REDCREST	Mapped	Animals - Birds - Accipitridae - Accipiter striatus
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	4012431	BULL CREEK	Mapped	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	4012432	BUCKEYE MTN.	Mapped and Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	4012442	TAYLOR PEAK	Mapped	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC	-	4012452	FORTUNA	Unprocessed	Animals - Birds - Accipitridae - Circus hudsonius
Animals - Birds	Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP	-	4012451	HYDESVILLE	Unprocessed	Animals - Birds - Accipitridae - Haliaeetus leucocephalus
Animals - Birds	Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP	-	4012358	OWL CREEK	Unprocessed	Animals - Birds - Accipitridae - Haliaeetus leucocephalus
Animals - Birds	Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP	-	4012348	REDCREST	Unprocessed	Animals - Birds - Accipitridae - Haliaeetus leucocephalus
Animals - Birds	Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-	-	4012348	REDCREST	Mapped	Animals - Birds - Alcidae - Brachyramphus marmoratus
Animals - Birds	Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-	-	4012441	SCOTIA	Mapped	Animals - Birds - Alcidae - Brachyramphus marmoratus
Animals - Birds	Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-	-	4012338	WEOTT	Mapped and Unprocessed	Animals - Birds - Alcidae - Brachyramphus marmoratus
Animals - Birds	Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-	-	4012358	OWL CREEK	Mapped and Unprocessed	Animals - Birds - Alcidae - Brachyramphus marmoratus
Animals - Birds	Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-	-	4012451	HYDESVILLE	Mapped and Unprocessed	Animals - Birds - Alcidae - Brachyramphus marmoratus
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	4012451	HYDESVILLE	Mapped	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	4012452	FORTUNA	Mapped	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	4012338	WEOTT	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	4012452	FORTUNA	Mapped	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Charadrius nivosus nivosus	western snowy plover	ABNNB03031	Threatened	None	SSC	-	4012452	FORTUNA	Unprocessed	Animals - Birds - Charadriidae - Charadrius nivosus nivosus
Animals - Birds	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	4012451	HYDESVILLE	Mapped	Animals - Birds - Falconidae - Falco peregrinus anatum

Animals - Birds	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	4012441	SCOTIA	Mapped and Unprocessed	Animals - Birds - Falconidae - Falco peregrinus anatum
Animals - Birds	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	4012348	REDCREST	Mapped	Animals - Birds - Falconidae - Falco peregrinus anatum
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	4012348	REDCREST	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	4012441	SCOTIA	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	4012358	OWL CREEK	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	4012452	FORTUNA	Mapped and Unprocessed	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	4012451	HYDESVILLE	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC	-	4012452	FORTUNA	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	4012452	FORTUNA	Unprocessed	Animals - Birds - Icteridae - Icteria virens
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	4012452	FORTUNA	Unprocessed	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	4012451	HYDESVILLE	Mapped and Unprocessed	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	4012358	OWL CREEK	Unprocessed	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	4012441	SCOTIA	Mapped and Unprocessed	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	4012348	REDCREST	Mapped and Unprocessed	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	4012338	WEOTT	Unprocessed	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Poecile atricapillus	black-capped chickadee	ABPAW01010	None	None	WL	-	4012452	FORTUNA	Unprocessed	Animals - Birds - Paridae - Poecile atricapillus
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	4012452	FORTUNA	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	4012452	FORTUNA	Mapped	Animals - Birds - Passerellidae - Ammodramus savannarum
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	4012338	WEOTT	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	4012348	REDCREST	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina

Animals - Birds	<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	4012358	OWL CREEK	Mapped	Animals - Birds - Strigidae - <i>Strix occidentalis caurina</i>
Animals - Birds	<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	4012431	BULL CREEK	Mapped	Animals - Birds - Strigidae - <i>Strix occidentalis caurina</i>
Animals - Birds	<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	4012432	BUCKEYE MTN.	Mapped	Animals - Birds - Strigidae - <i>Strix occidentalis caurina</i>
Animals - Birds	<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	4012441	SCOTIA	Mapped	Animals - Birds - Strigidae - <i>Strix occidentalis caurina</i>
Animals - Birds	<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	4012442	TAYLOR PEAK	Mapped	Animals - Birds - Strigidae - <i>Strix occidentalis caurina</i>
Animals - Birds	<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	4012451	HYDESVILLE	Mapped	Animals - Birds - Strigidae - <i>Strix occidentalis caurina</i>
Animals - Birds	<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	4012452	FORTUNA	Mapped	Animals - Birds - Strigidae - <i>Strix occidentalis caurina</i>
Animals - Birds	<i>Empidonax traillii</i>	willow flycatcher	ABPAE33040	None	Endangered	-	-	4012452	FORTUNA	Unprocessed	Animals - Birds - Tyrannidae - <i>Empidonax traillii</i>
Animals - Fish	<i>Acipenser medirostris</i> pop. 2	green sturgeon - northern DPS	AFCAA01032	None	None	SSC	-	4012452	FORTUNA	Unprocessed	Animals - Fish - Acipenseridae - <i>Acipenser medirostris</i> pop. 2
Animals - Fish	<i>Acipenser medirostris</i> pop. 2	green sturgeon - northern DPS	AFCAA01032	None	None	SSC	-	4012451	HYDESVILLE	Unprocessed	Animals - Fish - Acipenseridae - <i>Acipenser medirostris</i> pop. 2
Animals - Fish	<i>Acipenser medirostris</i> pop. 2	green sturgeon - northern DPS	AFCAA01032	None	None	SSC	-	4012338	WEOTT	Unprocessed	Animals - Fish - Acipenseridae - <i>Acipenser medirostris</i> pop. 2
Animals - Fish	<i>Acipenser medirostris</i> pop. 2	green sturgeon - northern DPS	AFCAA01032	None	None	SSC	-	4012441	SCOTIA	Unprocessed	Animals - Fish - Acipenseridae - <i>Acipenser medirostris</i> pop. 2
Animals - Fish	<i>Acipenser medirostris</i> pop. 2	green sturgeon - northern DPS	AFCAA01032	None	None	SSC	-	4012348	REDCREST	Unprocessed	Animals - Fish - Acipenseridae - <i>Acipenser medirostris</i> pop. 2
Animals - Fish	<i>Acipenser transmontanus</i>	white sturgeon	AFCAA01050	None	None	SSC	-	4012452	FORTUNA	Unprocessed	Animals - Fish - Acipenseridae - <i>Acipenser transmontanus</i>
Animals - Fish	<i>Spirinchus thaleichthys</i>	longfin smelt	AFCHB03010	Candidate	Threatened	-	-	4012452	FORTUNA	Mapped and Unprocessed	Animals - Fish - Osmeridae - <i>Spirinchus thaleichthys</i>
Animals - Fish	<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC	-	4012338	WEOTT	Unprocessed	Animals - Fish - Petromyzontidae - <i>Entosphenus tridentatus</i>
Animals - Fish	<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC	-	4012432	BUCKEYE MTN.	Mapped	Animals - Fish - Petromyzontidae - <i>Entosphenus tridentatus</i>

Animals - Fish	Oncorhynchus clarkii clarkii	coast cutthroat trout	AFCHA0208A	None	None	SSC	-	4012348	REDCREST	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii
Animals - Fish	Oncorhynchus clarkii clarkii	coast cutthroat trout	AFCHA0208A	None	None	SSC	-	4012441	SCOTIA	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii
Animals - Fish	Oncorhynchus clarkii clarkii	coast cutthroat trout	AFCHA0208A	None	None	SSC	-	4012452	FORTUNA	Mapped	Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii
Animals - Fish	Oncorhynchus clarkii clarkii	coast cutthroat trout	AFCHA0208A	None	None	SSC	-	4012451	HYDEVILLE	Mapped	Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii
Animals - Fish	Oncorhynchus clarkii clarkii	coast cutthroat trout	AFCHA0208A	None	None	SSC	-	4012358	OWL CREEK	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus clarkii clarkii
Animals - Fish	Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-	-	4012358	OWL CREEK	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2
Animals - Fish	Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-	-	4012442	TAYLOR PEAK	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2
Animals - Fish	Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-	-	4012451	HYDEVILLE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2
Animals - Fish	Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-	-	4012452	FORTUNA	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2
Animals - Fish	Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-	-	4012441	SCOTIA	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2
Animals - Fish	Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-	-	4012348	REDCREST	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2
Animals - Fish	Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-	-	4012432	BUCKEYE MTN.	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2
Animals - Fish	Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-	-	4012431	BULL CREEK	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2
Animals - Fish	Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-	-	4012338	WEOTT	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2

Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	4012338	WEOTT	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	4012431	BULL CREEK	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	4012432	BUCKEYE MTN.	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	4012348	REDCREST	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	4012441	SCOTIA	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	4012452	FORTUNA	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	4012451	HYDESVILLE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	4012442	TAYLOR PEAK	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	4012358	OWL CREEK	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	AFCHA0213B	None	Candidate Endangered	SSC	-	4012451	HYDESVILLE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 36
Animals - Fish	Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	AFCHA0213B	None	Candidate Endangered	SSC	-	4012452	FORTUNA	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 36
Animals - Fish	Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	AFCHA0213B	None	Candidate Endangered	SSC	-	4012348	REDCREST	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 36
Animals - Fish	Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	AFCHA0213B	None	Candidate Endangered	SSC	-	4012432	BUCKEYE MTN.	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 36
Animals - Fish	Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	AFCHA0213B	None	Candidate Endangered	SSC	-	4012338	WEOTT	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 36
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	4012338	WEOTT	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17

Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	4012431	BULL CREEK	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	4012348	REDCREST	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	4012441	SCOTIA	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	4012452	FORTUNA	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	4012451	HYDESVILLE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	4012358	OWL CREEK	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	4012442	TAYLOR PEAK	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Insects	Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-	-	4012452	FORTUNA	Mapped	Animals - Insects - Apidae - Bombus caliginosus
Animals - Insects	Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-	-	4012348	REDCREST	Mapped	Animals - Insects - Apidae - Bombus caliginosus
Animals - Insects	Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-	-	4012338	WEOTT	Mapped	Animals - Insects - Apidae - Bombus caliginosus
Animals - Insects	Bombus occidentalis	western bumble bee	IIHYM24250	None	None	-	-	4012338	WEOTT	Mapped and Unprocessed	Animals - Insects - Apidae - Bombus occidentalis
Animals - Insects	Bombus occidentalis	western bumble bee	IIHYM24250	None	None	-	-	4012441	SCOTIA	Mapped and Unprocessed	Animals - Insects - Apidae - Bombus occidentalis
Animals - Insects	Bombus occidentalis	western bumble bee	IIHYM24250	None	None	-	-	4012431	BULL CREEK	Mapped	Animals - Insects - Apidae - Bombus occidentalis
Animals - Insects	Bombus occidentalis	western bumble bee	IIHYM24250	None	None	-	-	4012451	HYDESVILLE	Mapped and Unprocessed	Animals - Insects - Apidae - Bombus occidentalis
Animals - Insects	Bombus occidentalis	western bumble bee	IIHYM24250	None	None	-	-	4012452	FORTUNA	Mapped and Unprocessed	Animals - Insects - Apidae - Bombus occidentalis
Animals - Mammals	Aplodontia rufa humboldtiana	Humboldt mountain beaver	AMAF01017	None	None	-	-	4012451	HYDESVILLE	Mapped	Animals - Mammals - Aplodontiidae - Aplodontia rufa humboldtiana
Animals - Mammals	Aplodontia rufa humboldtiana	Humboldt mountain beaver	AMAF01017	None	None	-	-	4012441	SCOTIA	Mapped	Animals - Mammals - Aplodontiidae - Aplodontia rufa humboldtiana

Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	4012441	SCOTIA	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	4012348	REDCREST	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	4012431	BULL CREEK	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	4012338	WEOTT	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	4012432	BUCKEYE MTN.	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	4012451	HYDESVILLE	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	4012452	FORTUNA	Mapped	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	4012442	TAYLOR PEAK	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	4012358	OWL CREEK	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	4012358	OWL CREEK	Mapped and Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	4012452	FORTUNA	Mapped and Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	4012451	HYDESVILLE	Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	4012432	BUCKEYE MTN.	Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	4012338	WEOTT	Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	4012431	BULL CREEK	Mapped and Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	4012348	REDCREST	Mapped and Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	4012441	SCOTIA	Mapped and Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum

Animals - Mammals	Martes caurina humboldtensis	Humboldt marten	AMAJF01012	Threatened	Endangered	SSC	-	4012338	WEOTT	Mapped	Animals - Mammals - Mustelidae - Martes caurina humboldtensis
Animals - Mammals	Martes caurina humboldtensis	Humboldt marten	AMAJF01012	Threatened	Endangered	SSC	-	4012451	HYDESVILLE	Mapped	Animals - Mammals - Mustelidae - Martes caurina humboldtensis
Animals - Mammals	Martes caurina humboldtensis	Humboldt marten	AMAJF01012	Threatened	Endangered	SSC	-	4012358	OWL CREEK	Mapped	Animals - Mammals - Mustelidae - Martes caurina humboldtensis
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	4012442	TAYLOR PEAK	Mapped	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	4012451	HYDESVILLE	Mapped and Unprocessed	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	4012432	BUCKEYE MTN.	Mapped	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	4012452	FORTUNA	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	4012452	FORTUNA	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	4012451	HYDESVILLE	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	4012348	REDCREST	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	4012441	SCOTIA	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-	-	4012348	REDCREST	Unprocessed	Animals - Mammals - Vespertilionidae - Lasionycteris noctivagans
Animals - Mammals	Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-	-	4012441	SCOTIA	Unprocessed	Animals - Mammals - Vespertilionidae - Lasionycteris noctivagans
Animals - Mammals	Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-	-	4012338	WEOTT	Unprocessed	Animals - Mammals - Vespertilionidae - Lasionycteris noctivagans
Animals - Mammals	Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-	-	4012431	BULL CREEK	Unprocessed	Animals - Mammals - Vespertilionidae - Lasionycteris noctivagans

Animals - Mammals	Lasiurus blossevillei	western red bat	AMACC05060	None	None	SSC	-	4012431	BULL CREEK	Mapped and Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus blossevillei
Animals - Mammals	Lasiurus blossevillei	western red bat	AMACC05060	None	None	SSC	-	4012338	WEOTT	Mapped and Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus blossevillei
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	-	4012431	BULL CREEK	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	-	4012338	WEOTT	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	-	4012452	FORTUNA	Mapped	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Myotis evotis	long-eared myotis	AMACC01070	None	None	-	-	4012431	BULL CREEK	Mapped and Unprocessed	Animals - Mammals - Vespertilionidae - Myotis evotis
Animals - Mammals	Myotis thysanodes	fringed myotis	AMACC01090	None	None	-	-	4012431	BULL CREEK	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis thysanodes
Animals - Mammals	Myotis volans	long-legged myotis	AMACC01110	None	None	-	-	4012431	BULL CREEK	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis volans
Animals - Mammals	Myotis volans	long-legged myotis	AMACC01110	None	None	-	-	4012348	REDCREST	Mapped	Animals - Mammals - Vespertilionidae - Myotis volans
Animals - Mammals	Myotis volans	long-legged myotis	AMACC01110	None	None	-	-	4012338	WEOTT	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis volans
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	-	4012348	REDCREST	Mapped	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	-	4012441	SCOTIA	Mapped	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	-	4012431	BULL CREEK	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	-	4012338	WEOTT	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Mollusks	Margaritifera falcata	western pearlshell	IMBIV27020	None	None	-	-	4012441	SCOTIA	Unprocessed	Animals - Mollusks - Margaritiferidae - Margaritifera falcata
Animals - Mollusks	Anodonta californiensis	California floater	IMBIV04220	None	None	-	-	4012338	WEOTT	Unprocessed	Animals - Mollusks - Unionidae - Anodonta californiensis

Animals - Mollusks	Anodonta oregonensis	Oregon floater	IMBIV04110	None	None	-	-	4012338	WEOTT	Unprocessed	Animals - Mollusks - Unionidae - Anodonta oregonensis
Animals - Mollusks	Gonidea angulata	western ridged mussel	IMBIV19010	None	None	-	-	4012441	SCOTIA	Mapped	Animals - Mollusks - Unionidae - Gonidea angulata
Animals - Mollusks	Gonidea angulata	western ridged mussel	IMBIV19010	None	None	-	-	4012348	REDCREST	Mapped	Animals - Mollusks - Unionidae - Gonidea angulata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	4012348	REDCREST	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	4012338	WEOTT	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	4012452	FORTUNA	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	4012451	HYDESVILLE	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	4012358	OWL CREEK	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Plants - Bryophytes	Fissidens pauperculus	minute pocket moss	NBMUS2W0U0	None	None	-	1B.2	4012452	FORTUNA	Mapped	Plants - Bryophytes - Fissidentaceae - Fissidens pauperculus
Plants - Lichens	Usnea longissima	Methuselah's beard lichen	NLLEC5P420	None	None	-	4.2	4012452	FORTUNA	Unprocessed	Plants - Lichens - Parmeliaceae - Usnea longissima
Plants - Lichens	Usnea longissima	Methuselah's beard lichen	NLLEC5P420	None	None	-	4.2	4012451	HYDESVILLE	Mapped and Unprocessed	Plants - Lichens - Parmeliaceae - Usnea longissima
Plants - Lichens	Usnea longissima	Methuselah's beard lichen	NLLEC5P420	None	None	-	4.2	4012358	OWL CREEK	Mapped and Unprocessed	Plants - Lichens - Parmeliaceae - Usnea longissima
Plants - Lichens	Usnea longissima	Methuselah's beard lichen	NLLEC5P420	None	None	-	4.2	4012442	TAYLOR PEAK	Mapped and Unprocessed	Plants - Lichens - Parmeliaceae - Usnea longissima
Plants - Lichens	Usnea longissima	Methuselah's beard lichen	NLLEC5P420	None	None	-	4.2	4012431	BULL CREEK	Mapped and Unprocessed	Plants - Lichens - Parmeliaceae - Usnea longissima
Plants - Lichens	Usnea longissima	Methuselah's beard lichen	NLLEC5P420	None	None	-	4.2	4012432	BUCKEYE MTN.	Mapped and Unprocessed	Plants - Lichens - Parmeliaceae - Usnea longissima
Plants - Lichens	Usnea longissima	Methuselah's beard lichen	NLLEC5P420	None	None	-	4.2	4012348	REDCREST	Mapped and Unprocessed	Plants - Lichens - Parmeliaceae - Usnea longissima
Plants - Lichens	Usnea longissima	Methuselah's beard lichen	NLLEC5P420	None	None	-	4.2	4012441	SCOTIA	Mapped and Unprocessed	Plants - Lichens - Parmeliaceae - Usnea longissima

Plants - Lichens	Usnea longissima	Methuselah's beard lichen	NLLEC5P420	None	None	-	4.2	4012338	WEOTT	Mapped and Unprocessed	Plants - Lichens - Parmeliaceae - Usnea longissima
Plants - Vascular	Erigeron biolettii	streamside daisy	PDAST3M5H0	None	None	-	3	4012338	WEOTT	Unprocessed	Plants - Vascular - Asteraceae - Erigeron biolettii
Plants - Vascular	Hemizonia congesta ssp. tracyi	Tracy's tarplant	PDAST4R067	None	None	-	4.3	4012338	WEOTT	Unprocessed	Plants - Vascular - Asteraceae - Hemizonia congesta ssp. tracyi
Plants - Vascular	Hemizonia congesta ssp. tracyi	Tracy's tarplant	PDAST4R067	None	None	-	4.3	4012441	SCOTIA	Unprocessed	Plants - Vascular - Asteraceae - Hemizonia congesta ssp. tracyi
Plants - Vascular	Hemizonia congesta ssp. tracyi	Tracy's tarplant	PDAST4R067	None	None	-	4.3	4012348	REDCREST	Unprocessed	Plants - Vascular - Asteraceae - Hemizonia congesta ssp. tracyi
Plants - Vascular	Hemizonia congesta ssp. tracyi	Tracy's tarplant	PDAST4R067	None	None	-	4.3	4012432	BUCKEYE MTN.	Unprocessed	Plants - Vascular - Asteraceae - Hemizonia congesta ssp. tracyi
Plants - Vascular	Hemizonia congesta ssp. tracyi	Tracy's tarplant	PDAST4R067	None	None	-	4.3	4012451	HYDESVILLE	Unprocessed	Plants - Vascular - Asteraceae - Hemizonia congesta ssp. tracyi
Plants - Vascular	Hemizonia congesta ssp. tracyi	Tracy's tarplant	PDAST4R067	None	None	-	4.3	4012452	FORTUNA	Unprocessed	Plants - Vascular - Asteraceae - Hemizonia congesta ssp. tracyi
Plants - Vascular	Hesperevax sparsiflora var. brevifolia	short-leaved evax	PDASTE5011	None	None	-	1B.2	4012442	TAYLOR PEAK	Mapped	Plants - Vascular - Asteraceae - Hesperevax sparsiflora var. brevifolia
Plants - Vascular	Packera bolanderi var. bolanderi	seacoast ragwort	PDAST8H0H1	None	None	-	2B.2	4012442	TAYLOR PEAK	Mapped	Plants - Vascular - Asteraceae - Packera bolanderi var. bolanderi
Plants - Vascular	Packera bolanderi var. bolanderi	seacoast ragwort	PDAST8H0H1	None	None	-	2B.2	4012358	OWL CREEK	Mapped and Unprocessed	Plants - Vascular - Asteraceae - Packera bolanderi var. bolanderi
Plants - Vascular	Packera bolanderi var. bolanderi	seacoast ragwort	PDAST8H0H1	None	None	-	2B.2	4012451	HYDESVILLE	Mapped	Plants - Vascular - Asteraceae - Packera bolanderi var. bolanderi
Plants - Vascular	Packera bolanderi var. bolanderi	seacoast ragwort	PDAST8H0H1	None	None	-	2B.2	4012348	REDCREST	Mapped and Unprocessed	Plants - Vascular - Asteraceae - Packera bolanderi var. bolanderi
Plants - Vascular	Packera bolanderi var. bolanderi	seacoast ragwort	PDAST8H0H1	None	None	-	2B.2	4012441	SCOTIA	Mapped and Unprocessed	Plants - Vascular - Asteraceae - Packera bolanderi var. bolanderi
Plants - Vascular	Downingia willamettensis	Cascade downingia	PDCAM060E0	None	None	-	2B.2	4012451	HYDESVILLE	Mapped	Plants - Vascular - Campanulaceae - Downingia willamettensis
Plants - Vascular	Downingia willamettensis	Cascade downingia	PDCAM060E0	None	None	-	2B.2	4012452	FORTUNA	Mapped	Plants - Vascular - Campanulaceae - Downingia willamettensis

Plants - Vascular	Carex arcta	northern clustered sedge	PMCYP030X0	None	None	-	2B.2	4012358	OWL CREEK	Mapped	Plants - Vascular - Cyperaceae - Carex arcta
Plants - Vascular	Carex arcta	northern clustered sedge	PMCYP030X0	None	None	-	2B.2	4012348	REDCREST	Mapped	Plants - Vascular - Cyperaceae - Carex arcta
Plants - Vascular	Rhynchospora globularis	round-headed beaked-rush	PMCYP0N0W0	None	None	-	2B.1	4012431	BULL CREEK	Unprocessed	Plants - Vascular - Cyperaceae - Rhynchospora globularis
Plants - Vascular	Astragalus rattanii var. rattanii	Rattan's milk-vetch	PDFAB0F7E2	None	None	-	4.3	4012441	SCOTIA	Unprocessed	Plants - Vascular - Fabaceae - Astragalus rattanii var. rattanii
Plants - Vascular	Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-	4.2	4012442	TAYLOR PEAK	Unprocessed	Plants - Vascular - Fabaceae - Hosackia gracilis
Plants - Vascular	Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-	4.2	4012451	HYDESVILLE	Unprocessed	Plants - Vascular - Fabaceae - Hosackia gracilis
Plants - Vascular	Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-	4.2	4012452	FORTUNA	Unprocessed	Plants - Vascular - Fabaceae - Hosackia gracilis
Plants - Vascular	Lathyrus glandulosus	sticky pea	PDFAB251A0	None	None	-	4.3	4012451	HYDESVILLE	Unprocessed	Plants - Vascular - Fabaceae - Lathyrus glandulosus
Plants - Vascular	Lathyrus glandulosus	sticky pea	PDFAB251A0	None	None	-	4.3	4012358	OWL CREEK	Unprocessed	Plants - Vascular - Fabaceae - Lathyrus glandulosus
Plants - Vascular	Lathyrus glandulosus	sticky pea	PDFAB251A0	None	None	-	4.3	4012442	TAYLOR PEAK	Unprocessed	Plants - Vascular - Fabaceae - Lathyrus glandulosus
Plants - Vascular	Lathyrus glandulosus	sticky pea	PDFAB251A0	None	None	-	4.3	4012441	SCOTIA	Unprocessed	Plants - Vascular - Fabaceae - Lathyrus glandulosus
Plants - Vascular	Lathyrus glandulosus	sticky pea	PDFAB251A0	None	None	-	4.3	4012348	REDCREST	Unprocessed	Plants - Vascular - Fabaceae - Lathyrus glandulosus
Plants - Vascular	Lathyrus glandulosus	sticky pea	PDFAB251A0	None	None	-	4.3	4012431	BULL CREEK	Unprocessed	Plants - Vascular - Fabaceae - Lathyrus glandulosus
Plants - Vascular	Lathyrus glandulosus	sticky pea	PDFAB251A0	None	None	-	4.3	4012432	BUCKEYE MTN.	Unprocessed	Plants - Vascular - Fabaceae - Lathyrus glandulosus
Plants - Vascular	Lathyrus glandulosus	sticky pea	PDFAB251A0	None	None	-	4.3	4012338	WEOTT	Unprocessed	Plants - Vascular - Fabaceae - Lathyrus glandulosus
Plants - Vascular	Ribes roezlii var. amictum	hoary gooseberry	PDGRO021B1	None	None	-	4.3	4012338	WEOTT	Unprocessed	Plants - Vascular - Grossulariaceae - Ribes roezlii var. amictum
Plants - Vascular	Ribes roezlii var. amictum	hoary gooseberry	PDGRO021B1	None	None	-	4.3	4012431	BULL CREEK	Unprocessed	Plants - Vascular - Grossulariaceae - Ribes roezlii var. amictum
Plants - Vascular	Ribes roezlii var. amictum	hoary gooseberry	PDGRO021B1	None	None	-	4.3	4012441	SCOTIA	Unprocessed	Plants - Vascular - Grossulariaceae - Ribes roezlii var. amictum

Plants - Vascular	Ribes roezlii var. amictum	hoary gooseberry	PDGRO021B1	None	None	-	4.3	4012442	TAYLOR PEAK	Unprocessed	Plants - Vascular - Grossulariaceae - Ribes roezlii var. amictum
Plants - Vascular	Lycopus uniflorus	northern bugleweed	PDLAM0X080	None	None	-	4.3	4012348	REDCREST	Unprocessed	Plants - Vascular - Lamiaceae - Lycopus uniflorus
Plants - Vascular	Lycopus uniflorus	northern bugleweed	PDLAM0X080	None	None	-	4.3	4012338	WEOTT	Unprocessed	Plants - Vascular - Lamiaceae - Lycopus uniflorus
Plants - Vascular	Erythronium oregonum	giant fawn lily	PMLIL0U0C0	None	None	-	2B.2	4012441	SCOTIA	Mapped	Plants - Vascular - Liliaceae - Erythronium oregonum
Plants - Vascular	Erythronium oregonum	giant fawn lily	PMLIL0U0C0	None	None	-	2B.2	4012442	TAYLOR PEAK	Mapped	Plants - Vascular - Liliaceae - Erythronium oregonum
Plants - Vascular	Erythronium revolutum	coast fawn lily	PMLIL0U0F0	None	None	-	2B.2	4012442	TAYLOR PEAK	Mapped	Plants - Vascular - Liliaceae - Erythronium revolutum
Plants - Vascular	Erythronium revolutum	coast fawn lily	PMLIL0U0F0	None	None	-	2B.2	4012358	OWL CREEK	Mapped and Unprocessed	Plants - Vascular - Liliaceae - Erythronium revolutum
Plants - Vascular	Erythronium revolutum	coast fawn lily	PMLIL0U0F0	None	None	-	2B.2	4012441	SCOTIA	Mapped and Unprocessed	Plants - Vascular - Liliaceae - Erythronium revolutum
Plants - Vascular	Erythronium revolutum	coast fawn lily	PMLIL0U0F0	None	None	-	2B.2	4012431	BULL CREEK	Mapped	Plants - Vascular - Liliaceae - Erythronium revolutum
Plants - Vascular	Erythronium revolutum	coast fawn lily	PMLIL0U0F0	None	None	-	2B.2	4012432	BUCKEYE MTN.	Mapped	Plants - Vascular - Liliaceae - Erythronium revolutum
Plants - Vascular	Lilium kelloggii	Kellogg's lily	PMLIL1A0A0	None	None	-	4.3	4012348	REDCREST	Unprocessed	Plants - Vascular - Liliaceae - Lilium kelloggii
Plants - Vascular	Lilium kelloggii	Kellogg's lily	PMLIL1A0A0	None	None	-	4.3	4012358	OWL CREEK	Unprocessed	Plants - Vascular - Liliaceae - Lilium kelloggii
Plants - Vascular	Lilium kelloggii	Kellogg's lily	PMLIL1A0A0	None	None	-	4.3	4012451	HYDESVILLE	Unprocessed	Plants - Vascular - Liliaceae - Lilium kelloggii
Plants - Vascular	Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-	4.2	4012451	HYDESVILLE	Unprocessed	Plants - Vascular - Liliaceae - Lilium rubescens
Plants - Vascular	Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-	4.2	4012358	OWL CREEK	Unprocessed	Plants - Vascular - Liliaceae - Lilium rubescens
Plants - Vascular	Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-	4.2	4012442	TAYLOR PEAK	Unprocessed	Plants - Vascular - Liliaceae - Lilium rubescens
Plants - Vascular	Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-	4.2	4012348	REDCREST	Unprocessed	Plants - Vascular - Liliaceae - Lilium rubescens
Plants - Vascular	Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-	4.2	4012441	SCOTIA	Unprocessed	Plants - Vascular - Liliaceae - Lilium rubescens
Plants - Vascular	Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-	4.2	4012431	BULL CREEK	Unprocessed	Plants - Vascular - Liliaceae - Lilium rubescens
Plants - Vascular	Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-	4.2	4012338	WEOTT	Unprocessed	Plants - Vascular - Liliaceae - Lilium rubescens

Plants - Vascular	Lycopodium clavatum	running-pine	PPLYC01080	None	None	-	4.1	4012338	WEOTT	Mapped and Unprocessed	Plants - Vascular - Lycopodiaceae - Lycopodium clavatum
Plants - Vascular	Lycopodium clavatum	running-pine	PPLYC01080	None	None	-	4.1	4012348	REDCREST	Mapped and Unprocessed	Plants - Vascular - Lycopodiaceae - Lycopodium clavatum
Plants - Vascular	Lycopodium clavatum	running-pine	PPLYC01080	None	None	-	4.1	4012441	SCOTIA	Mapped and Unprocessed	Plants - Vascular - Lycopodiaceae - Lycopodium clavatum
Plants - Vascular	Lycopodium clavatum	running-pine	PPLYC01080	None	None	-	4.1	4012358	OWL CREEK	Mapped and Unprocessed	Plants - Vascular - Lycopodiaceae - Lycopodium clavatum
Plants - Vascular	Lycopodium clavatum	running-pine	PPLYC01080	None	None	-	4.1	4012451	HYDESVILLE	Mapped and Unprocessed	Plants - Vascular - Lycopodiaceae - Lycopodium clavatum
Plants - Vascular	Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-	4.2	4012451	HYDESVILLE	Mapped and Unprocessed	Plants - Vascular - Malvaceae - Sidalcea malachroides
Plants - Vascular	Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-	4.2	4012358	OWL CREEK	Mapped and Unprocessed	Plants - Vascular - Malvaceae - Sidalcea malachroides
Plants - Vascular	Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-	4.2	4012442	TAYLOR PEAK	Mapped and Unprocessed	Plants - Vascular - Malvaceae - Sidalcea malachroides
Plants - Vascular	Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-	4.2	4012348	REDCREST	Mapped and Unprocessed	Plants - Vascular - Malvaceae - Sidalcea malachroides
Plants - Vascular	Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-	4.2	4012441	SCOTIA	Mapped and Unprocessed	Plants - Vascular - Malvaceae - Sidalcea malachroides
Plants - Vascular	Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-	4.2	4012338	WEOTT	Mapped and Unprocessed	Plants - Vascular - Malvaceae - Sidalcea malachroides
Plants - Vascular	Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	PDMAL110F9	None	None	-	1B.2	4012441	SCOTIA	Mapped	Plants - Vascular - Malvaceae - Sidalcea malviflora ssp. patula
Plants - Vascular	Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	PDMAL110F9	None	None	-	1B.2	4012432	BUCKEYE MTN.	Mapped	Plants - Vascular - Malvaceae - Sidalcea malviflora ssp. patula
Plants - Vascular	Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	PDMAL110F9	None	None	-	1B.2	4012442	TAYLOR PEAK	Mapped	Plants - Vascular - Malvaceae - Sidalcea malviflora ssp. patula
Plants - Vascular	Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	PDMAL110F9	None	None	-	1B.2	4012358	OWL CREEK	Mapped	Plants - Vascular - Malvaceae - Sidalcea malviflora ssp. patula
Plants - Vascular	Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	PDMAL110F9	None	None	-	1B.2	4012451	HYDESVILLE	Mapped	Plants - Vascular - Malvaceae - Sidalcea malviflora ssp. patula
Plants - Vascular	Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	PDMAL110F9	None	None	-	1B.2	4012452	FORTUNA	Mapped	Plants - Vascular - Malvaceae - Sidalcea malviflora ssp. patula

Plants - Vascular	Pityopus californicus	California pinefoot	PDMON05010	None	None	-	4.2	4012358	OWL CREEK	Unprocessed	Plants - Vascular - Monotropaceae - Pityopus californicus
Plants - Vascular	Pityopus californicus	California pinefoot	PDMON05010	None	None	-	4.2	4012442	TAYLOR PEAK	Unprocessed	Plants - Vascular - Monotropaceae - Pityopus californicus
Plants - Vascular	Pityopus californicus	California pinefoot	PDMON05010	None	None	-	4.2	4012431	BULL CREEK	Unprocessed	Plants - Vascular - Monotropaceae - Pityopus californicus
Plants - Vascular	Pityopus californicus	California pinefoot	PDMON05010	None	None	-	4.2	4012441	SCOTIA	Unprocessed	Plants - Vascular - Monotropaceae - Pityopus californicus
Plants - Vascular	Pityopus californicus	California pinefoot	PDMON05010	None	None	-	4.2	4012348	REDCREST	Unprocessed	Plants - Vascular - Monotropaceae - Pityopus californicus
Plants - Vascular	Pityopus californicus	California pinefoot	PDMON05010	None	None	-	4.2	4012338	WEOTT	Unprocessed	Plants - Vascular - Monotropaceae - Pityopus californicus
Plants - Vascular	Montia howellii	Howell's montia	PDPOR05070	None	None	-	2B.2	4012441	SCOTIA	Mapped and Unprocessed	Plants - Vascular - Montiaceae - Montia howellii
Plants - Vascular	Montia howellii	Howell's montia	PDPOR05070	None	None	-	2B.2	4012431	BULL CREEK	Mapped	Plants - Vascular - Montiaceae - Montia howellii
Plants - Vascular	Montia howellii	Howell's montia	PDPOR05070	None	None	-	2B.2	4012348	REDCREST	Mapped and Unprocessed	Plants - Vascular - Montiaceae - Montia howellii
Plants - Vascular	Montia howellii	Howell's montia	PDPOR05070	None	None	-	2B.2	4012432	BUCKEYE MTN.	Mapped and Unprocessed	Plants - Vascular - Montiaceae - Montia howellii
Plants - Vascular	Montia howellii	Howell's montia	PDPOR05070	None	None	-	2B.2	4012442	TAYLOR PEAK	Mapped and Unprocessed	Plants - Vascular - Montiaceae - Montia howellii
Plants - Vascular	Montia howellii	Howell's montia	PDPOR05070	None	None	-	2B.2	4012358	OWL CREEK	Mapped and Unprocessed	Plants - Vascular - Montiaceae - Montia howellii
Plants - Vascular	Montia howellii	Howell's montia	PDPOR05070	None	None	-	2B.2	4012451	HYDESVILLE	Mapped	Plants - Vascular - Montiaceae - Montia howellii
Plants - Vascular	Montia howellii	Howell's montia	PDPOR05070	None	None	-	2B.2	4012452	FORTUNA	Mapped	Plants - Vascular - Montiaceae - Montia howellii
Plants - Vascular	Clarkia amoena ssp. whitneyi	Whitney's farewell-to-spring	PDONA05025	None	None	-	1B.1	4012452	FORTUNA	Mapped	Plants - Vascular - Onagraceae - Clarkia amoena ssp. whitneyi
Plants - Vascular	Epilobium septentrionale	Humboldt County fuchsia	PDONA06110	None	None	-	4.3	4012432	BUCKEYE MTN.	Unprocessed	Plants - Vascular - Onagraceae - Epilobium septentrionale
Plants - Vascular	Epilobium septentrionale	Humboldt County fuchsia	PDONA06110	None	None	-	4.3	4012348	REDCREST	Unprocessed	Plants - Vascular - Onagraceae - Epilobium septentrionale
Plants - Vascular	Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-	4.2	4012348	REDCREST	Unprocessed	Plants - Vascular - Orchidaceae - Listera cordata
Plants - Vascular	Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-	4.2	4012441	SCOTIA	Unprocessed	Plants - Vascular - Orchidaceae - Listera cordata
Plants - Vascular	Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-	4.2	4012431	BULL CREEK	Unprocessed	Plants - Vascular - Orchidaceae - Listera cordata

Plants - Vascular	Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-	4.2	4012452	FORTUNA	Unprocessed	Plants - Vascular - Orchidaceae - Listera cordata
Plants - Vascular	Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-	4.2	4012451	HYDESVILLE	Unprocessed	Plants - Vascular - Orchidaceae - Listera cordata
Plants - Vascular	Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-	4.2	4012442	TAYLOR PEAK	Unprocessed	Plants - Vascular - Orchidaceae - Listera cordata
Plants - Vascular	Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-	4.2	4012358	OWL CREEK	Unprocessed	Plants - Vascular - Orchidaceae - Listera cordata
Plants - Vascular	Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-	4.2	4012338	WEOTT	Unprocessed	Plants - Vascular - Orchidaceae - Listera cordata
Plants - Vascular	Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-	1B.2	4012338	WEOTT	Mapped	Plants - Vascular - Orchidaceae - Piperia candida
Plants - Vascular	Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-	1B.2	4012431	BULL CREEK	Mapped	Plants - Vascular - Orchidaceae - Piperia candida
Plants - Vascular	Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-	1B.2	4012432	BUCKEYE MTN.	Mapped and Unprocessed	Plants - Vascular - Orchidaceae - Piperia candida
Plants - Vascular	Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-	1B.2	4012441	SCOTIA	Mapped	Plants - Vascular - Orchidaceae - Piperia candida
Plants - Vascular	Castilleja ambigua var. ambigua	johnny-nip	PDSCR0D401	None	None	-	4.2	4012348	REDCREST	Unprocessed	Plants - Vascular - Orobanchaceae - Castilleja ambigua var. ambigua
Plants - Vascular	Castilleja litoralis	Oregon coast paintbrush	PDSCR0D012	None	None	-	2B.2	4012432	BUCKEYE MTN.	Unprocessed	Plants - Vascular - Orobanchaceae - Castilleja litoralis
Plants - Vascular	Calamagrostis foliosa	leafy reed grass	PMPOA170C0	None	Rare	-	4.2	4012432	BUCKEYE MTN.	Mapped and Unprocessed	Plants - Vascular - Poaceae - Calamagrostis foliosa
Plants - Vascular	Calamagrostis foliosa	leafy reed grass	PMPOA170C0	None	Rare	-	4.2	4012431	BULL CREEK	Mapped and Unprocessed	Plants - Vascular - Poaceae - Calamagrostis foliosa
Plants - Vascular	Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-	4.2	4012431	BULL CREEK	Unprocessed	Plants - Vascular - Poaceae - Pleuropogon refractus
Plants - Vascular	Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-	4.2	4012441	SCOTIA	Unprocessed	Plants - Vascular - Poaceae - Pleuropogon refractus
Plants - Vascular	Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-	4.2	4012348	REDCREST	Unprocessed	Plants - Vascular - Poaceae - Pleuropogon refractus
Plants - Vascular	Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-	4.2	4012358	OWL CREEK	Unprocessed	Plants - Vascular - Poaceae - Pleuropogon refractus
Plants - Vascular	Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-	4.2	4012442	TAYLOR PEAK	Unprocessed	Plants - Vascular - Poaceae - Pleuropogon refractus
Plants - Vascular	Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-	4.2	4012451	HYDESVILLE	Unprocessed	Plants - Vascular - Poaceae - Pleuropogon refractus
Plants - Vascular	Collomia tracyi	Tracy's collomia	PDPLM020B0	None	None	-	4.3	4012451	HYDESVILLE	Unprocessed	Plants - Vascular - Polemoniaceae - Collomia tracyi

Plants - Vascular	<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	PDPLM040B6	None	None	-	1B.2	4012451	HYDESVILLE	Mapped	Plants - Vascular - Polemoniaceae - <i>Gilia capitata</i> ssp. <i>pacifica</i>
Plants - Vascular	<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	PDPLM040B6	None	None	-	1B.2	4012358	OWL CREEK	Mapped	Plants - Vascular - Polemoniaceae - <i>Gilia capitata</i> ssp. <i>pacifica</i>
Plants - Vascular	<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	PDPLM040B6	None	None	-	1B.2	4012442	TAYLOR PEAK	Mapped	Plants - Vascular - Polemoniaceae - <i>Gilia capitata</i> ssp. <i>pacifica</i>
Plants - Vascular	<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	PDPLM040B6	None	None	-	1B.2	4012452	FORTUNA	Mapped	Plants - Vascular - Polemoniaceae - <i>Gilia capitata</i> ssp. <i>pacifica</i>
Plants - Vascular	<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	PDPLM040B6	None	None	-	1B.2	4012441	SCOTIA	Mapped and Unprocessed	Plants - Vascular - Polemoniaceae - <i>Gilia capitata</i> ssp. <i>pacifica</i>
Plants - Vascular	<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	PDPLM040B6	None	None	-	1B.2	4012431	BULL CREEK	Mapped	Plants - Vascular - Polemoniaceae - <i>Gilia capitata</i> ssp. <i>pacifica</i>
Plants - Vascular	<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	PDPLM040B6	None	None	-	1B.2	4012432	BUCKEYE MTN.	Mapped	Plants - Vascular - Polemoniaceae - <i>Gilia capitata</i> ssp. <i>pacifica</i>
Plants - Vascular	<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	PDPLM040B6	None	None	-	1B.2	4012338	WEOTT	Mapped	Plants - Vascular - Polemoniaceae - <i>Gilia capitata</i> ssp. <i>pacifica</i>
Plants - Vascular	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	PDPLM0C0E1	None	None	-	1B.1	4012358	OWL CREEK	Mapped	Plants - Vascular - Polemoniaceae - <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>
Plants - Vascular	<i>Polemonium carneum</i>	Oregon polemonium	PDPLM0E050	None	None	-	2B.2	4012442	TAYLOR PEAK	Mapped	Plants - Vascular - Polemoniaceae - <i>Polemonium carneum</i>
Plants - Vascular	<i>Polemonium carneum</i>	Oregon polemonium	PDPLM0E050	None	None	-	2B.2	4012452	FORTUNA	Mapped	Plants - Vascular - Polemoniaceae - <i>Polemonium carneum</i>
Plants - Vascular	<i>Coptis laciniata</i>	Oregon goldthread	PDRAN0A020	None	None	-	4.2	4012358	OWL CREEK	Mapped	Plants - Vascular - Ranunculaceae - <i>Coptis laciniata</i>
Plants - Vascular	<i>Chrysosplenium glechomifolium</i>	Pacific golden saxifrage	PDSAX07020	None	None	-	4.3	4012442	TAYLOR PEAK	Unprocessed	Plants - Vascular - Saxifragaceae - <i>Chrysosplenium glechomifolium</i>
Plants - Vascular	<i>Mitellastra caulescens</i>	leafy-stemmed mitrewort	PDSAX0N020	None	None	-	4.2	4012358	OWL CREEK	Unprocessed	Plants - Vascular - Saxifragaceae - <i>Mitellastra caulescens</i>
Plants - Vascular	<i>Mitellastra caulescens</i>	leafy-stemmed mitrewort	PDSAX0N020	None	None	-	4.2	4012451	HYDESVILLE	Unprocessed	Plants - Vascular - Saxifragaceae - <i>Mitellastra caulescens</i>
Plants - Vascular	<i>Mitellastra caulescens</i>	leafy-stemmed mitrewort	PDSAX0N020	None	None	-	4.2	4012348	REDCREST	Unprocessed	Plants - Vascular - Saxifragaceae - <i>Mitellastra caulescens</i>
Plants - Vascular	<i>Mitellastra caulescens</i>	leafy-stemmed mitrewort	PDSAX0N020	None	None	-	4.2	4012441	SCOTIA	Unprocessed	Plants - Vascular - Saxifragaceae - <i>Mitellastra caulescens</i>
Plants - Vascular	<i>Tiarella trifoliata</i> var. <i>trifoliata</i>	trifoliolate laceflower	PDSAX10031	None	None	-	3.2	4012441	SCOTIA	Unprocessed	Plants - Vascular - Saxifragaceae - <i>Tiarella trifoliata</i> var. <i>trifoliata</i>

Plants - Vascular	Tiareella trifoliata var. trifoliata	trifoliolate laceflower	PDSAX10031	None	None	-	3.2	4012358	OWL CREEK	Unprocessed	Plants - Vascular - Saxifragaceae - Tiarella trifoliata var. trifoliata
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Search Results

39 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [4012452:4012451:4012358:4012338:4012441:4012442:4012348:4012432:4012431]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK
<i>Astragalus rattanii</i> var. <i>rattanii</i>	Rattan's milk-vetch	Fabaceae	perennial herb	Apr-Jul	None	None	G4T4	S4	4.3
<i>Calamagrostis foliosa</i>	leafy reed grass	Poaceae	perennial herb	May-Sep	None	CR	G3	S3	4.2
<i>Carex arcta</i>	northern clustered sedge	Cyperaceae	perennial herb	Jun-Sep	None	None	G5	S1	2B.2
<i>Castilleja ambigua</i> var. <i>ambigua</i>	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	None	None	G4T4	S3S4	4.2
<i>Castilleja litoralis</i>	Oregon coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Jun	None	None	G3	S3	2B.2
<i>Chrysosplenium glechomifolium</i>	Pacific golden saxifrage	Saxifragaceae	perennial herb	Feb-Jun	None	None	G5?	S3	4.3
<i>Clarkia amoena</i> ssp. <i>whitneyi</i>	Whitney's farewell-to-spring	Onagraceae	annual herb	Jun-Aug	None	None	G5T1	S1	1B.1
<i>Collomia tracyi</i>	Tracy's collomia	Polemoniaceae	annual herb	Jun-Jul	None	None	G4	S4	4.3
<i>Coptis laciniata</i>	Oregon goldthread	Ranunculaceae	perennial rhizomatous herb	(Feb)Mar-May(Sep-Nov)	None	None	G4?	S3?	4.2
<i>Downingia willamettensis</i>	Cascade downingia	Campanulaceae	annual herb	Jun-Jul(Sep)	None	None	G4	S2	2B.2
<i>Epilobium septentrionale</i>	Humboldt County fuchsia	Onagraceae	perennial herb	Jul-Sep	None	None	G4	S4	4.3
<i>Erigeron biolettii</i>	streamside daisy	Asteraceae	perennial herb	Jun-Oct	None	None	G3?	S3?	3
<i>Erythronium oregonum</i>	giant fawn lily	Liliaceae	perennial herb	Mar-Jun(Jul)	None	None	G5	S2	2B.2
<i>Erythronium revolutum</i>	coast fawn lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	None	None	G4G5	S3	2B.2
<i>Fissidens pauperculus</i>	minute pocket moss	Fissidentaceae	moss		None	None	G3?	S2	1B.2
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	Polemoniaceae	annual herb	Apr-Aug	None	None	G5T3	S2	1B.2
<i>Hemizonia congesta</i> ssp. <i>tracyi</i>	Tracy's tarplant	Asteraceae	annual herb	(Mar)May-Oct	None	None	G5T4	S4	4.3
<i>Hesperervax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	Asteraceae	annual herb	Mar-Jun	None	None	G4T3	S3	1B.2

<i>Hosackia gracilis</i>	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	None	None	G3G4	S3	4.2
<i>Lathyrus glandulosus</i>	sticky pea	Fabaceae	perennial rhizomatous herb	Apr-Jun	None	None	G3	S3	4.3
<i>Lilium kelloggii</i>	Kellogg's lily	Liliaceae	perennial bulbiferous herb	May-Aug	None	None	G3	S3	4.3
<i>Lilium rubescens</i>	redwood lily	Liliaceae	perennial bulbiferous herb	Apr-Aug(Sep)	None	None	G3	S3	4.2
<i>Listera cordata</i>	heart-leaved twayblade	Orchidaceae	perennial herb	Feb-Jul	None	None	G5	S4	4.2
<i>Lycopodium clavatum</i>	running-pine	Lycopodiaceae	perennial rhizomatous herb	Jun-Aug(Sep)	None	None	G5	S3	4.1
<i>Lycopus uniflorus</i>	northern bugleweed	Lamiaceae	perennial herb	Jul-Sep	None	None	G5	S4	4.3
<i>Mitellastra caulescens</i>	leafy-stemmed mitrewort	Saxifragaceae	perennial rhizomatous herb	(Mar)Apr-Oct	None	None	G5	S4	4.2
<i>Montia howellii</i>	Howell's montia	Montiaceae	annual herb	(Feb)Mar- May	None	None	G3G4	S2	2B.2
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G4T2	S2	1B.1
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	Asteraceae	perennial rhizomatous herb	(Jan- Apr)May- Jul(Aug)	None	None	G4T4	S2S3	2B.2
<i>Piperia candida</i>	white-flowered rein orchid	Orchidaceae	perennial herb	(Mar)May- Sep	None	None	G3?	S3	1B.2
<i>Pityopus californicus</i>	California pinefoot	Ericaceae	perennial herb (achlorophyllous)	(Mar- Apr)May-Aug	None	None	G4G5	S4	4.2
<i>Pleuropogon refractus</i>	nodding semaphore grass	Poaceae	perennial rhizomatous herb	(Mar)Apr- Aug	None	None	G4	S4	4.2
<i>Polemonium carneum</i>	Oregon polemonium	Polemoniaceae	perennial herb	Apr-Sep	None	None	G3G4	S2	2B.2
<i>Rhynchospora globularis</i>	round-headed beaked-rush	Cyperaceae	perennial rhizomatous herb	Jul-Aug	None	None	G5	S1	2B.1
<i>Ribes roezlii</i> var. <i>amictum</i>	hoary gooseberry	Grossulariaceae	perennial deciduous shrub	Mar-Apr	None	None	G5T4	S4	4.3
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	Malvaceae	perennial herb	(Mar)Apr- Aug	None	None	G3	S3	4.2
<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	Malvaceae	perennial rhizomatous herb	(Mar)May- Aug	None	None	G5T2	S2	1B.2
<i>Tiarella trifoliata</i> var. <i>trifoliata</i>	trifoliolate laceflower	Saxifragaceae	perennial rhizomatous herb	(May)Jun- Aug	None	None	G5T5	S2S3	3.2
<i>Usnea longissima</i>	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)		None	None	G4	S4	4.2

Showing 1 to 39 of 39 entries

Suggested Citation:

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Arcata Fish And Wildlife Office

1655 Heindon Road

Arcata, CA 95521-4573

Phone: (707) 822-7201 Fax: (707) 822-8411



In Reply Refer To:

September 27, 2022

Project Code: 2022-0089664

Project Name: Rio Dell - Eel River Bicycle Trail

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Migratory Birds
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arcata Fish And Wildlife Office

1655 Heindon Road

Arcata, CA 95521-4573

(707) 822-7201

Project Summary

Project Code: 2022-0089664

Project Name: Rio Dell - Eel River Bicycle Trail

Project Type: Restoration / Enhancement - Wetland

Project Description: A bicycle access trail will be built and invasive pampas grass stands will be removed.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.49754515,-124.09304593420204,14z>



Counties: Humboldt County, California

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Pacific Marten, Coastal Distinct Population Segment <i>Martes caurina</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9081	Threatened

Birds

NAME	STATUS
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird <i>Selasphorus sasin</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Sep 30

NAME	BREEDING SEASON
Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Rufous Hummingbird <i>selasphorus rufus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Western Grebe <i>aechmophorus occidentalis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Wrentit <i>Chamaea fasciata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12

(0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

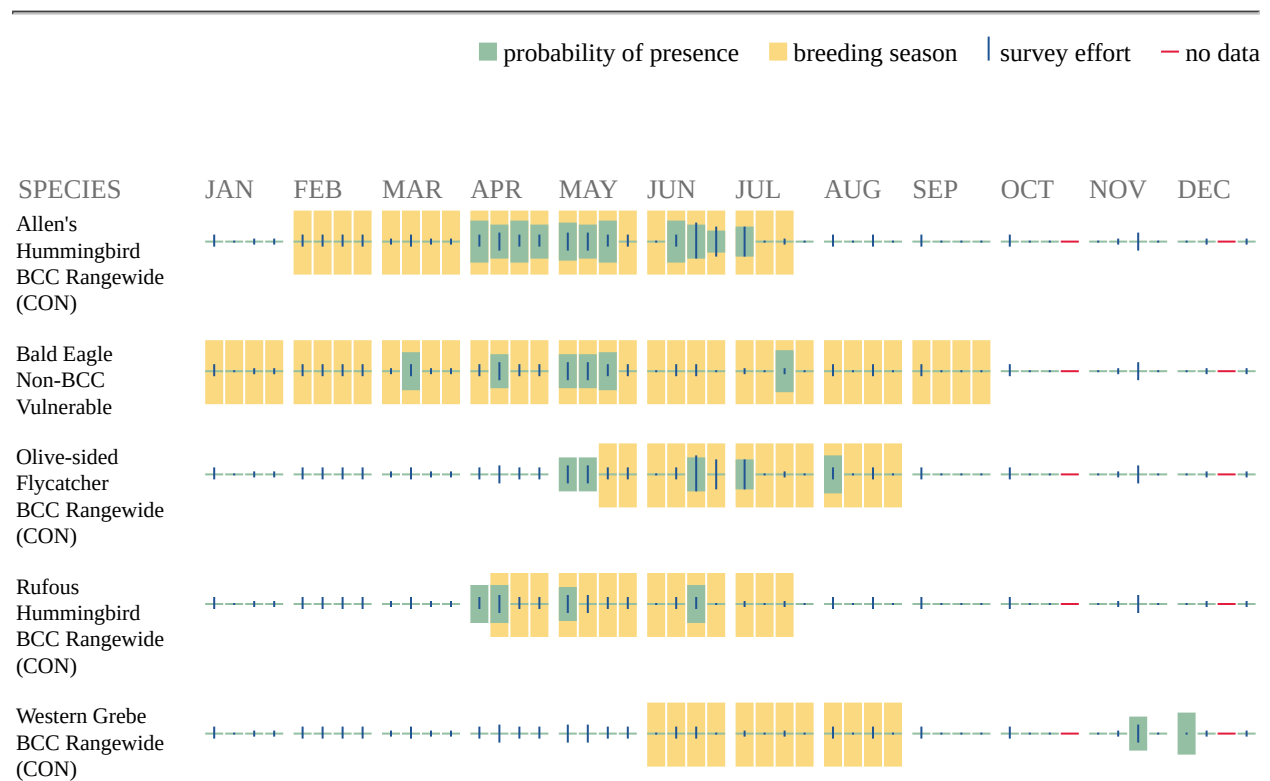
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED.
PLEASE VISIT [HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML](https://www.fws.gov/wetlands/data/mapper.html) OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPaC User Contact Information

Agency: GHD

Name: Jane Cipra

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City: Eureka

State: CA

Zip: 95501

Email: jane.cipra@ghd.com

Phone: 7072672206

Appendix D

Species Potential to Occur On-site

Appendix C, Table 3. Special Status Plant and Wildlife Species Potential to Occur within the PSB

Scientific Name	Common Name	Status/ CRPR ¹	Habitat Requirements ²	Potential to Occur On Site
<i>Astragalus rattanii</i> var. <i>rattanii</i>	Rattan's milk-vetch	4.3	Chaparral, Cismontane woodland, Lower montane coniferous forest,	Low potential. The majority of the PSB contains unsuitable or marginal habitat for this species.
<i>Calamagrostis foliosa</i>	leafy reed grass	SR, 4.2	Coastal bluff scrub, North Coast coniferous forest, Rocky	Low potential. The majority of the PSB contains unsuitable or marginal habitat for this species.
<i>Carex arcta</i>	northern clustered sedge	2B.2	Bogs and fens, North Coast coniferous forest	Low potential. The majority of the PSB contains unsuitable or marginal habitat for this species.
<i>Castilleja ambigua</i> var. <i>ambigua</i>	johnny-nip	4.2	Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Valley and foothill grassland, Vernal pools	No potential. The PSB is outside of the elevational range for this species (985 - 2,625 feet).
<i>Castilleja littoralis</i>	Oregon coast paintbrush	2B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Sandy	No potential. No suitable habitat is present in the PSB.
<i>Chrysosplenium glechomifolium</i>	Pacific golden saxifrage	4.3	North Coast coniferous forest, Riparian forest, Roadsides (sometimes), Seeps (sometimes), Streambanks	Low potential. This species was observed within 10 miles downriver of the PSB in 1976. Riparian forest is present, however, the PSB is outside of the elevational range for this species (100 - 3,610 feet).
<i>Clarkia amoena</i> ssp. <i>whitneyi</i>	Whitney's farewell-to-spring	1B.1	Coastal bluff scrub, Coastal scrub	Low potential. The majority of the PSB contains unsuitable or marginal habitat for this species.
<i>Collomia tracyi</i>	Tracy's collomia	4.3	Broadleafed upland forest, Lower montane coniferous forest, Rocky, Serpentinite (sometimes)	No potential. The PSB is outside of the elevational range for this species (395 - 3,935 feet).
<i>Coptis laciniata</i>	Oregon goldthread	4.2	Meadows and seeps, North Coast coniferous forest, Mesic	Low potential. The majority of the PSB contains unsuitable or marginal habitat for this species.
<i>Downingia willamettensis</i>	Cascade downingia	2B.2	Cismontane woodland, Valley and foothill grassland, Vernal pools	No potential. The PSB is outside of the elevational range for this species (100 - 6,265 feet).
<i>Epilobium septentrionale</i>	Humboldt County fuchsia	4.3	Broadleafed upland forest, North Coast coniferous forest, Rocky (sometimes), Sandy (sometimes)	Moderate potential. Marginally suitable habitat is present in the PSB.

This document is in draft form. The contents, including any opinions, conclusions or recommendations contained in, or which may be implied from, this draft document must not be relied upon. GHD reserves the right, at any time, without notice, to modify or retract any part or all of the draft document. To the maximum extent permitted by law, GHD disclaims any responsibility or liability arising from or in connection with this draft document.

Scientific Name	Common Name	Status/ CRPR ¹	Habitat Requirements ²	Potential to Occur On Site
<i>Erigeron biolettii</i>	streamside daisy	3	Broadleafed upland forest, Cismontane woodland, North Coast coniferous forest, Mesic, Rocky	Low potential. The majority of the PSB contains unsuitable or marginal habitat for this species.
<i>Erythronium oregonum</i>	giant fawn lily	2B.2	Cismontane woodland, Meadows and seeps, Openings, Rocky, Serpentine (sometimes)	Low potential. The majority of the PSB contains unsuitable or marginal habitat for this species.
<i>Erythronium revolutum</i>	coast fawn lily	2B.2	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest, Mesic, Streambanks	Moderate potential. Marginally suitable habitat is present in the PSB.
<i>Fissidens pauperculus</i>	minute pocket moss	1B.2	North Coast coniferous forest	No potential. No suitable habitat is present in the PSB.
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	1B.2	Chaparral, Coastal bluff scrub, Coastal prairie, Valley and foothill grassland	Moderate potential. This species was observed across the Eel River on the "Scotia Bluffs" in 1973. Marginally suitable habitat is present, however the PSB is outside of the elevational range for this species (150 - 4,020 feet).
<i>Hemizonia congesta</i> ssp. <i>tracyi</i>	Tracy's tarplant	4.3	Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest, Openings, Serpentine (sometimes)	No potential. No suitable habitat is present in the PSB.
<i>Hesperis matronalis</i> var. <i>brevifolia</i>	short-leaved evax	1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie	No potential. No suitable habitat is present in the PSB.
<i>Hosackia gracilis</i>	harlequin lotus	4.2	Broadleafed upland forest, Cismontane woodland, Closed-cone/North Coast coniferous forest, Coastal scrub/bluff/prairie, Marshes, swamps, Meadows and seeps, Valley and foothill grassland, Roadsides	No potential. The PSB is outside of the elevational range for this species (150 - 5,905 feet).
<i>Lathyrus glandulosus</i>	sticky pea	4.3	Cismontane woodland	Low potential. The majority of the PSB contains unsuitable or marginal habitat for this species.
<i>Lilium kelloggii</i>	Kellogg's lily	4.3	Lower montane coniferous forest, North Coast coniferous forest, Openings, Roadsides	No potential. The PSB is outside of the elevational range for this species (985 - 6,890 feet).
<i>Lilium rubescens</i>	redwood lily	4.2	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest, Roadsides (sometimes), Serpentine (sometimes)	No potential. The PSB is outside of the elevational range for this species (330 - 3,775 feet).

Scientific Name	Common Name	Status/ CRPR ¹	Habitat Requirements ²	Potential to Occur On Site
<i>Listera cordata</i>	heart-leaved twayblade	4.2	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest	No potential. No suitable habitat is present in the PSB.
<i>Lycopodium clavatum</i>	running-pine	4.1	Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest, Edges (often), Openings, Roadsides	No potential. The PSB is outside of the elevational range for this species (100 - 2,705 feet).
<i>Lycopus uniflorus</i>	northern bugleweed	4.3	Bogs and fens, Marshes and swamps	No potential. No suitable habitat is present in the PSB.
<i>Mitellastrum caulescens</i>	leafy-stemmed mitrewort	4.2	Broadleafed upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Mesic, Roadsides (sometimes)	Moderate potential. Marginally suitable habitat is present in the PSB.
<i>Montia howellii</i>	Howell's montia	2B.2	Meadows and seeps, North Coast coniferous forest, Vernal pools, Roadsides (sometimes), Vernal Mesic	Low potential. The majority of the PSB contains unsuitable or marginal habitat for this species.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	1B.1	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools, Mesic	No potential. The PSB is outside of the elevational range for this species (195 - 4,595 feet).
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	2B.2	Coastal scrub, North Coast coniferous forest	No potential. The PSB is outside of the elevational range for this species (100 - 2,135 feet).
<i>Piperia candida</i>	white-flowered rein orchid	1B.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest	No potential. The PSB is outside of the elevational range for this species (100 - 4,300 feet).
<i>Pityopus californicus</i>	California pinefoot	4.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	Low potential. The majority of the PSB contains unsuitable or marginal habitat for this species.
<i>Pleuropogon refractus</i>	nodding semaphore grass	4.2	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest	Moderate potential. Marginally suitable habitat is present in the PSB.
<i>Polemonium carneum</i>	Oregon polemonium	2B.2	Coastal prairie, Coastal scrub, Lower montane coniferous forest	No potential. No suitable habitat is present in the PSB.
<i>Rhynchospora globularis</i>	round-headed beaked-rush	2B.1	Marshes and swamps	No potential. The PSB is outside of the elevational range for this species (150 - 195 feet).

Scientific Name	Common Name	Status/ CRPR ¹	Habitat Requirements ²	Potential to Occur On Site
<i>Ribes roezlii</i> var. <i>amictum</i>	hoary gooseberry	4.3	Broadleafed upland forest, Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest	No potential. The PSB is outside of the elevational range for this species (395 - 7,545 feet).
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	4.2	Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland	Moderate potential. Marginally suitable habitat is present in the PSB.
<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	1B.2	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest	No potential. No suitable habitat is present in the PSB.
<i>Tiarella trifoliata</i> var. <i>trifoliata</i>	trifoliate laceflower	3.2	Lower montane coniferous forest, North Coast coniferous forest	No potential. The PSB is outside of the elevational range for this species (560 - 4,920 feet).
<i>Usnea longissima</i>	Methuselah's beard lichen	4.2	Broadleafed upland forest, North Coast coniferous forest	No potential. The PSB is outside of the elevational range for this species (165 - 4,790 feet).

Footnotes:

1 Rankings from CNDDDB (March 2022).

2 General habitat, and microhabitat column information, reprinted from CNDDDB (March 2022).

Status Abbreviations:

Listing status under the federal Endangered Species Act (ESA): FE=Federal Endangered; FT = Federal Threatened; FC = Federal Candidate; FD = Federally Delisted

Listing status under the California state Endangered Species Act (CESA): SE =State Endangered; SD = State Delisted; ST = State Threatened; SR = State Rare

CRPR: CNPS rankings for rare plants (CNPS 2022a) - 1A = Plants presumed extinct in California; 1B = Plants rare, threatened or endangered in California and elsewhere; 2 = Plants rare, threatened, or endangered in California, but more common elsewhere; 3 = Plants about which more information is needed (a review list); 4 = Plants of limited distribution (a watch list); n/a = not applicable; Threat Code extensions and their meanings: ".1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 – Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat); .3 – Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)" (CDFW 2022a).

Potential to Occur:

No potential: Habitat in and adjacent to the PSB is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Low potential: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found in the PSB.

Moderate potential: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found in the PSB.

High potential: All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on in the PSB

Present: Detected or documented on-site.

Appendix E

List of Plant Species Detected On-site

Appendix C. Plant species observed within the PSB.

Scientific Name	Common Name	Status	Form	Date
<i>Acer macrophyllum</i>	big-leaf maple	native	Tree	8/24/2022
<i>Agrostis capillaris</i>	common bent	non-native	Perennial grass	8/24/2022
<i>Allium triquetrum</i>	white flowered onion	non-native	Bulbiferous herb	6/15/2023
<i>Allium unifolium</i>	ornamental onion	Non-native	Bulbiferous herb	8/24/2022
<i>Alnus rubra</i>	red alder	native	Tree, Shrub	6/15/2023
<i>Artemisia douglasiana</i>	California mugwort	native	Perennial herb	8/24/2022
<i>Avena sativa</i>	wild oat	non-native	Annual, Perennial grass	7/13/2022
<i>Baccharis pilularis</i>	coyote brush	native	Shrub	4/26/2022
<i>Bellis perennis</i>	English lawn daisy	non-native	Perennial herb	4/26/2022
<i>Brassica rapa</i>	common mustard	invasive non-native	Annual herb	4/26/2022
<i>Briza maxima</i>	rattlesnake grass	invasive non-native	Annual grass	4/26/2022
<i>Briza minima</i>	small quaking grass	non-native	Annual grass	8/24/2022
<i>Bromus hordeaceus</i>	soft chess	invasive non-native	Annual grass	6/15/2023
<i>Carduus pycnocephalus</i>	Italian thistle	non-native	Annual herb	6/15/2023
<i>Carex obnupta</i>	slough sedge	native	Perennial grass	4/26/2022
<i>Centaurea solstitialis</i>	yellow star-thistle	invasive non-native	Annual herb	8/24/2022
<i>Centaureum erythraea</i>	European centaury	non-native	Annual herb	8/24/2022
<i>Cirsium vulgare</i>	bullthistle	invasive non-native	Perennial herb	4/26/2022
<i>Conium maculatum</i>	poison hemlock	invasive non-native	Perennial herb	6/15/2023
<i>Convolvulus arvensis</i>	field bindweed	non-native	Perennial herb, Vine	7/13/2022
<i>Cornus sericea</i>	American dogwood	native	Shrub	6/15/2023
<i>Cortaderia jubata</i>	pampas grass	invasive non-native	Perennial grass	6/15/2023
<i>Crepis capillaris</i>	smooth hawksbeard	non-native	Annual herb	8/24/2022
<i>Cynodon dactylon</i>	Bermuda grass	non-native	Perennial grass	8/24/2022
<i>Cynosurus echinatus</i>	dogtail grass	invasive non-native	Annual grass	4/26/2022
<i>Cyperus eragrostis</i>	tall cyperus	native	Perennial grass	7/13/2022
<i>Cytisus scoparius</i>	scotch broom	invasive non-native	Shrub	8/24/2022
<i>Daucus carota</i>	carrot	non-native	Perennial herb	4/26/2022
<i>Delairea odorata</i>	Cape ivy	invasive non-native	Perennial herb	6/15/2023
<i>Dipsacus fullonum</i>	wild teasel	invasive non-native	Perennial herb	6/15/2023
<i>Equisetum arvense</i>	common horsetail	native	Fern ally	6/15/2023
<i>Equisetum hyemale</i>	scouringrush horsetail	native	Fern ally	6/15/2023
<i>Euphorbia maculata</i>	spotted spurge	non-native	Annual herb	8/24/2022
<i>Euphorbia peplus</i>	petty spurge	non-native	Annual herb	4/26/2022
<i>Festuca arundinacea</i>	reed fescue	invasive non-native	Perennial grass	4/26/2022

Scientific Name	Common Name	Status	Form	Date
<i>Festuca perennis</i>	Italian rye grass	invasive non-native	Annual, Perennial grass	7/13/2022
<i>Foeniculum vulgare</i>	fennel	invasive non-native	Perennial herb	4/26/2022
<i>Galium aparine</i>	cleavers	native	Annual herb	6/15/2023
<i>Hedera helix</i>	English ivy	invasive non-native	Vine, Shrub	6/15/2023
<i>Helminthotheca echioides</i>	bristly ox-tongue	invasive non-native	Annual, Perennial herb	6/15/2023
<i>Holcus lanatus</i>	velvet grass	non-native	Annual grass	8/24/2022
<i>Hordeum murinum</i>	foxtail barley	invasive non-native	Annual grass	4/26/2022
<i>Hypochaeris glabra</i>	smooth cats ear	invasive non-native	Annual herb	4/26/2022
<i>Hypochaeris radicata</i>	hairy cat's ear	non-native	Annual herb	8/24/2022
<i>Iris pseudacorus</i>	horticultural iris	invasive non-native	Perennial herb	4/26/2022
<i>Lapsana communis</i>	nipplewort	non-native	Annual herb	8/24/2022
<i>Lathyrus latifolius</i>	sweet pea	non-native	Perennial herb	8/24/2022
<i>Linum bienne</i>	flax	non-native	Annual herb	7/13/2022
<i>Lonicera japonica</i>	Japanese honeysuckle	non-native	Perennial vine	8/24/2022
<i>Lotus corniculatus</i>	bird's foot trefoil	non-native	Perennial herb	7/13/2022
<i>Matricaria discoidea</i>	pineapple weed	native	Annual herb	4/26/2022
<i>Medicago arabica</i>	spotted burclover	non-native	Annual herb	4/26/2022
<i>Medicago sativa</i>	alfalfa	non-native	Perennial herb	7/13/2022
<i>Mentha pulegium</i>	pennyroyal	invasive non-native	Perennial herb	7/13/2022
<i>Oxalis pes-caprae</i>	Bermuda buttercup	invasive non-native	Perennial herb	4/26/2022
<i>Parentucellia viscosa</i>	yellow parentucellia	invasive non-native	Annual herb	4/26/2022
<i>Petasites frigidus</i>	arctic sweet coltsfoot	native	Perennial herb	7/13/2022
<i>Petrorhagia dubia</i>	windmill pink	non-native	Annual herb	4/26/2022
<i>Pinus radiata</i>	Monterey pine	non-native	Tree	8/24/2022
<i>Plantago lanceolata</i>	ribwort	invasive non-native	Perennial herb	4/26/2022
<i>Poa annua</i>	annual blue grass	non-native	Annual grass	6/15/2023
<i>Polycarpon tetraphyllum</i>	four-leaved allseed	non-native	Annual herb	8/24/2022
<i>Polypogon monspeliensis</i>	annual beard grass	invasive non-native	Annual grass	7/13/2022
<i>Polystichum californicum</i>	California sword fern	native	Fern	4/26/2022
<i>Populus trichocarpa</i>	black cottonwood	native	Tree	4/26/2022
<i>Prunella vulgaris</i>	self-heal	non-native	Perennial herb	6/15/2023
<i>Prunus domesticus</i>	plum	non-native	Tree	8/24/2022
<i>Raphanus sativus</i>	jointed charlock	invasive non-native	Annual, Biennial herb	6/15/2023
<i>Rosa californica</i>	California wild rose	native	Shrub	7/13/2022
<i>Rubus armeniacus</i>	Himalayan blackberry	invasive non-native	Shrub	6/15/2023
<i>Rubus parviflorus</i>	thimbleberry	native	Vine, Shrub	6/15/2023
<i>Rubus ursinus</i>	California blackberry	native	Vine, Shrub	6/15/2023

Scientific Name	Common Name	Status	Form	Date
<i>Rumex crispus</i>	curly dock	non-native	Annual herb	8/24/2022
<i>Salix lasiolepis</i>	arroyo willow	native	Tree, Shrub	6/15/2023
<i>Scrophularia californica</i>	California bee plant	native	Perennial herb	4/26/2022
<i>Sequoia sempervirens</i>	coast redwood	native	Tree	4/26/2022
<i>Silybum marianum</i>	milk thistle	invasive non-native	Annual, Perennial herb	6/15/2023
<i>Spergularia rubra</i>	purple sand spurry	non-native	Annual, Perennial herb	4/26/2022
<i>Symphoricarpos mollis</i>	snowberry	native	Shrub	7/13/2022
<i>Taraxacum erythrospermum</i>	red-seeded dandelion	non-native	Perennial herb	4/26/2022
<i>Taraxacum officinale</i>	dandelion	non-native	Perennial herb	4/26/2022
<i>Toxicodendron diversilobum</i>	poison oak	native	Perennial vine	6/15/2023
<i>Trifolium angustifolium</i>	narrow clover	non-native	Annual herb	8/24/2022
<i>Trifolium dubium</i>	shamrock	non-native	Annual herb	4/26/2022
<i>Trifolium hirtum</i>	rose clover	invasive non-native	Annual herb	4/26/2022
<i>Tropaeolum majus</i>	garden nasturtium	non-native	Annual herb, Vine	4/26/2022
<i>Typha latifolia</i>	broadleaf cattail	native	Perennial herb (aquatic)	4/26/2022
<i>Urtica dioica</i>	stinging nettle	native	Perennial herb	6/15/2023
<i>Vicia sativa</i>	spring vetch	non-native	Annual herb, Vine	4/26/2022

1 California Invasive Plant Council (Cal-IPC) Ratings:

High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate – These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Appendix F

Site Visit Photographs



Photo 1. View east from stand of pampas grass in the northeast section of the PSB.



Photo 2. View south of pampas grass stand in northeast section of the PSB.



Photo 3. View west of burned pampas grass in northeast section of PSB.



Photo 4. View of Rubus understory in black cottonwood woodland alliance.



Photo 5. View south of existing trail in black cottonwood woodland.



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→ The Power of Commitment

Appendix D

Wetland Delineation



Wetland Delineation

Rio Dell – Eel River Trail

City of Rio Dell

August 14, 2023



Wetland Delineation

Rio Dell – Eel River Trail

This document has been prepared for:



The City of Rio Dell

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By:



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August 14, 2023

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1. Introduction

GHD prepared this report to delineate wetlands and Other Waters of the U.S. and/or State, and accompanying appendices on behalf of The City of Rio Dell, in support of the proposed Eel River Trail (Project) in the City of Rio Dell (City), California (**Appendix A, Figure 1**). This report supports the Project's environmental documentation, permitting, and construction planning as deemed appropriate. The proposed Project Area includes the proposed construction area and staging areas in the City of Rio Dell (**Appendix A, Figure 2**). This report is subject to, and must be read in conjunction with, the limitations set out in Section 5, Special Terms and Conditions, and the assumptions and qualifications contained throughout the report.

1.1 Project Description

The Project would construct an approximately 0.32-mile Class I Shared Use Path (pedestrian and bicycle trail) from Edwards Drive to Davis Street. The trail would be a paved pathway on top of the undeveloped vegetated surface and would be aligned parallel to the Eel River. The Project would provide a safe walking and biking route for Rio Dell, and in addition to safety and connectivity improvements, the trail would provide opportunities for nature study and recreation.

1.2 Project Location

The Project is located on 6.7 acres along the Eel River between Davis Street and the Rio Dell Treatment Plant, in the City of Rio Dell, Humboldt County, California (**Appendix A, Figure 1**). The Project is located on seven parcels including Assessor's Parcel Numbers (APNs): 053-011-028, 053-011-024, 053-011-017, 053-011-009, 053-011-005, 053-051-015, and 053-051-014.

1.3 Summary

GHD conducted the wetland delineation fieldwork on October 13, 2022, and revisited due to a boundary adjustment on May 3, 2023. The delineation was completed within the Project Area (or Project Study Boundary [PSB]), as shown in **Appendix A, Figure 2**. The PSB is 290,334 ft² (6.7 acres). United States Army Corps of Engineers (USACE) three-parameter wetlands were mapped based on wetland indicative vegetation, hydric soils, and wetland hydrology.

The wetland delineation identified two potential three-parameter wetlands and two palustrine emergent ditches with hydric soil, hydrophytic vegetation, and wetlands hydrology in the PSB. These ditches and wetlands are formed from the outflow, and are part of, the Rio Dell Treatment Plant and are considered exempt from United States Army Corps of Engineers (USACE) and State Water Resources Quality Control Board (SWRQCB) jurisdictions because they formed from municipal wastewater disposal. The total area of three-parameter wetland within the Project Area is 3,610 feet² (0.08 acre) (**Appendix A, Figure 3**).

1.4 Regulatory Background

1.4.1 Federal

Waters of the United States

The Code of Federal Regulations (CFR), 40 CFR § 230.3 states the following:

The term waters of the United States means:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

- (2) All interstate waters including interstate wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - (iii) Which are used or could be used for industrial purposes by industries in interstate commerce;
- (4) All impoundments of waters otherwise defined as waters of the United States under this definition;
- (5) Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;
- (6) The territorial sea;
- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States. (40 CFR § 230.3).

Wetlands Definition

40 CFR § 230.3 continues and defines, “(t) The term wetlands identifies areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas” (40 CFR § 230.3).

Wetlands Delineation Manual

The 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual provides guidelines and methods to determine whether an area is a wetland subject to federal regulation under Section 404 of the Clean Water Act. The manual specifies that wetland hydrology, soil, and vegetation indicators must be present to identify a wetland (USACE 1987, p. 10). In addition, the Wetlands Delineation Manual states, “If hydrophytic vegetation is being maintained only because of man-induced wetland hydrology that would no longer exist if the activity (e.g., irrigation) were to be terminated, the area should not be considered a wetland,” (USACE 1987, USACE 2010).

Federal Geographic Data Committee (FGDC) Wetland Classification Standard

The Classification of Wetlands and Deepwater Habitats of the United States (FGDC 2013), based on Cowardin et al. (1979), states that wetlands must have at least one of the three wetland attributes: predominantly hydrophytic vegetation, predominantly hydric soil, and hydrology. However, they state that all available information should be used, and all three attributes should be considered if they are present (FGDC 2013).

1.4.2 State

The State Water Resources Control Board's (SWRCB) April 2021 *Procedures for Discharges of Dredged or Fill Material to Waters of the State* says the following:

An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The Water Code defines “waters of the state” broadly to include “any surface water or groundwater, including saline waters, within the boundaries of the state.” “Waters of the state” includes all “waters of the U.S.” The following wetlands are waters of the state:

- 1) Natural wetlands,

- 2) Wetlands created by modification of a surface water of the state, and
- 3) Artificial wetlands that meet any of the following criteria:
 - a) Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
 - b) Specifically identified in a water quality control plan as a wetland or other water of the state;
 - c) Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
 - d) Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):
 - i) Industrial or municipal wastewater treatment or disposal,
 - ii) Settling of sediment,
 - iii) Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
 - iv) Treatment of surface waters,
 - v) Agricultural crop irrigation or stock watering,
 - vi) Fire suppression,
 - vii) Industrial processing or cooling,
 - viii) Active surface mining – even if the site is managed for interim wetlands functions and values,
 - ix) Log storage,
 - x) Treatment, storage, or distribution of recycled water, or
 - xi) Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
 - xii) Fields flooded for rice growing.

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state” (SWRCB, 2021).

The April 2020 Implementation Guidance for the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State further clarifies as follows:

Human activity can cause changes to the surrounding landscape (e.g., grading activities, road construction, direct hydromodification) such that wetlands form where wetlands did not previously exist. Where such artificial wetlands are now a relatively permanent part of the natural landscape, and are not subject to ongoing operation and maintenance, they are waters of the state. By requiring that the wetlands are relatively permanent, the framework excludes wetlands that are temporary or transitory. That they are part of the natural landscape also indicates the relative permanence of the wetlands and suggests that the wetland is self-sustaining without ongoing operation and maintenance activities, and provides similar ecosystem services as natural wetlands. By way of example, this category of wetlands includes situations where water flow is permanently redirected as the result of human activity, such as grading in another area, such that new wetlands form in areas that were previously dry. These wetlands may not be natural wetlands because they result from human activity and they were not formed by modifying a water of the state (rather they were an indirect result), but nevertheless they take on the function of natural wetlands such that they should be considered waters of the state. This category would not include artificial wetlands constructed for specific purposes listed in section II.3.d because the construction of the artificial wetlands would be too recent to be deemed “historic” and the artificial wetland would likely require ongoing maintenance such that they would not be deemed “relatively permanent,” and/or the artificial wetland is not part of the “natural landscape” (SWRCB, 2020).

Streams, lakes, and riparian vegetation as habitat for fish and other wildlife species, are subject to jurisdiction by the California Department of Fish and Wildlife (CDFW) under Sections 1600-1616 of the California Fish and Game Code (CFGF). A Section 1602 Lake and Streambed Alteration Agreement is required if a project:

- Substantially obstructs or diverts the natural flow of a river, stream, or lake,
- Substantially changes or uses any material from the bed, channel, or bank of a river, stream, or lake or
- Deposits or disposes of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Project areas within streams and extending to the outer drip line of riparian vegetation will fall within CDFW jurisdiction under Section 1602.

1.4.3 City of Rio Dell

The Conservation and Open Space Element of the City of Rio Dell's General Plan outlines conservation goals and policies regarding development, and utilization of natural resources such as water and its hydraulic force, forests, soils, rivers and other waters, fisheries, wildlife, minerals, and cultural resources (Rio Dell 2013). Open space goals include limiting hillside development, creek and river setback areas, biologically sensitive habitat, and natural forests.

The surrounding natural environment, including the Eel River, streams, riparian areas, bluffs and forested hillsides are signature assets for the City. As such the City has placed a high priority on retaining and enhancing these resources. Policies relevant to the Project include:

Policy CO 5.2-1: Riparian areas within the City shall be protected when adjacent development projects are proposed.

Policy CO 5.2-2: Maintain and expand the tree canopy within and outside the developed areas of the City.

Policy CO 5.2-3: Protect distinctive natural vegetation such as riparian corridors and mixed evergreen forests by maintaining the natural features as a whole. Preservation of individual trees or features rather than the larger habitat does not satisfy this policy.

Policy CO 5.4-1: Support the acquisition, development and maintenance of park and recreation areas that provide recreation activities, including trails identified in the Circulation Element.

17.30.080 Environmentally Sensitive Habitat Areas (ESHA's)

The City of Rio Dell General Plan regulates ESHA's, defined as anadromous fish streams, perennial and intermittent streams, sensitive species rookeries and nest sites, wetlands, riparian areas and habitats of rare and endangered plants and animals (Rio Dell 2014). "Riparian corridor" is defined as the area between the top of streambanks or hinge-points of the streambanks containing riparian vegetation and adjacent upland area.

Relevant portions of ESHA regulations are excerpted below:

(3) Development Standards

(b) Streamside Management Areas. Development within Streamside Management Areas shall be limited to the following uses:

- (2) Public access parking areas and trails when it can be demonstrated that it would not degrade fish and wildlife resources or water quality, and that vegetative clearing is kept to a minimum.

(c) Streamside Management Areas are identified and modified as follows:

- (1) Fifty (50) feet, measured as the horizontal distance from the hinge-point of the riparian corridor on each side of perennial streams.

(d) Where necessary, the width of Streamside Management Areas may be expanded to include significant areas of riparian vegetation adjacent to the buffer area, slides and areas with visible evidence of slope instability, not to exceed 100 feet measured as the horizontal distance from the hinge-point of the riparian corridor on each side of perennial streams and 50 feet measured as the horizontal distance from the hinge-point of the riparian corridor on each side of intermittent streams.

(4) Mitigation Measures.

Mitigation measures for development within Streamside Management Areas shall, at a minimum, include:

- (a) Retaining snags unless felling is required by CAL-OSHA, or by California Department of Forestry (CALFIRE) forest and fire protection regulations, or for public health and safety reasons, approved by the appropriate agency. Felled snags shall be left on the ground if consistent with fire protection regulations as long as they have no economic value.
- (b) Retain live trees with visible evidence of use as nesting sites by hawks, owls, eagles, osprey, herons, or egrets.
- (c) Replanting of disturbed areas with riparian vegetation (including such species as alders, cottonwoods, willows, Sitka spruce, etc.) shall not be required unless natural regeneration does not occur within two years of the completion of the development project.
- (d) Erosion control measures for development within Streamside Management Areas shall include the following:
 - (1) During construction, land clearing and vegetation removal shall be minimized.
 - (2) Construction sites shall be mulched with natural or chemical stabilizers to aid in erosion control and insure re-vegetation.
 - (3) Long slopes shall be minimized to increase infiltration and reduce water velocities down cut slopes by such techniques as soil roughing, serrated cuts, selective grading, shaping, benching, and berm construction.
 - (4) Concentrated runoff shall be controlled by the construction and continued maintenance of culverts, conduits, non-erodible channels, diversion dikes, interceptor ditches, slope drains or appropriate mechanisms. Concentrated runoff will be carried to the nearest drainage course. Energy dissipaters may be installed to prevent erosion at the point of discharge where discharge is to natural ground or channels.
 - (5) Runoff shall be controlled to prevent erosion by on-site or off-site methods. On-site methods include, but are not limited to, the use of infiltration basins, percolation pits, or trenches. On-site methods are not suitable where high groundwater or slope stability problems would inhibit or be aggravated by on-site retention or where retention will provide no benefits for groundwater recharge or erosion control. Off-site methods

2. Methodology

2.1 Wetland Delineation Approach

GHD environmental scientists conducted the wetland delineation on October 13, 2022 and again on May 3, 2023 within the updated boundary area. To define a wetland, the USACE requires that vegetation, soil, and hydrology (three-parameters) all show wetland attributes (USACE 1987; USACE 2010). The wetland delineation used USACE criteria from the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (USACE 2010). The current standard field forms provided by the USACE (2010) were used to collect vegetation, soils, and hydrology data (**Appendix B**).

In potential three-parameter wetland areas, vegetation, soil, and hydrology data were collected in a transect across the upland/wetland boundary with two plots (upland/wetland) per transect. The naming convention used on datasheets to designate upland or wetland plots associated with a transect is -U or -W, respectively.

Wetland/upland boundaries and plots were mapped in the field with an Eos Arrow 100 Submeter Global Positioning System (GPS) Receiver with Global Navigation Satellite System (GNSS) and an iPad running ArcGIS Collector software. The wetland/upland boundary was recorded with the GPS unit as needed to map the wetland's spatial extent. The points were then connected in the office using ArcMap software for figure creation and the boundaries were clipped to the extent of the Project Area.

Each three-parameter wetland area was designated with a number (e.g., W1). The wetland points were also labelled with their respective wetland number. In addition to the wetland sampling points, two upland sampling points were described. These were labelled beginning with a "U" and numbered in sequence (e.g., U1, U2). The upland sampling points were completed to confirm and document the absence of any wetland indicators (soils, hydrology, and vegetation). **Appendix B** contains all datasheets recorded during the delineation.

2.2 Vegetation

Vegetation data collection consisted of listing the dominant species in the herbaceous, shrub, and tree layer within a standard-sized plot determined by the strata layer. Nomenclature follows The Jepson Manual (Baldwin et al. 2012), which was cross-walked to federal standard nomenclature to identify the indicator status. The species' wetland indicator status for the Western Mountains, Valleys, and Coast Region was noted in the respective column, using the standard reference: National USACE 2020 Wetland Plant List (USACE 2020). This list classifies species based on the probability that they are found in wetlands (USACE 1987) as follows:

- Obligate (OBL): almost always in wetlands (99% probability)
- Facultative Wetland (FACW): usually occurring in wetlands (67% to 99% probability)
- Facultative (FAC): commonly occurring in wetlands and uplands (34% to 66% probability of occurring in wetlands)
- Facultative Upland (FACU): usually occurring in uplands (1% to 33% probability of occurring in wetlands)
- Upland (UPL): upland obligate, rarely in wetlands (1% in wetlands)

Species that do not appear on the list are considered to be in the upland category (Lichvar et al. 2012). Standard procedures for documenting hydrophytic vegetation indicators were used per the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE 2010). A complete list of plants documented at the site with respective wetland indicator status is included as **Appendix C**. photographs have been included as **Appendix D**.

2.3 Soils

Hydric soils were defined based on the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE 2010) procedures in combination with the Natural Resources Conservation Service's (NRCS) definitions presented in Field Indicators of Hydric Soils in the United States (USDA 2018). Soil pits were dug to an approximate depth of 14 inches. Data on soil color, texture, and redoximorphic features were recorded. Any observed redoximorphic features (iron concentrations) were noted along with their percentage within the soil matrix, and care was taken to distinguish chromas of 1 and 2 indicative of an iron-depleted soil within 12 inches of the soil surface (USACE 2010; USDA 2018).

The Munsell Soil Color Book (COLOR, M. 2000) was used to describe the soil colors for the entire depth of the test pit. Moist, natural soil aggregate (ped) surfaces, which had not been crushed, were used to determine the soil's color. Soils with low chroma were verified as being hydric or upland with Field Indicators of Hydric Soils in the United States (Version 8.2, 2018).

2.3.1 Existing Soils Information

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) identifies two soil units within the Project Area (**Appendix A, Figure 4** and NRCS report in **Appendix E**). A brief map unit description, as generated by the NRCS, is provided for each soil unit below (NRCS 2022). Although NRCS soil mapping is informative, the scale is generally too broad to definitively characterize potential wetlands. Please see the full report included as **Appendix F** for complete details.

Dungan, 0 to 2 percent slopes

The Dungan, 0 to 2 percent slopes map unit composition contains: 85% Dungan and similar soils, and 15% minor components (consisting of 7% Ferndale, 5% Arlynda, and 3% Russ). This soil type comprises 65.2% of the PSB and is located on the upper terrace of the PSB (**Appendix A, Figure 4** and **Appendix E**).

Dungan soils can be found on alluvial fans and flood-plain steps, and the parent material is alluvium derived from mixed sources. Dungan soils consists of silt loam in the top three horizons (0-29 inches), above fine sandy loam and silty clay loam. Dungan soils have an LCC of 1 with irrigation and 2s without irrigation, and is not rated as a hydric soil. Dungan is well drained, and the depth to water table is more than 80 inches.

Water and Fluvents, 0 to 2 percent slopes

The Water and Fluvents, 0 to 2 percent slopes map unit composition contains: 60% Water, 35% Fluvents, and 5% minor components (consisting of 4% Typic udifluvents, and 1% rock outcrop). This soil type comprises 34.8% of the PSB and is located in the northeast portion of the PSB closest to the river (**Appendix A, Figure 4** and **Appendix E**).

Water and Fluvents can be found on point bars on channels, and the parent material is alluvium derived from mixed sources. Water and Fluvents consist of gravelly fine sandy loam on the top horizon (0-13 inches) above extremely gravelly sandy loam. Water and Fluvents has an LCC of 5w with and without irrigation, and is rated as a hydric soil. Water and Fluvents is somewhat excessively drained, and the depth to water table is about 0 inches.

2.4 Hydrology

GHD delineated wetlands within the PSB on October 13, 2022 and again on May 3, 2023 within the updated boundary area.

Within the original boundary, rainfall for the month of September 2022 totaled 0.71 inch, which was below average (0.82 inches). Mean annual precipitation in the Project Area ranges from 35 to 80 inches (USDA 2023). Rainfall in the 2022 water year at the Scotia AgACIS weather station approximately 1 mile southwest of the PSB totaled 29.05 inches which was well below normal (48.52 inches) (NOAA 2023).

Within the updated boundary, rainfall for the month of April 2023 totaled 2.57 inches, which was below average (3.38 inches). At the time of this report, rainfall in the 2023 water year at the Scotia AgACIS weather station totaled 38.40 inches which was above normal (NOAA 2023).

A WETS table showing climate data for Scotia, California is provided in **Appendix F**. Aerial photography and the National Wetland Inventory Mapper were referenced before conducting fieldwork (**Appendix A, Figure 5**) (NWI 2022). The flood hazard map is also included in **Appendix A, Figure 6** (FEMA 2022). Wetland hydrology indicators, such as drainage patterns, material deposits, soil saturation, high water table, or surface water presence, were recorded in the field.

The Eel River flows northeast past the PSB, but no drainages flow through the PSB (USFWS 2018). The Rio Dell Treatment Plant drains into an artificial palustrine emergent wetland with subsurface connectivity to the Eel River.

3. Results

The PSB contains two three-parameter palustrine emergent wetlands, one being a detention basin and the other a discharge channel, and two palustrine emergent ditches, none of which are jurisdictional to the USACE or the SWRQCB due to the fact that they formed from effluent discharge from Rio Dell Treatment Plant and are a design features of the treatment plant. Table 3-1 shows the identified aquatic resources within the PSB, and **Appendix A, Figure 3** shows the results of the wetland delineation.

Table 3-1 Wetlands and Other Waters within the Delineated Area and Potential Jurisdiction

Aquatic Resource Name	Location (lat/long) of point or center of polygon	Aquatic Resource Size (ft ²)	Jurisdiction	
			USACE	RWQCB
Wetland 1	40.496648, -124.093785	2,010	No	No
Wetland 2	40.497043, -124.093307	1,290	No	No
Ditch 1	40.496837, -124.093780	270	No	No
Ditch 2	40.496568, -124.093639	40	No	No

The discharge drainage ditch (Ditch 1) from the Rio Dell Treatment Plant drains into an excavated detention pond (Wetland 1). The vegetation in Wetland 1 was dominated by cattails (*Typha latifolia*) OBL. Soil in Wetland 1 consisted of a Depleted Matrix (F3) of silt loam in all horizons. Secondary indicators of wetland hydrology at the site included Drainage Patterns (B10), Geomorphic Position (D2) and FAC-neutral test (D5). Please see attached data form for sample point W1-T1-W in **Appendix B** for additional details.

The detention pond Wetland 1 has two overflow culverts. One leads southeast to Ditch 2 that discharges to the Eel River. The other leads northeast to the discharge channel (Wetland 2). The vegetation in Wetland 2 was dominated by willows (*Salix lasiolepis*) FACW, red alder (*Alnus rubra*) FAC, and Himalayan blackberry (*Rubus armeniacus*) FAC. Soil in Wetland 2 consisted of a Depleted Matrix (F3) of silt loam in all horizons. Primary indicators of wetland hydrology at the site included Surface Water (A1) and High Water Table (A2). Please see attached data form for sample point W2-T1-W in **Appendix B** for additional details.

4. Conclusions

The wetland delineation for the Eel River Trail determined the extent of wetlands and Other Waters within the PSB based on hydrophytic vegetation, hydric soils, and wetland hydrology using methods and indicators outlined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (USACE 2010). Two palustrine emergent wetlands (detention pond, discharge channel), and two ditches are present in the PSB; however, none are jurisdictional to the USACE or the SRWQCB because they are overflow from the Rio Dell Treatment Plant and are a design feature of the plant (**Appendix A, Figure 3**). Data forms are attached showing sample plot data collected in transects across wetland boundaries (**Appendix B**).

5. Special Terms and Conditions

5.1 Purpose of this Report

GHD prepared this report for the City of Rio Dell. The City of Rio Dell may only use and rely on this report for the purpose agreed upon between GHD and the City of Rio Dell, as set out in the scope and contract for work effort reported herein. GHD Inc. is not liable for any action arising out of the reliance of any third party on the information contained within this report. GHD otherwise disclaims responsibility to any entity other than the City arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

5.2 Scope and Limitations

This report does not authorize any individuals to develop, fill, or alter the delineated wetlands. Verification of the delineation by jurisdictional agencies is necessary prior to the use of this report for planning and development purposes. A USACE, agency-stamped, delineation map, and a jurisdictional approval letter are required to signify confirmation of delineation results. In situations where a field investigation determines that no jurisdictional wetlands occur, jurisdictional concurrence with these findings is recommended.

The delineation conclusions were based on the information available during the period of the investigation, which took place October 13th, 2022, and May 3, 2023. The opinions, conclusions, and any recommendations in this report are based on conditions encountered and information reviewed by the date of preparation of the report. Site conditions may change after the date of this report. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions. GHD is also not responsible for updating this report if the site conditions change unless contracted to do so.

This report: has been prepared by GHD for City of Rio Dell and may only be used and relied on by City of Rio Dell for the purpose agreed between GHD and City of Rio Dell as set out in section 5.1 of this report.

GHD otherwise disclaims responsibility to any person other than City of Rio Dell arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 5.1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

6. References

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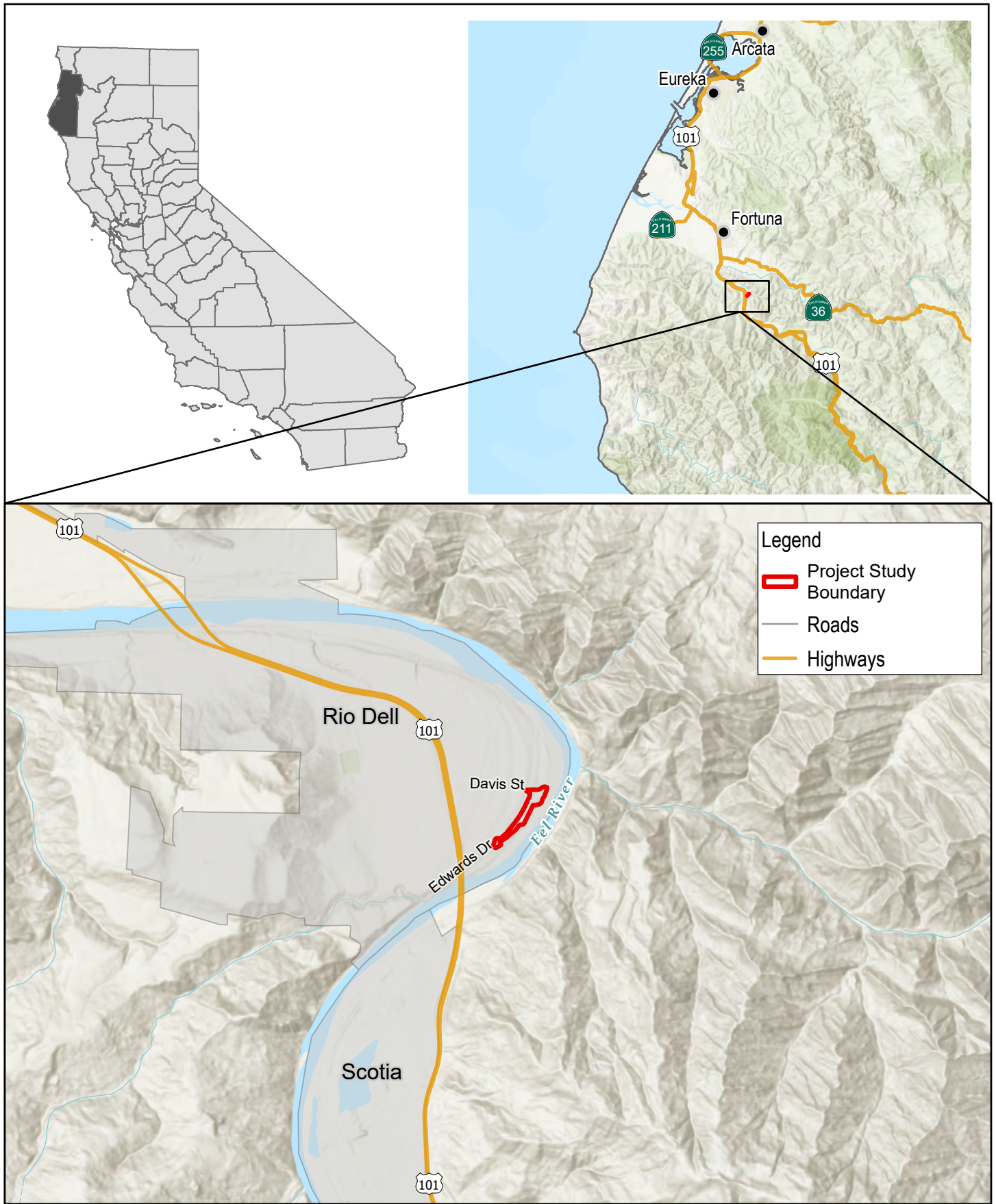
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Appendices

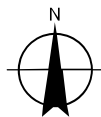
Appendix A

Figures



Paper Size ANSI A
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Feet

Map Projection: Mercator Auxiliary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxiliary Sphere



City of Rio Dell
Eel River Trail

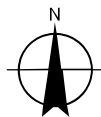
Project No. 12592002
Revision No. -
Date June 2023

Vicinity Map

FIGURE 1



Paper Size ANSI A
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Feet



City of Rio Dell
Eel River Trail

Project No. 12592002
Revision No. -
Date Aug 2023

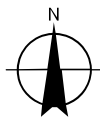
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Project Study Boundary

FIGURE 2



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Feet



Map Projection: Lambert Conformal Conic
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Grid: NAD 1983 StatePlane California 1 FIPS 0401 Feet

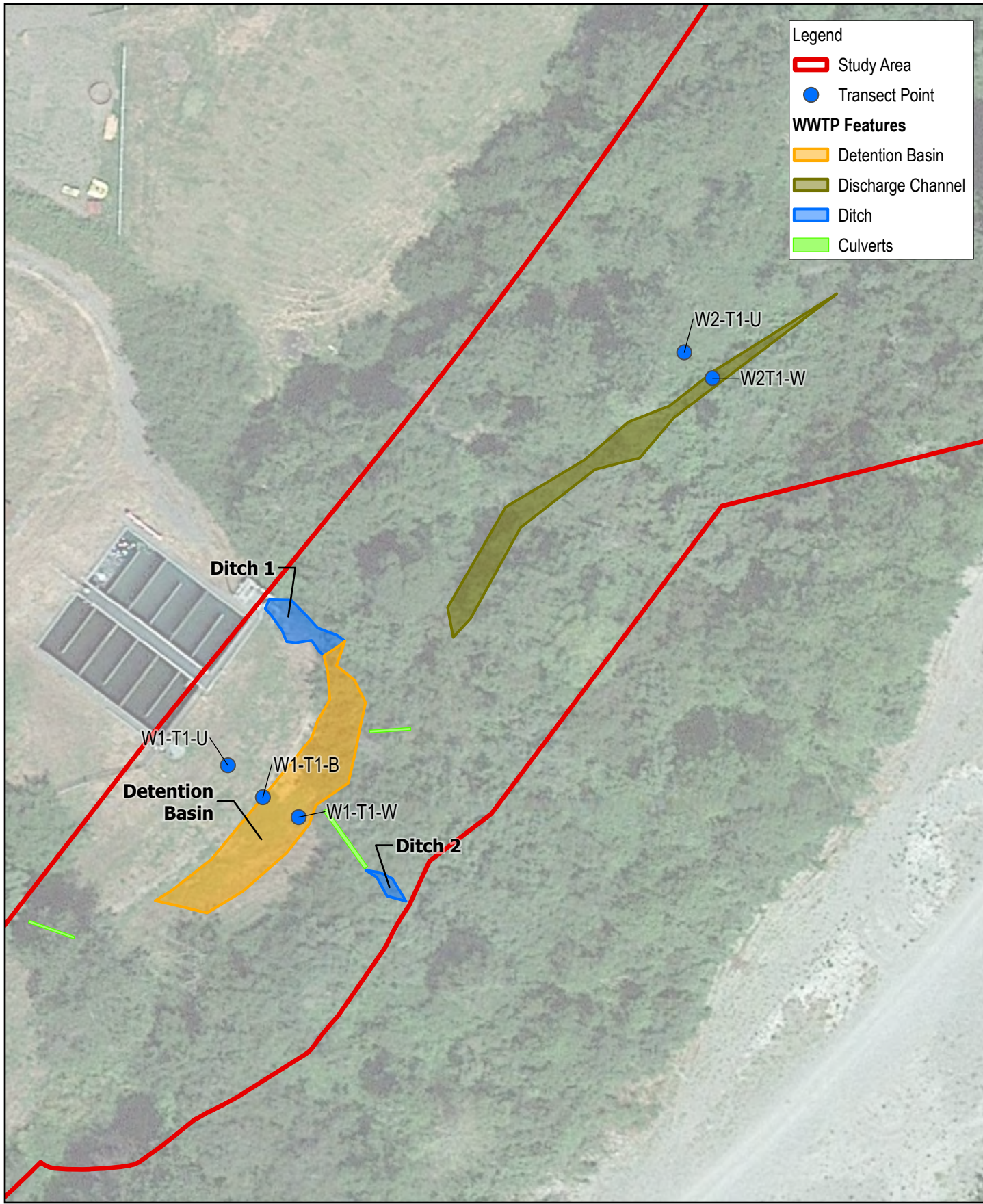


City of Rio Dell
Eel River Trail

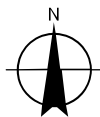
Project No. 12592002
Revision No. -
Date Aug 2023

Wetland Delineation

FIGURE 3



Paper Size ANSI A
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City of Rio Dell
Eel River Trail

Project No. 12592002
Revision No. -
Date Aug 2023

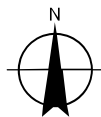
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Grid: NAD 1983 StatePlane California 1 FIPS 0401 Feet

Wastewater Treatment Plant Features

FIGURE 3A



Paper Size ANSI A
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Feet



Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California 1 FIPS 0401 Feet

City of Rio Dell
Eel River Trail

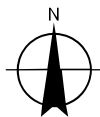
Project No. 12592002
Revision No. -
Date Aug 2023

NRCS Soils

FIGURE 4



Paper Size ANSI A
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Feet



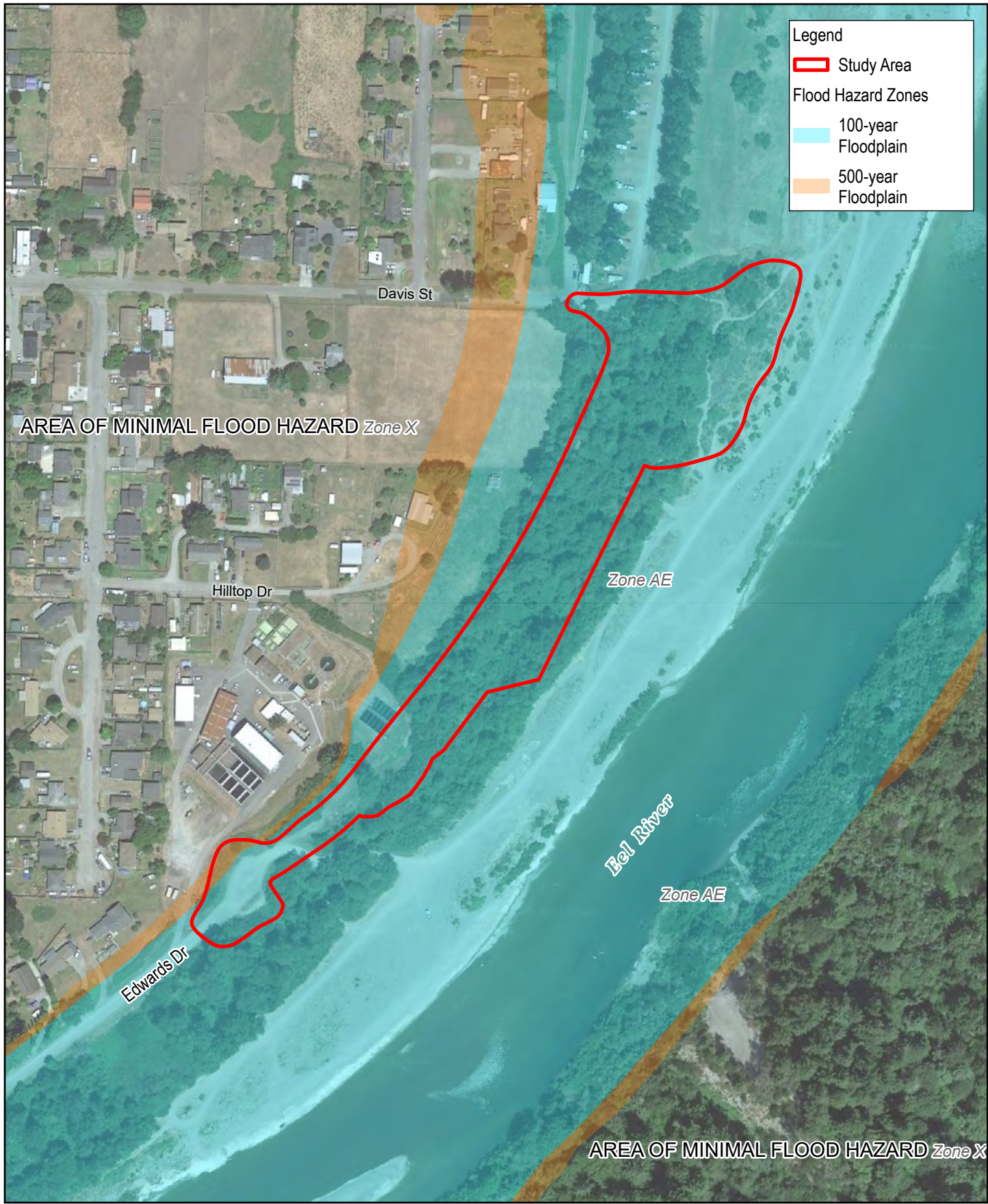
City of Rio Dell
Eel River Trail

Project No. 12592002
Revision No. -
Date Aug 2023

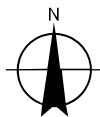
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National Wetlands Inventory

FIGURE 5



Paper Size ANSI A
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Feet



Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California 1 FIPS 0401 Feet



City of Rio Dell
Eel River Trail

Project No. 12592002
Revision No. -
Date Aug 2023

FEMA Flood Zones

FIGURE 6

Appendix B

Data Sheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rio Dell Bike Trail City/County: Rio Dell/Humboldt Sampling Date: 10/13/22
 Applicant/Owner: Rio Dell State: CA Sampling Point: UP1
 Investigator(s): Jane Cipra, Miles Hartnet Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): undulating Slope (%): 5
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWM classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ☒	Is the Sampled Area within a Wetland? Yes _____ No ☒
Hydric Soil Present?	Yes _____ No ☒	
Wetland Hydrology Present?	Yes _____ No ☒	
Remarks: <u>High gravelly riverbank, well above OTHWM</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>5 m</u>)				
1. <u>Cortaderia jubata</u>	<u>10</u>	<u>UPL</u>	<u>FACU</u>	
2. <u>Foeniculum vulgare</u>	<u>3</u>	<u>UPL</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: <u>1 m</u>)				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ 5 - Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Canadon dactulion</u>	<u>80</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Festuca arundinacea</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	
3. <u>Tarfolium dubium</u>	<u>1</u>			
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No ☒
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

17H

10/13/2022

SOIL

Sampling Point 4P1

0-24
0-6
0-24
0-24

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	2.5y 4/2	100					loamy sand	mm roots
6-24	2.5y 3/2	100					loamy sand	roots/cobbles (some)
24-48								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)	☐ Sandy Redox (S5)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1)	☐ Very Shallow Dark Surface (TF12)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Other (Explain in Remarks)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Matrix (F3)	
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)	
☐ Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)	
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)		Secondary Indicators (2 or more required)
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	☐ Geomorphic Position (D2)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ FAC-Neutral Test (D5)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)	☐ Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)	☐ Frost-Heave Hummocks (D7)
☐ Inundation Visible on Aerial Imagery (B7)		
☐ Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes _____ No ☒	Depth (inches): _____
Water Table Present?	Yes _____ No ☒	Depth (inches): _____
Saturation Present?	Yes _____ No ☒	Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rio Dell City/County: Rio Dell/Humboldt Sampling Date: 10/13/22
 Applicant/Owner: Rio Dell State: CA Sampling Point: UP2
 Investigator(s): J. Cipra M. Hartman Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): convex Slope (%): 5
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐	Is the Sampled Area within a Wetland?	Yes _____	No ☒
Hydric Soil Present?	Yes _____	No ☒			
Wetland Hydrology Present?	Yes ☒	No ☐			
Remarks: <u>Soil cracking is present, may be from road runoff.</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
1. <u>Populus trichocarpa</u>	<u>25</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Salix lasiolepis</u>	<u>5</u>	<u>yes</u>	<u>FACW</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60%</u> (A/B)
3. _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
4. _____				
Sapling/Shrub Stratum (Plot size: <u>5 m</u>)				
1. <u>Cortaderia jubata</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Baccharis pilularis</u>	<u>2</u>	<u>yes</u>	<u>UPL</u>	
3. _____				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0' 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____				
Herb Stratum (Plot size: <u>1 m</u>)				
1. <u>Trifolium dubium</u>	<u>1</u>			
2. <u>Polygonum monspeliensis</u>	<u>15</u>	<u>yes</u>	<u>FACW</u>	
3. <u>Cirsium dactyloides</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes ☒ No _____
4. <u>Festuca perennis</u>	<u>2</u>	<u>yes</u>	<u>FAC</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Woody Vine Stratum (Plot size: <u>1 m</u>)				
1. <u>Rubus arvensis</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	
2. _____				
% Bare Ground in Herb Stratum _____				

Remarks:
Populus trichocarpa was formerly P. balsamifera ssp. trichocarpa = FAC

10/13/22

Sampling Point: UP 2

HYDROLOGY

Primary Indicators (minimum of one required, check all that apply)		Secondary Indicators (2 or more required)	
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
☐ High Water Table (A2)	☐ Salt Crust (B11)	☐ Drainage Patterns (B10)	
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Dry-Season Water Table (C2)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	☐ Geomorphic Position (D2)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Shallow Aquitard (D3)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ FAC-Neutral Test (D5)	
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)	☐ Raised Ant Mounds (D6) (LRR A)	
☒ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)	☐ Frost-Heave Hummocks (D7)	
☐ Inundation Visible on Aerial Imagery (B7)			
☐ Sparsely Vegetated Concave Surface (B8)			
Field Observations:			
Surface Water Present?	Yes ☐ No ☒	Depth (inches):	
Water Table Present?	Yes ☐ No ☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ☐ No ☒	Depth (inches):	
		Wetland Hydrology Present? Yes ☒ No ☐	

Remarks:

BC) hydrology may be the result of adjacent road drainage
soil cracking was very localized to an area ~ street diameter.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rio Dell City/County: Rio Dell/Humboldt Sampling Date: 10/13/22
 Applicant/Owner: Rio Dell State: CA Sampling Point: UP3
 Investigator(s): J. Cipra M. Hartnot Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): flat Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ☒	Is the Sampled Area within a Wetland? Yes _____ No ☒
Hydric Soil Present?	Yes _____ No ☒	
Wetland Hydrology Present?	Yes _____ No ☒	
Remarks: <u>Adjacent to trail</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>60 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Alnus robra</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>
2. <u>Populus tridentata</u>	<u>2</u>	<u>yes</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
_____ = Total Cover			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ = Total Cover			
Herb Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
_____ = Total Cover			
Woody Vine Stratum (Plot size: <u>1 m</u>)			
1. <u>Rubus ursinus</u>	<u>85</u>	<u>yes</u>	<u>FACU</u>
2. _____	_____	_____	_____
<u>85</u> = Total Cover			
% Bare Ground in Herb Stratum _____			

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0'
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ 5 - Wetland Non-Vascular Plants¹
 ___ Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ☒

Remarks: _____

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rio Dell City/County: Rio Dell/Humboldt Sampling Date: 10/13/22
 Applicant/Owner: Rio Dell State: CA Sampling Point: UP4
 Investigator(s): J Cipra, M Hartnet Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Bench Local relief (concave, convex, none): undulating Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes _____ No ☒
Hydric Soil Present?	Yes _____ No ☒	
Wetland Hydrology Present?	Yes _____ No ☒	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Salix lasiolepis</u>	<u>25</u>	<u>yes</u>	<u>FACW</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. <u>Alnus rubra</u>	<u>8</u>		<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66%</u> (A/B)	
4. _____				Prevalence Index worksheet:	
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)					
1. _____					Total % Cover of: _____ Multiply by: _____
2. _____					OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____	
4. _____				FAC species _____ x 3 = _____	
5. _____				FACU species _____ x 4 = _____	
_____ = Total Cover				UPL species _____ x 5 = _____	
Herb Stratum (Plot size: <u>1 m</u>)				Column Totals: _____ (A) _____ (B)	
1. <u>Equisetum telmateia</u>	<u>30</u>	<u>yes</u>	<u>FACW</u>	Prevalence Index = B/A = _____	
2. _____				Hydrophytic Vegetation Indicators:	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
_____ = Total Cover				Hydrophytic Vegetation Present? Yes ☒ No _____	
Woody Vine Stratum (Plot size: <u>1 m</u>)					
1. <u>Rubus ursinus</u>	<u>50</u>	<u>yes</u>	<u>FACU</u>		
2. _____					
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rio Dell City/County: Rio Dell/Humboldt Sampling Date: 10/13/22
 Applicant/Owner: Rio Dell State: CA Sampling Point: W1-T1-W
 Investigator(s): J. Cipra M. Hartnet Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Dry pond Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒	No _____	
Wetland Hydrology Present?	Yes ☒	No _____	
Remarks: <u>Wastewater treatment overflow pond. Currently dry, recently mown.</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1. <u>Salix lasiolepis</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover					
Herb Stratum (Plot size: <u>1 m</u>) 1. <u>Typha latifolia</u>					Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0' _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>100</u> <u>yes</u> <u>OBL</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover					
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover					
% Bare Ground in Herb Stratum _____ = Total Cover					
Remarks: <u>Vegetation was recently mown, but stumps are Typha and nearby cover is 100%</u>					

SOIL

Sampling Point: W111-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/1	100					5.9H silt clay	many roots
3-9	2.5Y 4/2	75	5YR 5/8	25	C	M	c. 1H silt clay	F3
9-20	2.5Y 4/2	65	5YR 5/6	35	C	M	3.1H silt clay	
END								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)	☐ Sandy Redox (S5)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1)	☐ Very Shallow Dark Surface (TF12)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Other (Explain in Remarks)
☐ Depleted Below Dark Surface (A11)	☒ Depleted Matrix (F3)	
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)	
☐ Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)	
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches) _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Waste water overflow pond

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2)	☐ Salt Crust (B11)
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)	
☐ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☒ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☒ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☒ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (LRR A)
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: B10) Drainage ditch drains water into pond area
D2) Excavated concave surface with berm to retain water.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Rio Dell City/County: Rio Dell/Humboldt Sampling Date: 10/13/22
 Applicant/Owner: Rio Dell State: CA Sampling Point: W1-T1-U
 Investigator(s): J. Cipra, M. Hartnet Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ☒	Is the Sampled Area within a Wetland?	Yes _____ No ☒
Hydric Soil Present?	Yes _____ No ☒		
Wetland Hydrology Present?	Yes _____ No ☒		
Remarks: <u>Terrace above pond.</u>			

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. <u>Salix lasiolepis</u> <u>10</u> <u>yes</u> <u>FACW</u> 2. _____ 3. _____ 4. _____ 5. _____ = Total Cover <u>10</u>				
Herb Stratum (Plot size: _____) 1. <u>Plantago lanceolata</u> <u>5</u> <u>FACU</u> 2. <u>Hypochaeris radicata</u> <u>1</u> <u>FACU</u> 3. <u>Helminthotheca exilisoides</u> <u>3</u> <u>FAC</u> 4. <u>Daucus carota</u> <u>1</u> <u>FACU</u> 5. <u>Trifolium dubium</u> <u>2</u> <u>FACU</u> 6. <u>Cyanus dactylon</u> <u>85</u> <u>yes</u> <u>FACU</u> 7. <u>Rumex crispus</u> <u>1</u> <u>FAC</u> 8. _____ 9. _____ 10. _____ 11. _____ = Total Cover <u>98</u>				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ = Total Cover _____				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes _____ No ☒				
Remarks:				

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Rio Dell Eel River trail City/County: Rio Dell / Humboldt Sampling Date: 4/13/23
 Applicant/Owner: Rio Dell State: CA Sampling Point: W2-T1-L
 Investigator(s): Christian Hernandez Section, Township, Range: 05, 1N, 1E
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): concave Slope (%): 5-10
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present?	Yes ☒ No _____	
Wetland Hydrology Present?	Yes ☒ No _____	
Remarks: <u>Stream channel obvious with blackberry. Feeder from wastewater discharge.</u>		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>10</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.75</u> (A/B)
1. <u>Solidago rigida</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Acer rubrum</u>	<u>7</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>32</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>5</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: <u>1</u>)				
1. <u>Rubus ursinus</u>	<u>39</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0' 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Rubus arcticus</u>	<u>27</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Rubus perfoliatus</u>	<u>4</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>70</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>5</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No _____
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>NO disturbance</u>				

SOIL

Sampling Point:

W 2-T1-6

[illegible]

HYDROLOGY

Wetland Indicators:		
Primary Indicators (minimum of one required; check all that apply)		
☒ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
☒ High Water Table (A2)	☐ Salt Crust (B11)	
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)	
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)	
☐ Inundation Visible on Aerial Imagery (B7)		
☐ Sparsely Vegetated Concave Surface (B8)		
Secondary Indicators (2 or more required)		
	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
	☐ Drainage Patterns (B10)	
	☐ Dry-Season Water Table (C2)	
	☐ Saturation Visible on Aerial Imagery (C9)	
	☐ Geomorphic Position (D2)	
	☐ Shallow Aquitard (D3)	
	☐ FAC-Neutral Test (D5)	
	☐ Raised Ant Mounds (D6) (LRR A)	
	☐ Frost-Heave Hummocks (D7)	
Field Observations:		
Surface Water Present?	Yes ☒ No ☐ Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes ☒ No ☐
Water Table Present?	Yes ☒ No ☐ Depth (inches): <u>12</u>	
Saturation Present? (includes capillary fringe)	Yes ☐ No ☐ Depth (inches): <u> </u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>flowing water with high water table</u>		

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rio Dell Eel River trail City/County: Rio Dell / Humboldt Sampling Date: 4/3/23
 Applicant/Owner: Rio Dell State: CA Sampling Point: W2-T1-U
 Investigator(s): Christian Hernandez Section, Township, Range: 05/1N/1E
 Landform (hillslope, terrace, etc.): hill slope Local relief (concave, convex, none): convex Slope (%): 0-3
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ☒	Is the Sampled Area within a Wetland? Yes _____ No ☒
Hydric Soil Present?	Yes _____ No ☒	
Wetland Hydrology Present?	Yes _____ No ☒	
Remarks: <u>terrace about discharge channel</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>10m</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.33</u> (A/B)
1. <u>Alnus rubra</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: <u>5m</u>)				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Herb Stratum (Plot size: <u>1m</u>)				Hydrophytic Vegetation Present? Yes _____ No ☒
1. <u>Rubus viscosus</u>	<u>33</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Rubus parvifolius</u>	<u>12</u>	<u>Y</u>	<u>FACU</u>	Remarks: <u>Slight disturbance from survey crew</u>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Woody Vine Stratum (Plot size: <u>5m</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
% Bare Ground in Herb Stratum _____				

SOIL

Sampling Point: _____

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)		
Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (2 or more required)		
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)			
☐ High Water Table (A2)	☐ Salt Crust (B11)	☐ Drainage Patterns (B10)			
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Dry-Season Water Table (C2)			
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9)			
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres along Living Roots (C3)	☐ Geomorphic Position (D2)			
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Shallow Aquitard (D3)			
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ FAC-Neutral Test (D5)			
☐ Iron Deposits (B5)	☐ Stunted or Stressed Plants (D1) (LRR A)	☐ Raised Ant Mounds (D6) (LRR A)			
☐ Surface Soil Cracks (B6)	☐ Other (Explain in Remarks)	☐ Frost-Heave Hummocks (D7)			
☐ Inundation Visible on Aerial Imagery (B7)					
☐ Sparsely Vegetated Concave Surface (B8)					
Field Observations:					
Surface Water Present?	Yes ☐ No ☒	Depth (inches): _____			
Water Table Present?	Yes ☐ No ☒	Depth (inches): _____			
Saturation Present?	Yes ☐ No ☒	Depth (inches): _____			
(includes capillary fringe)			Wetland Hydrology Present? Yes ☐ No ☒		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

Appendix C

On-site Plant list

Scientific Name	Common Name	Status	Life form	WMVC
<i>Acer macrophyllum</i>	big-leaf maple	native	tree	FACU
<i>Agrostis capillaris</i>	common bent	non-native	perennial grass	FAC
<i>Allium triquetrum</i>	white flowered onion	non-native	bulbiferous herb	
<i>Allium unifolium</i>	ornamental onion	Non-native	bulbiferous herb	
<i>Alnus rubra</i>	red alder	native	tree, shrub	FAC
<i>Artemisia douglasiana</i>	California mugwort	native	perennial herb	FACW
<i>Avena sativa</i>	wild oat	non-native	annual/perennial grass	UPL
<i>Baccharis pilularis</i>	coyote brush	native	shrub	
<i>Bellis perennis</i>	English lawn daisy	non-native	perennial herb	
<i>Brassica rapa</i>	common mustard	invasive (limited) ¹	annual herb	FACU
<i>Briza maxima</i>	rattlesnake grass	invasive (limited) ¹	annual grass	FAC
<i>Briza minima</i>	small quaking grass	non-native	annual grass	FAC
<i>Bromus hordeaceus</i>	soft chess	invasive (limited) ¹	annual grass	FACU
<i>Carduus pycnocephalus</i>	Italian thistle	non-native	annual herb	
<i>Carex obnupta</i>	slough sedge	native	perennial graminoid	OBL
<i>Centaurea solstitialis</i>	yellow star-thistle	invasive (high) ¹	annual herb	
<i>Centaureum erythraea</i>	European centaury	non-native	annual herb	FAC
<i>Cirsium vulgare</i>	bullthistle	invasive (moderate) ¹	perennial herb	FACU
<i>Conium maculatum</i>	poison hemlock	invasive (moderate) ¹	perennial herb	FAC
<i>Convolvulus arvensis</i>	field bindweed	non-native	perennial herb, vine	
<i>Cornus sericea</i>	American dogwood	native	shrub	
<i>Cortaderia jubata</i>	pampas grass	invasive (high) ¹	perennial grass	FACU
<i>Crepis capillaris</i>	smooth hawksbeard	non-native	annual herb	FACU
<i>Cynodon dactylon</i>	Bermuda grass	non-native	perennial grass	FACU
<i>Cynosurus echinatus</i>	dogtail grass	invasive (moderate) ¹	annual grass	
<i>Cyperus eragrostis</i>	tall cyperus	native	perennial graminoid	FACW
<i>Cytisus scoparius</i>	scotch broom	invasive (high) ¹	shrub	
<i>Daucus carota</i>	carrot	non-native	perennial herb	FACU
<i>Delairea odorata</i>	Cape ivy	invasive (high) ¹	perennial herb	FAC
<i>Dipsacus fullonum</i>	wild teasel	invasive (moderate) ¹	perennial herb	FAC
<i>Equisetum arvense</i>	common horsetail	native	fern ally	FAC
<i>Equisetum hyemale</i>	scouringrush horsetail	native	fern ally	FACW
<i>Euphorbia maculata</i>	spotted spurge	non-native	annual herb	UPL
<i>Euphorbia peplus</i>	petty spurge	non-native	annual herb	
<i>Festuca arundinacea</i>	reed fescue	invasive (moderate) ¹	perennial grass	FAC
<i>Festuca perennis</i>	Italian rye grass	invasive (moderate) ¹	annual/perennial grass	FAC

Scientific Name	Common Name	Status	Life form	WMVC
<i>Foeniculum vulgare</i>	fennel	invasive (moderate) ¹	perennial herb	
<i>Galium aparine</i>	cleavers	native	annual herb	FACU
<i>Hedera helix</i>	English ivy	invasive (high) ¹	vine, shrub	FACU
<i>Helminthotheca echioides</i>	bristly ox-tongue	invasive (limited) ¹	annual/perennial herb	FAC
<i>Holcus lanatus</i>	velvet grass	non-native	annual grass	FAC
<i>Hordeum murinum</i>	foxtail barley	invasive (moderate) ¹	annual grass	FAC
<i>Hypochaeris glabra</i>	smooth cats ear	invasive (limited) ¹	annual herb	
<i>Hypochaeris radicata</i>	hairy cat's ear	non-native	annual herb	FACU
<i>Iris pseudacorus</i>	horticultural iris	invasive (limited) ¹	perennial herb	OBL
<i>Lapsana communis</i>	nipplewort	non-native	annual herb	FACU
<i>Lathyrus latifolius</i>	sweet pea	non-native	perennial herb	
<i>Linum bienne</i>	flax	non-native	annual herb	
<i>Lonicera japonica</i>	Japanese honeysuckle	non-native	perennial vine	FAC
<i>Lotus corniculatus</i>	bird's foot trefoil	non-native	perennial herb	FAC
<i>Matricaria discoidea</i>	pineapple weed	native	annual herb	FACU
<i>Medicago arabica</i>	spotted burclover	non-native	annual herb	
<i>Medicago sativa</i>	alfalfa	non-native	perennial herb	UPL
<i>Mentha pulegium</i>	pennyroyal	invasive (moderate) ¹	perennial herb	OBL
<i>Oxalis pes-caprae</i>	Bermuda buttercup	invasive (moderate) ¹	perennial herb	
<i>Parentucellia viscosa</i>	yellow parentucellia	invasive (limited) ¹	annual herb	FAC
<i>Petasites frigidus</i>	arctic sweet coltsfoot	native	perennial herb	FACW
<i>Petrorhagia dubia</i>	windmill pink	non-native	annual herb	
<i>Pinus radiata</i>	Monterey pine	non-native	tree	
<i>Plantago lanceolata</i>	ribwort	invasive (limited) ¹	perennial herb	FACU
<i>Poa annua</i>	annual blue grass	non-native	annual grass	FAC
<i>Polycarpon tetraphyllum</i>	four-leaved allseed	non-native	annual herb	
<i>Polypogon monspeliensis</i>	annual beard grass	invasive (limited) ¹	annual grass	FACW
<i>Polystichum californicum</i>	California sword fern	native	fern	
<i>Populus trichocarpa</i>	black cottonwood	native	tree	
<i>Prunella vulgaris</i>	self-heal	non-native	perennial herb	FACU
<i>Prunus domestica</i>	plum	non-native	tree	
<i>Raphanus sativus</i>	jointed charlock	invasive (limited) ¹	annual/biennial herb	
<i>Rosa californica</i>	California wild rose	native	shrub	FAC
<i>Rubus armeniacus</i>	Himalayan blackberry	invasive (high) ¹	shrub	FAC
<i>Rubus parviflorus</i>	thimbleberry	native	vine, shrub	FACU
<i>Rubus ursinus</i>	California blackberry	native	vine, shrub	FACU
<i>Rumex crispus</i>	curly dock	non-native	annual herb	FAC

Scientific Name	Common Name	Status	Life form	WMVC
<i>Salix lasiolepis</i>	arroyo willow	native	tree, shrub	FACW
<i>Scrophularia californica</i>	California bee plant	native	perennial herb	FAC
<i>Sequoia sempervirens</i>	coast redwood	native	tree	
<i>Spergularia rubra</i>	purple sand spurry	non-native	annual/perennial herb	FAC
<i>Symphoricarpos mollis</i>	snowberry	native	shrub	FACU
<i>Taraxacum erythrospermum</i>	red-seeded dandelion	non-native	perennial herb	
<i>Taraxacum officinale</i>	dandelion	non-native	perennial herb	FACU
<i>Toxicodendron diversilobum</i>	poison oak	native	perennial vine	FAC
<i>Trifolium angustifolium</i>	narrow clover	non-native	annual herb	
<i>Trifolium dubium</i>	shamrock	non-native	annual herb	FACU
<i>Trifolium hirtum</i>	rose clover	invasive (limited) ¹	annual herb	
<i>Tropaeolum majus</i>	garden nasturtium	non-native	annual herb, vine	UPL
<i>Typha latifolia</i>	broadleaf cattail	native	perennial herb (aquatic)	OBL
<i>Urtica dioica</i>	stinging nettle	native	perennial herb	FAC
<i>Vicia sativa</i>	spring vetch	non-native	annual herb, vine	UPL
<i>Vinca major</i>	periwinkle	invasive (moderate) ¹	perennial herb	FACU

1 California Invasive Plant Council (Cal-IPC) Ratings:

High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate – These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Appendix D

Site Photographs



Photo 1. Location of UP1 data point.



Photo 2. Location of UP2 datapoint.



Photo 3. Location of UP4 data point. Equisetum is present but soil was not hydric soil and no evidence of hydrology was present.



Photo 4. Outfall from the Rio Dell Treatment plant into Ditch 1, which flows into Wetland 1 on the right.

North Elevation

☉ 170°S (T) ☉ 40°29'48"N, 124°5'37"W ±13ft ▲ 88ft



Photo 5. Wetland 1 palustrine emergent pond dominated by cattails (*Typha latifolia*) and willow (*Salix lasiolepis*).



Photo 6. Overflow culvert in east bank of pond.

Appendix E

NRCS Custom Soil Resource Report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Humboldt County, Central Part, California**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



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MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humboldt County, Central Part, California

Survey Area Data: Version 9, Sep 1, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 1, 2022—Jun 19, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
100	Water and Fluvents, 0 to 2 percent slopes	2.4	35.4%
210	Dungan, 0 to 2 percent slopes	4.3	64.6%
Totals for Area of Interest		6.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Humboldt County, Central Part, California

100—Water and Fluvents, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 119dm
Elevation: 10 to 50 feet
Mean annual precipitation: 40 to 75 inches
Mean annual air temperature: 50 to 59 degrees F
Frost-free period: 300 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 60 percent
Fluvents and similar soils: 35 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Landform: Rivers on channels
Down-slope shape: Linear, concave
Across-slope shape: Linear

Description of Fluvents

Setting

Landform: Point bars on channels
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex, concave
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile

A - 0 to 13 inches: gravelly fine sandy loam
C - 13 to 59 inches: extremely gravelly sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 6.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: NoneFrequent
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: R004BK200CA - Riparian

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Other vegetative classification: Riparian & Wetland Vegetation (RNPR001CA)

Hydric soil rating: Yes

Minor Components

Typic udifluvents

Percent of map unit: 4 percent

Landform: Meandering channels

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

Rock outcrop

Percent of map unit: 1 percent

Landform: Channels

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

210—Dungan, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hs2j

Elevation: 10 to 160 feet

Mean annual precipitation: 35 to 80 inches

Mean annual air temperature: 50 to 55 degrees F

Frost-free period: 275 to 330 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Dungan and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dungan

Setting

Landform: Flood-plain steps, alluvial fans, fan remnants

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Alluvium derived from mixed sources

Typical profile

Ap1 - 0 to 3 inches: silt loam

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Ap2 - 3 to 13 inches: silt loam
Bw - 13 to 29 inches: silt loam
C1 - 29 to 37 inches: fine sandy loam
C2 - 37 to 61 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 2.00 in/hr)
Depth to water table: About 39 to 61 inches
Frequency of flooding: RareNone
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Ecological site: F004B1100CA - Fluventic, salt-affected, rarely flooded, alluvial floodplains
Hydric soil rating: No

Minor Components

Ferndale

Percent of map unit: 7 percent
Landform: Flood-plain steps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Arlynda

Percent of map unit: 5 percent
Landform: Flood-plain steps, depressions, backswamps, meander scars
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Russ

Percent of map unit: 3 percent
Landform: Natural levees
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

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Appendix F

**Record of Climatological Observations and
WETS Table**

Scotia 2022 WETS Table

Name Scotia, CA US

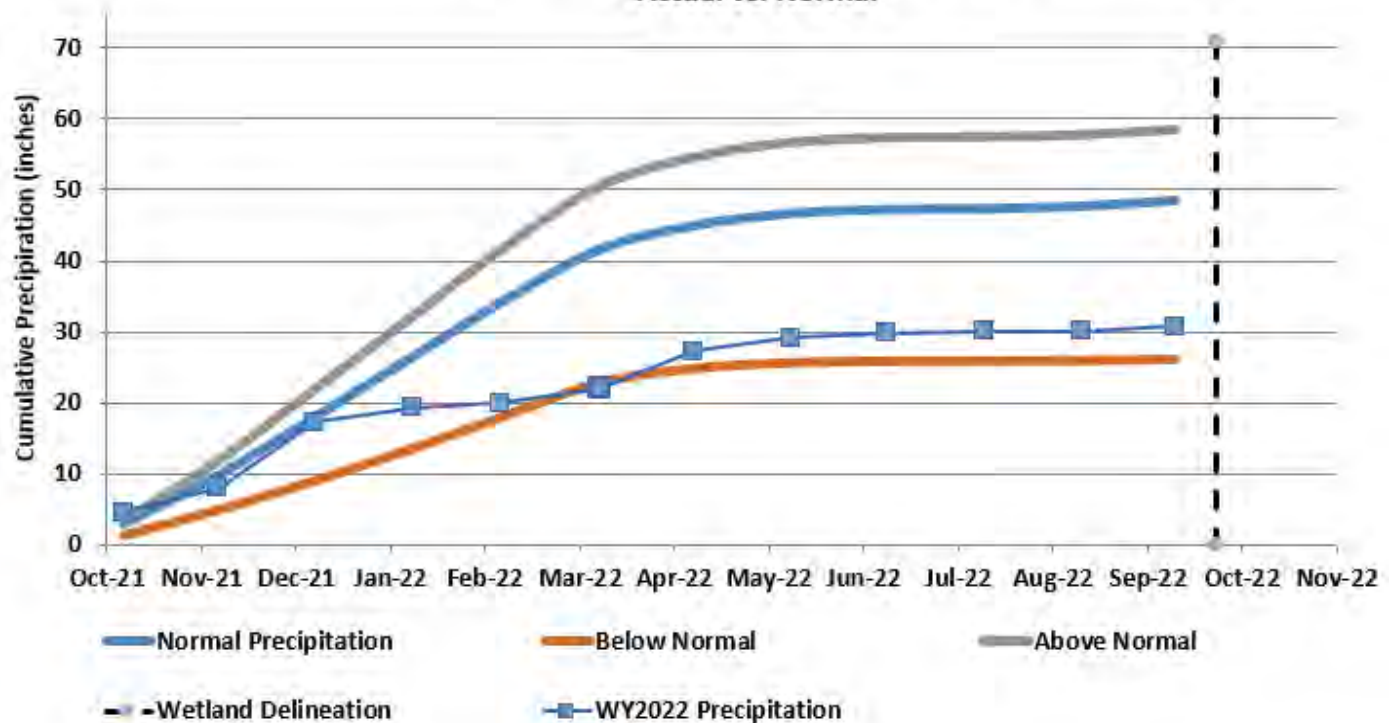
Loc. (Lat/Lon): 40.4833°, -124.1038°

	Monthly Precipitation (All values in inches)				Cumulative Precipitation (All values in inches)			
Month	Normal ¹	Below Normal ¹	Above Normal ¹	Actual WY 2022 ¹	Normal ¹	Below Normal ¹	Above Normal ¹	Actual WY 2022 ¹
31-Oct	2.81	1.29	3.43	4.57	2.81	1.29	3.43	4.57
30-Nov	6.87	3.59	8.39	3.39	9.68	4.88	11.82	7.96
31-Dec	8.34	4.18	10.19	9.25	18.02	9.06	22.01	17.21
31-Jan	8.45	4.55	10.32	2.14	26.47	13.61	32.33	19.35
28-Feb	7.70	4.40	9.37	0.63	34.17	18.01	41.70	19.98
31-Mar	7.40	4.84	8.89	2.00	41.57	22.85	50.59	21.98
30-Apr	3.38	2.02	4.10	5.26	44.95	24.87	54.69	27.24
31-May	1.72	0.83	2.11	1.87	46.67	25.70	56.80	29.11
30-Jun	0.55	0.21	0.67	0.73	47.22	25.91	57.47	29.84
31-Jul	0.12	0.03	0.12	0.22	47.34	25.94	57.59	30.06
31-Aug	0.34	0.06	0.29	0.00	47.68	26.00	57.88	30.06
30-Sep	0.82	0.17	0.73	0.71	48.50	26.17	58.61	30.77

1. From WETS Tables - SCOTIA, CA US - <http://agacis.rcc-acis.org/>

Years 1971 - 2000

Scotia WY 2022 Precipitation WETS Table
Actual vs. Normal



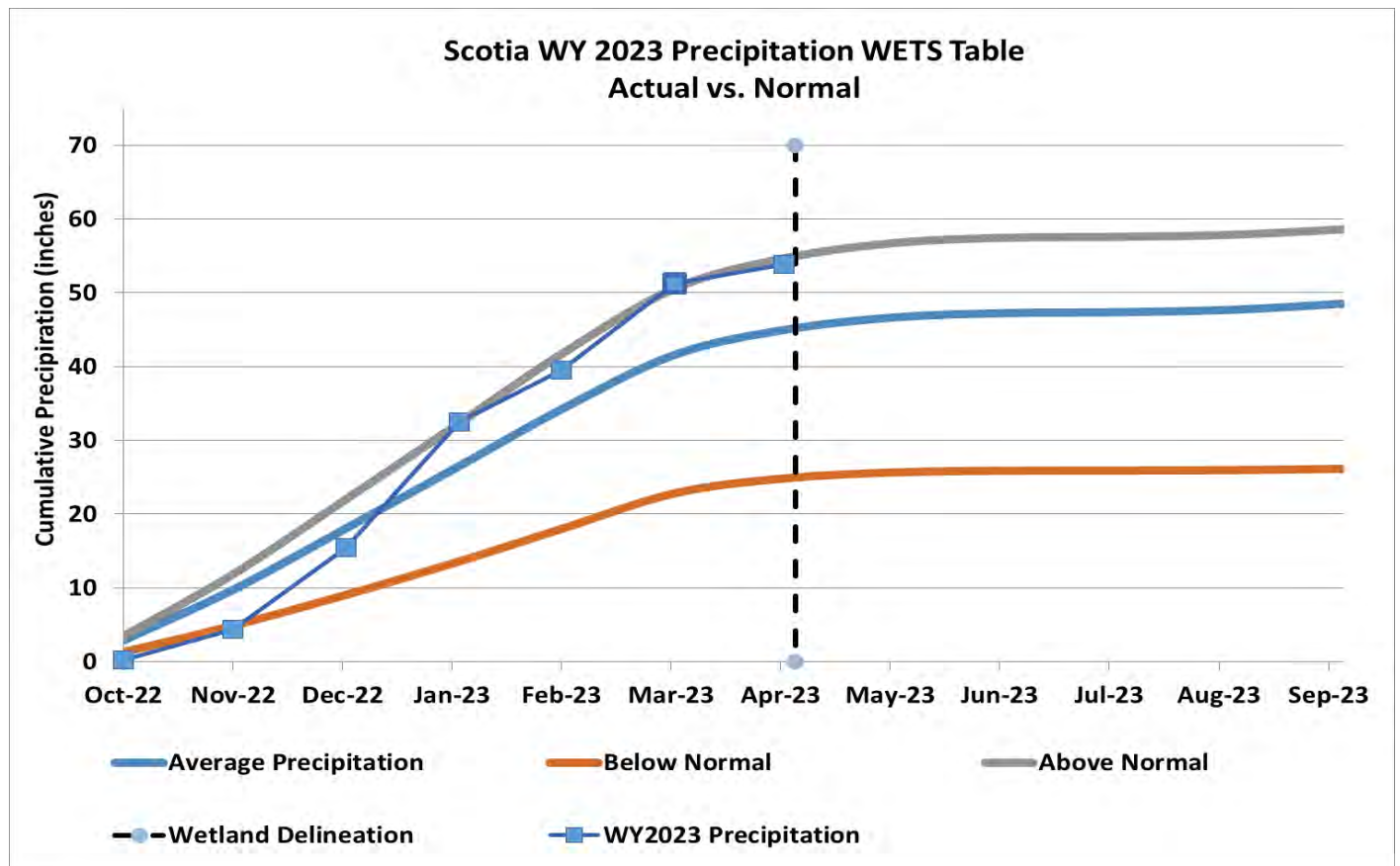
Scotia 2023 WETS Table

Name Scotia, CA US

Loc. (Lat/Lon): 40.4833°, -124.1038°

Monthly Precipitation (All values in inches)					Cumulative Precipitation (All values in inches)			
Month	Normal ¹	Below Normal ¹	Above Normal ¹	Actual WY 2023 ¹	Normal ¹	Below Normal ¹	Above Normal ¹	Actual WY 2023 ¹
31-Oct	2.81	1.29	3.43	0.26	2.81	1.29	3.43	0.26
30-Nov	6.87	3.59	8.39	4.10	9.68	4.88	11.82	4.36
31-Dec	8.34	4.18	10.19	11.13	18.02	9.06	22.01	15.49
31-Jan	8.45	4.55	10.32	16.94	26.47	13.61	32.33	32.43
28-Feb	7.70	4.40	9.37	7.04	34.17	18.01	41.70	39.47
31-Mar	7.40	4.84	8.89	11.83	41.57	22.85	50.59	51.30
30-Apr	3.38	2.02	4.10	2.57	44.95	24.87	54.69	53.87
31-May	1.72	0.83	2.11		46.67	25.70	56.80	
30-Jun	0.55	0.21	0.67		47.22	25.91	57.47	
31-Jul	0.12	0.03	0.12		47.34	25.94	57.59	
31-Aug	0.34	0.06	0.29		47.68	26.00	57.88	
30-Sep	0.82	0.17	0.73		48.50	26.17	58.61	

1. From WETS Tables - SCOTIA, CA US - <http://agacis.rcc-acis.org/>
Years 1971 - 2000





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Appendix E

Wildlife Potential to Occur

Appendix E. Potential for Special Status Wildlife to Occur within the Project Study Boundary (PSB) and Biological Study Area (BSA). The BSA is defined as the PSB and a 500-foot buffer to account for audible and other disturbances.

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
Mammals								
<i>Antrozous pallidus</i>	Pallid Bat	None	None	G4	S3	BLM S-Sensitive, CDFW SSC-Species of Special Concern, IUCN LC-Least Concern, USFS S-Sensitive, WBWG H-High Priority	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low potential. The BSA contains only marginally suitable habitat for this species. Proximity to human disturbance in the town of Rio Dell makes inhabitation unlikely.
<i>Aplodontia rufa humboldtiana</i>	Humboldt Mountain Beaver	None	None	G5TN R	SNR	-	Coastal scrub; Redwood; Riparian forest. Coast Range in southwestern Del Norte County and northwestern Humboldt County. Variety of coastal habitats, including coastal scrub, riparian forests, typically with open canopy and thickly vegetated understory.	Low potential. There is a documented occurrence within the BSA from 1941 on the CNDDB (CDFW 2023a). However, the BSA contains a highly fragmented area of limited riparian vegetation, and the species is unlikely to occur.
<i>Arborimus pomo</i>	Sonoma Tree Vole	None	None	G3	S3	CDFW SSC-Species of Special Concern, IUCN NT-Near Threatened	In old growth or late seral Douglas-fir, redwood and montane hardwood-conifer forests. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock or spruce.	Low potential. The BSA does not contain suitable forested habitat for this species. The species is more likely to occur in surrounding forested areas.

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
<i>Bassariscus astutus raptor</i>	Northern California Ringtail	None	None	G5TN R SNR	G5TN R SNR	CDFW FP- Fully Protected	Exploit a variety of habitats such as dry, rocky, brush-covered hillsides or riparian areas, typically not far from an open water source. Dens most often in rock crevices, boulder piles, or talus, but also tree hollows, root cavities, and rural buildings. Rarely use same den for more than a few days. Females with litters change dens within 10 days of birth and almost daily after 20 days.	Low potential. Although the BSA may contain suitable habitat for foraging and other activities, it does not contain highly suitable denning habitat.
<i>Corynorhinus townsendii</i>	Townsend's Big-eared Bat	None	None	G4	S2	BLM S-Sensitive, CDFW SSC-Species of Special Concern, IUCN LC-Least Concern, USFS S-Sensitive, WBWG H-High Priority	Broadleaved upland forest; Chaparral; Chenopod scrub; Great Basin grassland; Great Basin scrub; Joshua tree woodland; Lower montane coniferous forest; Meadow & seep; Mojavean desert scrub; Riparian forest; Riparian woodland; Sonoran desert scrub; Sonoran thorn woodland; Upper montane coniferous forest; alley & foothill grassland. Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Low potential. There is riparian habitat available within the BSA for this species. However, the BSA likely does not provide roosting sites. Proximity to human disturbance in the town of Rio Dell makes inhabitation unlikely.

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
<i>Erethizon dorsatum</i>	North American Porcupine	None	None	G5	S3	IUCN LC-Least Concern	Broadleaved upland forest; Cismontane woodland; Closed-cone coniferous forest; Lower montane coniferous forest; North coast coniferous forest; Upper montane coniferous forest. Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges. Wide variety of coniferous and mixed woodland habitat.	Low potential. There are two occurrences from 2012 and 2016 within three miles of the BSA on the CNDDDB (CDFW 2023a). However, the BSA contains primarily riparian vegetation, which is not typically preferred.
<i>Lasionycteris noctivagans</i>	Silver-haired Bat	None	None	G3G4	S3S4	IUCN_LC-Least Concern	Lower montane coniferous forest, oldgrowth, riparian forest. Primarily a coastal and montane forest dweller, feeding over streams, ponds and open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water.	Moderate potential. The BSA contains riparian forest habitat and is in close proximity to the Eel River.
<i>Lasiurus cinereus</i>	Hoary Bat	None	None	G3G4	S4	IUCN LC-Least Concern	Broadleaved upland forest, cismontane woodland, lower montane coniferous forest, north coast coniferous forest. Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to	Low potential. No coniferous forest habitat within the BSA.

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
							large trees. Feeds primarily on moths. Requires water.	
<i>Lasiurus frantzii</i>	Western Red Bat	None	None	G4	S3	CDFW SSC-Species of Special Concern, IUCN LC-Least Concern, WBWG H-High Priority	Woodland, coniferous, and riparian forests. Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Moderate potential. The BSA contains riparian forest and edge habitat.
<i>Martes caurina</i>	Pacific Marten, Coastal Distinct Population Segment	FT	None	G4	S3		The Pacific marten typically inhabits older, ecologically complex forests throughout western North America, the coastal DPS occurs only along the coastal regions of California and Oregon.	No potential. No suitable old growth habitat is available for this species within the BSA.
<i>Martes caurina humboldtensis</i>	Humboldt Marten	FT	SE	G4G5 T1	S1	CDFW SSC-Species of Special Concern, USFS S-Sensitive	North coast coniferous forest; Old growth; Redwood. Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County. Associated with late-successional coniferous forests, prefer forests with low, overhead cover.	No potential. The BSA does not contain old growth or late-successional forest habitat.
<i>Myotis evotis</i>	Long-eared Myotis	None	None	G5	S3	BLM S-Sensitive, IUCN LC-Least Concern, WBWG M-	Found in all brush, woodland and forest habitats from sea level to about 9000 ft. Prefers coniferous woodlands and forests. Nursery colonies in	Low potential. No coniferous woodland or forest habitat present within the BSA. Caves not present.

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
						Medium Priority	buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.	
<i>Myotis thysanodes</i>	Fringed Myotis	None	None	G4	S3	BLM S-Sensitive, IUCN LC-Least Concern, USFS S-Sensitive	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Low potential. The optimal habitat types are not present within the BSA.
<i>Myotis volans</i>	Long-legged Myotis	None	None	G4G5	S3	IUCN LC-Least Concern	Upper montane coniferous forest. Most common in woodland and forest habitats above 4000 ft. Trees are important day roosts; caves and mines are night roosts. Nursery colonies usually under bark or in hollow trees, but occasionally in crevices or buildings.	Low potential. There is not montane coniferous forest habitat available within the BSA.
<i>Myotis yumanensis</i>	Yuma Myotis	None	None	G5	S4	BLM S-Sensitive, IUCN LC-Least Concern	Lower and upper montane coniferous forest, riparian forest and woodland. Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Moderate potential. Riparian forest and water available for this species within the BSA.

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
<i>Pekania pennanti</i>	Fisher	None	None	G5	S2S3	BLM S-Sensitive, CDFW SSC-Species of Special Concern, USFS S-Sensitive	North coast coniferous forest; Old growth; Riparian forest. Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	Low potential. There is not coniferous forest habitat available within the BSA for this species.
<i>Taxidea taxus</i>	American Badger	None	None	G5	S3	CDFW SSC-Species of Special Concern, IUCN LC-Least Concern	Occupies a wide variety of habitats. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Low potential. A portion of the BSA includes predicted highly suitable habitat (CDFW 2016a). However, there are no recorded observations nearby (CDFW 2023a, iNaturalist 2023). Additionally, the habitat in the majority of the BSA is dense vegetation.
Birds								
<i>Accipiter cooperii</i>	Coopers Hawk	None	None	G5	S4	CDFW WL-Watch List, IUCN LC-Least Concern	Riparian woodland, upper montane coniferous forest. Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	High potential. The BSA contains suitable nesting habitat for this species. There is a documented occurrence directly adjacent to the BSA from 2023 (eBird 2023).
<i>Accipiter gentilis</i>	Northern Goshawk	None	None	G5	S3	BLM S-Sensitive, CDF S-Sensitive,	North coast coniferous forest, Subalpine coniferous forest, Upper montane	Low potential. The BSA does not contain suitable

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
						CDFW SSC-Species of Special Concern, IUCN LC-Least Concern, USFS S-Sensitive	coniferous forest. Within, and in vicinity of, coniferous forest. Uses old nests, and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	coniferous forest habitat for this species.
<i>Accipiter striatus</i>	Sharp-shinned Hawk	None	None	G5	S4	CDFW WL-Watch List, IUCN LC-Least Concern	Cismontane woodland; Lower montane coniferous forest; Riparian forest; Riparian woodland. Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes with plucking perches are critical requirements. Nests usually within 275 ft of water.	High potential. There is suitable riparian forest habitat available within the BSA. There is an observation directly adjacent to the BSA from 2023 (eBird 2023).
<i>Agelaius tricolor</i>	Tricolored Blackbird	None	ST	G1G2	S2	BLM S-Sensitive, CDFW SSC-Species of Special Concern, IUCN EN-Endangered, NABCI RWL-Red Watch List, USFWS BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Wetland. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Low potential. The BSA does not provide highly suitable habitat for this species. In addition, there are no recent observations recorded near the BSA (eBird 2023).

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	None	None	G5	S3	CDFW SSC-Species of Special Concern, IUCN LC-Least Concern	Valley & foothill grassland. Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	Low potential. The BSA does not contain suitable habitat for this species.
<i>Aquila chrysaetos</i>	Golden Eagle	None	None	G5	S3	BLM S-Sensitive, CDF S-Sensitive, CDFW FP-Fully Protected, CDFW WL-Watch List, IUCN LC-Least Concern	Wide variety of habitats including upland, montane coniferous forests, prairie, grassland scrubland, sage juniper, desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Low potential. The BSA does not contain suitable habitat for this species.
<i>Ardea herodias</i>	Great Blue Heron	None	None	G5	S4	CDF S-Sensitive, IUCN LC-Least Concern	Brackish marsh; Estuary; Freshwater marsh; Marsh & swamp; Riparian forest; Wetland Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	High potential. The BSA contains suitable riparian habitat for this species. There are documented observations in proximity to the BSA (eBird 2023).
<i>Brachyramphus marmoratus</i>	Marbled Murrelet	FT	SE	G3	S2	CDF S-Sensitive, IUCN EN-Endangered,	Lower montane coniferous forest; Old growth; Redwood. Feeds near-shore; nests inland along coast from Eureka to	Moderate potential. There are two observations from the early 1990's approximately 1.5 miles from the BSA (CDFW 2023a). More

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
						NABCI RWL-Red Watch List	Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	observations are recorded further away in surrounding areas (CDFW 2023a, eBird 2023). There is federally-designated critical habitat approximately five miles north and south of the BSA (USFWS 2012). The species may traverse over the BSA from the ocean to nesting areas. However, it does not provide suitable habitat for foraging or nesting.
<i>Charadrius nivosus nivosus</i>	Western Snowy Plover	FT	None	G3T3	S2	CDFW SSC-Species of Special Concern, NABCI RWL-Red Watch List	Great Basin standing waters; Sand shore; Wetland Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Low potential. The BSA does not contain suitable habitat for this species.
<i>Circus hudsonius</i>	Northern Harrier	None	None	G5	S3	CDFW SSC-Species of Special Concern, IUCN LC-Least Concern, USFWS BCC-Birds of Conservation Concern	Coastal scrub; Great Basin grassland; Marsh & swamp; Riparian scrub; Valley & foothill grassland; Wetland Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Low potential. The BSA does not contain highly suitable habitat for this species.
<i>Coccyzus americanus</i>	Western Yellow-billed Cuckoo	FT	SE	G5T2T3	S1		Riparian forest. Riparian forest nester, along the broad, lower flood-bottoms	Low potential. The BSA is outside of this species' range. However, there are

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
							of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	observations approximately 7 miles north of the BSA, presumably from an irruptive migrant due to the observations typically being from short time spans in only certain years (eBird 2023).
<i>Empidonax traillii</i>	Willow Flycatcher	None	SE	G5	S3	IUCN LC-Least Concern, USFS S-Sensitive	Meadow & seep, Riparian scrub, Riparian woodland, Wetland. Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters; 2000-8000 ft elevation. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.	Moderate potential. The BSA contains dense vegetation and willow thickets, but does not contain the typical aquatic feature that is preferred. There is on observation approximately 1.5 miles south of the BSA, at a pond location, from 2014 (eBird 2023). In addition, a breeding female was banded approximately 3.7 miles northwest of the BSA in 2002 (CDFW 2023a).
<i>Falco peregrinus anatum</i>	American Peregrine Falcon	Delisted	Delisted	G4T4	S3S4	CDF_S-Sensitive CDFW_FP-Fully Protected	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	High potential. Proximity to the Eel River is suitable for this species. There are documented observations directly adjacent to the BSA from 2023 (eBird 2023).
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Delisted	SE	G5	S3	BLM S-Sensitive, CDF S-Sensitive, CDFW FP-Fully Protected, IUCN LC-Least	Lower montane coniferous forest; Old growth. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old growth, or	High potential. The BSA does not contain suitable trees for nesting. However, the proximity to water is suitable for foraging. There are documented observations adjacent to the BSA, as

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
						Concern, USFS S-Sensitive	dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	recent as 2023 (eBird 2023). The probability for the species to fly over or forage within the BSA is more likely than nesting.
<i>Icteria virens</i>	Yellow-breasted Chat	None	None	G5	S4	CDFW SSC-Species of Special Concern, IUCN LC-Least Concern	Riparian forest, Riparian scrub, Riparian woodland. Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	Moderate potential. The BSA contains suitable riparian habitat for this species to forage and nest. There is an observation within 1.25 miles of the BSA from 2021 (eBird 2023).
<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	None	None	G5	S4	IUCN LC-Least Concern	Marsh & swamp; Riparian forest; Riparian woodland; Wetland. Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	High potential. The BSA contains suitable riparian woodland habitat for this species.
<i>Pandion haliaetus</i>	Osprey	None	None	G5	S4	CDF S-Sensitive, CDFW WL-Watch List, IUCN LC-Least Concern	Riparian forest. Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	High potential. There is suitable riparian forest habitat available within the BSA. There are observations directly adjacent to the BSA, as recent as 2023 (eBird 2023).
<i>Poecile atricapillus</i>	Black-capped Chickadee	None	None	G5	S3	CDFW_WL-Watch List	Riparian woodland. Inhabits riparian woodlands in Del Norte and northern	Low potential. The BSA is outside of the currently mapped range (CDFW

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
						IUCN_LC- Least Concern	Humboldt counties. Mainly found in deciduous tree-types, especially willows and alders, along large or small watercourses.	2016b). However, the riparian woodland habitat is present within the BSA.
<i>Progne subis</i>	Purple Martin	None	None	G5	S3	CDFW SSC- Species of Special Concern	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly; also in human-made structures. Nest often located in tall, isolated tree/snag.	Low potential. The BSA does not contain highly suitable habitat for this species.
<i>Riparia riparia</i>	Bank Swallow	None	ST	G5	S3	BLM S- Sensitive, IUCN LC-Least Concern	Riparian scrub; Riparian woodland. Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Present. This species was detected within the BSA in 2023 (eBird 2023). They are likely to utilize the BSA.
<i>Setophaga petechia</i>	Yellow Warbler	None	None	G5	S3	CDFW SSC- Species of Special Concern, IUCN LC-Least Concern	Riparian forest, Riparian scrub, Riparian woodland. Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including	High potential. The BSA contains suitable riparian habitat for this species to forage and nest.

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
							cottonwoods, sycamores, ash, and alders.	
<i>Strix occidentalis caurina</i>	Northern Spotted Owl	FT	ST	G3G4T3	S2	CDF S-Sensitive, IUCN NT-Near Threatened, NABCI YWL-Yellow Watch List	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris, and space under canopy.	Moderate potential. There is an observation of this species within the BSA from 2003 (CDFW 2023a). There is an Activity Center (HUM0503) approximately 0.5 miles east of the BSA, with a positive detection from 2021 (CDFW 2023a). The nearest nest from Activity Center HUM0503 is approximately 0.3 miles from the BSA, with a positive detection in 2018.
Reptiles								
<i>Emys marmorata</i>	Western Pond Turtle	None	None	G3G4	S3	BLM S-Sensitive, CDFW SSC-Species of Special Concern, IUCN VU-Vulnerable, USFS S-Sensitive	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Moderate potential. The Eel River and sandy banks within the BSA are suitable for this species.
Amphibians								
<i>Ascaphus truei</i>	Pacific Tailed Frog	None	None	G4	S3S4	CDFW SSC-Species of Special Concern, IUCN LC-Least Concern	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.	Low potential. The Eel River is not suitable aquatic habitat for this species.

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
<i>Rana aurora</i>	Northern Red-legged Frog	None	None	G4	S3	CDFW SSC-Species of Special Concern, IUCN LC-Least Concern, USFS S-Sensitive	Klamath/North coast flowing waters; Riparian forest; Riparian woodland. Humid forests, woodlands, grasslands, and streamsides in northwestern California, usually near dense riparian cover. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.	High potential. There are multiple observations recorded within two miles of the BSA (iNaturalist 2023).
<i>Rana boylei</i> pop. 1	Foothill Yellow-legged Frog - North Coast DPS	None	None	G3T4	S3	BLM S-Sensitive, CDFW SSC-Species of Special Concern, IUCN NT-Near Threatened, USFS S-Sensitive	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	High potential. There are documented occurrences along the Eel River, the nearest from June 2020 within three miles of the BSA (iNaturalist 2023). Habitat in the BSA is suitable.
<i>Rhyacotriton variegatus</i>	Southern Torrent Salamander	None	None	G3	S2S3	CDFW SSC-Species of Special Concern, IUCN LC-Least Concern, USFS S-Sensitive	Lower montane coniferous forest; Old growth; Redwood; Riparian forest. Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest. Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rocks within trickling water.	Low potential. The BSA does not provide suitable stream habitat for this species.

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
Fish								
<i>Acipenser medirostris</i> pop. 2	Green Sturgeon - Northern DPS	None	None	G2T1	S1	AFS_VU- Vulnerable CDFW_SSC- Species of Special Concern IUCN_VU- Vulnerable	Aquatic; Estuary; Klamath/North coast flowing waters; Marine bay. Exhibits spawning site fidelity. Known to spawn in the Klamath, Trinity, Salmon, and Eel Rivers in California; historically known to spawn in the South Fork Trinity River. Non-spawning adults occupy marine and estuarine waters. Spawning occurs primarily in cool (11- 15 C) sections of mainstem rivers in deep pools (8-9 meters) with substrate containing small to medium sized sand, gravel, cobble, or boulder.	Present. The species is known to spawn within the Eel River, which is within the BSA. However, no in-water work is proposed.
<i>Acipenser transmontanus</i>	White Sturgeon	None	None	G4	S2	AFS EN- Endangered, CDFW SSC- Species of Special Concern, IUCN VU-Vulnerable	Aquatic, Estuary, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters. Live in estuaries of large rivers, moving into freshwater to spawn. Most abundant in brackish portions of estuaries. In estuaries adults concentrate in deep areas with soft bottoms.	Present. The BSA encompasses the species range and suitable habitat is available in the Eel River (CDFW 2023a).

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
<i>Entosphenus tridentatus</i>	Pacific Lamprey	None	None	G4	S3	AFS VU-Vulnerable, BLM S-Sensitive, CDFW SSC-Species of Special Concern, USFS S-Sensitive	Aquatic; Klamath/North coast flowing waters; Sacramento/San Joaquin flowing waters; South coast flowing waters. Found in Pacific Coast streams north of San Luis Obispo County, however regular runs in Santa Clara River. Size of runs is declining. Swift-current gravel-bottomed areas for spawning with water temps between 12-18 C. Ammocoetes need soft sand or mud.	Present. There is known distribution of this species within the Eel River, which is within the BSA (CDFW 2023a). However, no in water work is proposed.
<i>Lampetra richardsoni</i>	Western Brook Lamprey	None	None	G4G5	S3S4	CDFW SSC-Species of Special Concern, USFS S-Sensitive	Aquatic	Present. The species is mapped in the watershed (CDFW 2023a). However, no in water work is proposed.
<i>Oncorhynchus clarkii clarkii</i>	Coast Cutthroat Trout	None	None	G5T4	S3	AFS VU-Vulnerable, CDFW SSC-Species of Special Concern, USFS S-Sensitive	Aquatic; Klamath/North coast flowing waters. Small coastal streams from the Eel River to the Oregon border. Small, low gradient coastal streams and estuaries. Needs shaded streams with water temperatures <18C, and small gravel for spawning.	Low potential. The Eel River is not a small coastal stream. The species likely occupies small streams connected to the Eel River. However, no in water work is proposed.

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
<i>Oncorhynchus kisutch</i> pop. 2	Coho Salmon - Southern Oregon / Northern California ESU	FT	ST	G5T2 Q	S2	AFS TH- Threatened	Aquatic; Klamath/North coast flowing waters; Sacramento/San Joaquin flowing waters. Federal listing refers to populations between Cape Blanco, Oregon and Punta Gorda, Humboldt County, California. State listing refers to populations between the Oregon border and Punta Gorda, California.	Present. There is known distribution of this species within the Eel River, which is within the BSA (CDFW 2023a). However, no in-water work is proposed.
<i>Oncorhynchus mykiss irideus</i> pop. 48	Steelhead - Northern California DPS Summer-run	FT	SE	G5T2 Q	S2	AFS TH- Threatened	Aquatic, Estuary, Klamath/North coast flowing waters. Naturally spawning population of the stream-maturing summer-run ecotype. From Redwood Creek watershed south to and inclusive of Gualala River watershed. Distribution within range more limited. Require cool water (<23C); holding habitat to withstand higher temps; lower flows in summer/fall; require loose gravels at pool tails for redd construction. Favor cool, clear, fast-flowing riffles, ample riparian cover, undercut banks and diverse prey.	Present. The species has known distribution in the Eel River (CDFW 2023a). However, there is no in-water work proposed.
<i>Oncorhynchus mykiss irideus</i> pop. 49	Steelhead - Northern	FT	None	G5T3 Q	S3	AFS TH- Threatened	Aquatic, Estuary, Klamath/North coast flowing waters. Naturally spawning	Present. The species has known distribution in the Eel River (CDFW 2023a).

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
	California DPS Winter-run						population of the ocean-maturing winter-run ecotype. From Redwood Creek watershed south to and inclusive of Gualala River watershed. Distribution throughout range. Adults require high flows of 18-20 cm for passage and loose gravels at pool tails for redd construction. Juveniles favor areas with cool (10-17 C), clear, fast-flowing riffles, ample riparian cover, undercut banks and diverse prey.	However, there is no in-water work proposed.
<i>Oncorhynchus tshawytscha</i> pop. 17	Chinook Salmon - California Coastal ESU	FT	None	G5T2 Q	S2	AFS TH-Threatened	Rivers and streams south of the Klamath River to the Russian River.	Present. There is known distribution within the Eel River, which is within the BSA (CDFW 2023a). However, no in-water work is proposed.
<i>Spirinchus thaleichthys</i>	Longfin Smelt	FC	ST	G5	S1	-	Aquatic; Estuary. Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Low potential. The BSA is approximately 20 miles downstream from the Eel River estuary.
Mollusks								
<i>Anodonta californiensis</i>	California Floater	None	None	G3Q	S2?	USFS S-Sensitive	Aquatic. Freshwater lakes and slow-moving streams and rivers. Taxonomy under	Moderate potential. The species was found to occupy the upper reaches of the

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
							review by specialists. Generally in shallow water.	South Fork Eel River (Howard and Cuffey 2003). However, no in-water work is proposed.
<i>Anodonta oregonensis</i>	Oregon Floater	None	None			-	Aquatic. More commonly found in ponds, lakes, and reservoirs but can also occur in low gradient reaches of streams.	Low potential. The Eel River does not provide suitable habitat for this species. Additionally, no in-water work is proposed.
<i>Gonidea angulata</i>	Western Ridged Mussel	None	None	G3	S2	IUCN VU-Vulnerable	Aquatic. Primarily creeks and rivers and less often lakes. Originally in most of state, now extirpated from Central and Southern California.	Moderate potential. The Eel River is suitable for this species to occur. Since at least 1990, there have been no observations in the Eel River (Xerces Society 2020a). However, no in-water work is proposed.
<i>Margaritifera falcata</i>	Western Pearlshell	None	None	G4G5	S1S2	-	Aquatic. Prefers lower velocity waters.	Moderate potential. The species was found to occupy the upper reaches of the South Fork Eel River (Howard and Cuffey 2003). However, no in-water work is proposed.
Insects								
<i>Bombus caliginosus</i>	Obscure Bumble Bee	None	None	G2G3	S1S2	IUCN VU-Vulnerable	Coastal areas from Santa Barbara County to north to Washington state. Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	High potential. Multiple genera of food sources were present within the PSB at the time of a botanical survey. There are observations of the species in 2014 approximately five miles from the BSA (Bumble Bee Watch 2023).

Scientific Name	Common Name	ESA	CESA	Global Rank ²	State Rank ²	Other Status	Habitat Requirements ¹	Potential to Occur
<i>Bombus occidentalis</i>	Western Bumble Bee	None	CE	G3	S1	USFS S-Sensitive	Once common and widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease. Prefers large patches of native nectar plants. Typically, the species nests underground in abandoned rodent or other animal nests, but they have also been found aboveground among logs of railroad ties.	Low potential. The species range has contracted outside of the BSA (Bumble Bee Watch 2023). Occurrence is unlikely.
<i>Danaus plexippus</i>	Monarch Butterfly – California Overwintering, Pop. 1	FC	None	G4T2T3	S2S3		Fields, roadside areas, open areas, wet areas or urban gardens. This species only lays eggs on milkweed. Overwintering tree habitat includes eucalyptus, Monterey pine, Monterey cypress, western sycamore, coast redwood, and coast live oak trees.	Low potential. Overwintering sites are from Mendocino to Baja California, Mexico (Xerces Society 2020b). The BSA does not provide suitable tree species for overwintering.

Footnotes:

¹ General habitat, and microhabitat column information, reprinted from CNDDDB (September 2023).

² Rankings from CNDDDB (September 2023).

Column Header Categories and Abbreviations:

FESA: Listing status under the federal Endangered Species Act (ESA)

FE = Federal Endangered; FT = Federal Threatened; FC = Federal Candidate; FD = Federally Delisted

CESA: Listing status under the California state Endangered Species Act (CESA)

SE = State Endangered; SD = State Delisted; ST = State Threatened.

Global Rank: Global Rank from NatureServe's Heritage Methodology (NatureServe 2023) (ranking according to degree of global imperilment - G1 = Critically Imperiled—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors; G2 = Imperiled—At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors; G3 = Vulnerable—At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors; G4 = Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors; G5 = Secure—Common; widespread and abundant. Subspecies/variety level: "Subspecies/variety receive a T-rank attached to the G-rank. With the subspecies/variety, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety" (CDFW 2023b); ? = "Denotes inexact numeric rank" (NatureServe 2023); Q = "Questionable taxonomy that may reduce conservation priority" (NatureServe 2023)
State Rank: State Rank from NatureServe's Heritage Methodology (NatureServe 2023) (ranking according to degree of imperilment in the state (California) - S1 = Critically Imperiled—Critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state; S2 = Imperiled—Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state; S3 = Vulnerable—Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state; S4 = Apparently Secure—Uncommon but not rare in the state; some cause for long-term concern due to declines or other factors; S5 = Secure—Common, widespread, and abundant in the state; SNR = State Not Ranked.

Other Statuses (other federal or state listings may include):

S (California Department of Forestry and Fire Protection Sensitive): "those species that warrant special protection during timber operations" (CDFW 2023b);

FP (CDFW Fully Protected Animal): "This classification was the State of California's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal endangered species acts." (CDFW 2023b);

SSC (CDFW Species of Special Concern): "It is the goal and responsibility of the Department of Fish and Wildlife to maintain viable populations of all native species. To this end, the Department has designated certain vertebrate species as 'Species of Special Concern' because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as 'Species of Special Concern' is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long-term viability" (CDFW 2023b);

WL (California Department of Fish and Wildlife Watch List): "The CDFW maintains a list consisting of taxa that were previously designated as "Species of Special Concern" but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status" (CDFW 2023b);

Potential to Occur:

No Potential: Habitat in and adjacent to the PSB is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Low Potential: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found in the PSB.

Moderate Potential: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found in the PSB.

High Potential: All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on in the PSB.

Present: Detected or documented on-site.

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