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

North Coast Regional Water Quality Control Board
5550 Skylane Blvd., Ste. A
Santa Rosa, CA 95403

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Draft Environmental Impact Report

GWDRs for Commercial Lily Bulb Operations in the Smith River Plain

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I. Executive Summary

The California Regional Water Quality Control Board, North Coast Region (North Coast Water Board) is responsible for protecting water quality within the North Coast Hydrologic Region, including the Smith River Plain**.** As of the 2024–2025 growing season**,** approximately 1,000 acres of agricultural land in the Smith River Plain Hydrologic Subarea and coastal terraces between Pyramid Point and the Oregon border are commercially farmed for easter lily bulbs (See Figure 1). About 160 acres are planted in any given year (See Figure 2 for fields planted to lily bulbs in 2023). The crop is grown in a 3- to 5-year rotation with grass-clover pasture, supporting some livestock operations. The watershed is ecologically sensitive, providing habitat for threatened and endangered species such as coho salmon, tidewater goby, and eulachon, with tributaries and estuarine areas critical for juvenile salmonid rearing and recovery. The most sensitive beneficial uses of water targeted for protection include cold freshwater habitat, tribal beneficial uses and municipal/domestic supply, the latter sensitive to nitrate contamination.

North Coast Water Board staff intend to recommend that the North Coast Water Board adopt General Waste Discharge Requirements (hereafter referred to as the “Lily Bulb Order” or “Proposed Project”) for Commercial Lily Bulb Operations located in the Smith River Plain and coastal terraces between Pyramid Point and the Oregon border, hereafter the “Proposed Project Area” as shown in Figure 1. The Draft Lily Bulb Order is included as Attachment A.

Commercial Lily Bulb Operations have the potential to discharge wastes (including pesticides) to surface waters and groundwater and to affect other related controllable water quality factors such as riparian shade. For the purposes of this Draft Environmental Impact Report and the Draft Lily Bulb Order, the term Commercial Lily Bulb Operations includes all fields cultivated for lily bulbs or similar bulb crops anytime within a sequential five-year period, and appurtenant field roads, greenhouses, and pesticide mixing areas.

The Lily Bulb Order would regulate discharges from Commercial Lily Bulb Operations with one or more of the following characteristics and which meet any of the following criteria: (1) The landowner or operator holds a current Operator Identification Number/Permit Number for pesticide use reporting; (2) The crop and/or its product is sold, including but not limited to: (a) an industry cooperative, (b) harvest crew/company, or (c) a direct marketing location, such as Certified Farmers Markets; or (3) the federal Department of Treasury Internal Revenue Service form 1040 Schedule F Profit or Loss from Farming is used to file federal taxes. The Lily Bulb Order would establish a regulatory mechanism, in the form of General Waste Discharge Requirements with requirements, prohibitions, and provisions that would require: (1) enrollment and payment of fees; (2) implementation and adaptation of management practices; and (3) monitoring and reporting.

The Lily Bulb Order would be consistent with the State Water Resources Control Board

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

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

A. Project Objectives

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

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

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

Objective #3 - Comply with the State Nonpoint Source Policy, the State Antidegradation Policy, the precedential language in the Eastern San Joaquin Agricultural Order, the North Coast Basin Plan, and other relevant statutes and water quality plans and policies, including the Temperature Implementation Policy, the Sediment TMDL Implementation Policy, and TMDLs in the North Coast Hydrologic Region.

B. Summary of Environmental Effects and Proposed Mitigation Measures

The analysis provided within this Draft EIR considers reasonably foreseeable Management Practices as examples of how the Lily Bulb Order could be implemented

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

The Draft EIR identifies the following principal environmental effects and proposed mitigation measures associated with implementation of the Proposed Project.

Agricultural Resources

Implementation of Streamside Areas requirements, which include a riparian vegetation area and a vegetated buffer to implement the Policy for Implementation of the Water Quality Objectives for Temperature (Temperature Policy), could result in the conversion of Prime Farmland to non-agricultural use. These impacts are identified as significant and unavoidable, consistent with prior North Coast Water Board findings related to riparian buffer implementation. Through adoption of the Temperature Policy (Resolution R1-2014-0006), the North Coast Water Board found the potential conversion of Prime Farmland to a non-agricultural use and the potential conflict with existing zoning for agriculture use or a Williamson Act contract from implementing riparian buffers as significant and unavoidable.

No feasible mitigation measures are available that would fully avoid these impacts while still achieving applicable Basin Plan water quality objectives and temperature requirements. As a result, adoption of the Proposed Project would require consideration of a Statement of Overriding Considerations.

Biological Resources

Potential impacts to sensitive aquatic and riparian species may result from implementation of management practices, construction of runoff control features, or vegetation management activities. The Draft EIR identifies mitigation measures requiring timing restrictions, avoidance of sensitive habitats, design standards for runoff controls, invasive species management, and coordination with resource agencies. With implementation of these measures, impacts to biological resources would be reduced to less than significant.

Cultural and Tribal Cultural Resources

Ground-disturbing activities associated with management practice implementation could affect previously unidentified cultural or tribal cultural resources. The Tribal Cultural Landscape, including viewsheds and animal and plant species that contribute to the significance of the Tribal Cultural Landscape are also considered a tribal cultural resource. Mitigation measures include tribal consultation, inadvertent discovery protocols, avoidance or treatment procedures consistent with CEQA and state law, mitigation measures requiring timing restrictions, avoidance of sensitive habitats, design standards for runoff controls, invasive species management, and measures that reduce impacts to viewsheds. With mitigation, impacts would be less than significant.

Other Resource Areas

The Draft EIR concludes that impacts to hydrology and water quality, air quality, greenhouse gas emissions, noise, transportation, public services, and other CEQA resource topics would be less than significant or have no impact, due to the regulatory nature of the Proposed Project and requirements for Management Practice implementation and monitoring.

C. Project Alternatives

The Draft EIR evaluates a reasonable range of alternatives to the significant and unavoidable impacts to Agricultural resources, including:

No Project Alternative, under which existing regulatory mechanisms would remain in place and no new General Waste Discharge Requirements would be adopted. This alternative would avoid agricultural land conversion impacts, but would not meet project objectives related to water quality protection and restoration.

Reduced Regulatory Scope Alternatives, under which modified requirements to Streamside Areas would reduce the size of the riparian buffer. The Reduced Setback Alternative would reduce or eliminate one or more significant environmental impacts of the Proposed Project but does not completely support all objectives of the Proposed Project.

The Draft EIR concludes that no alternative would fully avoid the significant and unavoidable impacts to agricultural resources while meeting the core project objectives.

D. Areas of Controversy

During the CEQA Scoping period, the North Coast Water Board received many public comments on the Proposed Project. These comments are documented in Section II.E of the Draft EIR, and generally include:

- Appropriateness and extent of riparian buffer and setback requirements, particularly their effects on agricultural viability and land use.

- Adequacy of pesticide and copper controls, with differing perspectives on

whether the Proposed Project goes too far or not far enough.

- Reliance on adaptive management and self-reporting, versus calls for third-party or independent monitoring.
- Health and environmental justice concerns, raised by community members regarding long-term exposure, cumulative effects, and public health protections.
- Consistency with other regulatory frameworks, including the Coastal Act, Endangered Species Act, and agricultural protection policies.

E. Issues to Be Resolved

Key issues that remain to be resolved by the North Coast Water Board prior to project approval include:

- Whether to approve the Proposed Project as drafted or adopt modifications to requirements or implementation timelines.
- How to balance unavoidable impacts to agricultural resources against the need to protect high-quality waters and sensitive beneficial uses.
- Whether additional or modified mitigation measures or implementation flexibilities are warranted.
- Whether a Statement of Overriding Considerations is appropriate and, if so, the basis for those findings.

II. Introduction

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

The Lily Bulb Order would regulate non-point source discharges from Commercial Lily Bulb Operations. The Lily Bulb Order would establish a regulatory mechanism, in the form of General Waste Discharge Requirements with requirements, prohibitions, and provisions that would require: (1) enrollment and payment of fees; (2) implementation and adaption of Management Practices; and (3) monitoring and reporting.

The Proposed Project involves adoption of an order governing the discharge of waste (to surface waters and groundwaters) from Commercial Lily Bulb Operations (Enrollees) in the Smith River Plain (see Proposed Project Area in Figure 1). In accordance with North Coast Water Board authority and mandates under the California Water Code, the purpose of the Proposed Project is to improve water quality conditions and protect and restore beneficial uses in the region by preventing or minimizing discharges of waste (including controllable water quality factors[1]) from Commercial Lily Bulb Operations.

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

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

A. General Overview

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

[1] Controllable water quality factors are those actions, conditions, or circumstances resulting from man's activities that may influence the quality of the waters of the State and that may be reasonably controlled.

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

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

The Proposed Project is necessary to protect high-quality waters and restore impaired and degraded waters in the Smith River Plain from non-point source discharges of waste from Commercial Lily Bulb Operations. Commercial lily bulb farming in the Smith River Plain involves soil disturbance and use of agricultural chemicals, both of which can generate discharges of waste (e.g., sediment, nutrients, pesticides , and temperature). If not properly managed, these discharges can degrade water quality, cause or contribute to pollution and nuisance conditions, and adversely affect beneficial uses of waters of the state. These effects can occur through the loss of riparian shade (a controllable factor) and discharges from stormwater runoff flowing from agricultural lands, percolation, and runoff resulting from operational spills.

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

Surface water monitoring conducted between 2013 and 2024 by the North Coast Water Board’s Surface Water Ambient Monitoring Program (SWAMP) documented the presence of synthetic pesticides and dissolved copper in tributaries and sloughs downstream of commercial lily bulb cultivation areas in the Smith River Plain. Exceedances of U.S. EPA aquatic life benchmarks were observed periodically, primarily during major storm events when runoff from cultivated fields was highest. Modeling using the Biotic Ligand Model indicated potential for chronic copper toxicity under low-pH and stormflow conditions.

Groundwater monitoring conducted in 2015 and 2025 by the North Coast Water Board and the California Department of Pesticide Regulation detected low-level concentrations of pesticides and nitrate in irrigation and domestic wells located within current and historical lily bulb cultivation areas. Detected concentrations were below state and federal drinking water standards for pesticides and metals, and nitrate concentrations ranged from below detection to slightly above the drinking water Maximum Contaminant Level in a limited number of irrigation wells. These monitoring results indicate that surface water and groundwater in the Smith River Plain exhibit measurable influences from agricultural activities, with constituent concentrations and toxicity responses

varying by season, hydrologic conditions, and proximity to cultivated fields.

B. Overview of Activities

The Proposed Project would involve adoption and implementation of General Waste Discharge Requirement for Commercial Lily Bulb Operations in the Smith River Plain. Refer to Attachment A for the Draft Lily Bulb Order. Key elements of the Lily Bulb Order include the following:

1) Pesticide, Sediment and Erosion Management for Surface Water Protection,

2) Streamside Area Requirements for Surface Water Protection,

3) Irrigation and Nutrient Management for Groundwater Protection,

4) Monitoring and Reporting Requirements, and

5) Adaptive Management

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

C. Overview of CEQA Requirements

The basic purposes of CEQA is to:

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

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

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

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

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

D. Scope and Intent of this Document

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

E. Public Involvement Process

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

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

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

On October 22, 2024, the North Coast Water Board held a hybrid scoping meeting to

solicit input from agencies and interested parties on issues to be addressed in the EIR. The scoping meeting included a description of the meeting purpose, proposed requirements, presented an overview of the environmental review process and preparation of the EIR, and included a public comment period.

During the scoping period, eleven timely written comment letters were received from the following persons and entities:

1) Northcoast Environmental Center

2) California Farm Bureau

3) California Department of Fish and Wildlife

4) California Coastal Commission

5) Save California Salmon

6) Lily Bulb Growers: Rob Miller, Matthew Westbrook, Don Crockett

7) Sharon Tanner and Brian McNaughton

8) Native American Heritage Commission

9) Phoebe Lenhart

10) Richard Blair

11) Alicia Williams

During the scoping meeting, the following persons and entities provided oral comments:

1) Gil Vargas

2) Carl Page, Smith River resident

3) Sharon Tanner

4) John Roberts, Smith River resident

5) Alicia Williams, Crescent City resident

6) Janelle Kobalt

7) Josefina Barrantes, Environmental Protection Information Center (EPIC)

8) Regina Chichizola, Save California Salmon

9) Andrew Orahoske

10)Katie Rian, California Department of Fish and Wildlife

11)Candice Vargas, Smith River resident

Table II.1 summarizes primary comments and concerns expressed in written scoping comment letters and during the public outreach meeting.

Table II.1: Summary of CEQA Scoping Comments

Commenter	Summary of Comments
North Coast Environmental Center	• The Draft EIR needs to assess the feasibility of halting the use of all EPA-registered pesticides and all lily bulb farming activities and restoring the Smith River Plain as the primary alternative to the current operations. • The Draft EIR needs to assess the impacts to all potentially threatened and endangered species and include assessments for restoring their habitat for promoting sustainable and urgently necessary population growth. • The Draft EIR needs to assess the historic and ongoing impacts to Tribal Cultural Resources within the Smith River Plain Hydrologic Subarea due to the Commercial Lily Bulb Operations. The assessment needs to include consultation with the affected tribal government(s), as well as make substantial efforts for outreach and receiving input from tribal community members. • The Draft EIR needs to assess the historic and ongoing health impacts to community members and residents of the Smith River Plain
California Coastal Commission	The implementation of management practices required by the General Order within the Coastal Zone may require Coastal Development Permits (CDPs) from the California Coastal Commission if they meet the Coastal Act's definition of "development."
Sharon Tanner and Brian McNaughton	Concern expressed related to pesticide exposure since moving to Smith River.
Native American Heritage Commission	Instructions related to the need and process for tribal consultation, and recommendations for cultural resources assessments.

Commenter	Summary of Comments
Phoebe Lenhart	Smith River estuary is an important natural resource and lily bulb farming should cease immediately.
Richard Blair	Revoke the lily bulb farming permit.
Alicia Williams	The Water Board has a duty to prohibit all discharge from lily bulb operations and is overdue in addressing water quality concerns. Future outreach to the community should be more inclusive.
California Farm Bureau	• The EIR must properly assess all direct, indirect, and cumulative effects on the agricultural environment resulting from the proposed project. All components of feasibility in the Project's requirements and mitigations (time, available technology, economics, etc.) must be fully analyzed. • The North Coast Water Board must comply and conform with Porter-Cologne's "reasonableness standard"; and evaluate if the activity or control limit will reasonably protect the beneficial uses. • The EIR must clearly state that the Lily Bulb WDR cannot dictate which management practices are utilized by growers. The use of Management Practice lists should acknowledge that compiled practices provided may be out of date and may not be applicable to the unique conditions of the area/field. • In the Background and Settings section, the EIR should include relevant information, including but not limited to, applicable regulations, programs, and plans, and should rely upon recent data to describe environmental conditions, baseline market conditions, cropping rotations, cropping practices, costs, and the interplay with surface water, riparian areas, and groundwater zones. • The environmental analysis should incorporate the Farmland Mapping and Monitoring Program Maps as a basis for its analysis of farmland that will be converted and/or impacted. Recommend that any agricultural impact discussion for areas outside existing Important Farmland Map boundaries be based on the agricultural land definition in the Williamson Act.

Commenter	Summary of Comments
California Farm Bureau (cont'd.)	• The North Coast Water Board must identify and rigorously examine all reasonable alternatives for the scope and contents of the Lily Bulb WDR. The range of alternative requirements must be feasible and must avoid or substantially lessen the project's significant environmental effects even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly. All feasible mitigation measures that are analyzed in the environmental review documents need to address the impacts to agricultural resources, must be fully described, and must mitigate for the impacts. • The EIR should estimate the percentage of the potentially productive land barred from cultivation and the dollar value of the agricultural landowners' or operators' cost for compliance with the Lily Bulb WDR. • The EIR should analyze potential conflicts the Lily Bulb WDR may have with local, state, and federal laws and agreements, such as, but not limited to, county ordinances (including zoning ordinances), and local and regional requirements due to the Sustainable Groundwater Management Act.

Commenter	Summary of Comments
Save California Salmon	• Some areas of the Smith River estuary is unsuitable for lily bulb agriculture, and none of the Smith River estuary area is suitable for wet weather chemical use. Recommend allowing zero waste discharges under developing WDRs. Recommend riparian buffers and restricted areas for applying pesticides and growing lily bulbs. • Disagree with the 'less than significant' or 'no impact' determination on the following resource categories: Biological Resources, Geology and Soils, Hazards and Hazardous materials, Hydrology and Water Quality, and Land use and Planning. • Recommends a list of specific management practices to be incorporated into the Order. Copper use has negative impacts on sensitive species and there should either be a prohibition or strict TMDL-based allowance on its discharge. • CEQA analysis should incorporate Tribal Uses of Water as a Beneficial use. The Project should include a best Management Plan for the discovery of TCR's, including the presence of a tribal/cultural preservation officer at any construction sites that are known areas for possible discovery of archeological resources. • This Project should be analyzed through Coastal Act requirements and staff should work with the Coastal Commission to this end

Commenter	Summary of Comments

California Department of Fish and Wildlife	• Description of significance of lower Smith River watershed to sensitive and endangered species such as the Coho salmon, Chinook salmon, tidewater goby, and steelhead. Coho population in the Smith River is critical to recovery of the species and this population is at risk of extinction.
	• Description of the ecological significance of riparian corridors in the Smith River Plain for non-fish species such as migratory birds, raptors, and amphibians.
	• **Order Recommendations**:
	  ○ Riparian buffers start at the top of bank or edge of riparian drip-line, whichever is greater, and riparian buffer widths of no less than 100 ft on fish-bearing streams.
	  ○ Minimum, non-negotiable Riparian Vegetation Area on all streams, not just perennial streams and applicable even if Restoration Alternative is sought.
	  ○ Exclude livestock grazing within Riparian Vegetation Areas.
	  ○ The decision to allow mitigation (Streamside Area Restoration Alternative) should be based on demonstrated ability to meet water quality objectives.
	  ○ Increase surface water monitoring locations, particularly in Delilah Creek and Tillas Slough tributaries. Timing and frequency should capture significant rainfall events, pesticide application, and spring and summer applications.
	  ○ Adaptive management start at enrollment for all lily bulb fields and higher adaptive management for fields draining to Delilah Creek and Tillas Slough due to surface water monitoring results showing presence of pesticides and exceedance of water quality benchmarks.

Commenter	Summary of Comments
California Department of Fish and Wildlife (cont'd.)	• **CEQA Mitigation Recommendations:** ○ Enrollees should be required to notify CDFW for any existing or proposed surface water diversions and other activities that fall within scope of CDFW's permitting authority, such as stream crossings. ○ Runoff management features should be designed and routinely maintained to minimize the spread and propagation of invasive species, such as reed canary grass (Phalaris arundinacea). ○ Require testing of accumulated sediments in control features prior to removal, with disposal at an appropriate facility, if warranted.
Gil Vargas	Self-monitoring is unacceptable. Monitoring should be conducted by neutral, independent parties and verified by community observers. Third-party oversight would legitimize findings and help the community advocate for environmental health. The CEQA meeting is a positive step but not enough to protect public well-being.
Carl Page	Copper in runoff could potentially be mitigated with plants that chelate metals in riparian buffers. Meetings are not accessible; they should be held in Smith River, after work hours, and at tribal venues like Howonquet Hall to ensure tribal and local participation.
Sharon Tanner	Chemicals in soil and water may persist indefinitely, raising concerns about long-term exposure. A buffer zone has compromised property use and gardening. Contact with contaminated soil is a health risk. Neighbors have multiple chronic illnesses that may be linked to pesticide drift. Water quality reports are not automatically distributed. Personal health conditions, including thrush and COVID complications, may be worsened by environmental exposure. Economic or political considerations should not outweigh public health protections.
John Roberts	The qualifications of the board reviewing this order are unclear. Settling ponds may allow pollutants to persist unless properly lined or remediated. Chemicals may remain hazardous for decades or longer. Copper detected in homes may originate from plumbing rather than lily fields. Chemists and biologists are not yet involved in the investigation. Stream courses have been historically altered for agriculture and should be restored to natural alignments. The environmental impact of pollutant-filled ponds must be evaluated.

Commenter	Summary of Comments
Alicia Williams	Synthetic nitrogen use can be replaced with local manure and legume cover crops. Buffer zones can filter toxins, beautify landscapes, and support beneficial insects to reduce pesticide reliance. Residents need raised beds and clean soil to safely garden. A community health tracking system should be created. Residents should be asked directly what assistance they need. The cleanup timeline for contaminated soil is unclear. Available mitigation methods must be supported by research and timelines.
Janelle Kobalt	Data showing that existing buffer zones reduce chemical pollution is not available. If buffers are expanded and mitigation is required, the mitigation must also reduce pesticide pollution rather than serve unrelated purposes.
Josefina Barrantes	The permit should include a zero-discharge requirement for chemicals and nutrients, along with drift control and seasonal spraying restrictions. Estuary restoration is essential to protect sensitive species and improve conditions for nearby residents.
Regina Chichizola, Save California Salmon	Winter and storm-related spraying must be prohibited due to high rainfall and runoff. Small buffer zones do not prevent pollution during heavy storms. Larger buffers are necessary, especially on sloped land. Farms that cannot comply with non-discharge policies should be removed from production or bought out. Chemical use is harming human health, fisheries, and traditional food sources. Zero discharge policies are required to protect endangered species and the Smith River watershed.
Andrew Orahoske	The Smith River Plain is stolen land and should be restored to wetlands. Regulatory action has been delayed since 2012. The proposed timeline to release a draft order in 2026 is unacceptable. The state is allowing pesticide use that likely violates the Endangered Species Act. Regulatory agencies have failed in enforcement, oversight, and protection of public health. Monitoring based on grab samples is inadequate; long-term passive samplers should be used. Political influence compromises regulatory agencies. CEQA requirements are being circumvented by premature planning decisions.
Katie Rian (CDFW)	The basis for buffer distances and where setbacks begin is unclear. The order may allow further encroachment into riparian areas, leading to habitat loss. Mitigation decisions lack transparency, including who determines suitability and on what basis. Existing riparian areas may be reduced under the proposed plan.
Candice Vargas	Past agency efforts were dropped or abandoned when the process became difficult. No guarantees exist that this effort will continue to completion. Organic farming should be required to eliminate pesticide-related risks and ensure safe living conditions.

2. Public Involvement in Preliminary Draft Regulatory Requirements

The North Coast Water Board's efforts to address potential impacts of lily bulb agricultural discharges in the Smith River Plain began in 2011 with a series of stakeholder meetings to inform the development of a region-wide Agricultural Lands Discharge Program. In 2013, the Board shifted to a commodity- and subregion-specific regulatory approach and directed staff to conduct water quality monitoring in the Smith River Plain to guide the next steps for regulating lily bulb agricultural discharges. A Surface Water Ambient Monitoring Program (SWAMP) study conducted from 2013–2015 found pesticide concentrations—including copper fungicides—in surface waters that exceeded EPA aquatic life benchmarks. (Smith River Plain Surface Water and Sediment Monitoring Report 2013-2015, issued January 2018 (2018 SWAMP Report))[2].

In response, the North Coast Water Board directed staff to develop a targeted, collaborative water quality management strategy. The Smith River Plain Water Quality Management Plan (2021 Management Plan)[3] was developed and finalized in 2021 by a Watershed Stewardship Team composed of the lily bulb growers, regulatory agencies (e.g., NOAA Fisheries, CDFW, CDPR), local stakeholders (e.g., Del Norte RCD, Agricultural Commissioner), academic partners, the Smith River Alliance, and the Tolowa Dee-ni' Nation. The 2021 Management Plan outlines voluntary grower participation in annual management practice reporting, North Coast Water Board inspections, ongoing surface water quality monitoring, and an adaptive management framework to guide iterative improvement based on monitoring data. The main objectives of the 2021 Management Plan were to better understand surface water quality conditions and to help inform development of the Lily Bulb Order.

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

In addition to 7 public TAG meetings, staff held 3 additional public meetings in Del Norte County to inform the community on the Lily Bulb Order and hear community concerns. On October 21, 2024, staff presented an Order development update and heard public input at a community meeting in Smith River, California, which was attended by over 80 people. On October 22, 2024, staff presented similar information to the Del Norte County Board of Supervisors at a regular Board of Supervisors meeting.

[2] https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/pdf/180116/180101-FINAL%20SWAMP%20REPORT_Smith%20River.pdf
[3] https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2021/smithmgmttplan.pdf

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

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

On October 8, 2025 the North Coast Water Board held an information item in Crescent City to present findings from the Smith River Plain Surface Water Monitoring Study 2021-2024 (2025 SWAMP Report[4]) and provide an update on development of the Lily Bulb Order. Following the staff presentation, the Board heard public comment. Flyers for this meeting were developed in English, Spanish, and Hmong and distributed throughout the community. This live interpretation in Spanish was available.

3. Draft EIR Public Review and Comment Period

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

Publication of the notice of availability initiated a 45-day public review period, during which the North Coast Water Board will receive and collate public and agency

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

comments on the Proposed Project and the Draft EIR. During the public review period, North Coast Water Board staff will host a public workshop in Crescent City, Del Norte County, as indicated in the notice of availability. The purpose of the Draft EIR circulation and the public outreach meetings is to provide public agencies, other stakeholders, and interested individuals with opportunities to comment on the content of the Draft EIR.

4. Preparation of the Final Environmental Impact Report

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

Written and oral comments received in response to this Draft EIR will be addressed in a FEIR. The FEIR will be a responses-to-comments document that, together with the Draft EIR and any related changes to the substantive discussion in the Draft EIR, will constitute the EIR in its entirety. In turn, the EIR (when certified by the North Coast Water Board) will inform the North Coast Water Board's exercise of its discretion as a lead agency under CEQA in deciding whether to approve, approve with modifications, or deny the Proposed Project.

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

F. Organization of this Draft EIR

The Draft EIR is organized into the following chapters so the reader can easily obtain information about the Proposed Project and its specific environmental issues:

- Chapter I: Executive Summary. Presents a summary of the Draft Lily Bulb Order, a description of impacts and mitigation measures presented in a table format, and impact conclusions.

- Chapter II: Introduction. Introduces the Proposed Project; discusses the relevant CEQA requirements, the public outreach and review process, and the purpose and organization of the Draft EIR.

- Chapter III: Project Description. Describes the Proposed Project, including the location, purpose, and Project Objectives; proposed Lily Bulb Order requirements; the reasonably foreseeable Management Practices that could be implemented under

the Lily Bulb Order; and the intended uses of the EIR.

- Chapter IV: Environmental Analysis. Discusses assumptions, parameters, and methodology used for analyzing potential impacts.

- Chapters V through VIII: Discusses environmental factors provided in the CEQA Guidelines Environmental Checklist. Each of these chapters describes environmental settings, a range of potential impacts, including significant environmental effects and unavoidable significant environmental effects that would result from the Lily Bulb Order, and potential mitigation measures.

- Chapter IX: Cumulative Impacts. Summarizes cumulative impacts when combined with those of other past, present, and probable future projects; and the potential for the Proposed Project to result in growth-inducing impacts.

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

- Chapter XI: Other CEQA Required Sections. Presents growth-inducing impacts, significant irreversible environmental effects, and significant and unavoidable environmental impacts of the proposed project.

- Appendix I Abbreviations, Acronyms, and Definitions.

- Appendix II: Figures

- Appendix III: References

- Appendix IV: Report Preparation

- Attachment A: Draft General WDRs for Commercial Lily Bulb Operations in the Smith River Plain

- Attachment B: Management Practices

- Attachment C: Plans and Policies Relevant to the Proposed Project

- Attachment D: Special Status Species

- Attachment E: Estimated Cost of Compliance with Lily Bulb Order

- Attachment F: Tolowa Dee-Ni’ Nation Tribal Cultural Resources Submittal

G. Submittal of Comments

The purpose of circulating the Draft EIR is to provide agencies and interested individuals with opportunities to comment on or express concerns regarding the Draft EIR's contents and analysis. During the public review period, the North Coast Water Board will hold a public workshop in Del Norte County which will have the same purpose. The date, time, and location of the public workshop will be provided on the North Coast Water Board website (https://www.waterboards.ca.gov/northcoast/).

For those interested, written comments or questions concerning this Draft EIR should be submitted (preferably via email in Microsoft Word or Adobe PDF format) and directed to the following:

Attention: Brenna Sullivan

North Coast Regional Water Quality Control Board
5550 Skyland Blvd, Suite A
Santa Rosa, CA 95403-1072

Email: NorthCoast@waterboards.ca.gov
Email subject line: Comments on Lily Bulb Order Draft EIR

This CEQA document is available for review at the North Coast Water Board website (see above). In addition, hard copies can be reviewed at the North Coast Water Board office in Santa Rosa, California. To arrange to view documents during business hours, call (707) 576-2220. This Draft EIR also can be reviewed electronically at libraries throughout the North Coast Region.

Written comments received in response to the Draft EIR during the public review period will be addressed in the Responses to Comments chapter of the FEIR. Comments submitted to the North Coast Water Board, and the commenter's name, are considered public information.

III. Project Description

The California Regional Water Quality Control Board, North Coast Region (North Coast Water Board) is responsible for the protection of water quality in the North Coast Hydrologic Region, including the Smith River Plain Hydrologic Subarea (Smith River Plain). There were 160 acres cultivated for easter lily bulbs in the Smith River Plain during the 2024-2025 growing season. Approximately 1,000 acres of agricultural land is commercially farmed for easter lily bulbs in a 3- to 5-year seasonal rotation in the Smith River Plain and coastal terraces between Pyramid Point and the Oregon border. The North Coast Water Board does not currently regulate all commodities under a singular Irrigated Lands Regulatory Program (ILRP) and intends to regulate non-point source discharges from Commercial Lily Bulb Operations in the Smith River Plain through general waste discharge requirements (GWDRs) hereafter referred to as the Lily Bulb Order (or the Proposed Project) and included as Attachment A.

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

The Lily Bulb Order would regulate discharges from Commercial Lily Bulb Operations with one or more of the following characteristics and which meet any of the following criteria: (1) The landowner or operator holds a current Operator Identification Number/Permit Number for pesticide use reporting; (2) The crop and/or its product is sold, including but not limited to: (a) an industry cooperative, (b) harvest crew/company, or (c) a direct marketing location, such as Certified Farmers Markets; or (3) the federal Department of Treasury Internal Revenue Service form 1040 Schedule F Profit or Loss from Farming is used to file federal taxes. The Lily Bulb Order would establish a regulatory mechanism, in the form of General Waste Discharge Requirements with requirements, prohibitions, and provisions that would require: (1) enrollment and payment of fees; (2) implementation and adaptation of management practices; and (3) monitoring and reporting.

This section provides: a description of background and need for the proposed project, Proposed Project Area; project objectives; the requirements of the Lily Bulb Order; project characteristics; agencies that will use this document; and anticipated conditions following adoption of the Lily Bulb Order.

A. Need for the Proposed Project

The North Coast Water Board has a statutory obligation under the Federal Clean Water Act (Federal CWA) and the State's Porter-Cologne Water Quality Control Act (Porter-Cologne Act) to regulate discharges of waste to waters of the state, restore water quality in impaired waters, and maintain existing high-quality waters. The State Water Resources Control Board's (State Water Board) Non-Point Source Management Plan

and the Policy for Implementation and Enforcement of the Non-Point Source Pollution Control Program (NPS Policy) explain how non-point source (NPS) discharges are to be addressed (e.g., through WDRs, waivers of WDRs or prohibitions), thus fulfilling the requirements of the Federal CWA and Porter-Cologne Act.

The Proposed Project is intended to protect the high-quality waters of the Smith River Plain and to restore areas where water quality has been impaired or degraded by nonpoint source discharges from commercial lily bulb operations. Lily bulb cultivation in the Smith River Plain involves significant soil disturbance and the use of agricultural chemicals, both of which can generate discharges of waste such as sediment, nutrients, pesticides, and heat. Without proper management, these discharges can degrade water quality, cause or contribute to pollution and nuisance conditions, and adversely affect the beneficial uses of waters of the state. Water quality impacts may result from controllable factors such as the loss of riparian shade, stormwater runoff from cultivated lands, percolation to groundwater, and surface runoff associated with operational spills.

Surface water monitoring conducted by the North Coast Water Board's SWAMP Program between 2013 and 2017 identified periodic water quality impacts in the Smith River Plain associated with commercial lily bulb cultivation. Synthetic pesticides and dissolved copper, were frequently detected in tributaries and sloughs downstream of cultivated fields. Occasional exceedances of US EPA Aquatic Life benchmarks were documented, primarily during major storm events when runoff from agricultural areas was greatest.

A follow-up study conducted between 2021-2024 confirmed that synthetic pesticides such as diuron, ethoprop, and imidacloprid continue to be detected in downstream waters, with US EPA Aquatic Life Benchmark exceedances generally limited to Delilah Creek and Tillas Slough. Modeling of copper bioavailability through the Biotic Ligand Model indicated potential for chronic toxicity under certain low-pH and stormflow conditions. Overall, data from 2013 through 2024 indicate that surface water quality in the Smith River Plain is periodically influenced by agricultural activities, particularly during major storm events that mobilize pesticides and copper from cultivated fields.

Groundwater monitoring conducted by the North Coast Water Board in 2015 and 2025 found generally good water quality in the shallow aquifer system beneath the Smith River Plain. Pesticides and dissolved metals were detected infrequently and at concentrations well below state and federal drinking water standards. Nitrate levels were elevated in a few irrigation wells but remained within regulatory limits for drinking water sources. These results indicate that, while localized impacts to groundwater may occur, overall groundwater quality in the Smith River Plain remains high.

Toxicity testing using the freshwater invertebrate *Ceriodaphnia dubia* indicated that eight of twenty-seven samples produced statistically significant reductions in reproduction, suggesting chronic toxicity, while two samples showed acute toxicity, including one with complete mortality. Subsequent Toxicity Identification Evaluations identified confounding results. Additional analysis found that the low water hardness and conductivity characteristic of Smith River Plain tributaries contributed to the

observed toxic responses, which may have produced false positive results rather than true toxicity from contaminants. The findings suggest that background water chemistry conditions can influence toxicity test outcomes and must be considered when interpreting results for low-hardness systems.

From 2021 to 2024, the North Coast Water Board continued surface water monitoring as part of the Smith River Plain Water Quality Management Plan. Analytes were selected based on their use in lily bulb production and their relevance to the U.S. EPA's Biotic Ligand Model, which evaluates site-specific metal bioavailability. Synthetic pesticides including diuron, ethoprop, and imidacloprid were detected at all downstream monitoring locations, with exceedances primarily at Lower Delilah Creek and Tillas Slough. Dissolved copper concentrations predicted potential toxicity in approximately forty percent of downstream samples, driven largely by elevated copper and low pH conditions during storm events. Overall, data from 2013 through 2024 indicate that surface water quality in the Smith River Plain is periodically influenced by agricultural activities, particularly during major storm events that mobilize pesticides and copper from cultivated fields.

Groundwater monitoring conducted by the North Coast Regional Water Quality Control Board in 2015 found only detections of dissolved copper and 1,2-dichloropropane, all well below state and federal drinking water standards. A separate 2015 evaluation of nitrate concentrations found elevated levels in irrigation wells, with some exceeding the Maximum Contaminant Level (MCL) for nitrate. All domestic wells sampled were below the nitrate MCL. In 2025, the Water Board conducted additional groundwater monitoring in coordination with the California Department of Pesticide Regulation, sampling nine private domestic wells in current and historical lily bulb cultivation areas. Pesticides were detected in six of the nine wells, but all detections were at trace concentrations and none exceeded established human-health thresholds. Nitrate concentrations measured during this event were generally lower than those recorded in 2015 and none exceeded the nitrate MCL. Continued periodic monitoring is recommended to verify these conditions and identify potential long-term trends.

B. Existing Physical Conditions

The Smith River Plain is a coastal plain located at the lower end of the Smith River watershed near the Smith River Estuary in northwestern California (See Figure 1). To the north, a narrow four-mile stretch of coastal terrace supports approximately 100 acres currently farmed for lily bulbs. The Smith River Watershed encompasses approximately 762 square miles across the northwestern corner of California and the southwestern corner of Oregon, with much of the drainage area situated within the Klamath and Siskiyou Mountains. The Smith River Plain itself forms a broad, sub-rectangular emerged marine terrace of low relief at the base of these mountain ranges. It covers about 63 square miles and receives an average of 75 inches of annual precipitation, with the majority of rainfall occurring between November and March. The climate is characterized by cool summers, mild winters, and high seasonal rainfall.

The primary groundwater-bearing formations in the basin consist of Quaternary alluvial

fan, floodplain, terrace, and Battery Formation deposits. Several small tributaries, including Tillas Slough, No Name Creek, Ritmer Creek, Delilah Creek, Dominie Creek, Rowdy Creek, Morrison Creek, Mello Creek, and Yontocket Slough, cross the plain and drain into the Smith River. The mainstem of the Smith River bisects the plain, dividing it into northern and southern halves. The regulatory framework established under this General Order focuses on the northern portion of the plain where commercial lily bulb cultivation occurs.

Land Use and Cultural Setting.

The Smith River Plain lies within the ancestral lands of the Tolowa Dee-ni' Nation, which today includes approximately 1,750 enrolled members. The town of Smith River, with a population of about 900, is also located within the plain. Current land uses include lily bulb cultivation, cattle ranching, dairy operations, and aggregate mining. To support these uses, the region's hydrology and habitats have been extensively modified through activities such as diking, tide-gate operation, agricultural conversion, and the removal of riparian vegetation and woody debris from stream channels. These modifications have altered natural hydrologic connectivity and habitat complexity across the plain. At least 26 fish species have been documented in the Smith River Plain and estuary, including commercially important species such as Chinook salmon, Pacific herring, and anchovies, as well as steelhead and cutthroat trout.

Agricultural Practices.

Commercial lily bulb cultivation in the Smith River Plain typically follows a two- to five-year crop rotation. Fields are planted to forage or hay for one to four years and then to lily bulbs for one year, with additional field preparation occurring prior to bulb planting. The principal plant health concerns include nematodes, root and bulb rot, and Botrytis blight (gray mold), as well as aphid infestations during the spring and summer months. Growers use a combination of mechanical and chemical methods to manage these pests and diseases. Certain cultivation activities—such as field preparation, pesticide or fertilizer application during wet or windy conditions, overspray, and direct discharge of stormwater or irrigation runoff—have the potential to affect water quality in nearby surface waters.

C. Relevant Policies and Orders

Several existing policies and orders govern the Proposed Project. The North Coast Water Board must implement the precedential requirements of State Water Board Order WQ 2018-0002 (Eastern San Joaquin Agricultural Order or ESJ Order), which established certain precedential elements that must be included in irrigated lands regulatory programs throughout the state. Additionally, the North Coast Water Board must comply with the State's Non-Point Source Policy, Antidegradation Policy, and the Order must be consistent with the Basin Plan, including the Sediment and Temperature Policies of the North Coast Basin Plan and the Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program.

1. Nonpoint Source Policy

The federal Clean Water Act (CWA) requires states to develop a program to protect the quality of water resources from the adverse effects of NPS water pollution (SWRCB 2019). The NPS Policy is the State Water Board framework for addressing NPS pollution and requires each of the nine Regional Water Quality Control Boards (North Coast Water Boards) to regulate NPS pollution, including agricultural discharges. The NPS Policy states that North Coast Water Board implementation programs for NPS pollution control must include five key elements (SWRCB 2004), as follows:

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

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

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

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

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

2. Eastern San Joaquin Agricultural Order Precedential Requirements

The California Regional Water Quality Control Board, Central Valley Region (CVWB) adopted WDRs for agricultural discharges in the eastern San Joaquin River watershed in 2012. The State Water Board reviewed the CVWB WDRs and subsequently adopted its own order modifying the CVWB-adopted WDRs in February 2018. The State Water Board Order (WQ 2018-0002) is referred to as the Eastern San Joaquin Order, or ESJ Order. The State Water Board designated portions of the ESJ Order as "precedential"

and directed the North Coast Water Boards to revise their irrigated lands regulatory programs within the next five years to be consistent with the precedential direction in the ESJ Order (CVWB 2019). Key elements of the ESJ Order deemed precedential are listed in Table III.1.

Table III.1: Key ESJ Elements

Topic / Element	Precedential Language	Page No. in ESJ Order
Outreach	"The requirement for participation by all growers in outreach events shall be precedential for irrigated lands regulatory programs statewide."	28
Management Practice Reporting	"The requirement for submission by all growers of management practice implementation information shall be precedential for irrigated lands regulatory programs statewide…"	29
Field Level Management Practice Implementation Data	"The requirement to submit grower-specific field-level management practice implementation data to the North Coast Water Board shall be precedential statewide."	32
Field Level Data	Individual field-level data will support analyses to identify "effective and ineffective management practices."	32
Sediment and Erosion Control Practices	"The requirement for implementation of sediment and erosion control practices by growers with the potential to cause erosion and discharge sediment that may degrade surface waters shall be precedential for irrigated lands regulatory programs statewide…"	32
Irrigation Management	"The requirement for incorporation of irrigation management elements into nitrogen Management Planning shall be precedential for irrigated lands regulatory programs statewide."	35
Irrigation Management	"The requirement for all growers to submit summary data from the plans shall be precedential statewide."	36
Nitrogen Applied and Nitrogen Removed Reporting	"The requirement for field-level AR data submission to the North Coast Water Board consistent with the data sets and analysis of those data sets described in this section shall be precedential for irrigated lands regulatory programs statewide."	51

Topic / Element	Precedential Language	Page No. in ESJ Order
Nitrogen Applied and Removed Reporting	"The requirement for calculation of annual and multi-year [nitrogen applied] A / [nitrogen removed] R ratio and A-R difference parameters for each grower by field shall be precedential for irrigated lands regulatory programs statewide…"	40
Removal Coefficients	"The requirement for use of coefficients for conversion of yield to nitrogen removed values shall be precedential for irrigated lands regulatory programs statewide."	42
AR Outlier Follow Up	"The requirement for the third party to follow up with and provide training for AR data outliers and for identification of repeated outliers as set out above shall be precedential for irrigated lands regulatory programs statewide…"	53
Exemption from Nutrient Management Requirements	"We recognize that there may be categories of uniquely-situated growers for whom the specific nitrogen management requirements made precedential in the following sections of this order are unnecessary because applied nitrogen is not expected to seep below the root zone in amounts that could impact groundwater and is further not expected to discharge to surface water. Any category of Members (such as growers of a particular crop or growers in a particular area) seeking to be exempted from the precedential nitrogen management requirements in the following sections of this order shall make a demonstration, for approval by the relevant North Coast Water Board, that nitrogen applied to the fields does not percolate below the root zone in an amount that could impact groundwater and does not migrate to surface water through discharges, including drainage, runoff, or sediment erosion. These criteria for determining categories of growers that may be exempted from the nitrogen management requirements shall also be precedential statewide."	34-35
Recordkeeping	"Recordkeeping requirement [for third-party programs to maintain required reports and records for ten years and to back up certain information in a secure offsite location managed by an independent entity]	53

Topic / Element	Precedential Language	Page No. in ESJ Order
Drinking Water Well Sampling	"The requirement for on-farm drinking water supply well monitoring, in accordance with the provisions described above, shall be precedential for ILRP statewide."	62
Groundwater Trend Monitoring	"The requirement for groundwater quality trend monitoring shall be precedential for irrigated lands regulatory programs statewide…"	64
Groundwater Protection Formula, Values and Targets	"The development of the Groundwater Protection Formula, Values, and Targets shall be precedential for the third parties that proposed the methodology. Even if the programs do not require [groundwater quality monitoring plans], all of the North Coast Water Boards shall apply this methodology or a similar methodology, designed to determine targets for nitrogen loading within high priority townships or other geographic areas, for the remaining irrigated lands regulatory programs in the state." "The Groundwater Protection Formula, Values, and Targets are subject to Executive Officer approval following public review and comment."	66

3. Antidegradation Policy

The Anti-Degradation Policy (SWRCB Resolution No. 68-16) requires that the North Coast Water Boards maintain high quality waters of the state unless they determine that any authorized degradation is (1) consistent with maximum benefit to the people of the state, (2) will not unreasonably affect present and anticipated beneficial uses, and (3) will not result in water quality less than that prescribed in state and regional policies (SWRCB 1968). Authorized waste discharges to high quality waters must meet waste discharge requirements that result in the best practicable treatment or control of the discharge necessary to ensure nuisance or pollution will not occur and the highest water quality consistent with the maximum benefit to the people of the state will be maintained. The Lily Bulb Order must be consistent with the Anti-Degradation Policy.

5. Sediment TMDL Implementation Policy

The Sediment TDML Implementation Policy was adopted as an amendment to the Basin Plan and describes actions the North Coast Water Board shall take to address sediment waste discharges. The following are relevant to the Proposed Project:

1) Rely on the use of existing permitting and enforcement actions. These actions are consistent with the NPS Policy.

2) Rely on the use of existing prohibitions, including any future amendments.

6. Policy for the Implementation of the Water Quality Objectives for Temperature

The Temperature Implementation Policy was adopted as an amendment to the Basin Plan and describes actions the North Coast Water Board shall take to achieve temperature objectives and implement temperature TMDLs, including USEPA-established TMDLs. The following are relevant to the Proposed Project:

1) Restore and maintain riparian shade, as appropriate, through nonpoint source control programs.

2) Continue to implement the Sediment TMDL Implementation Policy as a means of addressing elevated water temperature associated with excess sediment discharges. Implement sediment controls consistent with the approach articulated in the Sediment TMDL Implementation Policy to address temperature concerns associated with sediment in areas not impaired by sediment.

3) Examine and address temperature impacts when developing and implementing orders or programs for nonpoint source activities. Consider and implement, where applicable, all available measures to prevent and control the elevation of water temperatures in order or program development. Such measures shall include, but are not limited to, sediment best management practices and cleanups, memoranda of understanding or agreement with other agencies, prohibitions against waste discharges, management of riparian areas to retain shade, and control and mitigation of tailwater and impoundments. Where appropriate, include monitoring requirements for incorporation into permits, programs, and other orders to confirm management actions required to prevent or reduce elevated temperatures are implemented and effective.

4) Address factors that contribute to elevated water temperatures when issuing CWA Section 401 certifications, National Pollutant Discharge Elimination System permits, WDRs, or waivers of WDRs, or prohibitions.

5) Use other regulatory, executive, and enforcement tools, as appropriate, to address elevated water temperatures and preserve existing cold-water resources.

6) Support and encourage restoration projects that are designed to eliminate, reduce, or mitigate existing sources of temperature impairments. Administer, encourage, and support the use of grant funds to facilitate projects that address elevated water temperature concerns. Pursue non-regulatory actions with organizations, landowners, and individuals to encourage the control of elevated water temperatures, watershed restoration, and protection activities.

The Substitute Environmental Document[5] prepared for the Temperature Implementation Policy analyzed potential environmental impacts of the Policy. Impacts on Agricultural Resources include the potential conversion of Important Farmland to a non-agricultural use from riparian buffers which are considered compliance measures to preserve and maintain shade.

D. Project Location

The Proposed Project Area (See Figure 1) is located within the current and historic lily bulb farming areas of the Smith River Plain Hydrologic Subarea and includes the coastal terraces between Pyramid Point and the Oregon border. This document refers to the Proposed Project Area as the "Smith River Plain" which includes lily bulb cultivation areas and the lower coastal tributaries of the greater Smith River Watershed.

The Smith River Watershed encompasses 762 square miles in the northwest corner of California and southwest corner of Oregon with much of the watershed located in the Klamath and Siskiyou Mountains. The Smith River is the largest undammed river in California and provides high quality habitat for salmonids and other aquatic and riparian species. The Smith River Plain, site of the Proposed Project Area, is a low gradient coastal plain of about 63 square miles and is drained by the lower Smith River corridor, tributaries, estuarine sloughs, and estuary.

As of the 2024-2025 growing season, there are approximately 1,000 acres of land currently farmed for lily bulbs in the Smith River Plain (as shown in Figure 1) with the potential to discharge wastes to surface waters and groundwater and to affect related controllable water quality factors such as riparian shade. Cultivation of lily bulbs is typically part of a three to five-year rotation with grass-clover, which is used as grazing forage and for hay crops. The fields are used as forage for livestock for two to four years and for lily bulbs for one year. Some field preparations are done in the year prior to planting bulbs. Accounting for this crop rotation, about 160 acres are planted to lilies each year, with another 160 acres in a given year acres in a state of transition in preparation to receive the following year's plantings. This sub-set of fields that are planted to lily bulbs in any given year is represented by Figure 2, which shows the planted fields in 2023.

E. Existing Management Plans

The Smith River Plain Water Quality Management Plan (2021 Management Plan)[6], finalized in November 2021, was developed in response to water quality monitoring results indicating pesticide concentrations in surface waters draining agricultural lands,

[5] Staff Report Supporting the Policy for the Implementation of the Water Quality Objectives for Temperature and Action Plan to Address Temperature Impairment (https://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/140516_temp/140327_Temp_Policy_Staff_Report_ADOPTED.pdf).

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

particularly lily bulb operations, exceeded U.S. Environmental Protection Agency (USEPA) aquatic life benchmarks. The North Coast Water Board initiated the plan following the Surface Water Ambient Monitoring Program (SWAMP) results presented in 2018, which documented elevated levels of pesticides such as copper, imidacloprid, diuron, permethrin, and tebuconazole in tributaries to the Smith River. Additional concerns included nitrate exceedances in groundwater and degraded riparian buffers with direct hydrologic connections from fields to surface waters. To address these issues, the North Coast Water Board, in collaboration with key stakeholders including lily bulb growers, NOAA Fisheries, California Department of Fish and Wildlife (CDFW), Tolowa Dee-ni' Nation, Smith River Alliance, Del Norte County Agricultural Commissioner, Del Norte Resource Conservation District (RCD), California Department of Pesticide Regulation (CDPR), and a researcher from Humboldt State University, formed the Watershed Stewardship Team. This Team is charged with collaboratively implementing the Plan through science-based adaptive management to restore and protect water quality in the Smith River Plain.

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

Operation-wide practices, reported once annually, include IPM plans, pesticide application adjustments (e.g., nozzle pressure, droplet size), road erosion control, wellhead protection, irrigation water management, and compliance with pesticide regulations. Field-specific practices, reported per field each year, include filter strips, field size reduction, cover cropping, soil amendments, stream setbacks, riparian area support, and livestock management measures such as stream crossings and fencing to limit riparian access.

Growers self-monitor and report on the implementation and effectiveness of these practices through an annual reporting program. Reporting forms include documentation of fields under lily bulb production, operation-wide practices, field-specific practices, and certification of four required visual inspections per year: pre-wet season readiness, post-storm events (minimum two), and post-wet season assessments. The inspections target the functionality of management practices and streamside protections, with growers noting any needed maintenance or adjustments. North Coast Water Board staff conduct periodic on-farm inspections and review grower documentation to verify compliance and provide feedback.

Annual reports compile data on practice implementation across fields and operations. The North Coast Water Board compiles and publicly posts this aggregated data, including maps of field rotations and management practices, to track progress and spatial distribution of implemented practices.

Adaptive management is central to the stated goals of the 2021 Management Plan, allowing for iterative improvements based on monitoring results, reporting, and stakeholder input. From 2022-2024, the Watershed Stewardship Team met annually to evaluate water quality data, grower reports, and inspection findings.

Water quality monitoring under the 2021 Management Plan focused on twelve sites encompassing upstream and downstream locations relative to lily bulb cultivation areas. Monitoring parameters included pesticides prioritized through risk assessment (permethrin, ethoprop, diuron, imidacloprid, tebuconazole), dissolved copper (analyzed using the Biotic Ligand Model to account for site-specific bioavailability), and supporting field measurements (e.g., pH, temperature, dissolved oxygen). Monitoring occurred during the wet and dry season. A SWAMP Report for data collected under the 2021 Management Plan between 2021-2024 was released in September 2025. Findings and recommendations from the 2025 SWAMP Report[7] were used to develop adaptive management and monitoring requirements in the Lily Bulb Order.

F. Project Purpose and Objectives

The purpose of the Lily Bulb Order is to:

Objective #1 - Protect and restore beneficial uses and achieve water quality objectives specified in the Basin Plan for areas of the Smith River Plain Hydrologic Subarea planted to lily bulbs by:

1) Minimizing or preventing pesticide, nutrient, and sediment discharges surface water.

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

3) Minimizing or preventing temperature impacts to surface water from loss of riparian shade.

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

Objective #3 - Comply with the State Nonpoint Source Policy, the State Antidegradation Policy, the precedential language in the Eastern San Joaquin Agricultural Order, the North Coast Basin Plan, and other relevant statutes and water quality plans and policies, including the Temperature Implementation Policy, and the Sediment TMDL

[7] 2025 SWAMP Report_Smith River Plain Surface Water Monitoring Report 2021-2024 https://www.waterboards.ca.gov/northcoast/water_issues/programs/agricultural_lands/lily/pdf/2025/25_SWAMP_MR_SRPWM.pdf

Implementation Policy.

G. Summary of the Lily Bulb Order

The Proposed Project would involve adoption of the Lily Bulb Order, which would initiate the regulatory program and establish Waste Discharge Requirements (WDRs) for Commercial Lily Bulb Operations in the Smith River Plain Hydrologic Subarea. Refer to Attachment A for the proposed Draft Lily Bulb Order. Refer to Attachment B for a list of reasonably foreseeable Management Practices. Key elements of the Lily Bulb Order include the following:

1) Pesticide, Sediment and Erosion Management for Surface Water Protection,

2) Streamside Area Requirements for Surface Water Protection,

3) Irrigation and Nutrient Management for Groundwater Protection,

4) Monitoring and Reporting Requirements, and

5) Adaptive Management

1. Pesticide, Sediment and Erosion Management for Surface Water Protection

Enrollees would be required to implement Management Practices to prevent, minimize, or eliminate the discharge of sediment and pesticides to surface waters. The Lily Bulb Order includes minimum requirements to implement Management Practices necessary to prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads but does not mandate specific practices. Reasonably foreseeable Management Practices with the greatest potential for environmental impacts (i.e., those involving ground disturbance during construction or installation) include:

1) Runoff management features: This includes vegetated riparian buffers, filter strips, contour farming, vegetated treatment areas, and grassed swales. Construction/installation of these features may include light disking, use of a “no till” or grass drill for seeding the proposed vegetated area, soil amendments, and associated transport of materials and equipment. Minor excavation and off-haul of soils may be required for construction of swales. Maintenance of runoff management features may include general vegetation management (e.g., mowing, weeding, etc.)

2) Retention/Detention basins: This includes basins constructed from an embankment or excavation to capture and retain/detain stormwater runoff. Construction of basins requires use of heavy equipment, such as dozers, hydraulic excavators, trenchers, dump trucks, scrapers, etc. Engineered fill material may need to be imported to the site for construction of the embankment and/or excavated material may need to be hauled off from the site and disposed of at a landfill. Maintenance activities may include periodic inspections of the basin, removal of accumulated sediment, removal of debris/trash, replacement of damaged parts, and vegetation management.

Enrollees would be required to implement sediment and erosion control Management Practices on appurtenant farm roads generally consisting of drainage improvements. The reasonably foreseeable Management Practices with the greatest potential for environmental impacts (i.e., those involving ground disturbance during construction/installation) include the following:

1) Rolling Dips: Shallow, rounded dip in the road where road grade reverses for a short distance and surface runoff is directed in the dip or trough to the outside or inside of the road. Rolling dips are drainage structures used primarily on gravel surfaced, out-sloped roads designed to drain the road surface and constructed to remain effective while allowing passage of motor vehicles at normal or slightly reduced road speed.

2) Critical Dips: A dip in the roadbed at a culverted stream crossing, preferably at the down-road hinge line of the fill, that prevents stream diversion. The dip is designed to act as an overflow structure if the main culvert were to plug and ponded water overtopped the fill. Although somewhat like a rolling dip, it must have sufficient capacity (width and depth) to carry flood flows from the stream without itself overtopping and diverting down the road.

3) Out-sloping: converting an in-sloped road to an out-sloped road. Out-sloping can also refer to the act of excavating the fill along the outside of the road and placing and grading it against the cut-bank, thereby creating an out-sloped surface where the roadbed once existed. In road decommissioning, partial or full out-sloping (recontouring) are two methods for providing permanent drainage dispersal from the former roadbed.

2. Streamside Management Area for Surface Water Protection

Enrollees would be required to implement Streamside Management Area requirements including setbacks based on type of waterbody. Table III.2 includes setback requirements by water body type. Refer to Section II of the Draft Lily Bulb Order (Attachment A) for descriptions and definitions of each waterbody type. Requirements include allowing natural succession of riparian vegetation and possibly installing vegetative buffers.

Table III.2: Streamside Area Minimum Horizontal Width (feet) as Measured from Waterside Edge of Vegetation

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

3. Irrigation and Nutrient Management for Groundwater Protection

Enrollees would be required to implement irrigation and nutrient Management Practices to minimize and control discharges of nitrate to groundwater. The Lily Bulb Order would not specify or prescribe specific Management Practices that enrollees must undertake to reduce discharges. Enrollees would have the flexibility to implement the Management Practices that are most suitable for their specific situation or otherwise choose how they would comply with discharge prohibitions of the Lily Bulb Order. General agricultural Management Practices implemented in other Regional Irrigated Lands Orders offer a good indication of the reasonably foreseeable types of irrigation and nitrogen efficiency practices that may be implemented under the Lily Bulb Order. These could include, but are not limited to micro-irrigation (e.g., drip), cover crops, use of soil moisture probe or evapotranspiration (ET) to schedule irrigation, foliar nitrogen application, fertigation, and petiole tissue testing. Enrollees would be required to prepare and implement an Irrigation and Nitrogen Management Plan (INMP) for each field which budgets all sources of nitrogen applied and removed during the growing season and harvest. INMP reporting drives adaptive management of irrigation and nutrient practices on the farm level by identifying statistical outliers of nitrogen application vs. removal. Enrollees designated as statistical outliers would be required to obtain nitrogen management training or work with a nitrogen Management Planning specialist for certification of their next INMP.

4. Monitoring and Reporting Requirements

Enrollees would be required to implement a comprehensive Monitoring and Reporting Program (MRP) individually or through an approved Coalition. The MRP includes: (1) annual surface and groundwater monitoring; (2) annual compliance reporting and (3)

water quality trend monitoring reporting every five years.

Receiving Surface Water Monitoring includes monitoring dissolved copper, pesticides, and other parameters downstream from lily bulb operations five times per Water Year (three wet season, two dry season), with adaptive management triggered by exceedances of specified benchmarks.

Groundwater monitoring includes: (1) Groundwater Trend Monitoring: annual sampling of representative monitoring wells for nitrate and pesticides to evaluate groundwater quality trends and detect exceedances; and (2) Drinking Water Supply Well Monitoring: annual sampling of all private drinking water wells located on enrolled parcels for nitrate and pesticides applied in the previous five years. Notification to well users is required if concentrations exceed Water Quality Benchmarks.

Enrollees would be required to report relevant Management Practices relating to sediment and erosion control, pesticide management, streamside area management, irrigation and nutrient management and adaptive management annually. Water quality monitoring results would be reported annually and evaluated every five years for trends. Management Practice and water quality monitoring reporting would be used to evaluate the impact of lily bulb practices on water quality conditions and inform regulatory decisions over time.

5. Adaptive Management

Enrollees would be required to implement adaptive management in response to exceedances of certain Water Quality Benchmarks established as narrative translations of applicable Basin Plan water quality objectives in the Lily Bulb Order. Specific actions or Management Practices are not prescribed; instead Enrollees would be required to implement iterative practices that fall into one or more of the following categories:

Adjust Pesticide Use: Enrollees may have to reduce or optimize pesticide application rates to meet performance standards protecting water quality.

Implement Treatment/Control Practices: This may include installing or improving stormwater runoff treatments such as vegetated buffers, retention basins, infiltration trenches, or other engineered controls designed by qualified professionals.

Implement Watercourse Setbacks: Enrollees may elect to implement a wider vegetated buffer from watercourses to attenuate pollutants. Because the Watercourse setbacks are one of three choices (i.e., Enrollees may choose an alternate Adaptive Management compliance option), this Draft EIR does not evaluate the impacts to Prime Farmland from this option, if implemented.

Develop Certified WQMPs: Enrollees may be required to prepare detailed, professional plans that include site-specific management practices, quantitative assessments, and schedules to reduce pollutant discharges effectively.

Conduct Edge-of-Field Monitoring: Enrollees may need to carry out monitoring at discharge points to verify management practice effectiveness and compliance with benchmarks.

Improve Irrigation and Nutrient Management: For groundwater nitrate issues, Enrollees must optimize irrigation and nitrogen application to reduce leaching, attend relevant outreach, and possibly implement additional management practices as described in certified plans.

The reasonably foreseeable Management Practices with the greatest potential for environmental impacts (i.e., those involving ground disturbance during construction/installation) include practices identified for sediment and erosion control as well as the following:

1) Treatment Systems for capturing and treating pollutant-laden storm runoff could include the construction of stormwater capture basins which are typically are constructed to retain runoff for a sufficient length of time to allow the treatment system to be effective. Heavy equipment is required for construction of such basins, such as dozers, hydraulic excavators, trenchers, dump trucks, scrapers, etc. Engineered fill material may need to be imported to the site for construction of the embankment, and/or excavated material may need to be hauled off from the site and disposed of at a landfill. Maintenance activities include periodic inspections of the basin, removal of accumulated sediment, debris/trash removal, replacement of damaged parts, and vegetation management.

H. Activities that Could Occur Under the Lily Bulb Order

A wide array of Management Practices could be implemented under the Lily Bulb Order to prevent and minimize nonpoint source impacts from Commercial Lily Bulb Operations in the Smith River Plain. Management Practices that could be implemented are listed in Attachment B: Management Practices and are based on review of Management Practices implemented through existing regulatory and voluntary programs in these watersheds.

I. Intended Use of this EIR

The North Coast Water Board will use this EIR to inform its decision as to whether to adopt and implement the Proposed Project (Lily Bulb Order) requirements. In addition, the EIR may be used by other agencies to support their issuance of permits or approvals in relationship to activities conducted pursuant to Lily Bulb Order compliance. Agencies that may use this EIR include, but are not limited to, the following:

1) County of Del Norte

2) California Air Resources Board

3) California Department of Fish and Wildlife

4) California Department of Forestry and Fire Protection

5) California Department of Pesticide Regulation

6) California Office of Historic Preservation

7) California State Lands Commission

8) State Water Resources Control Board

9) U.S. Army Corps of Engineers

10) National Marine Fisheries Service

11) California Coastal Commission

IV. Environmental Analysis

This Draft EIR presents the North Coast Water Board's analysis of potential impacts on the physical environment that may result from adoption and implementation of the Proposed Project. Project impacts are related to the potential environmental impacts resulting from actions that Enrollees are expected to take to comply with the Lily Bulb Order.

The Lily Bulb Order would require actions to minimize or prevent control water quality impacts from Lily bulb operations in the Smith River Plain Hydrologic Subarea. Such actions may include the implementation of the following:

1) Pesticide, Sediment and Erosion Management for Surface Water Protection,

2) Streamside Area Requirements for Surface Water Protection,

3) Irrigation and Nutrient Management for Groundwater Protection,

4) Monitoring and Reporting Requirements, and

5) Adaptive Management

The Draft EIR also identifies potential mitigations that could feasibly be implemented to alleviate, minimize, or avoid any significant environmental impacts.

A. Scope of Analysis

This section provides introductory information related to the evaluation of environmental impacts associated with the California Regional Water Quality Control Board, North Coast Region's General Waste Discharge Requirements for Discharges from Commercial Lily Bulb Operations in the Smith River Plain (Proposed Project or "Lily Bulb Order"). It describes the overall approach to the impact analyses, including key terminology and a description of how the significance of environmental impacts is evaluated. It also discusses resource topics eliminated from detailed analysis in the Draft EIR. Subsequent sections in this chapter describe and evaluate potential impacts to environmental resources from the Proposed Project.

1. Introduction to the Resource Sections

Chapters V through VIII are topical sections that describe the environmental resources and potential environmental impacts of the Proposed Project. Each Chapter contains the following information about each respective resource topic:

- A description of the regulatory setting related to the resource topic.

- A description of the environmental setting and background information related to the resource topic, to help the reader understand the resources that could be affected by the Proposed Project.

- A discussion of the thresholds used in determining the significance of the Proposed Project's potential environmental impacts.

- A discussion of the potential environmental impacts of the Proposed Project on the resource, including the significance of each potential impact.

- A description of any mitigation measures to be adopted by the North Coast Water Board that would avoid or minimize impacts.

2. Significance of Environmental Impacts

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) define a threshold of significance for each impact that may occur on the physical environment. A threshold of significance, or significance criterion, is an identifiable quantity, quality, or performance level of a particular environmental effect. In general, potential impacts are identified as either significant (i.e., above threshold) or less than significant (i.e., below threshold).

Under CEQA, the impacts of a proposed project are assessed relative to the environmental baseline, which is defined as the existing physical conditions in the affected area as they existed at the time the notice of preparation (NOP) was published (Cal. Code Regs., tit.14, section 15126.2 (a)). Impacts of a proposed project are limited to changes in the baseline physical conditions of the environment (State CEQA Guidelines Section 15125[a]) that would result directly, indirectly, or cumulatively from the proposed project. CEQA does not require the lead agency to consider impacts that are speculative (State CEQA Guidelines Section 15145).

For the purposes of this Draft EIR, significance criteria are generally drawn from the State CEQA Guidelines, Appendix G: Environmental Checklist Form. The State CEQA Guidelines including Appendix G were updated in January 2022, which was subsequent to the publication of the NOP (August 2022). This Draft EIR uses the updated Appendix G criteria adopted in January 2022.

3. Environmental Baseline of Analysis

Lily bulb operations in the North Coast Region are not currently covered by an Irrigated Lands Regulatory Program or GWDRs. However, a voluntary program has been implemented by all lily bulb growers in the Smith River Plain. The Smith River Plain Water Quality Management Plan (2021 Management Plan), finalized in November 2021, was developed by the North Coast Water Board in collaboration with agricultural producers and resource agencies to address water quality impacts associated with commercial lily bulb cultivation.

Under the 2021 Management Plan, lily bulb growers voluntarily implement a suite of management practices to minimize the discharge of pesticides, nutrients, and sediment to surface waters. Practices are grouped into three main categories:

- **Source Reduction**, including Integrated Pest Management (IPM) planning, selection of low-risk pesticides, weather-based application timing, mixing and loading setbacks, and pesticide sampling and analysis.

- **Source Control**, such as soil amendments to bind pesticides, contour farming, precision land forming, use of cover crops, and maintenance of vegetated filter strips and riparian buffers.

- **Pollutant Interception**, including directing runoff onto pastures or filter strips, and installing flow dissipaters or grade stabilization structures to reduce erosion.

Operation-wide measures, reported annually, include IPM documentation, irrigation and nutrient management, road erosion control, and wellhead protection. Field-specific measures, reported by parcel, include filter strips, cover cropping, soil amendments, livestock exclusion fencing, and riparian buffer maintenance. Growers self-monitor through four required visual inspections each year—pre-wet season, post-storm events, and post-wet season—and document maintenance and corrective actions as needed.

The impact analysis in this Draft EIR focuses on the increment of change that would result from implementation of the Lily Bulb Order, considering both ongoing and new compliance activities. For example, the extent to which the Lily Bulb Order may require lily bulb operations to implement additional Management Practices, which could result in environmental impacts through their implementation, and therefore could result in new environmental impacts as a result of the Proposed Project. Any ongoing environmental effects associated with voluntary actions through the 2021 Management Plan are considered part of the baseline.

While the NOP was issued in October 10, 2024, the environmental analysis for the Proposed Project is considered to have commenced in summer 2024. Therefore, the baseline for this Draft EIR analysis is the physical environmental conditions that existed in summer 2024. In some cases, more or less recent data or information is used in this Draft EIR, as appropriate and based on data availability. As an example, it is appropriate to use a larger period of time for water quality data to account for seasonality and the dynamic nature of environmental data rather than one day. The baseline may differ for each resource topic and is described in the “Environmental Setting” section within each topical resource section.

B. Identifying Impact Significance

The analysis first determines the extent to which each of the resources could be affected by the Lily Bulb Order. The analysis then applies a set of specific significance criteria (Thresholds of Significance) based on the CEQA Guidelines Appendix G Environmental Checklist Form. The “threshold of significance” for a given environmental effect is that level at which the lead agency finds effects of the project to be significant. The threshold can be defined as a quantitative or qualitative standard, or a set of criteria, pursuant to which the significance of a given environmental effect may be determined.

The range of potential impacts is as follows:

> No Impact – where the Lily Bulb Order is not expected to create a physical adverse change in the environment or the project would result in only a beneficial impact.
>
> Less-Than-Significant Impact – where the Lily Bulb Order would not create a substantial adverse change in the environment and for which no mitigation measures are required.
>
> Less than Significant Impact with Mitigation Incorporated– where the Lily Bulb Order is anticipated to create a substantial adverse effect on the environment but feasible mitigation measures are available to reduce it to a less- than-significant level.
>
> Potentially Significant Impact – where the Lily Bulb Order is expected to create a substantial adverse effect on the environment and for which there are no feasible mitigation measures available to reduce it to a less-than-significant level.

Because the Lily Bulb Order would apply to both existing lily bulb operations as well as new lily bulb operations that might in the future enroll for coverage under the Lily Bulb Order, this EIR also assesses the impacts that would occur from a new operation's compliance with the Lily Bulb Order.

C. Impacts Determined to be Less Than Significant

On October 10, 2024, The North Coast Water Board transmitted an NOP, which included an attached Initial Study to public agencies and persons with potential interest in the project available at: (https://ceqanet.lci.ca.gov/2024100484). The Initial Study identified impacts that were determined to be less than significant including all impacts to: Aesthetics, Air Quality, Biological Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation, Utilities and Service Systems, and Wildfire..

During the CEQA Scoping period and in subsequent outreach, California Department of Fish and Wildlife and the California Coastal Commission identified potentially significant impacts to Biological Resources related to the construction of reasonably foreseeable management practices. This Draft EIR describes changes to the Proposed Project and additional analysis which reduced impacts to Biological Resources to Less than Significant or Less than Significant with Mitigation.

Accordingly, the above resource topics, except for Biological Resources, are not discussed in detail within this Draft EIR.

D. Mitigation Measures

Where significant adverse impacts are identified for the Lily Bulb Order, the EIR must

“describe feasible measures which could minimize” those impacts to a less-than-significant level (Cal Code Regs., tit.14, section, 15126.4). For each significant impact, mitigation measures are identified. In some cases, the EIR includes a list of alternative mitigation measures, which could reduce the impact to a less-than- significant level, or contribute to doing so. Where multiple measures are required to reduce an impact to a less-than-significant level, the discussion clearly identifies which combination or permutation of measures would be necessary to achieve the appropriate level of mitigation.

Where measures are available that can reduce the magnitude of a potential significant impact of the Lily Bulb Order, but not to a less-than significant level, these are also identified. The EIR strives not to include measures that are clearly infeasible. Under CEQA, “feasible means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors” Cal Code Regs., tit.14, Section 15364).

If, even with imposition of mitigation measures, the project will generate unavoidable significant effects, the North Coast Water Board can only approve the project if it makes a written Statement of Overriding Considerations and finds that benefits of the project outweigh the occurrence of those unavoidable effects (Cal Code Regs., tit.14, Sections 15092,15093).

V. Agriculture and Forestry Resources

This section presents the regulatory and environmental settings, and an overview of potential impacts of the Proposed Project related to agricultural and forestry resources. This section focuses on potential impacts to agricultural and forestry resources related to the CEQA Appendix G significance criteria, which includes potential for direct conversion of agricultural lands to non-agricultural use due to Proposed Project activities, conflicts with existing zoning for agricultural use or Williamson Act contracts, or changes to the environment that could result in conversion of agricultural use.

A. Regulatory Setting

1. Federal Laws, Ordinances, Regulations, and Policies

No federal laws, regulations, policies, or programs are applicable to agriculture and forestry resources and the Proposed Project.

2. State Laws, Ordinances, Regulations, and Policies

To evaluate effects to agricultural resources, PRC 21060.1 provides the following definition of "agricultural land":

> "(a) 'Agricultural land' means prime farmland, farmland of statewide importance, or unique farmland, as defined by the United State Department of Agriculture land inventory and monitoring criteria, as modified for California.
>
> (b) In those areas of the state where lands have not been surveyed for the classifications specified in subdivision (a), 'agricultural land' means land that meets the requirements of 'prime agricultural land' as defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code."

Gov't Code 51201(c)(1)-(4) in turn defines "prime agricultural land" as follows:

> (1) All land that qualifies for rating as class I or class II in the Natural Resource Conservation Service land use capability classifications.
>
> (2) Land which qualifies for rating 80 through 100 in the Storie Index Rating.
>
> (3) Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture.
>
> (4) Land planted with fruit- or nut-bearing trees, vines, bushes, or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than two hundred dollars ($200) per acre.

a. Farmland Mapping and Monitoring Program

The California Department of Conservation (CDOC), Division of Land Resource Protection, established the Farmland Mapping and Monitoring Program (FMMP) in 1982 to provide a consistent analysis of agricultural land use and land use changes throughout California (CDOC, DLRP, No Date(a)).

Land defined as Agricultural Land (collectively Important Farmland) (Public Resources Code, Section 21060.1(a)) is mapped as one of the following three categories, with the FMMP mapping a fourth category for land of local importance for the purposes of CEQA analysis (CDOC, DLRP, No Date(b)).

1. **Prime Farmland.** Farmland that has the best combination of physical and chemical features to sustain long term agricultural production. This land has the soil quality, growing season, and moisture content needed to sustain high yields and long-term agricultural production. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

2. **Farmland of Statewide Importance.** Farmland that is similar to Prime Farmland but has minor shortcomings, such as greater slopes or lower moisture content. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

3. **Unique Farmland.** Farmland with lesser quality soils but still used for the production of the state's leading agricultural crops. This land is usually irrigated but may include land that supports non-irrigated orchards or lily bulb operations, as found in some climatic zones in California. The land must have been used for crop production at some time during the four years prior to the mapping date.

4. **Farmland of Local Importance.** Land that is important to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.

Del Norte County does not participate in the FMMP mapping program, so the classification of the above categories are not available to be used for the purposes of this Draft EIR's analysis. See below discussion on the analysis of 'prime farmland' through the Del Norte County General Plan, consistent with the above statutory definitions.

b. Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, typically referred to as the Williamson Act (Gov. Code Sections 51200–51297.4), enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. Landowners participating in these contracts receive a 30 percent reduction in property tax assessments because they are based upon farming and open space uses rather than full market value.

In 1998, an option was added in the Williamson Act Program to create Farmland

Security Zones, which are areas within an agricultural preserve that offer private landowners a greater property tax reduction than the regular Williamson Act assessment. The Farmland Security Zone option was passed by California legislature to guarantee long-term preservation of farmland throughout the State. A board, on behalf of a landowner currently under a Williamson Act contract, may apply for Farmland Security Zone status by entering into a contract with a city or county. The Farmland Security Zone classifications renew annually for a minimum 20-year period. In return for an additional 35 percent reduction in the taxable value of the land and improvements (in addition to Williamson Act tax benefits), the owner of the property agrees not to convert the property to non-agricultural uses (Gov't Code Sections 51200–51297.4).

Del Norte County does not offer Williamson Act contracts. However, as noted above, Del Norte County designates "prime agricultural lands" through its General Plan and zoning, so impacts from the Proposed Project that "conflict with existing zoning for agricultural use or Williamson Act contracts" are analyzed through the Del Norte County agricultural zoning.

3. Local Laws, Ordinances, Regulations, and Policies

a. Del Norte County General Plan

General plans are long-range comprehensive plans developed for cities and counties to govern growth and development. Many county General Plans include goals and policies to preserve agricultural land and forest resources through a variety of mechanisms, such as creation of urban growth boundaries, designation of agricultural overlay zones, requirement of buffers between agricultural and other uses, and mitigation fees for conversion of agricultural land associated with development.

Del Norte County's General Plan emphasizes the protection and promotion of agricultural lands, especially prime agricultural lands of 20 acres or more. The County supports conservation easements, a right-to-farm ordinance protecting agricultural operators from nuisance complaints, and discourages conversion of prime agricultural lands except under specific conditions aligned with the Coastal Act. Relevant goals, objectives, and policies of the Del Norte County General Plan are included as Attachment C.

Del Norte County does not participate in the FMMP mapping program and does not offer Williamson Act contracts. The Del Norte County General Plan policies relevant to the analysis in this Draft EIR define 'prime farmland" in the following ways:

> 1.G.1. The County defines prime agricultural lands as those which meet both of the following criteria:
>
> > a. Land of high agricultural value: Lands "actively used" (lands may be considered "actively used" even though they lie idle for up to ten years) for agricultural production such as nursery crops, pasture crops, dairy products, and/or livestock, or; Lands which qualify for rating 80 through 100 in the Storie Index.

b. A minimum of 20 acres in contiguous ownership.

Del Norte County incorporates land use capability classifications (e.g., “prime farmland” through the zoning categories Agricultural Exclusion [AE], Agriculture [A], Agriculture-5 [A-5] and Agriculture-20 [A-20]. For the purposes of analysis with respect to “prime farmland,” these classifications were used. See Figure 3 for Del Norte County “prime agricultural land” zoning categories in the Project Area.

Del Norte County's General Plan strongly supports conserving commercial timberlands through the TPZ program, maintaining minimum parcel sizes (20 acres), and requiring buffers to prevent conflicts with other uses. It encourages multiple-use forest management, cooperative relationships with National Forests, and controlled timberland conversion tied to approved development. The plan seeks to protect timber resources economically and environmentally while minimizing land use conflicts. The Proposed Project is not expected to impact timber lands or forestry resources due to the location of the Proposed Project Area in relation to zoned TPZ lands. However, relevant goals, objectives, and policies of the Del Norte County General Plan are included in Attachment C.

b. Del Norte County Local Coastal Program

The Del Norte County Local Coastal Program (LCP) designates setbacks and protective measures for riparian corridors, wetlands, estuaries, and other environmentally sensitive habitat areas (ESHAs) to maintain biological productivity, water quality, and habitat functions.

The LCP policies require maintenance of riparian vegetation buffers along streams and waterways, generally recommending a minimum buffer of 100 feet from wetlands and riparian habitat, with flexibility for smaller buffers only when no adverse effects occur and in consultation with the California Department of Fish and Game (Policy 1.E.21) Development within these areas must incorporate feasible mitigation measures to minimize impacts such as sedimentation, increased runoff, and vegetation loss (Policies 1.C.3, 1.E.29, and 1.E.30).

Furthermore, the LCP restricts activities such as mining, diking, filling, or dredging within estuaries and riparian corridors unless consistent with the Coastal Act and accompanied by mitigation (Policies 1.A.15, 1.E.19, 1.E.23). The Resource Conservation Area zoning imposes additional limitations on land use to protect these habitats, generally prohibiting new residential construction and emphasizing conservation-oriented uses.

Overall, the setbacks from riparian areas, wetlands and other ESHAs under the Local Coastal Program reinforce protections for streamside and riparian habitats but may also constrain agricultural and forestry resource uses adjacent to these water bodies. Relevant goals, objectives, and policies of the Del Norte County LCP are included in Attachment C.

B. Environmental Setting

1. Lily Bulb Baseline Cultivation Area

For purposes of environmental baseline, which was set as of summer 2024, the lily bulb cultivation area in the Smith River Plain is located primarily north of the Smith River, generally west and south of Highway 101, with a few isolated fields on the coastal terrace between Pyramid Point and the Oregon border (see Figure 4, Baseline Cultivation Area). Historical lily bulb production extended south of the Smith River within the broader Proposed Project Area (see Figure 1).

Lily bulb cultivation typically occurs within a three- to five-year crop rotation, in which fields are used for forage or livestock for two to four years and planted to lily bulbs for approximately one year. Consistent with this rotation, growers reported that approximately 1,000 acres were in rotation for lily bulb production as of the 2023–2024 growing season, with approximately 160 acres planted to lily bulbs in 2023-2024 (see Figure 2). As of 2025, growers reported that the overall lily bulb rotational footprint has declined, including fields in the Ritmer Creek and Smith River Ranch areas that have reportedly come out of production since they were reported under the 2021 Management Plan.

The entirety of a parcel may not be planted in lily bulbs, contributing to a difference between acres planted to lily bulbs and the total acreage of parcels planted with lily bulbs. Over the 2021 Management Plan reporting period (2019–2024), growers reported approximately 2,113.12 unique parcel acres as being in rotation for lily bulb cultivation. Over the same period, Pesticide Use Reporting (PUR) through the Del Norte County Department of Agriculture records 2,280.78 parcel acres in lily bulb agriculture.

In many cases, the existing field-level footprint of lily bulb cultivation already meets the Streamside Area setback requirements proposed in the Draft Lily Bulb Order through voluntary compliance with the 2021 Management Plan, which promotes management practices such as vegetated filter strips and riparian buffers to reduce the discharge of sediment, nutrients, and pesticides to adjacent surface waters. Partially as a result of these voluntary practices, the widespread presence of invasive Himalayan blackberry along riparian corridors has resulted in vegetated areas between cultivated fields and surface waters.

Agricultural zoning categories (hereafter Prime Farmland) within the Proposed Project Area are shown on Figure 3 and are generally constrained to the same coastal alluvial plain areas as the current and historic lily bulb farming areas.

2. Prime Farmland

The Proposed Project Area contains approximately 7,473 acres of Prime Farmland (defined for the purposes of this Draft EIR as areas zoned AE, A, A-5, or A-20) with around 1000 acres (or ~13% of total prime farmland) in rotation to cultivate lily bulbs and 160 acres of lily bulbs planted as of 2024 (see Figure 3). As noted above, as of summer 2024, the entirety of lily bulb farming occurs north of the Smith River within the

Project Area. The analysis in this Draft EIR calculates the impacts to the above noted Baseline Cultivation Area as well as the theoretical impact of the Proposed Project on all Prime Farmland within the Project Area. As such, it should be noted that the total impact to Agriculture and Forestry Resources (analyzed within the Baseline Cultivation Area and all Prime Farmland in the Project Area) will overestimate the direct impact to the estimated 160 acres of planted lily bulbs in 2024, and the estimated 160 acres of planted lily bulbs in 2025.

3. Forestry Resources

Forestry resources are located throughout the Del Norte County, however, there are typically limited forestry resources within the Proposed Project Area. Forest lands do not typically contain planted lily bulbs and would not be subject to the Lily Bulb Order. Any potential development of these lands would be required to go through a separate CEQA analysis with another state agency or local jurisdiction acting as the Lead Agency.

C. Impact Analysis

1. Impact Analysis Methods

The analysis of potential effects of the Proposed Project on Agricultural and Forestry Resources was quantitative in nature. Because the Proposed Project includes defined Streamside Area setback requirements, North Coast Water Board staff conducted a spatial analysis to estimate the extent of Prime Farmland within the Project Area that could be removed from lily bulb agricultural production as a result of implementing those requirements.

Although this Draft EIR evaluates impacts to all prime farmland regardless of whether it is currently used for lily bulb production, the Proposed Project applies specifically to commercial lily bulb operations. Accordingly, the North Coast Water Board separately evaluated lands that have been reported to be used for lily bulb cultivation over the past five years (Baseline Cultivation Area) to characterize the maximum potential impact on the existing farming activity. Therefore, the Agriculture and Forestry Resources analysis considers potential acres that could be removed from agricultural production in both (1) lands used for lily bulb cultivation within the past five years (hereafter, the Baseline Cultivation Area as shown in Figure 4), and (2) all agricultural lands potentially available for future cultivation under existing zoning and land use designations (hereafter the Potential Cultivation Areas shown in Figure 3).

Analytical Assumptions and Conservative Approach

The quantitative analysis was intentionally designed to be conservative in order to capture the maximum potential extent of impacts. As described in the Environmental Setting, the Baseline Cultivation Area used in the analysis exceeds the actual rotational footprint of lily bulb cultivation reported between 2019 and 2024. This Draft EIR does not adjust the Baseline Cultivation Area to reflect reductions in lily bulb farming areas (e.g., removal of fields in Ritmer Creek or the Smith River Ranch area) reported since summer 2024, nor does it rely on annual “planted acres” to evaluate agricultural impacts

under the Proposed Project. Instead, the analysis is intentionally conservative and is designed to characterize the maximum potential impact to agricultural lands. The analysis treats the entirety of each parcel within the Baseline Cultivation Area as potentially available for lily bulb cultivation, subtracting the proposed Streamside Area geometry. This means that entire acreage of each parcel within the Baseline Cultivation Area was analyzed, even though smaller portions within each parcel may actually be planted and some parcels within the Baseline Cultivation Area may have been removed from lily bulb production as of 2025. As a result, the estimates of potential acreage converted to a non-agricultural use in the Baseline Cultivation Area (Figure 4) may be overestimated. Similarly, the Potential Cultivation Areas (Figure 3) may also be overestimated, as the analysis assumes that all agriculturally-zoned lands within the Project Area could theoretically support lily bulb cultivation, without accounting for site-specific conditions or suitability.

The Streamside Area requirements under the Draft Lily Bulb Order consist of a Riparian Vegetation Area, where native vegetation must be allowed to naturally establish, and a Vegetated Buffer, which requires maintenance of at least 90 percent ground cover between November 1-May 1. Although certain agricultural activities would be allowed within the Vegetated Buffer (such as equipment turn-around and discing, mowing, or other cultivation activities between May 1-October 31), the analysis conservatively assumed that the full Streamside Area geometry would be unavailable for planting and cultivation of the crop. This assumption reflects the wet-season ground cover requirements and ensures that the estimated impacts represent the maximum potential acreage that could be removed from production.

It is further noted that existing fields in certain watersheds may already meet or exceed portions of the Streamside Area geometry due to field configuration or established riparian vegetation. Depending on row orientation, many lily bulb headlands currently meet proposed Vegetated Buffer geometry, and extensive Himalayan blackberry growth along stream corridors—particularly in the Delilah, Ritmer, and Tillas Creek watersheds—has resulted in de facto riparian vegetation zones in many locations due to voluntary compliance with the 2021 Management Plan. However, these existing conditions were not credited in the analysis to avoid underestimating potential impacts.

Table V.1 summarizes the Streamside Area widths applied in the analysis.

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

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

Baseline Cultivation Area

The quantitative analysis of impacts to the Baseline Cultivation Area in Figure 4 utilized field information that the lily bulb growers reported to the North Coast Water Board through the voluntary Smith River Plain Water Quality Management Plan (2021 Management Plan). All fields reported between 2019-2024 were mapped. This information was supplemented with spatial data maintained by the Del Norte County Department of Agriculture identifying lily bulb fields reported through the Pesticide Use Reporting program between 2019-2024. Lily growers reported approximately 2,113.12 unique parcel acres as being in rotation for lily bulb cultivation through the 2021 Management Plan. Over the same period, the PUR spatial dataset identified 2,280.78 parcel acres reported as lily bulb agriculture. The North Coast Water Board integrated these datasets to create a composite spatial layer (see Figure 4). For purposes of this Draft EIR, the area shown in Figure 4 is referred to as the Baseline Cultivation Area and it represents the maximum mapped footprint of parcels used for lily bulb production between 2019-2024.

Watercourse widths within the Baseline Cultivation Area were characterized using field observations and measurements collected during surface water monitoring conducted under multiple Surface Water Ambient Monitoring Program (SWAMP) studies between 2013 and 2021. Channel width data for principal tributaries within the Project Area were obtained from the California Environmental Data Exchange Network (CEDEN) and averaged across upstream and downstream monitoring locations to establish representative channel dimensions. All principal tributaries within the lily bulb cultivation area (e.g., Tillas Slough, East Tillas Slough, Ritmer Creek, Delilah Creek, Rowdy Creek,

Morrison Creek, Mello Creek, and Kamph Creek) were analyzed using the perennial Streamside Area width (50 ft.).

Although many lily bulb fields within the Baseline Cultivation Area may already meet Streamside Area requirements due to voluntary implementation of the 2021 Management Plan or existing riparian vegetation, the analysis assumes that all Streamside Area setback zones intersecting the Baseline Cultivation Area could be actively farmed in the absence of regulatory requirements. This approach reflects the voluntary nature of the 2021 Management Plan and ensures that estimated impacts represent the maximum potential acreage that could be potentially removed from production under the Proposed Project. The estimated Baseline Cultivation Area acreage intersecting Streamside Area setbacks is presented in Table V.1.

Potential Cultivation Areas

This Draft EIR also evaluates all agricultural lands within the Proposed Project Area that could potentially be farmed in the future under existing land use regulations. While lily bulb growers have reported a decreasing trend in acres planted to lily bulbs through 2021 Management Plan reporting, the analysis conservatively evaluates potential impacts to lands designated by Del Norte County as “prime farmlands” through its General Plan.

To identify agricultural lands potentially suitable for future lily bulb cultivation, the analysis relied on the Del Norte County Coastal Zoning spatial dataset to identify parcels zoned for agricultural use. Because Del Norte County does not designate Prime Farmland categories through the California Department of Conservation’s Farmland Mapping and Monitoring Program, agricultural zoning categories AE, A, A-5, and A-20 were used as a proxy for Prime Farmland (see Figure 3).

Watercourse classifications used in this portion of the analysis were derived from the National Hydrography Dataset (NHD) to identify perennial and ephemeral/intermittent streams. Additional hydrology datasets maintained by the North Coast Water Board were used to identify hydrologically-connected undesignated channels and other drainage features. The resulting estimate of Prime Farmland intersecting Streamside Area setbacks is also presented in Table V.1.

Table V.1 presents acres intersecting the Riparian Vegetation Area (no agricultural activities allowed) and the total Streamside Area, which includes a Vegetated Buffer area allowing limited agricultural activities, as described in further detail in the Impacts Analysis portion of this Chapter.

Table V.1. Baseline Cultivation Area and Prime Farmland intersecting Streamside Area Setbacks (Riparian Vegetation Area and total Streamside Area)

Agricultural Resource	Total Acres	Acres Intersecting Riparian Vegetation Area	Acres Intersecting Total Streamside Area
Baseline Cultivation Area	2,113.12	11.48 (0.54% of total)	28.05 (1.33% of total)
Potential Cultivation Area (Prime Farmland)	7,473.24	69.90 (0.94% of total)	132.50 (1.77% of total)

2. Thresholds of Significance

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

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural uses.

2) Conflict with existing zoning for agricultural use, or a Williamson Act contract.

3) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

4) Result in the loss of forest land or conversion of forest land to non-forest use.

5) Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

3. Impacts and Mitigation Measures

Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use. (*Significant and Unavoidable*)

Conversion Due to Streamside Management Area Setback Requirements

As shown in Table V.1 above, and described in Attachment A, the Lily Bulb Order would require lily bulb operations to implement Streamside Area setbacks from planted

areas (including lily bulb fields and perimeter farm roads) based on the type of waterbody. Implementing setback requirements under the Lily Bulb Order may result in conversion of Prime Farmland as defined by the Del Norte County General Plan to non-agricultural use. Around 28 acres of the Baseline Cultivation Area and 132 acres of Potential Cultivation Areas in the Project Area could potentially be converted to non-agricultural uses (e.g., riparian vegetation and vegetated buffer) due to the Streamside Area requirements. This equates to a potential conversion of around one percent of the Baseline Cultivation Area and less than two percent of the Potential Cultivation Area to non-agricultural uses.

The majority of agricultural land conversion would occur to allow natural succession of riparian vegetation to provide shade, reduce discharges of sediment and nutrients to surface waters, and reduce stream bank erosion. While Prime Farmland could be taken out of production under the Lily Bulb Order due to the Streamside Area setback requirements, it is important to note that it would be converted to riparian vegetation (which is generally considered beneficial for water quality and the ecosystem) and not urban land uses.

Through Resolution No. R1-2014-0006 Amending the Water Quality Control Plan for the North Coast Region to include the Policy for the Implementation of the Water Quality Objectives for Temperature, and Action Plans to Address Temperature Impairments in the Mattole, Navarro, and Eel River Watersheds, the North Coast Water Board made CEQA findings under California Code of Regulations, title 14, section 15091 (a)(3) that certain compliance measures such as riparian buffers as having a potentially significant and unavoidable impact on agricultural resources from conversion of Important Farmland to a non-agricultural use and/or a conflict with Williamson Act contracts, and adopted a statement of overriding considerations pursuant to California Code of Regulations, title 14, section 15093.

The North Coast Water Board considered alternative methods for reducing potentially significant impacts associated with the setback requirements, including the No Project alternative and the Reduced Streamside Area Setback alternative (the Alternatives Analysis Chapter). The Reduced Setback Alternative (50 percent reduction in setbacks) would reduce but not eliminate the environmental impact to Agricultural Resources, but it would not achieve some of the Proposed Project's water quality protections. The Reduced Setback Alternative would not achieve the same level of reductions in sediment discharges and temperature impacts compared to the Proposed Project and would not fully comply with Riparian Management provisions of the North Coast Water Board's Policy for the Implementation of the Water Quality Objectives for Temperature (Temperature Implementation Policy) to implement site-specific potential effective shade.

Site-specific potential effective shade is equal to the shade provided by topography and full potential vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire. The establishment of riparian buffers for temperature protection is an effective and important management measure for the control of some types of sediment discharges. Maintenance of a vegetated buffer

provides a control on the discharge of sediment mobilized by surface erosion. Also, the retention of mature trees (and their roots) along a stream bank provides bank stability, reducing the discharge of sediment associated with stream bank landslides and debris flows. Maintenance of a vegetated buffer along streams also can ensure a supply of large woody debris to the stream channel, which is critical for metering of sediment, channel forming processes, and fish habitat.

An Offsite Restoration Alternative is proposed for inclusion in the Lily Bulb Order to mitigate potential impacts to agricultural resources. Under this alternative, lily bulb operations could avoid converting the full Streamside Area to non-agricultural use by mitigating only the incremental difference between existing riparian conditions and the Riparian Vegetation Area required under the Proposed Project. Mitigation would occur through the restoration and long-term protection of riparian vegetation at an alternative location within the same HUC-12.

While the flexibility of Streamside Area setback compliance options could be helpful for some existing operations, it is not possible to predict with any certainty whether the considered alternatives would sufficiently mitigate the agricultural land conversion that could occur under the Proposed Project. The alternatives and mitigations considered would not fully achieve objectives of the Proposed Project and/or would not be sufficient to reduce the impact to Agricultural Resources to less than significant. As such, no feasible mitigation was identified to reduce these adverse effects. Therefore, this impact would be ***significant and unavoidable.***

The reasons for proposing the Project despite this significant and unavoidable impact are discussed in Chapter XI.3: Significant and Unavoidable Environmental Impacts.

Conversion Due to Economic Impacts of Compliance Costs

In addition to agricultural land conversion from Streamside Management Area setbacks, there is also potential for indirect conversion of agricultural lands due to the economic costs and impacts associated with complying with the Lily Bulb Order.

The North Coast Water Board analyzed potential costs associated with the Proposed Project – see Attachment E. The overall cumulative costs of Management Practice implementation for a specific lily bulb operation are speculative though because, while it is generally known what practices are employed throughout the Smith River Plain through 2021 Management Plan reporting, individual or field-level information was not reported. It is also speculative as to which specific Management Practices an Enrollee will implement in the transition from a voluntary program framework to a regulatory one. Additionally, there will be costs associated with the Adaptive Management Program, which may be the most significant as some Adaptive Management Program options require engineered or constructed Management Practices, reductions in pesticide applications, and certified Water Quality Management Plans. The Enrollee chooses an Adaptive Management option based on the configuration of their farm, economic factors, and other site-specific conditions. Attachment E summarizes these potential costs of compliance. Monitoring and Reporting costs are expected to be relatively

similar to other irrigated lands regulatory programs.

The North Coast Water Board understands that profit margins may be slim for some business owners in the lily bulb industry and any increased administrative/regulatory costs could adversely affect profitability. However, the potential effects of increased costs would depend specific to an individual operation as well as current and future markets forces. The North Coast Water Board does not find that the anticipated increased costs due to compliance with this Order alone would be large enough to necessarily cause any existing lily bulb operation to go out of business, render it economically unviable, or otherwise choose to abandon their operations.

In the unique circumstance where the cost of compliance may be too great or the loss of production of displaced planted areas would make the operation unprofitable, neither scenario would permanently nor irretrievably convert the affected farmland to non-agricultural use. The land would still be available for non-lily bulb agricultural uses and therefore implementation of Management Practices would be considered a less-than-significant impact. Furthermore, successful implementation of Management Practices could enhance agricultural productivity by strengthening erosion control methods already in place, resulting in a beneficial impact through the increased retention of topsoils. Attaining and sustaining stream temperatures that support the cold freshwater habitat beneficial use, the beneficial use most sensitive to temperature, is also vital to supporting the socioeconomic and cultural background of the region due to the role that cold freshwater streams play in supporting recreational, commercial and subsistence fishing. These benefits are not only supportive of several threatened and endangered species, but also of the local economy, community, and culture of Del Norte County and the Tolowa Dee-Ni' Nation.

As a result, that the overall cost of complying with the proposed Lily Bulb Order would not indirectly contribute to a significant conversion of prime farmland to a non-agricultural use, this impact would be ***less than significant.***

Conversion Due to Implementation of Management Practices

Certain Management Practices (apart from Streamside Management Area setbacks) also could result in some amount of agricultural land to non-agricultural uses. For example, installation of sediment retention basins or vegetated filter strips could require that a lily bulb operation take a portion of their field(s) out of production to make room for these new features. The amount of land that could be taken out of production would depend on the specific layout and the design of specific Management Practices. Because the Lily Bulb Order would not specify the manner of compliance, it is speculative to determine which operations will implement which Management Practices in which locations. As a result, it cannot be determined how many acres of agricultural land may be taken out of production due to implementation of Management Practices (other than Streamside Area buffers). However, it is not anticipated that the implementation of Management Practices will result in a significant number of acres being taken out of production. Therefore, this impact is speculative and ***less than significant.***

Conclusion

Overall, due to the anticipated potential conversion of Prime Farmland resulting from compliance with the Streamside Management Area setbacks and the lack of feasible mitigation to lessen these impacts, this impact would be ***significant and unavoidable***.

Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract. (*Significant and Unavoidable*)

As described in Impact AG-1, the Proposed Project effect on agricultural land may result in the conversion of farmland to non-agricultural (i.e., riparian habitat) uses from implementation of the proposed Streamside Area setback requirements. The requirements would only apply to lily bulb operations that are adjacent to streams or other waterbodies and would vary based on the adjacent watercourse classification.

While Del Norte County does not offer Williamson Act contracts, much of the land that could be converted as a result of the Lily Bulb Order is zoned for agricultural use by Del Norte County. Agricultural zoning districts encourage conservation of agricultural lands and continuation of agricultural uses. Riparian vegetation/habitat is not a use that would typically be specifically prohibited in an agricultural zoning district, but it also would not further the purpose of the district by conserving agriculturally productive lands. As such, this impact is considered to be potentially significant. For the reasons stated under Impact AG-1, no feasible mitigation is available to reduce these potential effects. Therefore, this impact would be ***significant and unavoidable***.

Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. (*No Impact*)

The Proposed Project would only apply to lily bulb cultivation within the Proposed Project Area. No lands currently zoned for forest land, timberland, or timberland zoned Timberland Production are anticipated to be subject to the Lily Bulb Order and conversion of such lands is not a requirement of the Proposed Project. As such, ***no impact*** would occur.

Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use. (*No Impact*)

As described in Impact AG-3, the Lily Bulb Order does not apply to forest lands because the Lily Bulb Order would only apply to lily bulb operations and conversion of forest lands to lily bulb operations is not a requirement of the Proposed Project. Therefore, it would have no potential to result in the loss of forest land or conversion of forest land to non-forest use. ***No impact*** would occur.

Impact AG-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. (*Less than Significant*)

The Proposed Project would not result in any other changes in the existing environment (apart from the effects described in Impact AG-1 and AG-2). The Proposed Project would be limited to lily bulb operations and would not include any new urban or residential development, or any other land uses or infrastructure which could directly or indirectly result in agricultural land conversion. As such, this impact would be ***less than significant***.

VI. Biological Resources

This section presents the environmental setting and potential impacts of the Proposed Project related to biological resources. Biological resources considered in this section include special-status plant, wildlife, and fish species; sensitive natural communities, including jurisdictional wetlands and other waters; and wildlife movement corridors.

A. Regulatory Setting

This section describes the Federal, State, and local plans, policies, and laws that are relevant to biological resources.

1. Federal Laws, Regulations, and Policies

Endangered Species Act

The Endangered Species Act (ESA) (16 U.S.C. § 1531 *et seq*.; 50 C.F.R. Parts 17 and 222) provides for conservation of species that are endangered or threatened throughout all or a substantial portion of their range, as well as protection of the habitats on which they depend. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) share responsibility for implementing the ESA. In general, USFWS manages terrestrial and freshwater species, whereas NMFS manages marine and anadromous species.

Section 9 of the ESA and its implementing regulations prohibit the "take" of any fish or wildlife species listed under the ESA as endangered or threatened, unless otherwise authorized by federal regulations. The ESA defines the term "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 U.S.C. § 1532). Section 7 of the ESA (16 U.S.C. § 1531 *et seq*.) outlines the procedures for federal interagency cooperation to conserve federally listed species and designated critical habitats. Section 10(a)(1)(B) of the ESA provides a process by which non-federal entities may obtain an incidental take permit from USFWS or NMFS for otherwise lawful activities that incidentally may result in "take" of endangered or threatened species, subject to specific conditions. A habitat conservation plan (HCP) must accompany an application for an incidental take permit.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C., Chapter 7, Subchapter II) protects migratory birds. Most actions that result in take, or the permanent or temporary possession of, a migratory bird constitute violations of the MBTA. The MBTA also prohibits destruction of occupied nests. USFWS is responsible for overseeing compliance with the MBTA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. § 668; 50 C.F.R. Part 22) prohibits take of bald and golden eagles and their occupied and unoccupied nests. USFWS administers the Bald and Golden Eagle Protection Act.

Clean Water Act

Clean Water Act (CWA) Sections 10 and 404 regulate the discharge of dredged and fill materials into waters of the U.S., which include all navigable waters, their tributaries, and some isolated waters, as well as some wetlands adjacent to the aforementioned waters (33 C.F.R. § 328.3). Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial waterbodies such as swimming pools, vernal pools, and water-filled depressions (33 C.F.R. Part 328). Areas meeting the regulatory definition of waters of the U.S. are subject to the jurisdiction of U.S. Army Corps of Engineers (USACE) under the provisions of CWA Section 404. Construction activities involving placement of fill into jurisdictional waters of the U.S. are regulated by USACE through permit requirements. No USACE permit is effective in the absence of state water quality certification pursuant to Section 401 of CWA.

Section 401 of the CWA requires an evaluation of water quality when a proposed activity requiring a federal license or permit could result in a discharge to waters of the U.S. In California, the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) issue water quality certifications. Each RWQCB is responsible for implementing Section 401 in compliance with the CWA and its water quality control plan (also known as a Basin Plan). Applicants for a federal license or permit to conduct activities that may result in the discharge to waters of the U.S. (including wetlands or vernal pools) must also obtain a Section 401 water quality certification to ensure that any such discharge.

2. State Laws, Regulations, and Policies

Porter-Cologne Water Quality Control Act

The SWRCB works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny projects that could affect waters of the state. Their authority comes from the CWA and the State's Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The Porter-Cologne Act broadly defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state." Because the Porter-Cologne Act applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of waters of the United States (U.S.). For example, Water Quality Order No. 2004-0004-DWQ states that *shallow w*aters of the state include headwaters, wetlands, and riparian areas. Where

riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of bank.

On April 2, 2019, the SWRCB adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. In these new guidelines, riparian habitats are not specifically described as waters of the state but instead as important buffer habitats to streams that do conform to the State Wetland Definition. The Procedures describe riparian habitat buffers as important resources that may both be included in required mitigation packages for permits for impacts to waters of the state, as well as areas requiring permit authorization from the RWQCBs to impact.

Pursuant to the CWA, and as described above, projects that are regulated by the USACE must also obtain a Section 401 Water Quality Certification (WQC) from the RWQCB. This WQC ensures that the proposed project will uphold state water quality standards. Because California's jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on waters of the state require WQC even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements even if the USACE does not, for example for riparian habitats which are buffers to waters of the state. Under the Porter-Cologne Act, the SWRCB and the nine RWQCBs also have the responsibility of granting CWA National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for certain point-source and non-point discharges to waters.

Any activities within the Proposed Project Area that affect waters of the U.S. or waters of the state would require Section 401 Water Quality Certification and/or Waste Discharge Requirements from the RWQCB. Waters within the Project site are considered both waters of the United States and waters of the state.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) and CEQA Guidelines provide guidance in evaluating impacts of projects to biological resources and determining which impacts would be significant. CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." Under CEQA Guidelines Section 15065, a project's effects on biotic resources are deemed significant where the project would:

> "substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or reduce the number or restrict the range of a rare or endangered plant or animal."

In addition to the Section 15065 criteria that trigger mandatory findings of significance, Appendix G of CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact.

Section 15380(b) of CEQA Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in the FESA and the CESA and the section of the California F&G Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either USFWS or CDFW or species that are locally or regionally rare.

CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists." Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review in accordance with CEQA Guidelines Section 15380(b).

The California Native Plant Society (CNPS), a non-governmental conservation organization, has developed ranked lists of plant species of concern in California using the California Rare Plant Ranks (CRPRs). Vascular plants included on these lists are defined as follows:

- CRPR 1A: Plants considered extinct
- CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2: Plants rare, threatened, or endangered in California but more common elsewhere
- CRPR 3: Plants about which more information is needed - review list
- CRPR 4: Plants of limited distribution - watch list

The CRPR listings are further described by the following threat code extensions:

.1—seriously endangered in California
.2—fairly endangered in California
.3—not very endangered in California

Although CNPS is not a regulatory agency and plants on the CRPR lists have no formal regulatory protection, plants appearing on CRPR lists are, in general, considered to meet the CEQA Guidelines Section 15380 criteria and adverse effects on these species may be considered substantial.

California Fish and Game Code

The California Fish and Game Code (Fish & G. Code) includes various statutes that protect biological resources, including the Native Plant Protection Act of 1977 (NPPA)

and the California Endangered Species Act (CESA). The NPPA (Fish & G. Code § 1900-1913) authorizes the Fish and Game Commission to designate plants as endangered or rare and prohibits take of any such plants, except as authorized in limited circumstances.

CESA (Fish & G. Code § 2050–2098) prohibits state agencies from approving a project that would jeopardize the continued existence of a species listed under CESA as endangered or threatened. Section 2080 of the Fish & G. Code prohibits the take of any species that is state listed as endangered or threatened, or designated as a candidate for such listing. California Department of Fish and Wildlife (CDFW) may issue an incidental take permit authorizing the take of listed and candidate species if that take is incidental to an otherwise lawful activity, subject to specified conditions.

Fish & G. Code sections 3503 and 3513 protect native and migratory birds, including their active or inactive nests and eggs, from all forms of take. In addition, sections 3511, 4700, 5050, and 5515 identify species that are fully protected from all forms of take. Section 3511 lists fully protected birds, section 5515 lists fully protected fish, section 4700 lists fully protected mammals, and section 5050 lists fully protected amphibians.

California Coastal Act

The California Coastal Act (CCA) of 1976, is a state law designed to protect California's coastal resources. The California Coastal Commission (CCC) oversees implementation, reviews local coastal programs, and ensures consistency with the Act, and local governments develop Local Coastal Programs (LCPs), which must be certified by the Commission. The Act's core principles include maximizing public access and recreation, protecting and restoring coastal resources, ensuring orderly development, prioritizing coastal-dependent uses, and preserving scenic qualities.

Goals (Section 300001.5)

(a) Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
(b) Ensure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
(c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.
(d) Ensure priority for coastal-dependent and coastal-related development over other development on the coast.
(e) Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

(f) Anticipate, assess, plan for, and, to the extent feasible, avoid, minimize, and mitigate the adverse environmental and economic effects of sea level rise within the coastal zone.

3. Local Laws, Regulations, and Policies

Local Ordinances and General Plans

Within the Proposed Project Area, there are two main local policies for the protection of biological resources. The Del Norte County General Plan and the Local Coastal Program Land Use Plan are relevant to the protection of biological resources within the Proposed Project Area. Refer to Attachment C for Del Norte County general plan goals and policies potentially applicable to the Proposed Project.

B. Environmental Setting

1. Study Area

This section describes the biological resources associated with the Smith River Plain in Del Norte County. The study area (Proposed Project Area) of the Easter lily bulb operations are located in the Smith River Plain (Figure 1), a coastal plain located in unincorporated Del Norte County. The Smith River Plain is situated in the northwest corner of California (adjacent to Oregon border), covers 40,450 acres (63 square miles), and the plain is an emerged low-relief marine terrace that is shaped by floodplain deposits, sand dunes and river terraces. The Smith River is the primary watercourse and crosses the main portion of the Smith River Plain, contributing to the floodplain dynamics.

Del Norte County is in the northwestern corner of California, approximately 350 miles north of San Francisco and 330 miles southwest of Portland, Oregon and is bounded by Siskiyou County on the east, Curry and Josephine Counties (State of Oregon) to the north, Humboldt County to the south, and the Pacific Ocean to the west. The county contains one incorporated city (Crescent City), six unincorporated communities (Smith River, Gasquet, Klamath, Fort Dick, Bertsch-Oceanview, and Hiouchi), and four federally recognized Tribal entities (Yurok Tribe, Resighini Rancheria, Tolowa Dee-ni' Nation and Elk Valley Rancheria).

2. Physical Conditions

Del Norte County is comprised of approximately 1,070 square miles, making it one of the smaller counties in California. Del Norte County's geography ranges from conifer forests of the Klamath Mountain Providence to dunes and sand beaches within the Pacific coastal plain. Del Norte County is characterized by varied elevations that range between sea level to over 6,400 feet in the Klamath Mountain range and a varied geography that consists of extensive coastline to the west and mountainous terrain with dense redwood forests to the east. Del Norte County is known for its vast old-growth redwood forests.

3. Biological Conditions

Land Cover Types

Generalized land cover/habitat types found within the Proposed Project boundary are described below[8]. Land cover/habitat type descriptions were developed by conducting a crosswalk of the California Department of Forestry and Fire Protection's CALFIRE Fire and Resource Assessment Program, FVEG classifications (Wildlife Habitat Relationship classes)[9], USFS physiognomic unit classifications, Anderson Level 1 classifications and California Wildlife Habitat Relationships System classifications[10]. Figure 6 shows the land cover types found in the Smith River Plain region. Land cover types most directly related to the Proposed Project are described below.

(a) Agricultural: The agricultural land cover/habitat type includes areas that are dominated by cultivated croplands and animal farming operations. Crops known to occur within Del Norte County are field crops (hay, pasture for irrigation, etc.) vegetable crops (fruits and vegetables), and nursery crops (Easter lily bulbs, decorative flowers, ornamentals, seedlings, bedding plants, etc.). Animal farming operations include livestock (cattle, calves, sheep, and lambs) and livestock products (market milk, and manufacturing milk honey, silage, hogs, goats, eggs, and other products) (Del Norte County Crop Report, 2016). Specifically, within the Smith River Plain, lily bulb cultivation is a major agricultural land crop in the study area.

In general, agricultural land does not support habitat for special-status species, and commercial crop fields are typically managed to exclude wildlife to the extent possible. Nevertheless, some agricultural land or pasture lands may support rodent populations that could provide foraging opportunities for raptors.

(b) Barren/Other: Barren land is of limited ability to support special-status species as this type of land cover/habitat supports little to no vegetation or other cover. If vegetation is present, it is widespread and scrubby. Typically, barren land consists of an area of thin soil, sand or rocks. Categories of barren land are dry salt flats, beaches, sandy areas, bare exposed rock, strip mines, quarries, gravel pits, transitional areas, and mixed barren land (USDA 2015). As defined in the California Wildlife Habitat Relationships System (CWHRS), barren land in marine and estuarine environment includes rocky outcroppings, open sandy beaches and

[8] The conifer forest, conifer woodland, hardwood forest, and hardwood woodland land use cover types are covered under the Forest Land description.
[9] FVEG is a spatial dataset that depicts the distribution of vegetation types across California. It integrates multiple sources of vegetation data into a standardized classification system, primarily using the California Wildlife Habitat Relationships (CWHR) system.
[10] Land cover/habitat type descriptions discussed in this document are very generalized and should not be used as stand-alone assessments of what is actually present where Proposed Project activities will occur. Additional assessments (for example, on-the-ground surveys) will need to be conducted to determine a more accurate description of land cover/habitat types in areas where there is potential for the Proposed Project to impact biological resources.

mudflats. Along rivers, barren habitat includes vertical riverbanks and canyon walls. In desert habitats, barren land cover is defined when vegetation is widely spaced. Within alpine areas, barren habitat includes exposed parent rock, glacial moraines, talus slopes and any surface permanently covered with snow and ice. Urban areas where there is pavement and buildings may be classified as barren as long as they do not meet the percentage cover thresholds for vegetated habitats (CDFW 2014).Although there may be little to no vegetation within the barren land cover/habitat type, non-vegetated substrate could offer nesting and foraging habitat for many common species including hawks, falcons, as well as special-status species such as western snowy plover (*Charadrius alexandrinus nivosus*), willow flycatcher (*Empidonax traillii*), bank swallows (*Riparia riparia*), and bats. Rare, local, and special-status plants species occurring within the coastal plain are Wolf's evening primrose (*Oenothera wolfii*), sand dune phacelia (*Phacelia argentea*), Langsdorf's violet (*Viola langsdorffii*), and the federally endangered western lily (*Lilium occidentale).*

(c) Conifer and Hardwood Forest: The forest land cover/habitat type in the County of Del Norte is mainly comprised of coniferous forests and hardwood forest. Categories of trees within the forest and hardwood land cover/habitat type include deciduous (hardwood), evergreen (conifer), and mixed (deciduous and evergreen). Del Norte County features a mix of conifer and hardwood forests, shaped by its coastal climate and rugged terrain. The region includes coniferous trees such as coast redwoods (*Sequoia sempervirens*), Douglas-fir (*Pseudotsuga menziesii*), Sitka spruce (*Picea sitchensis*), tanoak (*Notholithocarpus densiflorus*), and California bay laurel (*Umbellularia californica*). Mixed deciduous trees such as California black oak (*Quercus kelloggii*) and big leaf maple (*Acer macrophyllum*), and coniferous trees such as ponderosa pine (*Pinus ponderosa*) sugar pine (*Pinus lambertinana*) and incense cedar (*Calocedrus decurrens*), can be found in the forests throughout the region. Mixed forest land includes all forested areas where both evergreen and deciduous trees are growing, and neither is predominant (Anderson et al. 1976). The forest and hardwood land cover/habitat type contains habitat for a wide variety of species. Redwood groves can provide nesting habitat for special-status species such as the northern spotted owl (*Strix occidentalis*) and marbled murrelet (*Brachyramphus marmoratus*). Canopy cover and understory vegetation provide valuable habitat for special-status species such as foothill yellow-legged frog (*Rana boylii*), Coastal giant salamander (*Dicamptodon tenebrosus*) and for common species such as North American porcupine (*Erethizon dorsatum*), fisher (*Pekinia pennanti*), and Pacific marten (*Martes caurina*). Special-status fish species and other common anadromous fish can be found in the Smith River Plain, such as Coho Salmon (*Oncorhynchus kisutch*), Chinook salmon (*Oncorhynchus tshawytscha)*, coastal rainbow trout/steelhead trout (*Oncorhynchus mykiss irideus*), Coastal cutthroat trout, and Chum salmon (*Oncorhynchus clarkii clarkii*).

(d) Scrub: The shrub land cover/habitat type is characterized by shrubs totaling greater than or equal to 10 percent canopy cover, where a shrub is defined as a woody plant that generally has several erect, spreading, or prostrate stems which give it a bushy

appearance (USDA 2016). Shrub species are generally less than 20 feet tall and can consist of both evergreen and deciduous species of true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions (USDA 2015). There are many shrub-dominated habitats that occur within the shrub land cover/habitat type within the Del Norte County and Smith River Plain. Northern coastal scrub vegetation often intergrades with coastal prairies, forming a mosaic across the marine terrace landscape interrupted by oak woodlands, conifer and hardwood forests, and fresh and saltwater marshes (Ford & Hayes 2007). Coastal bluff and scrub habitats are discontinuous in northern California, existing in a relatively narrow zone along the coast within preserves, ranchlands, and commercial/residential areas (EcoAdapt, 2019). In Del Norte County coastal bluff and scrub land cover/habitat type include thimbleberry (*Rubus parviflorus*), salmonberry (*Rubus spectabilis*), salal, and California blackberry. Coyote brush (*Baccharis pilularis*) is another dominant species in these shrubland areas. Other common species include yellow bush lupine (*Lupinus arboreus*), blue blossom ceanothus, coffeeberry, salal, bush monkeyflower, poison-oak and wooly sunflower, bracken fern and sword fern are dominant in the understory; common cow parsnip, Indian paintbrush, yerba buena and California oatgrass are typically present (Heady et al. 1977). The shrub land cover/habitat type provides nesting and foraging habitat for including hawks, and falcons and serves as habitat to many common species such as mule deer (*Odocoileus hemionus*), bobcat (*Lynx rufus*), western fence lizard (*Sceloporus occidentalis*), and others.

(e) Herbaceous: The herbaceous land cover/habitat type consists of herbaceous vascular plants that total greater than or equal to 10 percent canopy cover. These types of herbaceous vascular plants are defined as vascular plants without perennial aboveground woody stems with perennating buds borne at or below the ground surface (USFS 2016). Herbaceous dominated habitats include annual and perennial grassland, wet meadow, fresh and saline emergent wetland, and pasture. A description of the wetland land cover/habitat type are further described below. Plant species found within annual grasslands consist mainly of introduced annual grasses such as wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), and ripgut brome (*Bromus diandrus*). Perennial grasslands in Del Norte county are dominated by species such as California oatgrass (*Danthonia californica*), sweet vernal grass (*Anthoxanthum odoratum*), Pacific hairgrass (*Deschampsia cespitosa*), California oat grass, American dune grass (*Leymus mollis*), California goldfields (*asthenia californica*), Kentucky bluegrass (*Poa pratensis*), and western bracken fern (*Pteridium aquilinum*) (Heady et al. 1977). Many wildlife species utilize the herbaceous land cover/habitat type for foraging and breeding. Common reptiles that can be found in this land cover/habitat type include western fence lizard (*Sceloporus occidentalis*), and common garter snake (*Thamnophis sirtalis*) (Basey and Sinclair 1980). Typical common mammals that can be found include black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beecheyi*), and Botta's pocket gopher (*Thomomys bottae*).

(f) Urban: Urban or built-up land is comprised of areas of intensive use with much of the land covered by structures and includes cities, towns, villages, strip developments along highways, transportation, power, and communication complexes, and institutions that may, in some instances, be isolated from urban areas (USDA 2016). The urban land cover type falls under the developed habitat type (CDFW 2014). Urban vegetation is defined by five types of vegetative structure: tree grove, street strip, shade tree/lawn, lawn, and shrub cover (CDFW 2014). Some wildlife species typical of the urban land cover/habitat type include rock dove (*Columba livia*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), raccoon (*Procyon lotor*), plain titmouse (*Baeolophus inornatus*), black-tailed deer (*Odocoileus hemionus*), gopher snake (*Pituophis catenifer*), and western fence lizard *(Sceloporus occidentalis*).

(g) Aquatic: The aquatic land cover/habitat type includes open water (i.e., lakes and ponds) and riverine (i.e., streams and drainages) habitats. Riverine features in the Smith River Plain such as creek, streams/drainages are characterized by highly seasonal flow patterns, in accordance with the seasonal precipitation pattern, with higher flows from roughly November to April and lower flows from July to October. Some streams/drainages in the region experience very low or no flow during the dry summer months. Larger waterbodies in the region (e.g., Smith River and its tributaries) exhibit flow year-round and may act as migratory corridors for fish species and other animals. The Smith River is the northern most coastal watershed of California that is located 3.7 miles south of the Oregon border, and the Smith River plain encompasses 63 square miles. The Smith River crosses the northern portion of the plain near the town of Smith River and is the major watercourse in the area. The Smith River extends from the Six Rivers National Forest to the Pacific Ocean at the northwestern corner of the county. Two major rivers occupy Del Norte County; the Smith River, which extends from the Six Rivers National Forest to the Pacific Ocean at the northwestern corner of the county, and the Klamath River, which extends from Klamath Lake in Oregon through the Six Rivers National Forest and to the Pacific Ocean at the southwestern corner of the county. Aquatic and special-status species with the potential to occur in rivers, streams and drainages in the Smith River Plain include northern red-legged frog (*Rana aurora*), foothill yellow-legged frog, western pond turtle (*Emys* [=*Actinemys*] *marmorata*), Coho Salmon, Chinook salmon, coastal rainbow trout/steelhead trout, Coastal cutthroat trout, Chum salmon, and tidewater goby (*Eucyclogobius newberryi*). Open water habitat is characterized by a water depth that is great enough (over 6.6 feet) to attenuate sunlight and prevent aquatic or emergent plant growth. Such habitat may support any number of common resident or wintering bird species, such as western grebe (*Aechmophorus occidentalis*), double-crested cormorant (*Phalacrocorax auritus*), Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), common merganser (*Mergus merganser*), northern shoveler (*Anas clypeata*), lesser scaup (*Aythya affinis*), and bufflehead (*Bucephala clangula*). Common amphibian species that may be found in lacustrine features include the American bullfrog (*Lithobates catesbeianus*), California newt (*Taricha torosa*), and California toad (*Anaxyrus boreas halophilus*). Some of these tributaries within the Smith River Plain includes

Jordan Creek, Talawa Slough, and other unnamed seasonal streams that feed into the lakes.

(h) Wetland: In general, wetlands are areas that are seasonally or perennially inundated or saturated; i.e., where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season (USEPA 2021). Water saturation (hydrology) largely determines how the soil develops and the types of plant and animal communities living in and on the soil. The prolonged presence of water creates conditions that favor the growth of specially adapted plants (hydrophytes) and promotes the development of characteristic wetland (hydric) soils (USEPA 2021). Different types of wetlands may include different specific species assemblages, but all types support facultative[11] plant species and provide potential breeding and foraging habitats for birds, amphibians, and other animals. The Smith River Plain contains several areas that include wetland areas that support a diverse wildlife, migratory birds, elk herds and salmon populations. Some notable wetland areas include Lake Earl and Lake Talawa, Yontocket slough that is connected to Tryon creek, and the Smith River Estuary.

Habitat and Corridor Connectivity

A habitat connectivity corridor is a linkage needed to allow movement of wildlife across the landscape. CDFW's Terrestrial Connectivity, Areas of Conservation Emphasis (ACE), classifies habitat and corridor connectivity using a hexagonal grid map overlay. The hexagonal grid is scaled to 2.5 square miles per hexagon (approximately 1,600 acres). CDFW's ACE areas are a compilation and analysis of the best-available statewide spatial information within California based on biodiversity, significant habitats, connectivity and wildlife movement, and climate vulnerability (CDFW 2025a).

CDFW classifies the majority of the General Order's Proposed Project Area with an ACE rank of 1, "limited connectivity opportunity" (CDFW 2025a). The secondary Ace rank within the General Order's Proposed Project Area falls under an Ace rank of 2, "Large Natural Habitat Areas". This ACE rank is only within a small western portion of the Proposed Project Area and is directly adjacent to State Protected Areas (protected for open space purposes) that can include State, regional parks, Preserves, wildlife areas, urban parks, etc. Large Natural Habitat Areas are classified as relatively undeveloped and minimally fragmented by roads, urbanization, or agriculture, and are composed of natural vegetation types, such as forests, shrublands, grasslands, and wetlands (CDFW 2025a).

The Proposed Project Area is not located within an established wildlife corridor, additionally during the time that this document was prepared, the specific locations of Proposed Project activities under the General Order of specific Lily bulb operations

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

were unknown.

Special-status Species and Sensitive Natural Communities

During the time that this document was prepared, the specific locations of Proposed Project activities under the General Order of specific Lily bulb operations were unknown; The proposed General Order would cover approximately 18.91 m^2 (Figure 1) to regulate discharges from Commercial Lily Bulb Operations.

Therefore, it was not possible to determine the potential for individual special-status species to occur within the specific area coverage for the General Order's Proposed Project Area and whether suitable habitat exists for these species. As noted above in the land cover types, various special-status species have the potential to occur in the Smith River Plain and proximity of Easter lily bulb operations that may be affected by the Proposed Projects implementation of management practices for the compliance with Water Quality Protection Requirements from General Waste Discharge Requirements for Commercial Lily Bulb Operations in the Smith River Plain. A comprehensive list of special-status species lists is provided in **Appendix D**. The determination of potential for such species to occur was based on databases from the California Native Plant Society (CNPS), CDFW, USFWS, and NMFS lists of special-status species that have been historically reported to occur within the general project vicinity (CDFW 2025b; Crescent City, Smith River, High Divide, and Hiouchi quadrangles); within one mile of Proposed Project Area and/or whether suitable habitat for the species is reasonably likely to occur within or in immediate proximity to Proposed lily bulb operations under the General Order within the Smith River Plain. However, on-the-ground habitat assessments and surveys would be needed to confirm potential of special-status species and suitable habitat in areas where impacts to biological resources could occur as described.

For the purposes of this assessment, special-status plant and wildlife species refers to those species that meet one or more of the following criteria:

- Species that are listed as threatened or endangered under the federal Endangered Species Act (ESA) (50 Code of Federal Regulations [CFR] Section 17.12 for listed plants, 50 CFR Section 17.11 for listed animals);
- Species that are candidates for possible future listing as threatened or endangered under ESA (76 Federal Register [FR] Section 66370);
- Species that are listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 California Code of Regulations [CCR] 670.5);
- Plants listed as rare under the California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.);
- California Rare Plant Rank (CRPR) List 1 and 2 species; and

- Animals fully protected in California (Fish and Game Code Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]) or species designated as "Species of Special Concern" by CDFW.

The following sources were consulted to identify special-status species with the potential to occur in the vicinity of the Project:

  - U.S. Fish and Wildlife Service (USFWS), Information for Planning and Conservation (IPaC) list of federally endangered and threatened species (USFWS 2024a);
  - USFWS's Critical Habitat Portal (USFWS 2024b);
  - National Marine Fisheries Service (NMFS) California Species List (NMFS 2024); and
- USFWS list of federally listed endangered and threatened species that occur within the vicinity of the proposed project (USFWS 2025);
- California Natural Diversity Database (CNDDB) queries for the U.S. Geological Survey (USGS) 7.5-minute quadrangle containing the Proposed Project Area and the quadrangles immediately adjacent to it: Crescent City, Smith River, High Divide, and Hiouchi; and
- California Native Plant Society's (CNPS's) *Inventory of Rare and Endangered Plants of California* (CNPS 2025) and CRPR listing.
  - **Rank 1A** plants are presumed extinct in California;
  - **Rank 1B** plants are considered rare, threatened, or endangered in California and elsewhere; and
  - **Rank 2B** plants are rare, threatened, or endangered in California but more common elsewhere.

Critical Habitat

As discussed in the Draft Lily Bulb Order (Attachment A to this Draft EIR), the Smith River Plain provides habitat to numerous threatened and endangered species including coho salmon, eulachon, tidewater goby, and longfin smelt. The National Marine Fisheries Service (NMFS) has classified the Smith River population of coho salmon as a core, functionally independent population, which is considered at a high risk of extinction and likely below the depensation threshold. The 2014 Coho Salmon Final Recovery Plan from NOAA identified Rowdy Creek, Ritmer Creek, Delilah Creek, Yontocket Slough, and Morrison Creek in the Smith River Plain as some of the highest intrinsic potential habitat for coho salmon in the 762 square mile Smith River watershed. These tributaries are designated essential fish habitat (EFH) under the Magnuson-Steven Fishery Conservation and Management Act (MSFCMA) for Pacific salmon (Chinook and coho) and the estuary is designated EFH for Pacific salmon and Pacific

groundfish. EFH is designated for species managed in Fishery Management Plans and is defined as the habitat necessary for managed fish to complete their life cycles. Estuaries, including the Smith River Estuary, are considered Habitat Areas of Particular concern and are high priorities for EFH conservation. Preserving high-quality water and improving degraded water quality in the Smith River Plain is essential to the support and recovery of threatened and endangered species.

4. Effects of Management Practices for Water Protection under the General Order on Biological Resources

Under existing conditions, discharges of waste (e.g., sediment, nutrients, pesticides, and temperature) from agricultural activities associated with lily bulbs and other similar bulb crops (Commercial Lily Bulb Operations) on private lands within the Smith River Plain Hydrologic Subarea and coastal terraces between Pyramid Point and the Oregon Border (Smith River Plain) are adversely affecting water quality and biological resources in the Smith River Plain. If not properly managed, these discharges can degrade water quality, cause or contribute to pollution and nuisance conditions, and adversely affect beneficial uses of waters of the state. These effects can occur through the loss of riparian shade (a controllable factor) and discharges from agricultural drainage structures, irrigation return flows or tailwater, percolation, tile drain water, stormwater runoff flowing from agricultural lands, and runoff resulting from operational spills.

As described in Chapter I, *Executive Summary,* the Project objective #1 - Protect and restore beneficial uses and achieve water quality objectives specified in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations by:

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

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

Objective #3 - Comply with the State Nonpoint Source Policy, the State Antidegradation Policy, the precedential language in the Eastern San Joaquin Agricultural Order, the North Coast Basin Plan, and other relevant statutes and water quality plans and policies, including the Temperature Implementation Policy, the Sediment TMDL Implementation Policy, and TMDLs in the North Coast Hydrologic Region.

Compliance with the proposed General Order is expected to result in an increase in the implementation of management practices already being implemented (as described in the Smith River Plain Water Quality Management Plan; 2021 Management Plan) to prevent and minimize sediment erosion, nutrient, and pesticide discharges.

General Order Management Practice Requirements

Irrigation, Nutrient, and Pesticide Management Surface Water Protection

As described in Chapter III, *Project Description,* under Summary of the Lily Bulb Order the Commercial Lily Bulb Operations would be required to implement management practices to prevent and minimize their discharges of pesticides and sediment to surface waters. The reasonably foreseeable management practices with the greatest potential for environmental impacts (i.e., those involving ground disturbance during construction/installation) include the following:

- Runoff management features: This includes vegetated riparian buffers, filter strips, contour farming, vegetated treatment areas, and grassed swales. Construction/installation of these features may include light disking, use of a "no till" or grass drill for seeding the proposed vegetated area, soil amendments, and associated transport of materials and equipment. Minor excavation and off-haul of soils may be required for construction of swales. Maintenance of runoff management features may include general vegetation management (e.g., mowing, weeding, etc.).
- Retention/Detention basins: This includes basins constructed from an embankment or
  excavation to capture and retain/detain stormwater runoff. Construction of basins requires use of heavy equipment, such as dozers, hydraulic excavators, trenchers, dump trucks, scrapers, etc. Engineered fill material may need to be imported to the site for construction of the embankment and/or excavated material may need to be hauled off from the site and disposed of at a landfill. Maintenance activities may include periodic inspections of the basin, removal of accumulated sediment, removal of debris/trash, replacement of damaged parts, and vegetation management.

Riparian Zone Management Area for Surface Water Protection

As described in Chapter III, *Project Description,* under Summary of the Lily Bulb Order the Commercial Lily Bulb Operations would be required to implement Streamside Management Area requirements including setbacks based on type of waterbody. Requirements include allowing natural succession of riparian vegetation and possibly installing vegetated buffers*.*

Irrigation, Pesticide, and Nutrient Management for Groundwater Protection

As described in Chapter III, *Project Description,* under Summary of the Lily Bulb Order, Commercial Agricultural Operations would be required to implement irrigation and nutrient management practices to prevent and minimize discharges of nitrate to groundwater implement irrigation and nutrient management practices to prevent and minimize discharges of pesticides and nitrates to groundwater. General agricultural management practices implemented in other regional irrigated lands water quality

orders offer a good indication of the reasonably foreseeable types of irrigation and nitrogen efficiency practices that may be implemented under the Lily Bulb Order.

These could include, but are not limited to, nutrient application at agronomic rates, application timing based on precipitation forecasts, soil testing, irrigation water testing, and use of cover crops. Commercial Agricultural Operations would be required to prepare and implement an Irrigation and Nitrogen Management Plan (INMP) that budgets all sources of nitrogen applied and removed during the growing season and harvest for each parcel. INMP reporting drives adaptive management of irrigation and nutrient practices on the farm level by identifying statistical outliers of nitrogen application versus removal. Commercial Agricultural Operations designated as statistical outliers would be required to obtain nitrogen management training or work with a nitrogen Management Planning specialist for certification of their next INMP.

Monitoring and Reporting Requirements

As described in Chapter III, *Project Description,* under Summary of the Lily Bulb Order the Project objective Commercial Agricultural Operations would be required to either individually or through a Grower Coalition implement the Monitoring and Reporting Program. The proposed Monitoring and Reporting Program is expected to consist of (1) receiving surface water and groundwater monitoring; (2) Drinking Water Well sampling; (3) annual compliance reporting and (4) water quality trend monitoring reporting every five years.

C. Impact Analysis

The following sections provide an analysis of the impacts of the resources discussed above that may result from Project implementation, based on the CEQA checklist in Appendix G of the CEQA Guidelines. Where applicable, the text prescribes mitigation measures that would reduce or avoid potentially significant impacts to less than significant with mitigation.

1. Methodology

The analysis considered the potential impacts of reasonably foreseeable activities resulting from the Proposed Project (as described in Chapter II, Introduction) on biological resources. As discussed throughout this Draft EIR, to a certain extent, these impacts are speculative, as the specific locations and types of activities that may be conducted under the Proposed Project are not known. The proposed lily bulb operations under the General Order within the Smith River Plain would not require specific Management Practices to protect and restore surface water and groundwater quality but would allow individual lily bulb growers Enrollees of General Order considerable discretion in how to comply with applicable requirements and adaptive management practices related to sediment and erosion control; irrigation, pesticide, and nutrient management; and Streamside Area setbacks. The General Order provides Enrollees flexibility in selecting management practices and requires Enrollees to monitor and

report discharges and implement management practices to minimize or prevent discharges of waste.

As such, this analysis is qualitative in nature and makes reasonable assumptions regarding the potential for impacts and includes conditional mitigation measures that may be applicable depending on the location and type of activity.

2. Significance Criteria

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

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species;
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community;
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
f. Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP.

3. Environmental Impacts of the Proposed Program/General Order

Impact *BIO*-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species

The Proposed Program is expected to have a beneficial effect on biological resources, including special-status species and habitat. Among the primary objectives is to protect and restore surface water and groundwater quality in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations (see Project Objective #1. in Chapter 1, Executive Summary). Compliance with General Order, through Irrigation, Nutrient, and Pesticide Management for Surface Water Protection; Riparian Zone Management for Surface Water Protection; Sediment and Erosion Control for Surface Water Protection; Irrigation, Nutrient, and Pesticide Management for Groundwater Protection; and Monitoring and Reporting Requirements will reduce ongoing discharges of pollutants from irrigated agricultural lands and correct existing impacts on water quality and aquatic habitats. Additionally, installing and/or maintaining vegetated buffers would allow the natural establishment and abundance of native riparian vegetation to minimize and prevent discharge of sediment, nutrients, excess

temperature, and pesticides to surface water, riparian habitat and vegetation in the region, which will benefit any number of special-status species that may use these areas. The implementation of Management Practices would support beneficial uses to biological resources and aquatic habitats and (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

Despite these largely beneficial effects, there is potential for some adverse effects to occur from the Proposed Project Implementation of the Management Practices for Water Protection under the Lily Bulb Order. These effects include construction-related effects from installation of certain management practices. Examples include grassed swales that involve installing a shaped or graded channel with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet or sediment control basin. Additionally, the installation of Riparian Vegetation Areas can include removal of riparian vegetation as part of necessary maintenance of existing watercourse crossings and linear utilities, control of invasive species, and permitted surface water diversions. The Lily Bulb Order would regulate the removal and degradation of riparian vegetation resulting in the loss or degradation on instream beneficial uses.

With respect to construction impacts, if special-status plant or animal species were to occur within areas where construction of certain management practices (i.e., those involving ground disturbance) were to take place, this could result in direct impacts to those species (e.g., mortality or injury of individuals by being crushed by vehicles and/or heavy equipment or loss of an active nest or burrow). In general, it is assumed that most construction activities associated with the Proposed Project would occur within existing irrigated agricultural lands. These commercial production areas are generally maintained to be free of plants and animals (other than intended crops) and it is considered unlikely that special-status plant or animal species would be present in these areas. Additionally, existing commercial agricultural lands are subjected to repeated disturbance and human activities (e.g., tilling, harvesting, etc.) and thus any plants or animals that may be present in such areas would be accustomed to such disturbance.

For certain types of management practices, it is possible that areas outside of existing agricultural lands could be disturbed. For example, grassed swales or sediment control basins could potentially be installed on the periphery of fields (downgradient) such as to capture runoff. Depending on the nature of the land cover/vegetation immediately adjacent to specific Commercial lily bulb operations where these facilities would be installed, special-status plant or animal species could potentially be present in these areas and could be substantially and adversely affected by construction activities. This would be a potential significant impact. **Mitigation Measure BIO-1** would require individual lily bulb growers Enrollees of General Order to evaluate their specific situation and use the least impactful management practices to meet the water quality requirements of the Proposed Project General Order. If potentially impactful practices are necessary, implementation of additional avoidance and minimization measures would be required. Where adverse effects on sensitive biological resources cannot be avoided, undertake additional CEQA review and develop a restoration or compensation plan in consultation with the California Department of Fish and Wildlife to mitigate the

loss of the resources. Implementation of this mitigation measure would reduce this potential impact to a level that is less than significant.

In addition to potentially causing direct injury or mortality to special-status species that may be present in areas where management practices may be constructed, Proposed Project construction activities also could indirectly affect species through erosion and sedimentation, or accidental releases or improper management of hazardous materials. Proposed Project construction activities could loosen soils and allow for erosion and off-site discharge of sediments to occur (e.g., a precipitation event washing away loose soils/sediments to nearby waterbodies) if proper precautions are not taken. **Mitigation Measure HWQ-1** would require construction best management practices (BMPs) for erosion control for those activities not subject to a grading permit or a Construction General Permit, which would reduce this potential impact. Further, **Mitigation Measure HAZ-1** would require implementation of spill prevention, control, and countermeasures, which would avoid or minimize any potential impacts to special-status species from accidental releases of hazardous materials used in construction or management activities.

Implementation of the requirements from the Streamside Area Requirements for Riparian Vegetation Area based on type of waterbody from the Riparian Zone Management for Surface Water Protection could result in short-term adverse construction effects (e.g., erosion, sedimentation, hazardous materials impacts) through the removal of riparian vegetation as part of necessary maintenance of existing watercourse crossings and linear utilities, control of invasive species, and permitted surface water diversions; however, these would be minimized through implementation of **Mitigation Measures HWQ-1** and **HAZ-1**. Depending on Commercial lily bulb operations existing operations, construction activities for installation of the Riparian Vegetation Areas and setback/Vegetation Buffer Areas may also require authorization from CDFW (e.g., if construction activities were to occur within the bed and bank of a stream or sensitive natural community). In this case, CDFW may impose requirements for the protection of biological resources and water quality during the construction activities. Additionally, implementation of **Mitigation Measure BIO-1** would avoid or minimize impacts to biological resources during implementation of the setbacks.

Given the compliance with existing laws and regulations, including obtaining any needed permits from other agencies, as well as implementation of applicable mitigation measures, this impact would be **less significant with mitigation.**

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

Where construction/installation, maintenance and/or management practices could impact sensitive vegetation communities (e.g., riparian habitat or wetlands adjacent to the construction area) and special-status species, as defined and listed in Section VII and Appendix D, Enrollees must use the least impactful effective management practice to avoid impacts to such species and habitat. Enrollees of the General Order must

implement the following measures to reduce potential impacts to levels that are less than significant.

- Avoid and minimize disturbance of riparian, wetlands, and other sensitive vegetation communities.

- Avoid and minimize disturbance to areas containing special-status plant or animal species.

- Where construction in areas that may contain sensitive biological resources and aquatic resources cannot be avoided through the use of alternative management practices, conduct an assessment of habitat conditions, and the potential for presence of sensitive vegetation communities (e.g., riparian and wetland habitat) or special-status plant and animal species prior to construction. This may include the hiring of a qualified biologist to identify riparian and other sensitive vegetation communities (e.g., conduct a biological assessment, and/or wetland delineation), and/or habitat for special-status plant and animal species.

- When conducting maintenance or repair on facilities such as sediment basins, or other facilities that may provide habitat for species, ensure that such activities will not disturb any special-status species that may be present. If conducting maintenance or repair activities during the nesting season (generally February 1 to September 15), inspect the facilities to ensure that nesting birds are not present within or adjacent to areas where such activities will occur. If nests or young are identified in such areas, conduct the activities outside of the nesting season.

- Where adverse effects on sensitive biological resources cannot be avoided, undertake additional CEQA review and develop a restoration or compensation plan in consultation with the appropriate regulatory agencies to address the loss of the resources.

Mitigation Measure HWQ-1: Implement Construction Best Management Practices for Erosion Control

Enrollees must implement the following measures during construction activities for the implementation of the Proposed Project Management Practices for Water Protection under the General Order, or must implement alternative measures that are demonstrated to be equally or more effective:

- Implement practices to prevent erosion of exposed soil and stockpiles, including watering for dust control, establishing perimeter silt fences, and/or placing fiber rolls.

- Minimize soil disturbance areas.

- Implement practices to maintain water quality, including silt fences, stabilized construction entrances, and storm drain inlet protection.

- Runoff management features should be designed and routinely maintained to minimize the spread and propagation of invasive species, such as reed canary grass (*Phalaris arundinacea*).

- Where feasible, limit construction to dry periods.

- Revegetate disturbed areas.

The performance standard for these erosion control measures is to use the best available technology that is economically achievable. These measures may be included in SWPPP requirements, as appropriate.

Mitigation Measure HAZ-1: Hazardous Materials Spill Prevention, Control, and Counter-Measures for Land Disturbance Activities

General Order enrollees or their contractors must maintain/implement the following:

- A list of hazardous materials present on site during construction, to be updated as needed along with product safety data sheets and other information regarding storage, application, transportation, and disposal requirements;

- A hazardous materials communication plan, which lists contacts for emergency services, hazardous materials spill response agencies, and wildlife agencies, as well as protocols for communication in the event of a spill;

- Standards for secondary containment of hazardous materials stored on site.

- Spill response procedures based on product and quantity. The procedures must include spill response/clean-up materials to be used, location of such materials within the construction site, and disposal protocols.

- Test accumulated sediments in control features prior to removal, with disposal at an appropriate facility, if warranted.

Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community

As discussed above in Impact BIO-1, the primary objectives under the General Plan is to protect and restore surface water and groundwater quality in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations (see Project Objective #1. in Chapter I, *Executive Summary*). Additionally, the Proposed Project would have a beneficial impact on biological resources by reducing discharges of pollutants from agricultural activities associated with lily bulbs and other similar bulb crops (Commercial Lily Bulb Operations).

The Riparian Vegetation Area requirements would result in the creation/maintaining riparian habitat adjacent to agricultural lands from Commercial Lily Bulb Operations throughout the Smith River Plain. Additionally, the Riparian Vegetation Area and Vegetated Buffer would result in an impact on agricultural resources, these setback areas would be planted with vegetation and would benefit biological resources by providing riparian habitat.

Additionally, installing and/or maintaining vegetated buffers would allow the natural establishment and abundance of native riparian vegetation to minimize and prevent discharge of sediment, nutrients, excess temperature, and pesticides to surface water, riparian habitat and vegetation in the region, which will benefit any number of special-status species that may use these areas. The implementation of Management Practices would support beneficial uses to biological resources and aquatic habitats (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

While the majority of activities under General Order would take place within existing cultivated areas of Lily Bulb Operations, it is possible that that certain management practices (e.g., sediment control basins, grassed swales, graded channel with suitable vegetation, constructing an embankment, etc.) could be installed on the periphery of agricultural fields where riparian vegetation or other habitat may exist[12]. In these cases, some existing habitat could be displaced; however, **Mitigation Measure BIO-1** would reduce potential impacts by requiring that Enrollees avoid sensitive resources to the extent feasible. The total amount of riparian habitat or other habitat lost through displacement by management practices would likely be more than compensated by the riparian habitat that would be created/maintained through the Riparian Vegetation Area and/or Vegetated Buffers requirements of General Order.

During construction of management practices involving ground disturbance, there would be potential for adverse effects on biological resources, including riparian habitat, through erosion and sedimentation caused by operation of heavy construction equipment and/or accidental releases or improper management of hazardous materials used during construction (e.g., fuel, oil, lubricants, etc.). If eroded soils or leaked hazardous materials were to wash off site to riparian areas or sensitive natural communities adjacent to agricultural areas, this could adversely impact these biological resources.

Management practices that would disturb more than 1 acre of land, such activities would be subject to the Construction General Permit, including preparation and implementation of a stormwater pollution prevention plan (SWPPP), which would include erosion control and hazardous materials management measures. Depending on

[12] Irrigated agricultural land is typically bordered by ruderal or grassland vegetation that tolerates the routine vegetation disturbance associated with irrigated agricultural management. Ruderal vegetation and grassland subject to routine disturbance are typically characterized by non-native herbaceous and grasses, and they are not considered sensitive natural communities (CDFW 2019).

the amount of cut and fill involved, certain management practices also may be subject to local grading ordinances, which would typically require erosion control measures. For construction activities that are not subject to either the Construction General Permit or local grading ordinances, implementation of **Mitigation Measures HWQ-1** and **HAZ-1** would avoid or minimize potential impacts to water quality and biological resources by requiring erosion control and hazardous materials spill prevention, control, and countermeasures.

Overall, the Implementation of the General Order's Management practices effect on riparian habitat and sensitive natural communities would be largely beneficial, as it would result in the creation/management of riparian habitat adjacent of existing cultivated areas of Lily Bulb Operations and would provide greater separation between agricultural activities and existing sensitive natural communities (e.g., riparian areas, wetlands). Construction activities for certain types of management practices would have potential to cause adverse impacts on riparian habitat and sensitive natural communities, but compliance with existing laws and regulations and/or implementation of applicable mitigation measures would reduce these potential impacts. Therefore, this impact would be **less than significant with mitigation.**

Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

One of the primary objectives of the Lily Bulb Order the Commercial Lily Bulb Operations would be required to implement management practices to prevent and minimize their discharges of pesticides and sediment to surface waters. As described in Chapter I, *Executive Summary,* the Project objective #1 - Protect and restore beneficial uses and achieve water quality objectives specified in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations by: Minimizing or preventing nitrate and pesticide discharges to groundwater; Minimizing or preventing nutrient and pesticide discharges surface water; Minimizing or preventing sediment discharges to surface water; and Minimizing or preventing temperature impacts to surface water from loss of riparian shade. As discussed above in Impact BIO-1 and BIO-*2*, the Implementation of the General Order's Management practices would accomplish this through implementation of the Riparian Vegetation Area requirements, setback/Vegetation Buffer requirements, which would provide greater separation between agricultural activities and existing riparian or wetland areas and would likely result in the creation/maintaining of additional riparian habitat relative to baseline conditions.

As such, the Implementation of the General Order's Management practices effect on existing state or federally protected wetlands that may occur within or adjacent to agricultural lands of Commercial Lily Bulb Operations in the Smith River Plain would be largely beneficial. In general, the General Order would have a beneficial effect on these existing wetlands by increasing the setback/vegetation buffer distance of agricultural activities from these features, thus reducing potential discharges of agricultural

pollutants (intervening vegetation in setback areas can provide passive filtration and detention of pollutants).

The Management Practices under the General Order would not result in the direct removal or filling of any wetlands; however, it is possible that some hydrological interruption/modification could occur to certain wetlands, depending on site-specific characteristics at individual General Order Enrollee agricultural areas. Although the setback/Vegetation Buffer Area requirements are designed to protect aquatic areas and wetlands, the size of some existing wetlands within Lily Bulb agricultural areas could potentially be reduced. Wetlands located immediately adjacent to existing agricultural fields may no longer receive the same level of surface flows from agricultural runoff. While this would likely benefit water quality within these wetland areas, it could reduce their size to some degree, depending on certain site-specific factors (e.g., existing level of inflow from irrigated areas, local topography and soils, etc.).

The General Order provides Enrollees flexibility in selecting management practices and requires Enrollees to monitor and report discharges and implement management practices to minimize or prevent discharges of waste. Implementation of certain management practices under the General Order could result in reduced flows/runoff to adjacent waterbodies, including wetlands. However, the magnitude of this potential effect, however, is dependent on a number of site-specific and variable factors that cannot be known at this time. All of this suggests that indirect hydrological effects of reduced flows/runoff on state or federally protected wetlands as a result of the Proposed Project are speculative and likely less than significant.

As discussed above in Impact BIO-1 and BIO-2, the construction/installation of certain management practices involving ground disturbance (e.g., sediment control basins, grassed swales, graded channel with suitable vegetation, constructing an embankment, etc.) could result in adverse effects on biological resources, aquatic areas, including wetlands, due to erosion/sedimentation and improper management of hazardous materials. Compliance with existing laws and regulations and implementation of **Mitigation Measures HWQ-1** and **HAZ-1** would reduce these potential impacts to a level that is less than significant.

Overall, this impact would be **less than significant with mitigation**.

Impact BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

River and streams, associated adjacent wetlands, and riparian habitat are important fish and wildlife movement corridors, as they provide water and food sources, cover refugia, prey hunting opportunities, and other benefits to aquatic and terrestrial species. Several common and special-status fish species rely on streams within the Smith River Plain, many of which run adjacent to irrigated agricultural lands, as migration corridors and for spawning habitat, seasonal movements, or the completion of critical lifecycle stages.

The Implementation of the General Order's Management practices would largely benefit these important areas through the implementation of the Riparian Vegetation Area requirements, setback/vegetation buffer requirements. This would reduce the potential for human activities (e.g., operation of farm equipment) to disturb migratory fish or wildlife species that may be passing through the adjacent habitat areas. Further, the additional vegetation that would be established in Riparian Vegetation Areas and setback/Vegetation Buffer areas would provide habitat for migratory wildlife species and allow for improved use of migratory wildlife corridors.

The reduced pollutant discharges afforded by the General Order through the setback requirements and compliance with reducing discharges of pollutants from agricultural activities associated with lily bulbs operations would benefit water quality in river, streams and wetlands that may serve as wildlife corridors. In particular, the requirements related to pesticide discharges, sediment and erosion, including Irrigation and Nitrogen Management Plan (INMP), would reduce potential ongoing impacts to spawning habitats (e.g., through discharge of fine sediments) in streams and rivers adjacent to agricultural areas. Additionally, the General Order likely would minimize and prevent discharge of sediment, nutrients, excess temperature, and pesticides to surface water, riparian habitat and vegetation in the region that will benefit any number of special-status species that may use these areas. Implementation of Management Practices would support beneficial uses to biological resources and aquatic habitats (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

The General Order would not involve construction of any new large structures or establish new impassible land uses that would substantially inhibit wildlife movement. Construction activities for certain management practices (e.g., sediment control basins, grassed swales, graded channel with suitable vegetation, constructing an embankment, etc.), depending on the location of such facilities on Enrollee agricultural areas, could temporarily impact wildlife movement (e.g., wildlife species could avoid construction areas and associated human activity), but this potential impact would be less than significant. Implementation of **Mitigation Measures HWQ-1** and **HAZ-1** would prevent adverse impacts on spawning habitat in adjacent waterbodies due to discharge of fine sediments or hazardous materials during construction activities.

This impact would be **less than significant with mitigation.**

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

Numerous regional, county ordinances and policies exist for the protection of biological resources within the Smith River Plain and Coastal Region. Examples include ordinances and local zoning that specify define Environmentally sensitive habitat areas (ESHAs) as defined in Policy 1.E.12 in the County's general plan (2003), are coastal wetland, coastal dunes, coastal estuary, and riparian vegetation. Additional policies include Local Coastal Program Land Use Plan (1983) standards for the management of

wildlife, habitat and vegetation in the County.

The Riparian Vegetation Area requirements would result in the creation/maintaining riparian habitat adjacent to agricultural lands from Commercial Lily Bulb Operations throughout the Smith River Plain. Additionally, the Riparian Vegetation Area and Vegetated Buffer would result in an impact on agricultural resources, these setback areas would be planted with vegetation and would benefit biological resources by providing riparian habitat. Additionally, installing and/or maintaining vegetated buffers would allow the natural establishment and abundance of native riparian vegetation to minimize and prevent discharge of sediment, nutrients, excess temperature, and pesticides to surface water, riparian habitat and vegetation in the region, which will benefit any number of special-status species that may use these areas. The implementation of Management Practices would support beneficial uses to biological resources and aquatic habitats (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

The implementation of Management Practices and requirements included General Order may affect trees and other biological resources that are protected through local policies or ordinances. However, the activities that could occur under the General Order are expected to generally align and be consistent with such local ordinances and policies. Further, the implementation of the Riparian Vegetation Areas and setback/Vegetation buffer requirements is expected to result in improved habitat values, functions, and potential increase of numbers of trees and buffers would allow the natural establishment and abundance of native riparian vegetation. Compliance with existing laws and regulations and implementation of **Mitigation Measures BIO-1, HWQ-1** and **HAZ-1** would reduce these potential impacts to a level that is **less than significant**.

Impact BIO-6: Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP

No HCP, natural community conservation plan, or other approved local HCP applies to the Proposed Project Area of the General Order; therefore, **no impact** would occur.

VII. Cultural Resources

A. Introduction

This section provides a background discussion of the regulatory setting, the environmental setting, an impact analysis, and mitigation measures for cultural resources. Section 15064.5(a)(3) of the CEQA Guidelines defines cultural resources as objects, buildings, structures, sites, areas, places, records or manuscripts that are determined historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Relative to the Proposed Project, these resources can be further described as pre-contact (sometimes referred to as prehistoric) Native American archaeological sites, post-contact historic-era archaeological sites, historic buildings and structures, landscapes, districts, and linear features. Pre-contact archaeological sites are places where Native Americans lived or carried out activities prior to the arrival of colonists, which is generally prior to the early 1800s for the project region. Post-contact, or historic-era, archaeological sites reflect the activities of people after initial exploration and settlement in the region by fur traders beginning in the 1820s, and later by others. Native American sites can also reflect the historic era. Pre- and post-contact sites may contain artifacts, cultural features, subsistence remains, and human burials.

B. Regulatory Setting

1. Federal Laws, Regulations, and Policies

No federal laws, regulations, or policies are applicable to cultural resources and the Proposed Project, reasonably foreseeable distribution components, and alternatives.

2. State Laws, Regulations, and Policies

California Environmental Quality Act

Section 21083.2 of CEQA (Public Resources Code Section 21000 et seq.) requires that the lead agency determine whether a project may have a significant effect on unique archaeological resources. A unique archaeological resource is defined in CEQA as an archaeological artifact, object, or site about which it can be clearly demonstrated that there is a high probability that it:

Contains information needed to answer important scientific research questions, and there is demonstrable public interest in that information;

Has a special or particular quality, such as being the oldest of its type or the best available example of its type; or

Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Measures to conserve, preserve, or mitigate and avoid significant effects on these resources are also provided under CEQA Section 21083.2. CEQA Guidelines Section

15064.5 also provides criteria and processes/procedures for identifying and minimizing harm to historical resources.

California Health and Safety Code Section 7050.5

Section 7050.5 of the Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be a Native American, the Coroner must then contact the Native American Heritage Commission (NAHC).

California Register of Historical Resources

The California Register of Historical Resources (CRHR) is established in PRC Section 5024.1. The register lists all California properties considered to be significant historical resources, including all properties listed in, or determined to be eligible for listing, the National Register of Historic Places (NRHP). Resources listed in, or eligible for listing in, the CRHR are referred to as *historical resources.* The criteria for listing in the CRHR include resources that:

1. Are associated with the events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Are associated with the lives of persons important in our past;

3. Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

4. Have yielded, or may be likely to yield, information important in prehistory or history.

California Code of Regulations (CCR) Section 4852 sets forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

C. Environmental Setting

This section provides a background discussion of the pre-contact period background, references ethnographic background information provided by the Tolowa Dee-ni' Nation, post-contact historic period background, protohistoric period background of the region, the geoarchaeological sensitivity of the area for buried archaeological remains, and known cultural resources within the Proposed Project Area.

Pre-Contact Archaeological Background

The *Taa-laa-wa Dee-ni'* (Tolowa People) Genesis account, *Tax-ne Nes-ya~,* and the archaeological record demonstrate the long-lasting connection the *Taa-laa-wa Dee-ni'*

have with the landscape within and around the Proposed Project Area. Archaeological research in the North Coastal Region of California indicates that the area has been occupied for many thousands of years (Hildebrandt 2007:83-97) (Table CR-1). The earliest known human inhabitants of the region likely lived in small, highly mobile bands. Referred to as the Post Pattern, fluted points and chipped stone crescents are indicative of this period, although evidence with good stratigraphic context is rare within the region. The Post pattern was followed by the Borax Lake Pattern, taking place 8,000 to 2,500 years before present (BP). Artifacts associated with this pattern include wide-stemmed projectile points, milling slabs, hand stones, serrated bifaces, edge-flaked spall tools, and ovoid flake tools. The Borax Lake artifact assemblages suggest subsistence and settlement patterns based on foraging with little emphasis on storage activities. The one well-defined Borax Lake site along the coast in Humboldt County lacks marine components and suggests short-term, seasonal occupation.

The unstable nature of geomorphic processes and/or the xeric climatic conditions during the Middle Holocene may have contributed to the scarce presence of archaeological data representing that period. The Mendocino Pattern has been documented in the archaeological record between 3,000 cal BC and cal AD 500 along the northwest coast of California and spans the Middle and Late Holocene periods. Common components of the Mendocino Pattern consist of side-notched, corner-notched, and concave-based dart points, handstones and millingslabs, various types of flake tools, and cobble tools. Sites consistent with the Mendocino Pattern suggest temporary settlements and terrestrial foraging subsistence patterns.

By cal AD 500, a high degree of structurally complex sedentism with an emphasis on exploitation of marine resources had developed along the northern coast. This Gunther Pattern displays evidence of adaptions to the abundance of marine and riverine resources available along the coastal plain and coastal redwood zone. Archaeological sites from this period show evidence of continuing population growth and density, and intensified use of lowland resources such as fish and acorns. Greater emphasis was placed on processing and storing foods for the winter. Artifacts characteristic of this period include Gunther barbed projectile points, concave-based points, ground and polished stone artifacts with artistic elaboration, flanged pestles, mauls, notched net sinkers, steatite bowls, clubs, stone adze handles, mortars and pestles, and various bone and antler spears, harpoons, and hooks.

Table CR-1. Cultural Sequence for the Northwest California Coast

Period	Approximate Dates	Associated Pattern
Pleistocene-Holocene Transition	11,500-8,000 cal BC	Post Pattern
Early Holocene	8,000-5,000 cal BC	Borax Lake Pattern
Middle Holocene	5,000-2,000 cal BC	Mendocino Pattern
Late Holocene	post-2,000 cal BC	Gunther Pattern

Source: Hildebrandt 2007:86

1. Ethnographic Background

The Tolowa peoples fully occupied the territory within the Smith River basin at the time of colonization. This cultural group has a long history of occupation in the area as evidenced by the numerous archaeological sites that are present. Please see Chapter VIII, Tribal Cultural Resources, for relevant background and history information provided by the Tolowa Dee-ni' Nation.

2. Post-Contact Historic Background

The following description of the historic era events within and around the Smith River watershed is adapted from City of Crescent City (2001), Del Norte County Historical Society (2025), Gould (1978), and Kyle (2002).

Early Incursions

The coastal region south of the Proposed Project Area was first visited by Juan Francisco de la Bodega Quadra in 1775 at Trinidad Bay, and then by George Vancouver in 1793, followed by further visits to the region by Spanish, English, and Russian explorers and traders throughout the 17th and 18th centuries. The archaeological record and oral tradition suggest that the indirect contact with the crews of these European explorers introduced epidemic disease to the region, resulting in the abandonment of a large Tolowa village a few miles north of Crescent city. The first direct encounters between Tolowa and Euro-Americans occurred in June of 1828, during the explorations of Jedediah Smith and his company of fur trappers, between the mouth of the Klamath River and the present site of Crescent City.

Mining

Although fur trapping and exploration continued, no permanent American settlements were established in the region until the discovery of gold in areas of the Klamath, Smith, and Rogue Rivers brought prospectors to the area. White settlement of the area intensified in the 1850s, with the founding of Crescent City by J. F. Wendell in 1853

(City of Crescent City 2001). The limited overland access to the region created a need for the natural harbor to be developed to accommodate ocean-going ships that supplied the mining communities and brought in settlers and entrepreneurs. Crescent City was incorporated in April of 1854, and has been the county seat of Del Norte County since 1857. The city became a significant shipping and trading center for the region, with settlers establishing farming communities in the Smith River and Elk Valleys. By the 1860s, miners began to exploit other mineral resources, including copper and chrome with limited results and large-scale mining operations were never developed. As mining efforts declined, the residents of the area turned to logging.

Lumber

The regional lumber industry began in 1870 with the construction of a sawmill at Lake Earl that would become the Crescent City Mill & Transportation Company. Railroads and a wharf were built to facilitate shipment of logs and lumber, and multiple mills were set up throughout the region. After World War II, Del Norte County saw a great influx of lumbermen and the logging and lumber trade was the largest employer in Del Norte County. Although the timber industry had been the primary economic force in the region, it peaked by 1950, after which the demand for lumber began to fall and mills began to close, until no sawmills were in operation in Del Norte County (City of Crescent City 2001).

Fishing

The marine and riverine habitats provided opportunity for rich fisheries. The commercial fisheries initially established on the Smith and Klamath Rivers employed the Tolowa and Yurok to utilize their fishing rights and knowledge. The canneries were successful, producing salt-cured fish and canned mussels, until the industry decimated the fish populations and eventually forced the collapse of the commercial fisheries. Eventually, sport fishing developed along the Klamath and Smith Rivers, with anglers participating in sport of King salmon fishing. The 1974 completion of Citizens Dock, with tackle shops, a marine gas station, boat repair shops and launch facilities, transitioned the old port into a bustling harbor that supports tourism and the local community.

Battery Point Lighthouse, The Brother Jonathan and the St. George Reef Lighthouse

The oil lamps at the Battery Point Lighthouse, also known as the Crescent City Light Station, were first lit on December 10, 1856. The light was automated in 1953 but the Fifth Order Drumm lens was maintained until decommissioned in 1965. The light was reactivated in 1982 and continues to serve as a private aid to navigation. Many stories about Battery Point Lighthouse’s history and Native American legends about the island have survived.

The sinking of S.S. Brother Jonathan on July 30, 1865, off St. George Reef, just north of Crescent City, remains the worst maritime disaster on the U.S. mainland’s Pacific coast. In stormy seas and gale force winds, the overloaded steam-driven side-paddle wheeler

was impaled on the rocks in the Dragon Channel. Of the over 200 passengers, only nineteen people survived. The recovered remains of the victims were buried in a local cemetery but knowledge of that location has been lost. The Brother Jonathan Cemetery, in Brother Jonathon Park in Crescent City, serves as a memorial, in name only, for those lost to the tragedy. The wreck was salvaged in the 1990's.

The St. George Reef Lighthouse was built in response to the tragic sinking of the S.S. Brother Jonathan. The structure is located on Northwest Seal Rock, 7 miles off Point St. George. The original structure was abandoned by the U.S. Coast Guard in 1975 due to safety concerns but has been replaced by a fully automated buoy to guide mariners around Dragon Rocks. In 1983, the first order Fresnel lens was disassembled and removed from the tower and reassembled at the Del Norte Historical Society's Main Museum.

Tsunamis

In the early morning hours of March 28, 1964, a series of five tsunami waves struck Crescent City, killing 11 people, injuring 24, and destroying 29 city blocks. The keepers at Battery Point were stranded in the lighthouse and witnessed the destruction to Crescent City. The devastation was the worst in recorded history along the U. S. west coast. Tsunamis have swept the area more than once, with written historical records extending back to occurrences in the 1700s and the most recent event in 2016, resulting in the town's attention to tsunami hazard education, preparedness, and public safety goals and the National Oceanic and Atmospheric Administration's (NOAA) formal recognition of Crescent City as a Tsunami Ready Community.

3. Geoarchaeological Setting

To assess the potential for buried archaeological sites within a given Proposed Project Area, an investigation will often consider factors that either encouraged or discouraged human use or occupation of certain landforms (e.g., geomorphic setting and distance to water), combined with those that affected the subsequent preservation (i.e., erosion or burial) of those landforms. It is well known, for instance, that pre-contact archaeological sites in California are most often found on relatively level landforms near natural water sources (e.g., spring, stream, river, or estuary), which is often where two or more environmental zones (ecotones) are present. Landforms with this combination of variables are frequently found at or near the contact between a floodplain and a higher and older geomorphic surface, such as an alluvial fan or stream terrace (Hansen 2004:5). This section will briefly introduce the methods of geoarchaeology and the geomorphic context of the program area to better understand the potential for buried archaeological deposits in this region.

In general, most Pleistocene-age landforms have little potential for harboring buried archaeological resources, as they developed before the first evidence of human migration into North America (ca. 13,000 years ago). However, Pleistocene or older surfaces buried below younger Holocene deposits do have a potential for containing

archaeological deposits because of the long-term viability of the platform (or Pleistocene age surface) from which occupation can occur. Holocene[1] alluvial deposits may contain buried soils (paleosols) that represent periods of landform stability before renewed deposition. The identification of paleosols within Holocene-age landforms is of particular interest because they represent formerly stable surfaces that have a potential for preserving archaeological deposits.

4. Geomorphic Setting

The Proposed Project Area lies on the western edge of the of the Klamath Mountain range, which is situated in the northeastern portion of Humboldt County and eastern Del Norte County. The primary hydrologic drainage of the Klamath Mountain range is the Smith River on the north and the Klamath and Trinity Rivers to the south. The Smith River flows directly through the Proposed Project Area directly into the ocean and represents a major force in shaping the geomorphology of the region. The Del Norte County land area is composed of accreted oceanic terrains that are gradually older from west to east and include Paleozoic and Mesozoic marine sedimentary, volcanic, and plutonic rocks (Meyer, Kaijankoski, and Rosenthal 2011). The high gradient topography of the Klamath Mountains within the Smith River watershed produces the highest runoff of sediment in all of California (Meyer, Kaijankoski, and Rosenthal 2011)

The potential for the Proposed Project Area to contain buried archaeological resources was investigated using a model formulated by Meyer, Kaijankoski, and Rosenthal (2011) for predicting a location's sensitivity for buried Native American archaeological sites based on the age of the landform, slope, and proximity to water. A location is considered to have the highest sensitivity if the landform dates to the Holocene, has a slope of 5 percent or less, is within 150 meters (500 feet) of fresh water, and 150 meters (500 feet) of a confluence. A basic premise of the model is that Native American archaeological deposits will not be buried within landforms that predate human colonization of the area. The study also investigated the potential for archaeological deposits to occur at the surface, which included the above criteria as well as least-cost surfaces, or energy costs of traveling on the surface. In the case of the Del Norte region of far northern California, the population densities during the early Holocene were sufficiently low where the probability of buried archaeological deposits would be considered low—even in alluvial landforms. Indeed, many of the Holocene-age surface age landforms contain multiple Holocene-age buried soils, or former land surfaces that humans would have potentially occupied. Hence, soils buried later in the Holocene (i.e., more recently) have a higher potential to contain archaeological deposits.

Based on landform age and the other factors described above, the model determined that the sensitivity for buried sites in the Proposed Project Area is predominately 'moderate' from a surface site potential, whereas the potential for buried deposits is considered 'high' on the western side, or along the coastal terraces, and 'low' in the areas east of Lake Earl. The potential is considered 'very low' in the areas east of Highway 197 as the gradient becomes steeper and the landforms become older than

the latest Pleistocene (Meyer, Kaijankoski, and Rosenthal 2011). The sediment loads from the Smith River south along the coastline have deposited sediment over the course of the Holocene, which suggests a greater likelihood of encountering buried deposits in this area, which contains about 14,000-acres within the Proposed Project Area. Further, this area is level and near coastal and fresh-water resources. This suggests that these portions of the program areas are underlain by a landform that would have supported human activity and, as such, is considered of greater sensitivity for buried deposits and surface deposits. The remaining areas of landforms within the Proposed Project Area, east of Lake Earl and Highway 197, are considered having low sensitivity for buried deposits due to the antiquity of the landform (pre-Pleistocene period). While the more recent Holocene deposits within the coastal plains are more sensitive for buried deposits, the potential for paleo-coastal occupation (>15,000 years before present) are limited along the far northwest portion of California because the majority of the landscape available during that timeframe has been submerged by rising sea levels. Further south, on the other hand, such as near Fort Bragg, there is greater potential for paleo-coastal occupation because the present coast has steep bathymetry off-shore, which indicates that the paleo-coastlines would be more like the present-day (Meyer, Kaijankoski, and Rosenthal 2011).

5. Known Cultural Resources within the *Proposed Project Area*

A record search request was sent to the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University on May 7, 2025. Because of the vast size of the study area (64,410 acres), the record search was limited to a listing of all archaeological resources within the Proposed Project Area. The data results identified resource attributes, as discussed below, but information about resource eligibility to the CRHR or NRHP was not available. According to the NWIC, as of May 2025, 130 cultural resources have been recorded within the Smith River watershed basin in Del Norte County (NWIC File #24-1786). The following sections provide a quantitative description of the resource attributes, relative age, and type of resource recorded within the Proposed Project Area.

Resource Attributes

The California Office of Historic Preservation Technical Assistance Series #13 (OHP 2025a) provides resource type category definitions for cultural resources, which are found within the NWIC data base. These include the following:

> Building: A resource created principally to shelter or assist in carrying out any form of human activity. "Building" may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn.
>
> Structure: The term used to describe a construction made for a functional purpose rather than creating human shelter.

Object: The term is used to distinguish those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed, as opposed to a building or structure. Although it may be movable by nature or design, an object is associated with a specific setting or environment. Objects should be in a setting appropriate to their significant historic use, role, or character. Objects relocated to a museum are not eligible for listing.

Site: The location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing building, structure, or object. A site need not be marked by physical remains if it is the location of a prehistoric or historic event and if no buildings, structures, or objects marked it at that time.

Historic District: Historic districts are unified geographic entities which contain a concentration of historic buildings, structures, or sites united historically, culturally, or architecturally. Historic districts are defined by precise geographic boundaries.

Table CR-2 provides the attributes of post-contact historic-era built environment resources and the quantity of recorded resources exhibiting attributes within the Proposed Project Area. **Table CR-3** provides the attributes of post-contact historic-era archaeological sites and the quantity of recorded resources exhibiting attributes within the Proposed Project Area. **Table CR-4** provides the attributes of pre-contact archaeological sites and ethnographic sites and the quantity of recorded resources exhibiting attributes within the Proposed Project Area. The resource attribute definitions, as outlined on pages 38 through 42 of the California Office of Historic Preservation Technical Assistance Series #13 (OHP 2025), are provided for each type of resource.

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

ATTRIBUTE WITH DEFINITION	QUANTITY
HP2. Single family property: A building constructed to house one family.	002
HP4. Ancillary building: Barns, outhouses, detached garages, carriage houses, sheds, etc.	001
HP5. Hotel/motel: Any building or group of buildings providing temporary lodging for travelers.	001
HP13. Community Center/Social Hall: Any building designed to hold meetings of social groups, e.g., fraternal halls, women's clubs, boy scout cabins, etc.	001

HP14. Government building: Any building designed to house government administration or transactions, e.g., post offices, city halls, county courthouses, etc.	001
HP19. Bridge: Any overpass for automobiles, trains, pedestrians, etc.	001
HP26. Monument/mural/gravestone: 1) Any object with a commemorative or artistic purpose, e.g., statue, obelisk, sculpture, etc.; 2) Any painting, photograph, etc. on a wall or ceiling.	001
HP30. Trees/vegetation: Any plant, whether planted or growing naturally, not part of a landscape plan.	001
HP33. Farm/ranch: Any place where crops or animals are raised.	004
HP35. CCC/WPA property: Any property built under one of the public works programs of the New Deal. Includes properties aided by funds or personnel from the Works Progress Administration (WPA) and successors, Public Works Administration (PWA), Civilian Conservation Corps (CCC), etc.	001
HP37. Highway/trail: Any roadway, from freeway to footpath.	002
HP39. No other code applies.	002
HP40. Cemetery: Burial ground with monuments (except archeological sites).	001
HP46. Walls/Gates/Fences.	001

Table CR-3: Attributes of Post-Contact Historic-Era Archaeological Sites and Quantity of Recorded Resources Exhibiting Attributes within the Proposed Project Area

ATTRIBUTE	QUANTITY
AH1. Unknown: No characteristics listed on the site record.	002
AH2. Foundations/structure pads: Structural footings or lineal alignments made from wood, brick, or rock to support a structure, e.g., slabs of concrete, leveled earth pads, pilings, walls, stairs, etc.	009
AH3. Landscaping/orchard: Evidence of modification through contouring of the land or planting vegetation, e.g., hedgerow, orchards, terraces, and ponds.	005
AH4. Privies/dumps/trash scatters: Any refuse deposits, outhouse pits, or other accumulation of debris, e.g., trash pits, trash scatters, outhouse pits, and dumps.	029
AH5. Wells/cisterns: A hole or receptacle designed to hold or provide access to water which may or may not be lined.	002
AH6. Water conveyance system: Any device constructed to transport water over a distance, e.g., flumes, pipes, ditches, canals, and tunnels.	006
AH7. Roads/trails/railroad grades: A lineal construction, either depressed, elevated, or on ground level, designed to facilitate the transportation of people or vehicles, e.g., bridge, railroad grade, tunnel, trail, wagon road, etc.	013
AH9. Mines/quarries/tailings: An excavation and associated structures built into the earth to extract natural resources (ore, precious metals, or raw lithic materials). This category includes quarries. Examples include shafts, elevators, mining tunnels, quarry, glory holes, tailings.	006
AH10. Machinery: A mechanical device, e.g., mills, farm equipment, steam donkeys, windmills, etc.	002
AH11. Walls/fences: Any wall or fence including post holes or posts placed at regular intervals, retaining walls, post-cairns, walls, fences, jetties, and breakwaters.	009
AH12. Graves/cemetery: Any single or multiple burial location.	005
AH15. Standing structures: Any historic building that is still standing, e.g., outhouse, shed, house, cabin, office building, barn, etc.	002
AH16. Other: There is no other category in which the site description could be placed.	016

Table CR-4: Attributes of Pre-Contact Archaeological Sites and Ethnographic Sites and Quantity of Recorded Resources Exhibiting Attributes within the Proposed Project Area

ATTRIBUTE	QUANTITY
AP1. Unknown: No characteristics listed on the site record.	002
AP2. Lithic scatter: A major characteristic of the site is a scatter of chipped or flaked stone resulting from human manipulation	046
AP7. Architectural feature: Site contains any feature which indicates the presence of human construction activity, e.g., post holes, house pits, dance house, sweat lodge, hunting blinds, fish traps, etc.	009
AP8. Cairns/rock features: Site contains a patterned arrangement of rocks purposefully constructed or modified, e.g., rock alignments, cairns, rock rings of unknown function, etc.	002
AP9. Burials: The site contains human bone.	021
AP11. Hearths/pits: Site contains any feature which indicates cooking activity, such as roasting pits, association of cracked or burnt rock, discolored soil, ash, and carbonized wood or plants.	017
AP15. Habitation debris: Site contains a deposit characterized by a wide range of artifacts, materials, or features which represent a variety of human activities.	039
AP16. Other: There is no other category in which the site description can be placed.	022

Relative Age and Resource Category

Table CR-5 provides the reported relative age of the resource and the quantity of each type of resource of that age. The definitions, as outlined on pages 13 and 14 of the California Office of Historic Preservation Technical Assistance Series #13 (OHP 2025), for relative age are provided.

Table CR-5: Quantity of Resource Category by Relative Age

RELATIVE AGE	RESOURCE CATEGORY	QUANTITY
Pre-contact: The term "pre-contact" applies to all historical resources used by Native Americans prior to direct contact with non-indigenous peoples.	District	001
	Object	002
	Other	007
	Site	043
Post-contact Historic-era: The term "post-contact historic-era" applies to all historical resources associated with non-indigenous peoples, as well as those used by Native Americans after direct contact with non-indigenous peoples.	Object	002
	Other	006
	Site	041
	Site, element of district	001
	Site, other	002
Protohistoric: The term “protohistoric” applies to all historical resources used by Native Americans during the post-contact historic-era period, as determined from historic accounts and/or the presence of materials introduced by non-native peoples.	Site	001
Pre-contact, post-contact historic-era	District	003
	Site	010
	Site, element of district	003
Pre-contact, protohistoric, post-contact historic-era	Site	006
	Site, element of district	002

The CRHR lists all California properties considered to be significant historical resources, including all properties listed in, or determined to be eligible for listing, the NRHP. CCR Section 4852 sets forth the criteria for listing historical resources in the California Register. The criteria are consistent with those developed by the National Park Service for listing historical resources in the National Register but have been modified to include a range of historical resources which better reflect the history of California. The criteria

to be considered for nomination include the types of resources eligible, evaluation of significance and integrity, and other special considerations.

Although the NWIC information did not provide information about resource eligibility to the CRHR or NRHP, the Del Norte County Built Environment Resource Directory (OHP 2025b) indicates that there are 41 listed, eligible, or potentially eligible historical resources in the county, some of which are likely within the Proposed Project Area. An additional 54 resources that have not been evaluated or need re-evaluation of eligibility for the National or California registers. The presence of these recorded historical resources, which include archaeological sites and districts in addition to built environment resources, serves as an indicator that significant resources that have not yet been identified are likely present within the Proposed Project Area.

D. Impact Analysis

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

1. Impact Analysis Methods

Criteria for Determining Significance

Section 15064.3(b) of the CEQA Guidelines notes that “A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.” It further states that “[a] substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired” (Section 15064.3(b)(1)). To be materially impaired is defined as an action that demolishes or materially alters the physical characteristics of an historical resource in an adverse manner such that it no longer conveys those characteristics the contribute to its historical significance and that justify its inclusion in listed registers (Section 15064.3(b)(2)). It is the responsibility of the CEQA lead agency to identify potentially feasible, enforceable measures to mitigate significant changes in the significance of an historical resource (Section 15064.3(b)(3)).

If an archaeological site does not meet the criteria as a historical resource, but has been determined to be a unique archaeological resource pursuant to Public Resources Code (PRC) 21083.2(g), the lead CEQA agency must similarly address potential impacts.

For the purposes of this analysis, the Proposed Project would result in a significant impact to cultural resources if it would:

Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines section 15064.5;

Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5;

Disturb any human remains, including those interred outside of dedicated cemeteries.

This impact analysis uses a qualitative approach to evaluate the potential direct and indirect impacts to cultural resources and/or archaeological resources that could result from Proposed Project activities. As described in Chapter III, Project Description, the precise locations and timing of individual actions (e.g., management practice construction/implementation) that could occur under the Lily Bulb Order are not known and cannot be known at this time. Additionally, it is not known which management practices might be implemented at which lily bulb operations.

Therefore, the analysis considers generally the impacts to cultural resources that could occur at lily bulb operations in the Smith River Plain based on the various reasonably foreseeable management practices described in Chapter III, Project Description and Attachment B.

2. Thresholds of Significance

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

1) Cause a substantial adverse change in the significance of historical resource as defined in CEQA Guidelines section 15064.5,

2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5, or

3) Disturb any human remains, including those interred outside of dedicated cemeteries.

3. Impacts and Mitigation Measures

Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 (*Less than Significant with Mitigation*)

In general, the Proposed Project is designed to address discharges of pollutants from lily bulb operations. The activities that could occur under the Proposed Project would be limited to implementation of management practices to reduce agricultural runoff/pollutant discharges, and the monitoring and reporting activities that would be required under the Lily Bulb Order. Refer to the Project Description Chapter for a detailed discussion.

Many of the activities that could occur under the Proposed Project would have no potential to adversely affect historical resources and/or unique archaeological resources. For example, reasonably foreseeable management practices such as applying less fertilizer, applying pesticides in accordance with label instructions,

minimizing tillage and bare soils, etc., would not affect cultural resources. However, construction/installation of management practices that would involve new ground disturbance and excavation could potentially cause damage to, disrupt, or otherwise adversely affect historical resources and unique archaeological resources if they are present. By disturbing subsurface soils (particularly those soils that have previously been undisturbed), these activities could result in the loss of integrity of cultural deposits, loss of information, and the alteration of a site setting.

Although the majority of Proposed Project activities are expected to occur within existing lily bulb operations (i.e., where soils have generally been repeatedly disturbed), it is possible that some management practices could be installed adjacent to existing lily bulb operations. For example, retention or detention basins could be installed on the periphery of existing lily bulb operations in areas where previous soil disturbance has not occurred. Likewise, certain management practices that are installed within lily bulb operations could involve excavation to a depth of soil that has not previously been disturbed (e.g., a retention basin or vegetated swale could require excavation to five feet deep, whereas prior tilling/ground disturbance has only occurred to two feet deep). These types of activities would have the potential to adversely affect buried historic or pre-historic archaeological resources that may be within such previously undisturbed soils.

In general, it is considered unlikely that the Proposed Project would result in any direct impacts on built environment historical resources, as the proposed Lily Bulb Order would not require or encourage any physical alterations to existing built structures; however, it is possible that built resources may be removed in order to implement a management practice under the Lily Bulb Order. In this instance, if the structure(s) to be affected were listed or eligible for listing in the CRHR (i.e., were historical resources), this could result in a significant impact.

Implementation of **Mitigation Measure CUL-1** would address these potential impacts by requiring that Enrollees inventory and evaluate potential resources that may be present within the proposed disturbance area, and employ avoidance and/or minimization measures for any significant resources. Provisions must also be made by growers for the accidental discovery of unknown buried cultural resources. Given implementation of this mitigation measure for applicable activities, this impact would be ***less than significant with mitigation***.

Mitigation Measure CUL-1: Cultural Resources Inventory, Evaluation of Resources for Significance, and Implementation of Avoidance and/or Minimization Measures.

For proposed actions or management practices that involve modifications to previously undisturbed soils (i.e., below the levels of current agricultural practices, or in areas that have not previously been cultivated or developed) or a structure that may qualify as a historical resource, the following steps must be taken to avoid and/or reduce potential impacts on significant cultural resources:

The Enrollee must retain an archaeologist who meets the U.S. Secretary of Interior's professional standards as an archaeologist to conduct a records search at the regional Information Center of the California Historical Resources Information System (CHRIS). The record search must determine if cultural resources have previously been identified in the proposed disturbance area and whether the proposed disturbance area has previously been subject to archaeological pedestrian survey.

The professional archaeologist must contact the NAHC to request a search of the Sacred Lands files and a list of tribes with a traditional and cultural affiliation with the proposed disturbance area. The archaeologist must contact the tribes identified by the NAHC to request information about sites and resources that may not have been identified during the record search process, including TCRs, and whether the tribes have any concerns about the proposed action.

If a pedestrian survey has not previously been conducted on the property, a survey must be conducted by a qualified archaeologist. All identified archaeological sites and historic buildings and structures must be recorded on California Department of Parks and Recreation 523 Site Record forms. A Historic Resources Identification Report must be prepared to document the findings of the study; the report must be submitted to the Regional Water Board and the CHRIS Information Center. If the property has been subject to previous study, additional survey is not required if no cultural resources, including TCRs, were identified during the study and the age and adequacy of the report are considered sufficient by the consulting archaeologist for the purposes of the present project. The report from the previous survey can then be used to satisfy the CEQA requirements for historical resources. If the property has been subject to previous survey and a cultural resource has been identified within the proposed disturbance area, a qualified archaeologist must conduct a pedestrian survey to assess the current condition of the resource relative to the proposed action.

If cultural resources are identified either by the record search or pedestrian survey, the qualified archaeologist must evaluate the significance of archaeological resources, per the State Water Board Resources Control Board guidelines[13] (2019). Note that buildings that would be impacted by the proposed action would require evaluation for CRHR eligibility by a qualified architectural historian. If the cultural resource(s) are determined to be historical resource(s) (i.e., listed or eligible for listing in the CRHR), the enrollee or third party, in coordination with the qualified archaeologist, must avoid impacting the resource(s) to the extent feasible. This would include relocating or redesigning proposed management practice(s) such as to avoid the resource or leaving structures in place in setback areas or otherwise preserving structure(s) that are listed or eligible for listing. If the historical resource(s) cannot be completely avoided, the qualified archaeologist must develop and implement a data recovery plan, which makes

[13] Guidelines for Applicants and their Consultants on Preparing Historic Property Identification Reports for the Clean and Drinking Water State Revolving Fund Programs. Revised 9/12/19. While these guidelines were developed for other State Water Board programs, they provide protocols that can generally be applied to other programs where cultural resources must be addressed.

provisions for adequately recovering the scientifically consequential information from and about the historical resource(s) that may be impacted by the proposed activity. The data recovery plan must be prepared and submitted to the Regional Water Board for approval, and the data recovery plan must be approved by Regional Water Board prior to any excavation taking place that may impact the resource(s). Regional Water Board must ensure that data recovery plans for Native American archaeological sites have the opportunity be reviewed by consulting tribes. Archaeological sites known to contain human remains must be treated in accordance with the provisions of Section 7050.5 of the Health and Safety Code (see Mitigation Measure CUL-3). For any artifacts removed during project excavation or testing, the professional archaeologist must provide for the curation of such artifact(s). For structure(s) evaluated as a historical resource(s) that cannot be avoided, reconstruction of the structure(s) at an off- site location, consistent with the Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings, may be an appropriate minimization measure that may be implemented in addition to, or as part of, the data recovery plan.

1) Provisions must be made by the enrollee or third party for the accidental discovery of historical or unique archaeological resources during construction of applicable management practices, pursuant to CEQA Guidelines 15064.5(f). If cultural resources[14] are uncovered during construction, work must immediately cease within 50 feet of the finds and the materials must be evaluated by a qualified archaeologist. If the finds are determined to be a historical or unique archaeological resource, avoidance measures or appropriate mitigation (e.g., data recovery, documentation, and curation) must be implemented.

Impact CUL-2: Cause a substantial adverse change in the significance of archaeological resources pursuant to section 15064.5. (*Less than Significant with Mitigation*)

See Impact CUL-1, above.

Mitigation Measure CUL-2.

See Mitigation Measure CUL-1, above.

Impact CUL-3: Disturb Any Human remains, including those interred outside of dedicated cemeteries. *(Less than Significant with Mitigation)*

[14] Native American archaeological materials or indicators may include, but are not limited to, arrowheads and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars, and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone, fire affected stones, shellfish, or other dietary refuse. Historic era archaeological materials may include, but not be limited to: adobe or fired brick; metal objects such as nails, hinges, machine parts, etc.; household wares such as pottery or glass artifacts or shards; tin cans; milled lumber, etc.

Similar to the potential impacts to historical and archaeological resources discussed under Impact CUL-1 and CUL-2, activities conducted under the Lily Bulb Order that involve ground disturbance have the potential to disturb previously undocumented human remains. In general, it is considered unlikely that human remains would be present in previously disturbed soils within existing irrigated agricultural fields; however, this possibility cannot be entirely ruled out and human remains must be addressed in accordance with state law regardless of their context in disturbed or undisturbed ground. If human remains were uncovered during ground-disturbing activities, this could result in a significant impact.

Implementation of **Mitigation Measures CUL-1** and **CUL-3,** the latter of which would require compliance with existing state laws pertaining to the discovery of human remains (e.g., Health and Safety Code Section 7050.5), would reduce such impacts to a less-than-significant level. As such, this impact would be ***less than significant with mitigation***.

Mitigation Measure CUL-3: Comply with State Laws Pertaining to the Discovery of Human Remains.

If human remains are discovered during construction, the requirements of Health and Safety Code Section 7050.5 must be followed. Potentially damaging excavation must halt on the construction site within a minimum radius of 100 feet of the remains, and the county coroner must be notified. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, the NAHC must be contacted by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). Pursuant to the provisions of PRC Section 5097.98, the NAHC must identify a most likely descendent (MLD). The MLD designated by NAHC must have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. The enrollee must work with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect. Ground disturbing activities must not resume until these requirements are met.

VIII. Tribal Cultural Resources

This section presents the regulatory setting, environmental setting, and potential impacts of the Proposed Project related to tribal cultural resources (TCRs). TCRs include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe. As such, TCRs may contain physical cultural remains (i.e., materials found in archaeological sites), or they may be places within the natural landscape.

A. Regulatory Setting

1. Federal Laws, Ordinances, Regulations, and Policies

No federal laws, regulations, or policies are applicable to cultural resources and the Proposed Project, reasonably foreseeable distribution components, and alternatives.

2. State Laws, Ordinances, Regulations, and Policies

a. California Environmental Quality Act

Assembly Bill (AB) 52 (Statutes of 2014, Chapter 532) requires that lead agencies under the CEQA consult with California Native American tribes that have requested in writing to be notified and that are traditionally and culturally affiliated with the geographic area of a proposed project, prior to the development of a CEQA document. PRC Section 21084.2 specifies that a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment. This language was added to Appendix G (initial study checklist) of the CEQA Guidelines in 2016. AB 52 also requires that a project's CEQA lead agency consult with California Native American tribes as required under PRC Section 21080.3.1.

As defined in PRC Section 21074:

(a) TCRs are either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

A. Included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR).

B. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this

paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

(b) A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a TCR if it conforms to the criteria of subdivision (a).

Mitigation measures for TCRs may be developed in consultation with the affected California Native American tribe(s) in accordance with PRC Section 21080.3.2 or Section 21084.3. The latter section identifies examples of mitigation measures that include avoidance and preservation of TCRs and treating TCRs with culturally appropriate dignity, considering tribal cultural values and the meaning of the resource.

b. California Register of Historical Resources

As described in Section 4.5, "Cultural Resources," the CRHR is established in PRC Section 5024.1. The CRHR lists all California properties considered to be significant historical resources, including all properties listed in, or determined to be eligible for listing in, the National Register of Historic Places. Resources listed in, or eligible for listing in, the CRHR are referred to as *historical resources.* The criteria for listing include resources that:

1. Are associated with the events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Are associated with the lives of persons important in our past;

3. Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

4. Have yielded, or may be likely to yield, information important in prehistory or history.

The CCR Section 4852 sets forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

c. California Native American Heritage Commission

The NAHC was created in 1976 and is a nine-member body whose members are appointed by the Governor. The NAHC identifies, catalogs, and protects Native American cultural resources, which includes ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with

ensuring California Native American tribes' access to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act, among other powers and duties.

d. Native American Tribal Consultation

The North Coast Water Board contacted the NAHC in January 2024, to request a comprehensive list of all tribes within the Proposed Project Area. The NAHC responded in March 2024 with a list that contained the contact information for 8 tribes. On April 10, 2024, the North Coast Water Board sent 16 letters, through the U.S. Postal Service, to all tribes included in the NAHC list and other tribal individuals. The letters described the North Coast Water Board's intent to produce this Draft EIR for the Proposed Project and salient aspects of the Proposed Project itself. The letters provided notice of North Coast Water Board's consideration of the Proposed Project's potential to affect TCRs and invited the letter recipients to contact the North Coast Water Board if they wished to consult on the Proposed Project in accordance with PRC Section 21080.3.1. The North Coast Water Board received responses from three separate tribes, with the Tolowa Dee-Ni' Nation choosing to undergo formal consultation. That consultation was formally initiated in early summer 2024. Elk Valley Rancheria asked that their contact information be updated and deferred to the Tolowa Dee-Ni' Nation. The Pulika Tribe of Yurok People (formally known as Resighini Rancheria) also deferred to the Tolowa Dee-Ni' Nation and Elk Valley Rancheria.

The list of individual tribes contacted are listed below, with tribes that provided a response to the invitation to consult marked with an asterisk (*):

Cher-Ae Heights Indian Community of the Trinidad Rancheria

Elk Valley Rancheria*

Karuk Tribe

Melochundum Band of Tolowa Indians

Resighini Rancheria/ Coast Indian Community*

Shasta Nation

Tolowa Dee-ni' Nation*

Yurok Tribe

3. Local Laws, Ordinances, Regulations, and Policies

The Del Norte County General Plan states that the County shall continue to solicit the views of the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of

cultural importance. Additionally, the County shall maintain confidentiality regarding the locations of archaeological sites to protect these resources from vandalism and unauthorized removal of artifacts. Attachment C lists potentially applicable goals and policies in the Del Norte County General Plan.

B. Environmental Setting

The Environmental Setting section of Chapter VII, Cultural Resources, provides a detailed discussion of the environmental baseline which may relate to TCRs. That discussion is incorporated by reference and forms additional basis for the analysis in this chapter. The information provided below builds on the environmental baseline established in Chapter VII and provides additional detail specific to TCRs.

This section provides a description of the *Taa-laa-wa Dee-ni'* (Tolowa People), the California Native American Tribe traditionally and culturally affiliated with the geographic area of the Proposed Project. The California Native American tribal communities of *Taa-laa-wa Dee-ni'* decent traditionally inhabited the territory within the Smith River basin.

1. California Native American Tribes

The Proposed Project Area under proposed permitting activity by the *GWDR for Commercial Easter Lily Bulb Operations in the Smith River Plain* is located in *Taa-laa-waa-dvn* (Tolowa Dee-ni' Aboriginal Territory). The Area has been inhabited by *Taa-laa-wa Dee-ni'* since time immemorial. The *Taa-laa-wa Dee-ni'* Genesis account, *Tax-ne Nes-ya~,* takes place at *Yan'-daa-k'vt*, located on the south bank of the lower Smith River. With the Smith River and *Yan'-daa-k'vt* (Yontocket) in The Center of The World, the territory encompasses the lands and watersheds of *Daa-ghestlh-ts'a' Taa-ghii~-li~* (Wilson Creek) to the south, the *Ts'aa-xwii-chit* (Sixes River) to the north, east to the *Taa-xuu-me' Tr'ee-ghii~-li~* (Applegate Watershed) in the Coastal Range, and west to the Pacific Ocean horizon, including all sea stacks, and all usual and accustomed places.

Environmental Relationships

The environmental setting of the *Taa-laa-waa-dvn* encompasses over 100 miles of coastal shoreline and approximately 2.87 million acres of land and undefined acreage of marine waters in northern California and southern Oregon. The area includes a unique combination of mountain ranges, significant rocks/sea stacks, geography and unique geology and is located within portions of the Western Cascade Range, the Siskiyou Mountains, the Northern Coast Ranges and the Klamath Mountains. Present-day settlements of Smith River and Crescent City are in the central and south-central coastal part of the Proposed Project Area. This area of the coast is centered around the *Xaa-wvn' Taa-ghii~-li~* (Smith River). The Smith River is one of the last free-flowing rivers in California. The Proposed Project Area under consideration for development of a GWDR is limited to Del Norte County, which is only a portion of the broader aboriginal territory. The County is home to sacred old-growth *k'vsh-chu ch'ee-taa-ghee-dvn* (redwood forests), with some of the oldest and tallest redwood trees in the world.

Cultural Condition

The *Taa-laa-wa Dee-ni'* have inhabited the Proposed Project Area since the beginning of time, which is reflected in the *Tax-ne Nes-ya~,* Genesis account. A network of rivers and trails, many now modern roads and highways, link the areas and allow for travel, shared cultural values and trade. The *Taa-laa-wa Dee-ni'* are spread out across the vast aboriginal territory into 11 *yvtlh-'i~* (polities/political districts). Each *yvtlh-'i~* has headmen/leaders, with each group being connected to certain *yvtlh-'i~* and the land, waters, and resources within.

Prior to 1850, contact with visitors from Russia, Spain, and the Pacific Islands was largely limited to the coast. By 1850, after gold was discovered on the Trinity River, visions of sudden wealth inspired thousands of miners to immigrate to the region, triggering the American invasion and the state sanctioned genocide of the *Taa-laa-wa Dee-ni'*. For *Taa-laa-wa Dee-ni'* and other natives, the Gold Rush era was “The time the world was turned upside down” (Reed, 1999). Prior to the 1850’s the *Taa-laa-wa Dee-ni'* population is estimated to have been approximately10,000. Post invasion, the population of the *dee-ni'* in Del Norte County plummeted to just over 100.

In the early twentieth century, ethnographers (Baumhoff 1958, 1963; Bodega 1775; Driver 1939; Drucker 1937; DuBois 1932, 1936, 1939; Gould 1966a, 1966b, 1966c, 1975; Goddard 1903, 1904; Harrington 1931, 1932; Kroeber 1925, 1936; Kroeber and Barrett 1960; Kroeber and Gifford 1949; Powers 1877; Smith in Sullivan 1934; Vancouver 1793; Waterman 1920, 1925; Gould 1966a, 1966b, 1975, 1978; Swezey and Heizer 1993) interviewed and documented the *Taa-laa-wa Dee-ni'.* Today, the *Taa-laa-wa Dee-ni'* provide further insight and valuable information about the culture and history of the Proposed Project Area. TCRs within the Proposed Project Area continue to be held sacred by the *Taa-laa-wa Dee-ni'* today, and include at least 35 permanent villages, associated cemeteries, massacre sites, clandestine graves, gathering/harvesting/hunting areas, travel corridors, ceremonial, and sacred sites, landmarks, water bodies, plants, rocks, animals, soil, and viewsheds. The Proposed Project Area includes portions of the 1862 Smith River Indian Reservation, and the 1906/1908 Reservation (Smith River Rancheria). Today, the Tolowa Dee-ni' Nation is federally recognized as a sovereign tribal government with over 2100 enrolled citizens, a duly elected Tribal Council, and a Constitution and Tribal Code. The majority of the Nation’s current land holdings are within Del Norte County and the Proposed Project Area. The Nation and its enterprises employ more than 300 staff, including a robust Natural Resources Department and Tribal Heritage Preservation Office, which have the responsibility to steward and protect tribal resources, culture, and interests throughout the ancestral territory. The Nation’s government ensures consistency and compliance among tribal, federal and state laws. Tolowa Dee-ni' citizens continue to inhabit their ancestral territory, practice cultural traditions, and maintain deep and sustaining relationships to the landscape and environment.

In addition to the *Tax-ne Nes-ya~* of the *Taa-laa-wa Dee-ni'*, the pre-contact/archaeological resources within the Proposed Project Area provide further supporting evidence of habitation and ceremonial use. Archaeologists claim that Paleoindian peoples were present along the southern Oregon and northern California coastal areas by about 11,000 to 12,000 years ago, which is encompassed by what archaeologists have called the Terminal Pleistocene (12,000-10,000 BP). Like others around the world, Taa-laa-wa Dee-ni' culture was an established and advanced civilization. Archeological evidence within the Proposed Project Area dates to 8,500 years before present (Tushingham, 2013).

C. Impact Analysis

1. Impact Analysis Methods

To inform the analysis of Tribal Cultural Resources, the North Coast Water Board obtained tribal expertise through a subcontract with the Tolowa Dee-ni' Nation, the California Native American tribe traditionally and culturally affiliated with the Proposed Project area. The Tolowa Dee-ni' Nation provided input on the environmental baseline for Tribal Cultural Resources, as well as on the identification and definition of Tribal Cultural Resources within the Project area. The document submitted by the Tolowa Dee-ni' Nation in response to the subcontract is included in its entirety as Attachment F.

For the purposes of this analysis, the Proposed Project would result in a significant impact related to TCRs if it would:

> Cause a substantial adverse change in the significance of a TCR, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:
>
> Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC Section 5020.1(k); or

A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant under the criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

A records search was conducted through the Northwest Information Center (NWIC) Information Center at Sonoma State University by the lead agency. The Proposed Project Area has not been fully surveyed, and previous recordation efforts vary in methodology. Numerous studies conducted within the Proposed Project Area have identified pre-contact/archaeological sites and the State Historic Preservation Officer has confirmed the eligibility status of many of these archaeological sites. CEQA

§15064.5 considers historical resources significant if they are eligible for, or are listed in, the California Register of Historical Resources. Cultural/historic resources must meet one of the following criteria to be eligible:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- It is associated with the lives of persons important to local, California, or national history.
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

These previous evaluations focused on eligibility based on the archaeological research value of their potential to yield information. Most of the TCRs have not been evaluated for eligibility for listing on the National Register of Historic Places and/or the California Register of Historical Resources under any other criteria, and in most cases did not benefit from input or consultation with the *Taa-laa-wa Dee-ni'*. Notably missing from previous evaluations is consideration of how archaeological and tribal cultural resources contribute to the rich history of the area, thereby expanding the lines of evidence for eligibility under other criteria. Contributing elements upon *Nvn-nvst-'a~* (Mother Earth) and associations of TCRs are all-encompassing and include: people, rivers, creeks, holes in the ground, landmarks, viewsheds, habitation areas, resource processing areas, resource harvesting areas, resource extraction areas, corridors and trails, rock shelters and caches, prayer seats, rock art, water bodies and springs, places of legend, ceremonial practices, locations and items, burials, massacre sites, clandestine graves, and burial grounds, plants, animals, soil, rocks, and the geologic foundation and atmospheric condition of the planet. It is important to note that the physical contributing elements within the Proposed Project Area are connected by the spaces in between. The space in between, and the interconnectedness it represents, is also considered a cultural resource/contributing element to the landscape and to the *Taa-laa-wa Dee-ni'* relationship to place. While there are no physical traces in some of these areas, the *Taa-laa-wa Dee-ni'* experience them and continue to experience them. Viewsheds are considered for their ranges outside of the physically defined landscape as those vistas create connection and meaning for the *Taa-laa-wa Dee-ni'*.

Per PRC 21074 (a)(1)(A)-(B), as the lead agency in developing and enforcing this Order, the North Coast Water Board can choose to designate the lower Smith River and adjacent terrace a Tribal Cultural Landscape ("TCL"). The Tolowa Dee-ni' Nation asserts that the Proposed Project Area covered under this GWDR is a TCL, as

evidenced by continued habitation for at least 11,000 years and ceremonial significance detailed in the oral history, and is using that position to evaluate historic condition and assess potential impacts of implementing a permitting system for continued cultivation of lily bulbs in the area.

Tribal cultural resources in the Proposed Project Area include landscape-scale relationships and contributing elements that may encompass viewsheds and culturally important plant and animal resources. Accordingly, in addition to the thresholds and impact analysis presented below for other TCRs, this EIR evaluates potential effects to the TCL through (1) changes to the tribal cultural viewshed, using CEQA Appendix G: Aesthetics as a model to assess changes to visual conditions, and (2) changes to biological resources of tribal cultural relevance, using the Biological Resources analysis and mitigation measures as a foundation and incorporating that analysis by reference.

2. Thresholds of Significance

CEQA requires an EIR to identify thresholds of significance to determine whether a project would result in a significant impact. A project would normally have a significant impact related to tribal cultural resources if it would cause a substantial adverse change in the significance of a tribal cultural resource (TCR), as defined in Public Resources Code section 21074 and identified in Appendix G of the CEQA Guidelines. Public Resources Code section 21084.2 further provides that a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment.

Neither the CEQA Guidelines nor Public Resource Code independently defines "substantial adverse change," with respect to TCRs. Consistent with the approach used in recent EIRs, this EIR interprets "substantial adverse change" for a TCR using the CEQA Guidelines concept of material impairment (CEQA Guidelines §15064.5, subd. (b)), which defines a substantial adverse change in the significance of an historical resource as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the resource's significance would be materially impaired. For purposes of this analysis, a substantial adverse change in the significance of a TCR occurs when, considering baseline conditions, a project would materially impair the characteristics, setting, use, access, or cultural values that make the resource significant to a California Native American tribe, including resources that are listed/eligible or that the lead agency determines significant, considering tribal significance as required by PRC section 5024.1(c).

Accordingly, the Proposed Project would result in a significant impact to Tribal Cultural Resources if it would do any of the following (each constituting a substantial adverse change/material impairment):

- Direct physical disturbance or destruction. Cause ground disturbance, grading, excavation, trenching, or other activities that would damage, destroy, displace, or otherwise physically alter a TCR, including associated deposits, features, or objects, such that the resource's integrity or cultural value would be materially

impaired.

- Relocation or alteration of a resource or its immediate surroundings. Physically relocate a TCR, or alter the resource or its immediate surroundings in a way that materially impairs the resource's significance to a tribe (including integrity of location, setting, feeling, association, and other attributes relevant to tribal values).

- Indirect effects that materially impair significance. Indirectly degrade a TCR through changes that materially impair its significance, including increasing exposure to vandalism, looting, unauthorized collection, or inadvertent disturbance as a result of increased access or other project-related changes.

- Interference with cultural practices or access when that access/use is integral to significance. Restrict, substantially degrade, or otherwise interfere with access to, or the ability to practice cultural activities associated with, a TCR when that access or use is a defining component of the resource's significance to a tribe (as identified through consultation or substantial evidence).

- Impairment of visual conditions within tribal cultural viewshed that contribute to significance of the TCL. Materially impair the tribal cultural viewshed or visual setting that contributes to the significance of the Tribal Cultural Landscape. In applying this standard, this EIR uses the CEQA Appendix G: Aesthetics criteria as a proxy to define what constitutes a substantial adverse change to visual conditions, including whether the Proposed Project would: (a) have a substantial adverse effect on a scenic vista; (b) substantially damage scenic resources; (c) substantially degrade the existing visual character or quality of the site and its surroundings; or (d) create a new source of substantial light or glare that would adversely affect day or nighttime views.

- Interfere with significance of the TCL by materially impairing tribal cultural biological resources (including plant and animal species and related habitats) that contribute to the TCL's cultural value. The significance criteria, impact analysis, and mitigation measures presented in the Biological Resources chapter are incorporated here by reference. However, tribal cultural biological resources may be more extensive than the special-status species and sensitive habitats identified through conventional biological resource screening, and may include additional plants, animals, and ecological relationships identified through tribal knowledge and consultation.

These thresholds apply to TCRs that are (1) listed or eligible for listing in the California Register or a local register, or (2) determined by the lead agency to be significant based on substantial evidence, considering the significance of the resource to a California Native American tribe.

3. Impacts and Mitigation Methods

Impact TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource. (Less than Significant with Mitigation)

Some activities proposed under this Order have the potential to significantly impact previously unidentified cultural resources, including historical resources, archaeological sites, and/or TCRs as defined in CEQA Sections 15064.5 (a), 15064.5(c)(2), and 21074, respectively.

Many of the reasonably foreseeable Management Practices (as listed in Attachment B) that could be implemented under the Proposed Project to comply with requirements under the Order would have little to no potential to impact TCRs. For example, practices such as applying less fertilizer, applying pesticides per labeling directions, and other similar practices would not impact TCRs. These activities would take place within existing lily bulb operations and would not substantially change any landscape, site, or place that could have tribal cultural significance. Likewise, many of the monitoring and reporting activities that could occur under the Proposed Project (e.g., surface water monitoring, pedestrian, and vehicle trips to monitoring sites, groundwater sampling and analysis via existing wells) would have no potential to substantially affect TCRs.

However, certain activities could potentially affect buried objects or materials that could be TCRs. Construction/installation of reasonably foreseeable Management Practices that involve ground disturbance (e.g., retention/detention basins, vegetated filter strips, etc.) could potentially uncover buried TCRs. As discussed in the Cultural Resources Chapter, it is assumed that the majority of management practices and other activities (e.g., installation of new monitoring wells) under the Proposed Project would occur within existing lily bulb operations. In general, these areas are subject to repeated disturbance (e.g., tilling) and thus Proposed Project activities disturbing the top soil layers in these areas would not be expected to uncover any buried TCRs or other cultural resources.

However, while most activities would occur within existing fields, it is possible that certain management practices could be constructed/installed in areas adjacent to existing cultivation areas that have not been subject to prior disturbance. Facilities such as retention/detention basins could be installed on the periphery of fields to receive runoff and could be placed in undisturbed areas. Additionally, certain management practices, although located within existing cultivation areas, could be installed to depths below the prior disturbance limits (e.g., excavation for construction of a retention basin could disturb soil to five feet deep, whereas routine disturbance from tilling and other activities only reaches to two feet deep). These types of activities could potentially impact TCRs if they were present within the proposed disturbance area and proper protocols were not followed.

Implementation of Mitigation Measure CUL-1 and CUL-2 would avoid or reduce potential impacts on TCRs by requiring that growers or third parties retain a qualified archaeologist in the event that proposed management practices or other actions would involve modifications to previously undisturbed soils. The qualified archaeologist would conduct a California Historical Resources Information System records search, contact

the NAHC to request a search of the Sacred Lands files, contact tribes who have a traditional and cultural affiliation with the proposed disturbance area, and conduct a pedestrian survey of the site (if one has not already been conducted). This process would identify any TCRs that may be present in the proposed impact area and allow for input by affiliated tribes. Mitigation Measure CUL-1 would require that growers or third parties avoid identified significant resources to the extent feasible. If avoidance is not feasible, the qualified archaeologist would be required to develop a data recovery plan, which applicable tribes would have the opportunity to review.

Additionally, Mitigation Measure CUL-3 would require that California Health and Safety Code Section 7050.5 is followed for any human remains known to be present within archaeological sites or inadvertently encountered during the course of excavation activities for individual management practices. This would include contacting the NAHC for any remains that are determined to be those of a Native American individual by the coroner, identification of a most likely descendent (MLD) by the NAHC, and working with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect.

If human remains are identified or suspected, all provisions of the Health and Safety Code 7054 and 7050.5 and the Public Resources Code 5097.9 through 5097.99 will be followed. No photographs will be taken of any human remains, unless required for identification purposes and with permission from Tribal representatives. There shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent human remains until the following occurs:

1. The Permit Holder will immediately contact the Del Norte County Coroner (Coroner).

   Del Norte County Coroner
   650 5th Street, Crescent City CA. 95531
   Phone: 707-464-4191
2. If the Coroner determines the remains to be Native American:
   a. The Coroner will contact the Native American Heritage Commission (NAHC) within 24 hours.
   b. The NAHC will designate a Most Likely Descendant (MLD) [CCR 15064.5(e)(1)(B)].
   c. The designated MLD will meet with the Permit Holder as soon as feasible, to make a recommendation on the treatment of the remains and associated artifacts.

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

Impact TCR-2: Affect the Tribal Cultural Viewshed or Visual Setting of the TCL (Less than Significant with Mitigation)

Implementation of Management Practices under the Proposed Project could introduce new or modified physical features within the Tribal Cultural Landscape (TCL) and its surrounding visual setting (e.g., graded swales, sediment control basins, riparian management features, access and maintenance activities, and associated equipment staging).

Depending on location, scale, and visibility from culturally important vantage points, these features could alter the visual character of the landscape or affect views toward or across the TCL. In addition, implementation of riparian management and invasive species control could change vegetation patterns along riparian corridors that could temporarily or permanently alter the visual setting that contributes to the TCL's significance.

Because viewsheds are identified as contributing elements to tribal cultural resources in the Proposed Project Area, changes that substantially degrade the existing visual character or quality of the TCL setting, adversely affect scenic vistas important to the TCL, or create new sources of substantial light or glare that adversely affect day or nighttime views could constitute a substantial adverse change in the significance of the TCL.

Mitigation Measure TCR-2: Viewshed Protection Measures for Management Practice Implementation

The following measures would avoid or substantially lessen potential impacts to the TCL viewshed and visual setting by the implementation of Management Practices under the Proposed Project:

Low-profile design and naturalistic contours. Design above-ground elements (including berms and basin edges) to maintain low profiles, use naturalistic grading, and minimize visual contrast with surrounding landforms.

Material and finish controls. Use non-reflective materials and finishes for any above-ground structures, appurtenances, or signage to minimize glare and visual contrast.

Vegetation retention and screening. Retain existing screening vegetation where feasible and restore disturbed areas with native vegetation appropriate to the local setting. Where vegetation establishment is part of design or permitting compliance, prioritize revegetation methods that support both ecological function and the continuity of the TCL's visual setting.

Lighting limitations. Avoid new permanent nighttime lighting associated with Management Practice implementation. If lighting is necessary for safety, use the minimum intensity required and fully shield fixtures to direct light downward and away from culturally important views.

Implementation of Mitigation Measure TCR-2 would reduce potential impacts to TCRs to ***less than significant with mitigation.***

Impact TCR-3: Affect Tribal Cultural Biological Resources that Contribute to the Tribal Cultural Landscape (Less than Significant with Mitigation)

The Proposed Project is expected to have largely beneficial effects on biological resources through required implementation of Management Practices that reduce pollutant discharges and support riparian and aquatic habitat functions.

However, implementation of certain Management Practices could also result in localized adverse effects (e.g., construction-related disturbance, vegetation removal for maintenance of crossings/utilities, invasive species control activities, and other ground-disturbing work).

Chapter VI: Biological Resources chapter analyzes these potential effects, including significance thresholds, impact determinations, and mitigation measures as they relate to sensitive species. In addition to the resources addressed in the Biological Resources chapter, the TCL may include culturally important plant and animal species and ecological relationships that are not captured by the Special Status Species list or conventional sensitive habitat mapping. Accordingly, even where an effect would be less than significant for Biological Resources under conventional CEQA analysis, the Proposed Project could adversely affect biological resources relevant to tribal cultural resources if it interferes with the culturally important attributes, availability, or integrity of those resources within the TCL.

Potential impacts to tribal cultural biological resources that contribute to the Tribal Cultural Landscape are addressed through the mitigation framework established in Chapter VI, Biological Resources. Specifically, Mitigation Measure BIO-1 (Avoid and Minimize Impacts on Sensitive Biological Resources), Mitigation Measure HWQ-1 (Erosion Control and Construction Best Management Practices), and Mitigation Measure HAZ-1 (Spill Prevention, Control, and Countermeasures) are applicable to activities that could affect plant and animal species, habitats, and ecological functions within the Tribal Cultural Landscape.

These measures require site-specific evaluation, avoidance, minimization, and, where necessary, restoration or compensation for impacts to biological resources. While the Biological Resources chapter focuses on special-status species and sensitive natural communities identified through conventional biological surveys, implementation of the above mitigation measures would also serve to avoid or minimize potential impacts to tribal cultural biological resources that contribute to the Tribal Cultural Landscape.

Implementation of Mitigation Measures BIO-1, HWQ-1, and HAZ-1 would reduce potential impacts to TCRs to ***less than significant with mitigation***.

IX. Cumulative Impacts

According to State CEQA Guidelines Section 15130(a)(1), a cumulative impact is created by the combination of a proposed project with other past, present, and probable future projects causing related impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (Cal. Code Regs., tit.14 section 15355 (b)). Under CEQA, an EIR must discuss the cumulative impacts of a project when the project's incremental contribution to the group effect is "cumulatively considerable." An EIR does not need to discuss cumulative impacts that do not result, in part, from the project evaluated in the EIR. Where an incremental effect is not cumulatively considerable, the basis for concluding that the incremental effect is not cumulatively considerable must be described.

To meet the adequacy standard established by State CEQA Guidelines Section 15130, an analysis of cumulative impacts should contain the following elements:

1) an analysis of related past, present, and reasonably foreseeable projects or planned development that would affect resources in the project area similar to those affected by the proposed project;

2) a summary of the environmental effects expected to result from those projects with specific reference to additional information stating where that information is available; and

3) a reasonable analysis of the combined (cumulative) impacts of the relevant projects.

A. Approach to Analysis

The following analysis of cumulative impacts focuses on whether the impacts of the Proposed Project are cumulatively considerable within the context of impacts resulting from the Proposed Project and other past, present, or reasonably foreseeable future projects. The cumulative impact scenario considers other projects proposed within the area defined for each resource topic that have the potential to contribute cumulatively considerable impacts.

State CEQA Guidelines Section 15130 provides the following two alternative approaches for analyzing and preparing an adequate discussion of significant cumulative impacts:

1) the list approach, which involves listing past, existing, and probable future projects or activities that have or would produce related or cumulative impacts, including, if necessary, those projects outside the control of the lead agency; or

2) the projection approach, which uses a summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions and their contribution to the cumulative effect.

This chapter utilizes a list approach by developing a list of past, present, and reasonably

foreseeable future related projects, as shown in Table IX.1 that was developed based on review of information available on the Del Norte County website. For each resource topic evaluated, the possible impacts are considered cumulatively in light of similar possible impacts as the Lily Bulb Order. A cumulative impact refers to the combined effect of "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Section 15355). As defined by the State of California, cumulative impacts reflect "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines Section 15355(b)). Detailed analysis of a project's contribution to cumulative impacts is required when (1) a cumulative impact is expected to be significant, and (2) the project's contribution to the cumulative impact is expected to be cumulatively considerable, or significant in the context of the overall (cumulative) level of effect.

Table XIV-1: Reasonably Foreseeable Future Related Projects

Related Project	Project Summary	Activities that Could Affect Resources Similar to the Proposed Project
General Plan, Coastal Element, 1983	Local Coastal Program Land Use Plan	Setbacks from Waterbodies

B. Evaluation of Cumulative Impacts

1. Agriculture and Forestry

As shown in Table III.2 in the Project Description Chapter and described in Attachment A, the Lily Bulb Order would require lily bulb operations to implement Streamside Area setbacks from planted areas (including lily bulb fields and perimeter farm roads) based on the type of waterbody. Implementing setback requirements under the Lily Bulb Order may result in conversion of Important Farmland to non-agricultural use.

The Del Norte County Local Coastal Program (LCP) similarly establishes setbacks and protective measures for riparian corridors, wetlands, estuaries, and other environmentally sensitive habitat areas (ESHAs) to protect biological productivity, water quality, and habitat functions. Although the LCP forms part of the environmental baseline described in Chapter V, Agriculture and Forestry Resources, the effects of implementing the LCP are evaluated in the cumulative impacts analysis. This approach reflects that implementation of the LCP (see Attachment C) would be expected to result in conversion of agricultural land to non-agricultural uses within the geographic scope of the Proposed Project, thereby contributing cumulatively to impacts on agricultural and forestry resources when considered together with the Proposed Project.

The Lily Bulb Order's Streamside Area setbacks and the LCP's riparian and wetland

buffer requirements function complementarily to protect aquatic and riparian ecosystems. However, cumulative impacts may arise if the combined restrictions significantly limit land use activities, including agriculture and forestry operations, within overlapping setback zones. Such cumulative constraints could exacerbate the significant and unavoidable impacts identified in the EIR due to limitations on land management practices and parcel usability adjacent to water bodies.

Overall, the cumulative effect of setbacks from the regulatory Order and the Local Coastal Program will reinforce protections for streamside and riparian habitats but may also intensify constraints on agricultural and forestry resource uses adjacent to these water bodies. Given the magnitude of prime farmland conversion expected to occur under the Lily Bulb Order with no feasible mitigation available to reduce these adverse effects, the Proposed Project's contribution to this cumulative impact on agricultural resources would be considerable.

2. Cultural Resources and Tribal Cultural Resources

Construction or installation of some Management Practices that would involve new ground disturbance and excavation could potentially cause damage to, disrupt, or adversely affect archaeological resources, paleontological resources, or human remains. While the majority of Management Practices are expected to occur within existing cultivation areas where soils have generally been repeatedly disturbed, it is possible that some management activities could occur on the periphery of existing fields where previous disturbance has not occurred or within existing fields and to depths of soil that have not previously been disturbed, potentially resulting in adverse effects on buried, unknown cultural resources. Implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 would prevent or minimize such potential impacts on cultural resources, paleontological resources, and undocumented human remains. Implementation of Mitigation Measures TCR-2, BIO-1, HWQ-1, and HAZ-1 would prevent or minimize potential impacts on the Tribal Cultural Landscape, including the tribal cultural viewshed and biological resources.

Development projects throughout the Smith River Plain would also involve ground-disturbing activities that would have potential to adversely affect cultural resources, primarily buried archaeological materials, paleontological resources (e.g., fossils), and human remains. Given the nature of buried cultural resources, it is difficult to ascertain the magnitude of potential ongoing cumulative impacts to these resources since in many cases it is not known precisely what is present below the surface soil and it may not be known what is lost through excavation activities. Due to the widespread, ongoing development in California, much of which has the potential to disturb known and unknown cultural resources, it can be assumed that the cumulative impact is significant. However, there are robust federal and state laws, as well as local laws and policies, the require the proper treatment and mitigation for potential impacts to cultural and tribal cultural resources, which the Proposed Project and other development projects in the Smith River Plain would need to follow, at least partially mitigating the cumulative impact.

Overall, given implementation of Mitigation Measures CUL-1, CUL-2, CUL-3, TCR-2, BIO-1, HWQ-1, and HAZ-1 and the fact that most Management Practices would take place within disturbed areas of existing cultivation areas, the Proposed Project's contribution to this cumulative impact would be less than considerable.

3. Biological Resources

As described in the Biological Resources Chapter, Management Practices implemented under the Proposed Project is expected to have a beneficial effect on biological resources, including special-status species and habitat. Among the primary objectives is to protect and restore surface water and groundwater quality in the Basin Plan for areas in the Smith River Plain affected by Commercial Lily Bulb Operations (see Project Objective #1. in Chapter 1, Executive Summary). Compliance with General Order, through Irrigation, Nutrient, and Pesticide Management for Surface Water Protection; Riparian Zone Management for Surface Water Protection; Sediment and Erosion Control for Surface Water Protection; Irrigation, Nutrient, and Pesticide Management for Groundwater Protection; and Monitoring and Reporting Requirements will reduce ongoing discharges of pollutants from irrigated agricultural lands and correct existing impacts on water quality and aquatic habitats. Additionally, installing and/or maintaining vegetated buffers would allow the natural establishment and abundance of native riparian vegetation to minimize and prevent discharge of sediment, nutrients, excess temperature, and pesticides to surface water, riparian habitat and vegetation in the region, which will benefit any number of special-status species that may use these areas. The implementation of Management Practices would support beneficial uses to biological resources and aquatic habitats and (e.g., sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading).

Despite these largely beneficial effects, there is potential for some adverse effects to occur from the Proposed Project Implementation of the Management Practices for Water Protection under the General Order. These effects include construction-related effects from installation of certain management practices. Additionally, the installation of Riparian Vegetation Areas can include removal of riparian vegetation as part of necessary maintenance of existing watercourse crossings and linear utilities, control of invasive species, and permitted surface water diversions. The General Order would regulate the removal and degradation of riparian vegetation resulting in the loss or degradation on instream beneficial uses would be expected to improve water quality and would largely have a beneficial effect on receiving waters. Like the Proposed Project, the cumulative impact of projects listed in Table IX.1 would largely improve water quality conditions in waterbodies within the Project Area. As a result, the Proposed Project would not substantially contribute to significant cumulative water quality impacts.

X. Alternatives Analysis

A. Introduction

This chapter analyzes alternatives to the North Coast Water Board adopting the Lily Bulb Order. The chapter describes the alternatives screening and development process and the list of alternatives considered in the Draft EIR. The chapter analyzes the environmental impacts of the alternatives considered in comparison to the Lily Bulb Order.

1. Regulatory Requirements

The California Environmental Quality Act (CEQA) requires that an EIR evaluate a reasonable range of alternatives to a proposed project, including a No Project Alternative. The No Project Alternative allows decision makers to compare the impacts of approving the proposed action against the impacts of not approving the action. Although no clear rule exists for determining a reasonable range of alternatives to a proposed project, CEQA provides guidance that can be used to define the range of alternatives for consideration in the environmental document.

With the exception of the No Project Alternative, the range of alternatives considered under CEQA must meet most of the basic project objectives, should reduce or eliminate one or more of the significant impacts of the proposed project (although the alternative could have greater impacts overall), and must be potentially feasible. In determining whether alternatives are potentially feasible, lead agencies are guided by the general definition of feasibility provided in Section 15364 of the State CEQA Guidelines: “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.” Section 15126.6 (f) of the State CEQA Guidelines further stipulates that the lead agency should consider site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, and jurisdictional boundaries in determining the range of alternatives to be evaluated in an EIR.

An EIR must briefly describe the rationale for selection and rejection of alternatives and the information that the lead agency relied on in making the selection. It also should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reason for their exclusion (State CEQA Guidelines Section 15126[d][2]).

2. Alternatives Development and Screening Process

In developing alternatives to the Proposed Project, the North Coast Water Board considered and applied screening criteria to potential alternatives in accordance with CEQA requirements, including (1) whether the alternative meets most of the Project objectives; (2) whether the alternative is potentially feasible; and (3) whether the alternative lessens or avoids one or more of the Proposed Project’s significant environmental impacts. The relevant comments received, and the screening criteria, are discussed below.

3. Alternatives Screening Criteria

a. Would the Alternative Meet Most of the Project Objectives?

As described in the Project Description Chapter, the purpose of the Lily Bulb Order is to:

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

(a) Minimizing or preventing sediment, nutrient, and pesticide discharges to surface water.

(b) Minimizing or preventing nitrate and pesticide discharges to groundwater.

(c) Minimizing or preventing temperature impacts to surface water from loss of riparian shade.

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

Objective #3 - Comply with the Nonpoint Point Source Policy, the State Antidegradation Policy, the precedential language in the State Water Resources Control Board Eastern San Joaquin Agricultural Order, the North Coast Basin Plan, and other relevant statutes and water quality plans and policies, including the Temperature Implementation Policy, and the Sediment TMDL Implementation Policy.

Potential alternatives were analyzed to determine whether they would achieve “most” objectives, which in this case would be at least two out of three. Note that meeting the third Project Objective is not considered optional by the North Coast Water Board, as there is no option but to implement and comply with these existing regulations, statutes, and court decisions.

b. Is the Alternative Potentially Feasible?

As noted above, the determination of feasibility under CEQA takes into account economic, environmental, legal, social, and technological factors. The CEQA Guidelines also state that factors such as site suitability, availability of infrastructure, general plan consistency, other regulatory limitations, and jurisdictional boundaries may be considered.

With respect to the Proposed Lily Bulb Order, which is a watershed-wide general order that does not pertain to a specific project site, site suitability and availability of infrastructure are not directly relevant. General Plan consistency and geopolitical jurisdictional boundaries are relevant since the Lily Bulb Order would be implemented entirely within Del Norte County. With the exception of potential conversion of agricultural land to riparian/vegetative buffers and Streamside Area requirements, the Lily Bulb Order would not involve a significant change to an existing land use that could conflict with the County of Del Norte general plan land use designation or zoning.

The factors considered in the alternatives screening process and the specific considerations which guided the process are discussed further below.

Economic Feasibility. Is the alternative so costly that implementation would be prohibitive? CEQA Guidelines Section 15126.6(b) requires consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of the project objectives, or would be more costly." The Court of Appeals determined in Citizens of Goleta Valley v. Board of Supervisors (2nd Dist. 1988) 197 Cal.App.3d 1167, p. 1181 (see also Kings County Farm Bureau v. City of Hanford [5th Dist. 1990] 221 Cal.App.3d 692, 736): "[t]he fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project."

Environmental Feasibility. Would implementation of the alternative cause substantially greater environmental damage than the Proposed Project, thereby making the alternative clearly inferior from an environmental standpoint? To the extent that the alternative could introduce a new significant effect, or increase the severity of a significant effect, this could render the alternative environmentally infeasible.

Legal Feasibility. Does the alternative conflict with established law or regulations, such that it would be infeasible to implement? With respect to Lily Bulb Order, this criterion is particularly relevant to consistency with Project Objective #3, which requires consistency with the State Nonpoint Source Pollution Control Program, the State Antidegradation Policy, the precedential language in the Eastern San Joaquin Agricultural Order, the Basin Plan, including the Temperature Implementation Policy, and the Sediment TMDL Implementation Policy. Inability to meet this objective, even if the other two objectives (i.e., "most") could be met, could render an alternative legally infeasible.

Social Feasibility. Is the alternative inconsistent with an adopted goal or policy of the North Coast Water Board or another applicable agency? This criterion may apply to aspects of a given alternative that, while technically legally feasible, would not support the agency's policies or mission.

Technical Feasibility. Is the alternative infeasible from a technological perspective, considering available technology? Given that the Lily Bulb Order and its alternatives would not involve specific actions at a specific site (i.e., would not dictate the manner of compliance), technical feasibility is not a prominent limiting factor. It is possible that certain Management Practices may be technically infeasible at certain locations, but it is assumed that Enrollees would implement or install Management Practices that are suitable for their specific ranch/situation.

Note that the threshold for retaining an alternative for consideration in the Draft EIR is *potential* feasibility. In this regard, an alternative does not need to *definitely* be feasible in order to carry it forward for analysis. The approving body (in this case the Governor's appointed members of the North Coast Water Board) makes the final determination in

its findings pursuant to CEQA as to whether a given alternative analyzed in the Draft EIR is actually feasible.

c. Would the Alternative Lessen or Avoid One or More of the Proposed Project's Significant Environmental Impacts?

As described throughout this Draft EIR, the Lily Bulb Order would have the potential to result in potentially significant environmental impacts that could be reduced to less-than-significant with implementation of mitigation measures. The Lily Bulb Order would result in the following significant and unavoidable impacts, for which feasible mitigation could not be identified to reduce those impacts to a less-than-significant level:

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmland) to non-agricultural use (Impact AG-1). Conservatively, Streamside Area buffer requirements in the Lily Bulb Order could result in the maximum conversion of around 28 acres (1.3%) of the Baseline Cultivation Area (Figure 4) to riparian vegetation and a vegetated buffer with limited agricultural uses uses. Additionally, Streamside Area setback requirements could result in an additional 132 acres (1.8%) of Prime Farmland that feasibly could be used to cultivate lily bulbs under Del Norte County's zoning A (Figure 3) to riparian vegetation and limited agricultural use vegetated buffers.

2) Conflict with existing zoning for agricultural use or a Williamson Act contract (Impact AG-2). As noted above, the Streamside Area setback requirements in the Lily Bulb Order could result in the conversion of agricultural lands. This conversion would occur on lands zoned for agricultural use, and the conversion to non-agricultural uses would conflict with the spirit/intent of Del Norte County's agricultural zoning districts.

It is also important to consider that the Lily Bulb Order is specifically designed to support correction of existing unacceptable water quality impairments caused in part by discharges from lily bulb operations. Therefore, even though the Lily Bulb Order could result in the significant impacts described above, its purpose is to address the existing adverse impacts on the environment that are described in the Project Description Chapter. This objective was taken into account during the alternatives impacts evaluation.

B. Analysis of Alternatives

The following alternatives were carried forward for analysis in the Draft EIR because they are required by statute or would meet most of the Lily Bulb Order objectives, are potentially feasible, and would avoid or substantially reduce one or more potentially significant impact of the Lily Bulb Order:

1) No Project

2) Reduced Streamside Area Setback

These alternatives are defined below. The alternative screening results are also discussed, and the potential environmental impacts of each alternative are analyzed in comparison to the Lily Bulb Order. No alternatives were considered but dismissed from full analysis in the Draft EIR.

1. No Project Alternative

a. Description

Under the No Project Alternative, the North Coast Water Board would not adopt nor implement the Lily Bulb Order. In this scenario, implementation of the 2021 Management Plan is expected to continue as it did at the time when the Notice of Preparation was issued. As the Lily Bulb Order would not be adopted under the No Project Alternative, none of requirements described in the Project Description Chapter and Attachment A would go into effect. Discharges from lily bulb operations in the Smith River Plain would not be subject to requirements envisioned under the Lily Bulb Order.

b. Screening Analysis

The No Project Alternative is required by statute; therefore, it was not screened against the alternatives screening criteria. However, while the No Project Alternative is analyzed in this Draft EIR for informational purposes, it is not consistent with the Non-Point Source Policy, Antidegradation Policy and direction from the State Water Board to regulate discharges from irrigated lands under its Irrigated Lands Regulatory Program. Under the No Project Alternative, lily bulb agricultural discharges and temperature impacts would not be regulated. As such, the fundamental objectives of the Proposed Project would not be achieved. Under the No Project alternative, impacts to beneficial uses from lily bulb agriculture discharges would persist and without a monitoring and reporting program there would be no adequate adaptive management feedback loop to assess the quality of surface waters and groundwaters affected by lily bulb operations. Because the No Project alternative fails to meet the basic objectives and legal requirements, this Draft EIR does not consider the No Project alternative in further detail.

2. Reduced Streamside Area Setback Alternative

a. Description

Under the Reduced Streamside Area Setback Alternative (Reduced Setback Alternative), the width of setbacks is reduced by 50 percent as shown in Table X.1. Table X.1 also includes estimated acres of land currently planted to lily bulbs impacted by setbacks in the Proposed Project and setbacks in the Reduced Riparian Setback Alternative.

In this alternative, there would be no change to the proposed Lily Bulb Order requirements, prohibitions or allowed activities in Streamside Areas. The timeline of implementation would also not change.

Implementing the setback requirements as proposed in the Lily Bulb Order would result

in conversion of prime farmland to non-agricultural use. The Reduced Setback Alternative potentially decreases conversion of Important Farmland, therefore reducing the impact. Analysis of this alternative was conducted using the same methods identified in Chapter V, using similar assumptions, spatial analysis, and conservative approaches.

Table XV-1: Streamside Area Vegetated Buffer Minimum Horizontal Width (feet) in Lily Bulb Order and Reduced Setback Alternative

	Perennial Stream	Ephemeral/ Intermittent Stream	Hydrologically Connected Undesignated Channel	Wetland	Baseline Cultivation Area Converted (acres)	Potential Cultivation Area Converted (acres)
Lily Bulb Order	50	25	10	50	28	11
Reduced Setback Alternative	25	12	5	25	132	70

b. Screening Analysis

Consistency with Project Objectives

The Reduced Setback Alternative would meet Project Objective #2 and partially meet Project Objectives #1 and #3 in the sense that implementing the Alternative as proposed would reduce pollutant discharges at least to some degree and maintain prohibitions against removal of riparian vegetation within those setbacks.

However, the Reduced Setback Alternative may not achieve the same level of reductions in pollutant discharges and protection of beneficial uses compared to the Lily Bulb Order due to the lesser control of sediment discharges and temperature impacts. Thus, Reduced Setback Alternative would do less to correct the existing adverse impacts of lily bulb operations on water quality in the Smith River Plain.

Overall Conclusion: The Reduced Setback Alternative would potentially meet some of the project objectives for the Lily Bulb Order.

c. Feasibility

Economic Feasibility: The Reduced Setback Alternative would potentially be less costly to implement than the Proposed Project, as there would be less agricultural land to convert to non-agricultural use under Streamside Area requirements. However, as the Lily Bulb Order proposes this conversion at the time of replant, it is likely that this cost decrease is minimal. It is also possible that a reduced vegetated buffer width would decrease overall cost of Management Practice implementation, as the total area required for Streamside Area practices would be less. However, Enrollees would have

to implement similar Management Practices in the Farm Area so it is likely that this increased cost would be minimal. Therefore, the Reduced Setback Alternative would be economically feasible.

Environmental Feasibility: The Offsite Alternative would be less beneficial to water quality than the Proposed Project. The Reduced Setback Alternative could potentially increase removal of existing riparian vegetation and habitat, which could in turn have adverse effects on biological resources and water quality. The Reduced Setback Alternative could result in more Enrollees removing existing riparian vegetation adjacent to their fields. However, the extent and severity of this potential impact is speculative because it is unknown which growers in which locations may choose to pursue riparian vegetation removal under this alternative. As such, these potential impacts are not considered significant, and the Reduced Setback Alternative would not be infeasible.

Legal Feasibility: The Reduced Setback Alternative is considered to potentially meet Project Objective #3 and thus would be potentially legally feasible.

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

Technical Feasibility: The Reduced Setback Alternative would not require any additional monitoring and reporting from what is proposed in the Lily Bulb Order. As such, the Reduced Setback Alternative would be feasible from a technical standpoint.

Feasibility Conclusion: The Reduced Setback Alternative is potentially feasible.

Potential to Reduce or Eliminate One or More Significant Environmental Impacts

The Reduced Setback Alternative would reduce both of the significant and unavoidable impacts that are identified for the Proposed Project (i.e., conversion of Important Farmland to non- agricultural uses and potential conflicts with agricultural zoning and Williamson Act contracts). Because the Reduced Setback Alternative includes lesser setback requirements than the Proposed Project, it could result in the potential conversion of up to 11 acres (0.54%) of Baseline Cultivation Area to riparian vegetation and a vegetated buffer with limited agricultural uses uses. Additionally, Streamside Area buffer requirements could result in an additional 70 acres (0.94%) of Prime Farmland that feasibly could be used to cultivate lily bulbs under Del Norte County's zoning to riparian vegetation and limited agricultural use vegetated buffers. The Reduced Setback Alternative would reduce but not eliminate the conversion of land zoned for agricultural use to a non-agricultural use as compared to the Proposed Project.

However, while the Reduced Setback Alternative would reduce the environmental impacts mentioned above, it would not achieve some of the Proposed Project's beneficial effects on the environment. As discussed above, the North Coast Water Board does not find that the Reduced Setback Alternative would achieve the same level

of reductions in pollutant discharges compared to the Proposed Project due to the lesser control of sediment and temperature discharges. Thus, Reduced Setback Alternative would do less to correct the existing adverse impacts of Lily Bulbs on water quality in the North Coast Region.

Additionally, not having reduced setback requirements would lessen the beneficial effects of additional riparian vegetation/habitat on water quality and biological resources that could be achieved through the Proposed Project.

Overall Conclusion: The Reduced Setback Alternative would reduce or eliminate one or more significant environmental impacts of the Proposed Project but does not completely support all objectives of the Proposed Project.

d. Impacts Analysis

i. Agriculture and Forestry Resources

As described above in the Screening Analysis, the Reduced Setback Alternative would lessen or reduce the Lily Bulb Order's adverse effects on agriculture and forestry resources related to conversion of Important Farmland to non-agricultural uses and conflicts with existing zoning for agricultural use. The Reduced Setback Alternative would reduce setback distances by 50 percent and thus would not result in the potential direct conversion of up to approximately 17 acres of Baseline Cultivation Area and 62 acres of Potential Cultivation Area. However, this alternative would not completely avoid the conversion of some Prime Farmland.

No other components of the Reduced Setback Alternative would be anticipated to result in the substantial conversion of existing agricultural land; however, like the Lily Bulb Order, the Reduced Setback Alternative would allow growers discretion with respect to the types of Management Practices that they may choose to implement, and some types of Management Practices (e.g., sediment basins, vegetated filter strips) could result in relatively small areas of farmland being taken out of production (i.e., due to the footprint of these sediment control facilities).

The Reduced Setback Alternative also would likely reduce the costs of compliance for growers relative to the Lily Bulb Order and thus could reduce potential for economic effects to indirectly result in the conversion of agricultural land to non-agricultural uses (e.g., an Enrollee selling their operation and the buyer converting the land to a non-agricultural use), although this potential impact is largely speculative. Overall, the Reduced Setback Alternative's impact on agriculture and forestry resources would be **significant and unavoidable**.

ii. Other impacts:

Biological Resources: While the likely reduced construction/implementation of Management Practices in land that would have otherwise been part of a vegetative buffer under the Lily Bulb Order could reduce potential for some short-term construction-related impacts to biological resources, it would also limit the beneficial

effects on water quality and biological resources. Because the Streamside Area setbacks are reduced in this alternative, in theory, additional riparian vegetation could be removed in comparison to the Lily Bulb Order. The extent and severity of this potential impact is unknown and speculative, however, as growers would still have discretion as to whether to retain or remove vegetation in their specific circumstances (i.e., it cannot be determined where and to what extent removal of vegetation may occur). In particular, the maintenance of riparian vegetation under the Lily Bulb Order requirements would allow for attenuation of pollutant discharges from Lily Bulb properties, provide shading for stream temperature regulation, provide additional habitat for a variety of species, and provide improved water quality for downstream uses. The Reduced Setback Alternative would not achieve these beneficial effects on biological resources to the same degree as the Lily Bulb Order. Nevertheless, from a CEQA perspective, the Reduced Setback Alternative would likely not substantially adversely affect biological resources relative to baseline conditions particularly with implementation of standard mitigation measures. Therefore, this impact would be **less than significant with mitigation**.

Tribal Cultural Resources and Cultural Resources: Similar to biological resources, the Reduced Setback Alternative could have reduced impacts on cultural resources to the extent that this alternative would result in fewer construction activities associated with construction/installation of vegetative buffer strips as required in the Streamside Area setback requirements of the Lily Bulb Order. Construction/installation of Management Practices involving ground disturbance could encounter buried unknown cultural resources and adverse impacts to these resources could occur if appropriate protocols are not followed. The probability of encountering Tribal Cultural resources is generally considered low for both the Lily Bulb Order and Reduced Setback Alternative, and potential impacts could be avoided or reduced through compliance with existing laws and regulations and implementation of mitigation measures. Overall, this impact would be **less than significant with mitigation**.

C. Environmentally Superior Alternative

The State CEQA Guidelines, under Section 15126.6(e)(2), state that “If the environmentally superior alternative is the ‘No Project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” Neither the CEQA statute nor the State CEQA Guidelines states that an EIR must necessarily identify an environmentally superior alternative, particularly for situations/projects where the No Project Alternative is not environmentally superior or where none of the other alternatives are clearly environmentally superior. The State CEQA Guidelines do not specifically address what happens when the No Project Alternative is infeasible.

As described above, in the case of the Proposed Project, the No Project Alternative is not environmentally superior because it is not sufficiently protective of water quality and does not comply with the North Coast Region’s Temperature Implementation Policy, the Statewide Irrigated Lands Regulatory Program precedents, and the State Water Board’s NPS Policy.

Due to the nature of the Proposed Project, it is difficult to designate any of the remaining alternatives (i.e., other than the No Project Alternative) as environmentally superior. Unlike many of the more “typical” projects evaluated under CEQA (e.g., a housing development), the purpose of the Proposed Project is largely to correct existing ongoing impairments in water quality associated with discharges from lily bulbs. In other words, the purpose of the Proposed Project is to benefit the environment. Additionally, the baseline conditions, against which the potential impacts of the Proposed Project and alternatives are evaluated, are unacceptable from an environmental standpoint in that beneficial uses are not being protected and other serious water quality impacts are occurring. Therefore, although the Proposed Project would result in two significant impacts relative to baseline conditions, it would result in a number of beneficial effects and would improve existing degraded water quality conditions that are represented in the baseline conditions.

As discussed above, the Reduced Streamside Setbacks would reduce, but not eliminate, the significant and unavoidable effects of the Proposed Project related to conversion of Prime Farmland to non-agricultural uses as a result of the setback requirements. However, the setback requirements included in the Proposed Project would be highly effective in reducing discharges of pollutants to waterbodies and restoring beneficial uses affected by lily bulb operations. Therefore, while the two action alternatives would reduce adverse effects on agricultural resources, they also would not achieve the same level of beneficial effects that would be realized by the Proposed Project.

In other words, the Proposed Project and the alternatives considered each involve environmental tradeoffs, including environmental costs and benefits relative to baseline conditions. Table X.2 provides a relative ranking for the Proposed Project and action alternatives with respect to the primary environmental costs and benefits, which are discussed in greater detail in Chapter III of this Draft EIR and above As shown in Table X.2. Taking into account all the relevant factors, staff find that the Proposed Project best accomplishes the water quality goals of North Coast Water Board, while minimizing environmental impacts to the extent possible.

Table X.2: Ranking of the Proposed Project and Alternatives with Respect to Primary Environmental Costs and Benefits

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

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

XI. Other CEQA Required Sections

A. Growth Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires that an Environmental Impact Report (EIR) include a detailed statement of a proposed project's anticipated growth-inducing impacts. The analysis of growth-inducing impacts must discuss the ways in which a proposed project could foster economic or population growth or the construction of additional housing in the surrounding environment. The analysis must also address project-related actions that would remove existing obstacles to population growth, tax existing community service facilities and require construction of new facilities that cause significant environmental effects, or encourage or facilitate other activities that could, individually or cumulatively, significantly affect the environment. A project would be considered growth-inducing if it induces growth directly (through the construction of new housing or increasing population) or indirectly (increasing employment opportunities or eliminating existing constraints on development). Under CEQA, growth is not assumed to be either beneficial or detrimental.

A majority of Commercial Lily Bulb Operations are already implementing Management Practices with the assistance of current employees and contractors. In order to provide assistance with adaptive management, monitoring and reporting, we estimate that up to an additional 2-3 full-time jobs could be created. Even if the actual number was an order of magnitude larger, compliance actions would have a very small overall effect on job creation that would result in a less than significant effect on economic and/or population growth within the Proposed Project Area. The Proposed Project does not propose the creation of any housing or long-term facilities that would otherwise create a significant number of jobs and/or increase the population base within the geographic scope of the Lily Bulb Order.

Reasonably foreseeable Management Practices under the Proposed Project with the greatest potential for environmental impacts would require temporary workers during the construction phase. Example Management Practices that would require construction workers for vegetated buffers, retention/detention basins, and streamside areas. It is anticipated that implementing these Management Practices would rely on construction workers in the local workforce and construction would be short term, and therefore, would have a small overall effect on job creation within the Proposed Project Area. Therefore, the Proposed Project would not have growth inducing impacts.

B. Significant and Irreversible Environmental Effects

State CEQA Guidelines Section 15126.2(c) requires that an EIR discuss any environmental changes that would be irreversible if a project were implemented. CEQA defines irreversible environmental changes as the irretrievable commitment of resources and/or irreversible damage resulting from environmental accidents. Irreversible changes may include current or future uses of non-renewable resources, and secondary or growth inducing impacts that commit future generations to similar uses. The State CEQA Guidelines describe three distinct categories of significant irreversible changes, including changes in land use that would commit future

generations to specific uses; irreversible changes from environmental actions; and consumption of nonrenewable resources. For this analysis, the irreversible impacts described below could occur as a result of implementing the Proposed Project.

The proposed Lily Bulb Order would require implementation of certain management practices for water quality protection. In relevant part to this section, the Draft EIR analyzes the effects of implementation of management measures to reduce water quality impacts from agricultural activities, which are a reasonably foreseeable consequence of the Proposed Project. The common or reasonably foreseeable management measures that would be implemented pursuant to the Proposed Project are listed in Attachment B: Management Practices. The environmental impacts of the management measures are described in detail in the resource sections of Chapter IV: Environmental Analysis.

Implementation of common or reasonably foreseeable management measures under the Proposed Project would result in use of construction materials, and energy used to manufacture, transport, or install management practices that could not be restored, and nonrenewable resources (e.g., fossil fuels) to operate construction equipment. The quantity of resources that would be used for the Proposed Project would not noticeably reduce the availability of these resources for other projects or uses because the use of resources for the Proposed Project would be minor relative to other ongoing activities (e.g., the covered activities themselves) and the scope of individual management measures would be limited to smaller areas. These resources would account for a minimal portion of the state's or region's resources; therefore, the loss of these resources would be minimal.

Implementation of the Proposed Project would result in impacts to agricultural resources associated with the Streamside Area setbacks. The Proposed Project would result in the conversion of approximately 11 acres of Baseline Cultivation Area and 28 acres of Potential Cultivation Areas that are identified as Prime Farmland through the Del Norte County General Plan and zoning. These impacts are identified as significant and unavoidable and discussed below in the next section. However, the impacts to agricultural resources are nonpermanent in nature because the Proposed Project applies only to lily bulb agriculture and does not require permanent structural features or land use changes that would preclude continued agricultural use. Lands affected by the Proposed Project could be returned to agricultural production under alternative cropping systems not subject to the Order, such as hay or other non-lily bulb crops, and could re-occupy areas removed from lily bulb production. Accordingly, while the Proposed Project would result in significant and unavoidable impacts to agricultural resources, it would not result in a permanent conversion of farmland or a land use change that would commit future generations to similar uses.

C. Significant and Unavoidable Environmental Effects

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be mitigated to a less-than-significant level. The following impacts were found to be significant and unavoidable for the Proposed Project:

Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to non- agricultural use. (Chapter III, Agriculture and Forestry Resources)

Impact AG-2: Conflict with existing zoning for agriculture use or a Williamson Act contract. (Chapter III, Agriculture and Forestry Resources).

Implementation of the Proposed Project would result in significant and unavoidable impacts to agricultural resources due to the conversion of portions of Important Farmland to non-agricultural uses associated with Streamside Area requirements necessary to meet water quality and temperature objectives.

Despite these impacts (which may be a conservative estimate as discussed in Chapter V), the Proposed Project is being advanced because the North Coast Water Board has a statutory obligation under the Porter-Cologne Water Quality Control Act and the federal Clean Water Act to regulate discharges of waste from commercial agricultural operations and to protect and restore high-quality waters and impaired waters of the state. Available monitoring data demonstrate that discharges associated with commercial lily bulb operations have periodically affected surface water quality and beneficial uses in the Smith River Plain, including cold freshwater habitat and tribal beneficial uses.

The Proposed Project represents the North Coast Water Board's effort to balance water quality protection, regulatory consistency, and agricultural viability by establishing enforceable requirements while allowing flexibility in how growers achieve compliance. No feasible alternative or mitigation measure would fully avoid the identified agricultural impacts while still achieving the Project's core objectives and complying with applicable water quality laws and policies. Accordingly, approval of the Proposed Project would require adoption of a Statement of Overriding Considerations.

APPENDIX I: Abbreviations, Acronyms, and Definitions

A. Acronyms and Abbreviations

Acronym/Abbreviation	Term
AG	Agricultural and Forestry Resources
Antidegradation Policy	State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality Waters in California
Basin Plan	Water Quality Control Plan for the North Coast Basin
BIO	Biological Resources
BPTC	Best practicable treatment or control
CAC	County Agricultural Commissioner
CalFIRE	California Department of Forestry and Fire Protection
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDPR	California Department of Pesticide Regulation
CDPH	California Department of Public Health
CEDEN	California Environmental Data Exchange Network
CEQA	California Environmental Quality Act
COLD	Cold Freshwater Habitat Beneficial Use
C_N	Nitrogen Removal Coefficient
CSDS	Controllable Sediment Discharge Sources
CUL	Cultural Resources
CWA	Clean Water Act
DDW	State Water Board, Division of Drinking Water
Draft EIR	Draft Environmental Impact Report
DWR	Department of Water Resources

Acronym/Abbreviation	Term
EIR	Environmental Impact Report
ESJ Order	Eastern San Joaquin Order (State Board Order WQ 2018-0002).
ELAP	Environmental Laboratory Accreditation Program
ESA	Endangered Species Act
Enforcement Policy	State Water Board Water Quality Enforcement Policy
HUC	Hydrologic Unit Code
ILRP	Irrigated Lands Regulatory Program
INMP	Irrigation and Nitrogen Management Plan
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
mg/L	Milligrams per Liter
MRP	Monitoring and Reporting Program
NAHC	Native American Heritage Commission
NOC	Notice of Completion
NOD	Notice of Determination
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPS	nonpoint source
NPS Policy	State Water Board Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program
NRCS	Natural Resource Conservation Service
OEHHA	California Office of Environmental Health Hazard Assessment
PCA	Agricultural Pest Control Advisor
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	California Public Resources Code

Acronym/Abbreviation	Term
RCD	Resource Conservation District
North Coast Water Board	North Coast Regional Water Quality Control Board
Sediment TMDL Policy	TMDL Implementation Policy Statement for Sediment Impaired Receiving Waters in the North Coast Region
2021 Management Plan	Smith River Plain Water Quality Management Plan
SGMA	Sustainable Groundwater Management Act
State Water Board	State Water Resources Control Board
SWAMP	Surface Water Ambient Monitoring Program
TAG	Technical Advisory Group
TCR	Tribal Cultural Resource
Temperature Policy	Implementation of the Water Quality Objectives for Temperature
TMDL	Total Maximum Daily Load
UCCE	University of California Cooperative Extension
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
Water Code	California Water Code
WDRs	Waste Discharge Requirements
WBD	Watershed Boundary Dataset
WQMP	Water Quality Management Plan

B. Definitions

The following definitions apply to the Draft Environmental Impact Report (EIR) for General Waste Discharge Requirements for Commercial Lily Bulb Operations in the Smith River Plain. The terms are arranged in alphabetical order. All other terms not explicitly defined here for the purposes of this EIR have the same definitions as defined by Water Code Division 7 or are explained within the Attachments.

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

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

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

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

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

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

Appurtenant Field Road. An agricultural road used for Commercial Lily Bulb Operations which connects or is used to access lily bulb fields under the ownership or control of the landowner or operator.

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

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

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

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

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

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

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

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

Cover Crop. (See Ground Cover).

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

These discharges can contain wastes that could affect the quality of waters of the state and impair beneficial uses.

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

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

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

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

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

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

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

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

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

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

Ground Cover. Ground cover refers to the following practices: (1) Cover crop can be grasses, legumes, forbs, or other herbaceous plants established in planted fields for livestock grazing, for production into hay and forage crops, or provide seasonal or year-round ground cover for conservation purposes. (2) Conservation cover is establishing and maintaining perennial vegetated cover to protect soil and water resources on lands needing permanent protective cover that will not be used for forage production. (3) Effective soil cover includes mulching, straw mulching, plant residues or other suitable materials produced off site to the land surface. Mulching is used on bare, exposed soil surfaces that are deemed to be potential critical erosion areas. In most cases, mulch will consist of grain straw residue, but may include wood chips, leaves, composted yard waste, etc. (NRCS Conservation Practice Standards 2016[i]).

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

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

Groundwater Protection Formula, Values and Targets. The Groundwater Protection (GWP) Formula generates GWP Values, expressed as either nitrate-N loading numbers or concentrations of nitrate in water (e.g., mg/L), reflecting the influence of total applied nitrogen, total removed nitrogen, recharge conditions, and other relevant and

scientifically supported variables that influence the potential average concentration of nitrate in water expected to reach groundwater in a given township over a given time period. GWP Values are calculated based on reported INMP data and reflect discharge estimates from the bottom of the root-zone. GWP Targets considers GWP Values to establish the nitrogen loading rate necessary to comply with the Antidegradation Policy and Basin Plan.

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

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

Hydrologically Connected. Farm areas with a continuous surface flow path to a natural stream channel during a storm runoff event (also referred to as hydrologic connectivity). Connectivity usually occurs through drainage structures, drainage inlets, road ditches, gullies, and channels.

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

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

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

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

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

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

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

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

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

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

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

Major Storm Event. A Major Storm Event is defined as a storm that is forecasted to produce at least one inch of precipitation within a 24-hour period and is preceded by a minimum of 72 consecutive hours with less than 0.1 inches of precipitation. A Major Storm Event has ended after at least 48 consecutive hours during which no more than 0.1 inches of precipitation has occurred in any 24 hour period. See Attachment D for guidance.

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

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

Monitoring. Observing and checking a feature or factor over time to determine compliance with this Order or other regulatory requirements. Monitoring in this Order includes but is not limited to surface water or groundwater sampling and analysis to evaluate water quality in connection with agricultural activities, and inspecting operations, management practice implementation and effectiveness, maintenance of on-site records, and management practice reporting.

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

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

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

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

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

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

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

Perennial Stream. A stream that holds water throughout the year. Also known as a Class I watercourse. In the absence of diversions, water is flowing for more than nine months during a typical year, fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or a spring, an area where there is concentrated discharge of ground water that flows at the ground surface (a spring may flow any part of the year and does not have a defined bed and banks).

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

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

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

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

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

Qualified Professional. An individual licensed in California under the Professional Engineer Act (e.g., Professional Engineer), Geologist and Geophysicist Act (e.g., Professional Geologist, Certified Engineering Geologist, or Certified Hydrogeologist), and Land Surveyors' Act (e.g., Professional Land Surveyor); a California Registered Professional Forester (RPF); or a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD), a certified soil scientist registered through the American Society of Agronomy; Certified Professional in Erosion and Sediment Control

(CPSEC)™/Certified Professional in Storm Water Quality (CPSWQ)™ registered through EnviroCert International, Inc.; a or professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET). A Qualified Professional must only perform work they are qualified to complete, consistent with applicable licensing and registration restrictions, and must certify any work completed. See Business and Professions Code sections 6700-6799, 7800-7887, and 8700-8805, respectively.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Water Quality Standard. Provisions of State or Federal law that consist of the

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

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

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

Water Year. A Water Year is defined as October 1st through September 30th of each year.

APPENDIX II: Figures

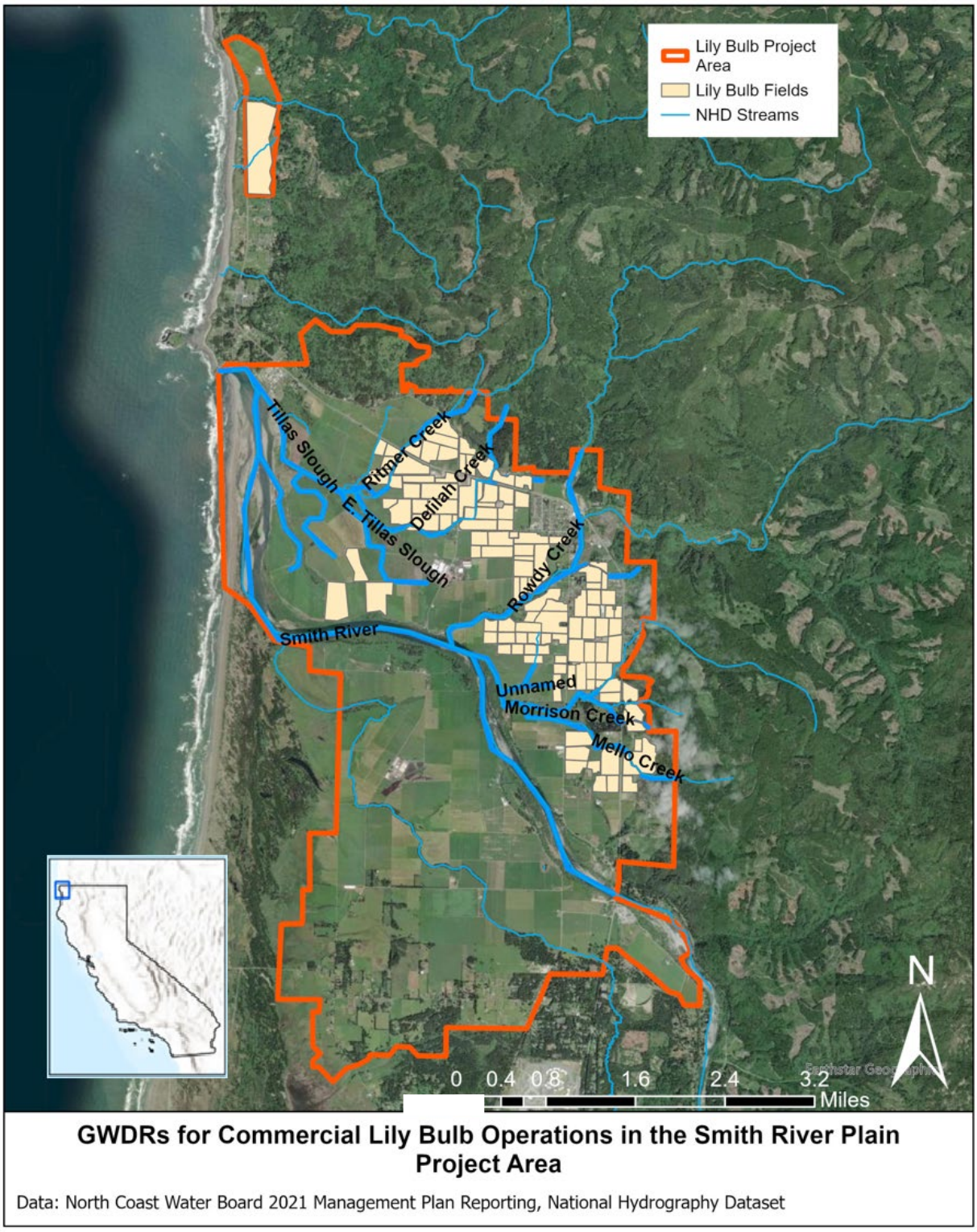

Figure 1: Proposed Project Area for GWDRs for Commercial Lily Bulb Operations in the

Smith River Plain with major tributaries and current lily bulb cultivation footprint

Figure 2: Fields planted to lily bulbs (shaded in purple) in the 2023-2024 growing season

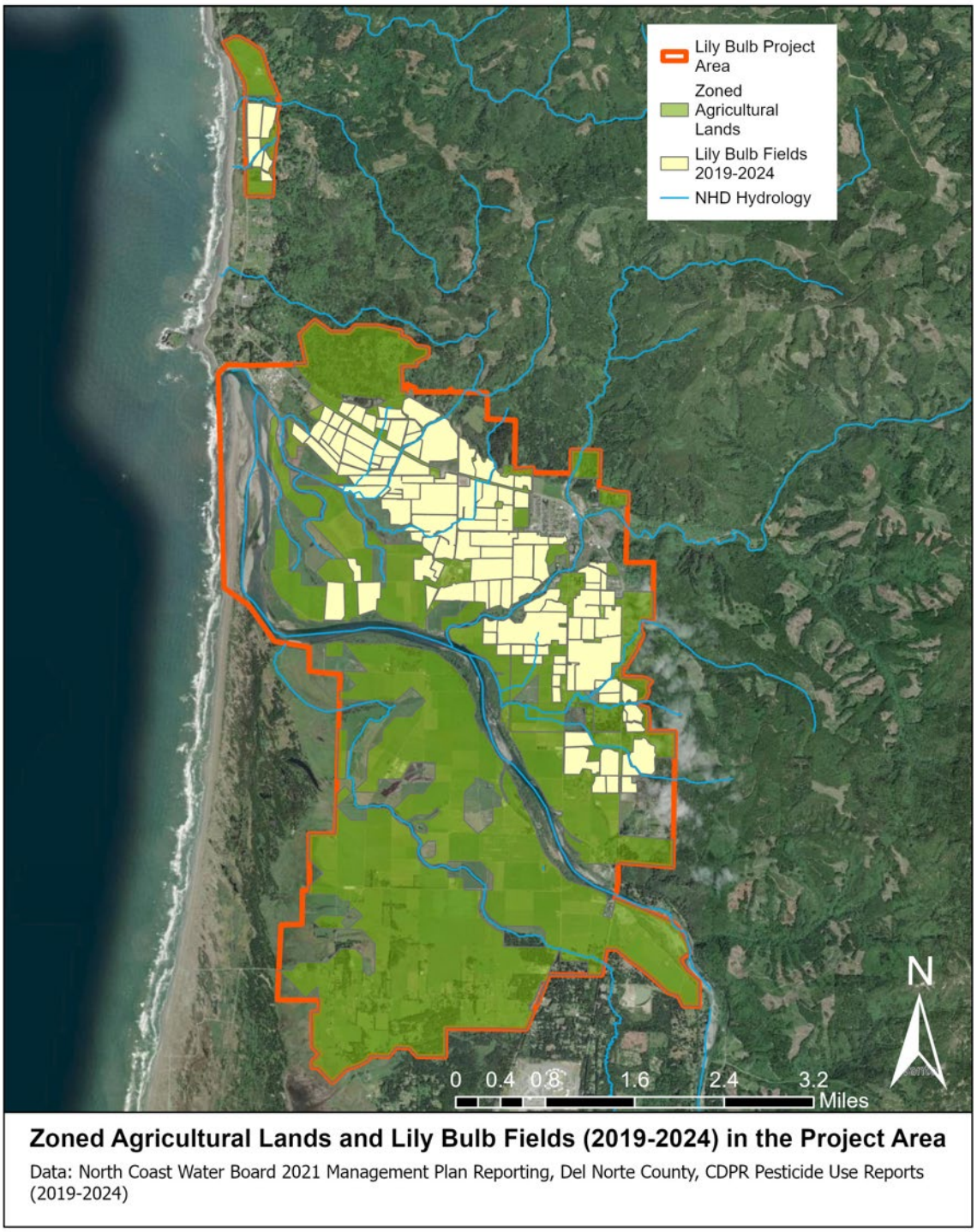

Figure 3: Agricultural zoned lands (AE, A, A-5, and A-20) in the Project Area, referred to as Potential Cultivation Areas for purposes of environmental analysis in the Ag and Forestry Resources Chapter.

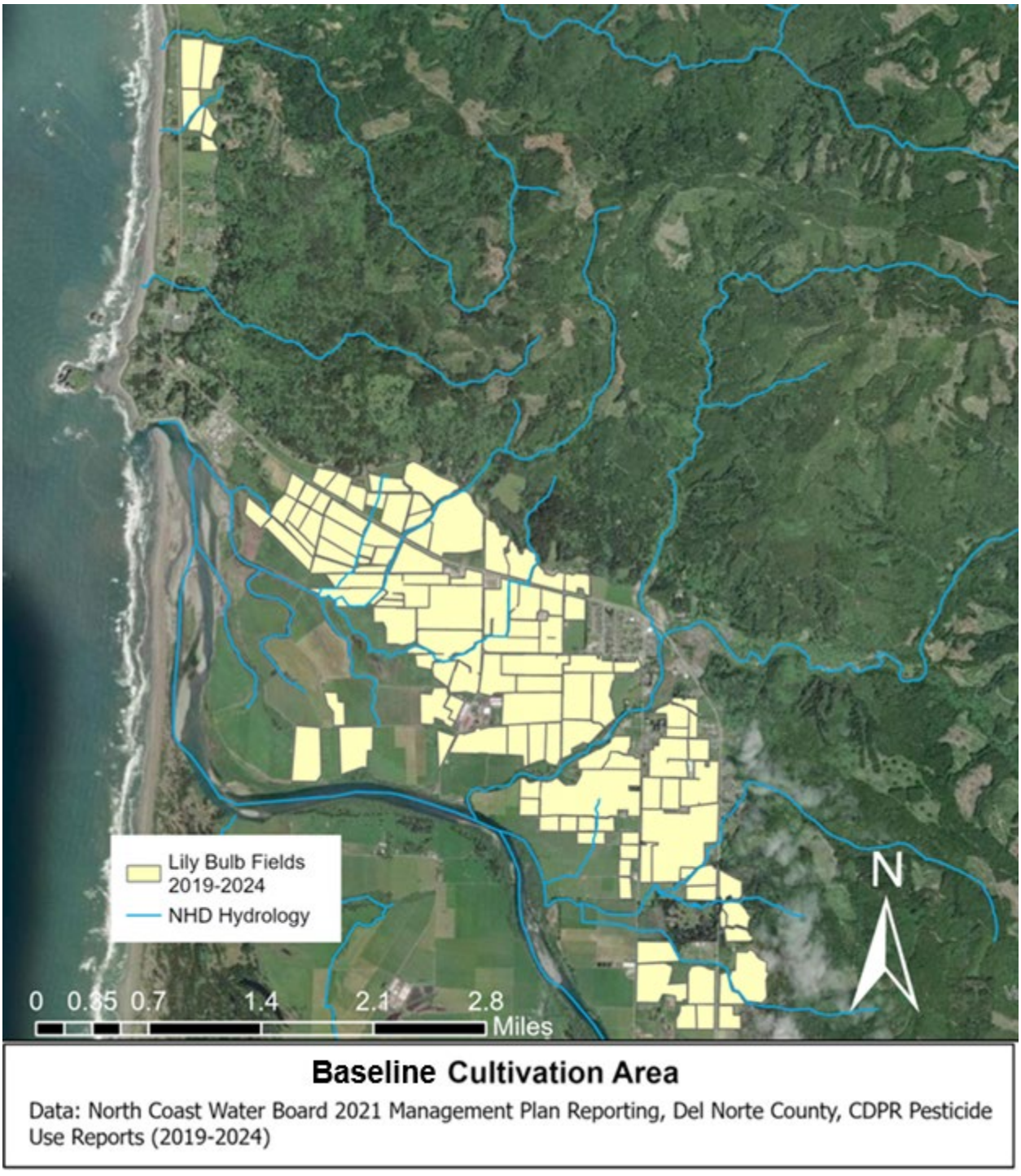

Figure 4: Baseline Cultivation Area for the purposes of analyzing impacts to Agriculture and Forestry Resources. Shaded lands represent parcel acres reported as lily bulb fields to the Del Norte County Ag Commissioner and/or to the North Coast Water Board through the 2021 Management Plan between 2019-2024.

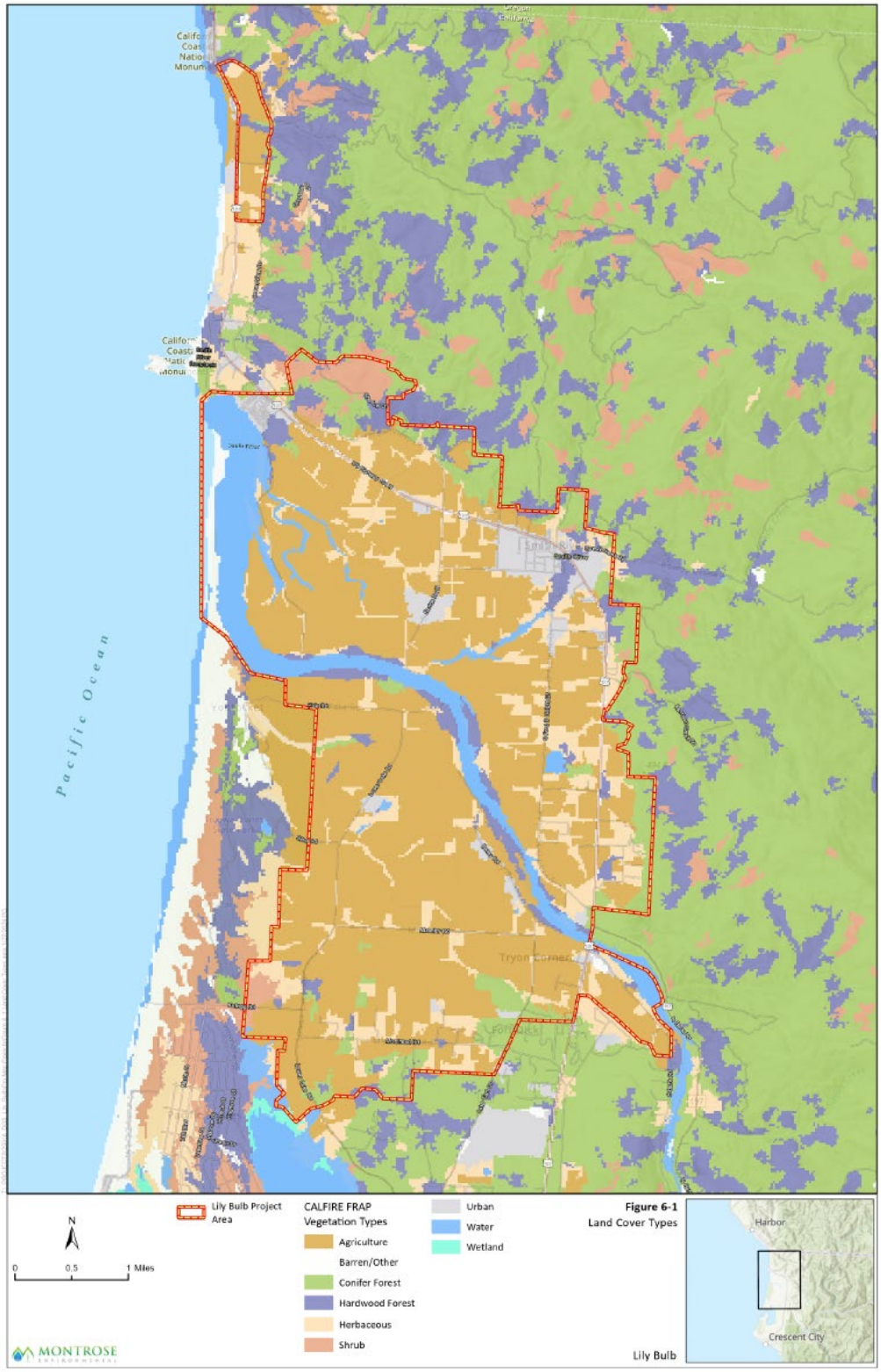

Figure 5: Land Cover types in the Project Area

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APPENDIX IV: Report Preparation

This Draft Environmental Impact Report was prepared by the North Coast Regional Water Quality Control Board with certain chapters, and sections prepared by Montrose Environmental (Chapter VI: Biological Resources, Chapter VII: Cultural Resources, and Chapter VIII: Tribal Cultural Resources) and the Tolowa Dee-Ni' Nation (Chapter VIII: Tribal Cultural Resources). The North Coast Water Board consulted the following entities, organizations, and persons in the preparation of this Draft EIR:

Montrose Environmental

Janis Offermann	Director/Cultural Resources Practice Leader
Jamie Bach	Sr. Cultural Resources Specialist
Tom Engels	Principal
Brian Mayerle	Principal
Jessica Gonzalez	Biologist

Tolowa Dee-Ni' Nation

Rachel McCain	Natural Resources Director
Cynthia Ford	Tribal Heritage Resources Officer
Culture Committee	
Natural Resources Committee	
Tribal Council	

California Department of General Services

Jennifer Parson	Senior Environmental Planner

State Water Resources Control Board

Taranjot Sahota	Senior Environmental Scientist
Bayley Toft-Dupuy	Attorney, Office of Chief Counsel

ATTACHMENT A: Draft General Waste Discharge Requirement for Commercial Lily Bulb Operations in the Smith River Plain (Included as separate attachment)

ATTACHMENT B: Management Practices

Attachment B of the Draft EIR provides Management Practices that may be implemented to comply with Section II.D (Management Practice Requirements) of the Draft Lily Bulb Order.

Reasonably Foreseeable Management Practices as Provided in the Draft Lily Bulb Order:

The following Management Practices in Table B.1 are listed by categories to achieve compliance with the following requirement from Section II.D in the Order. Alternatively, Enrollees may propose and implement Management Practices that provide equivalent or greater protection of water quality to meet the requirements of the Order. Enrollees are responsible for the design, implementation, maintenance, and repair of Management Practices to ensure their continued effectiveness in achieving the water quality goals of this Order.

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

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

b) Prevent, minimize or eliminate the discharges of all agricultural pollutants, including synthetic pesticides and copper-based fungicides to surface waters and groundwater;

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

c) Protect wellheads from surface water intrusion; and

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

Design specifications for Management Practices listed in Table B.1 can generally be found through the NRCS Conservation Practice Standards[15], and the Handbook for Forest, Ranch, and Rural Roads.[16]

[15] Conservation Practice Standards | Natural Resources Conservation Service https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards

[16] Updated Handbook for Forest, Ranch and Rural Roads | Pacific Watershed Associates https://www.pacificwatershed.com/roadshandbook

Table B.1: Management Practices by Category and Descriptions

Sediment and Erosion Control Management Practices *Management practices to prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads.*
Field Practices
Filter Strip – A vegetated strip is maintained adjacent to a drainage ditch or waterway to filter pollutants.
Field Size Reduction – Field sizes have been reduced to lessen the amount of stormwater runoff from the field.
Flow Dissipaters – Flow dissipaters are used to minimize erosion at discharge points, usually constructed out of riprap or concrete. .
Contour Farming – Fields are planted on the contour to reduce runoff.
Precision Land Forming – Fields are graded to increase irrigation efficiency and improve drainage control and minimize erosion.
Row Arrangement – Crop rows are graded, directed and at a length to optimize rain and irrigation water.
Cover Crop – Vegetation is planted in fields to minimize the area of bare soil, thereby reducing the potential for erosion.
Enhanced Soil Infiltration – Soil water penetration has been increased through the use of amendments, deep ripping and/or aeration.
Critical Area Planting – Permanent vegetation is established in areas that are expected to have high erosion rates or in areas that would otherwise prevent the establishment of vegetation.
Soil amendments – Amendments, such as compost, mulch or other organic matter are added to the soil to improve soil structure and reduce erosion.
In Furrow Dams – In furrow dams are installed to increase infiltration and settling out of sediment prior to entering the tail ditch.
Field Border – Borders (including berms) are installed at the low end of fields to capture runoff and trap sediment.
Plant Residue Tillage Management – Plant materials are left on the soil surface to reduce runoff and erosion.
Vegetative Barrier – Vegetation is planted to slow or reduce surface runoff by promoting detention and infiltration.
Grassed Waterway – Grass is maintained in drains and ditches to reduce erosion and filter pollutants.

Sediment and Erosion Control Management Practices
Management practices to prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads.
Stormwater Diversion – Structures or embankments are installed to keep stormwater on lily bulb field headlands.
Field Isolation – Runoff from lily bulb fields flows onto a pasture or other vegetated area where it is dispersed, filtered and infiltrated before reaching surface waters.
Grade Stabilization Structure – Drop spillways or check dams are installed to stabilize the grade and control erosion.
Appurtenant Agricultural Roads
Road Erosion Control – Waterbars, grading, rolling dips, etc. are used to prevent and minimize road erosion.
Proper Culvert Sizing and Maintenance – Culverts are sized correctly to pass the 100-year storm flows. Culverts are inspected regularly and maintained to ensure structural integrity, proper function, and to minimize erosion downstream.
Road Maintenance – Pre- and post-storm inspections are conducted, erosion sites are identified, and a prioritized inventory of erosion sites is developed and updated from which to schedule and implement fixes.
Appurtenant Farm Areas
Agricultural Pond Maintenance – Agricultural ponds are maintained to prevent erosion and failure of dams, embankments, and spillways. Ponds are regularly inspected, and necessary preventative maintenance is performed.
Livestock Management – This practice encompasses several possible measures related to managing pasture to protect water quality, such as stable stream crossings that protect bed and banks, alternate water for livestock, rotational grazing, and fencing or other barriers that limit access to riparian zones.

Pesticide Management Practices *Management practices to prevent, minimize or eliminate the discharges of pesticides to surface water and groundwater*
Integrated Pest Management Plan – A pesticide Management Plan has been developed that considers available pest control techniques to keep pesticide use at a level that minimizes risk to water quality.
Use of Low Risk Pesticides – Lower risk pesticides have been selected to minimize risk to water quality based on toxicity, runoff potential, and leaching potential.
Pesticide Sampling and Analysis – Stormwater runoff from fields is sampled and analyzed for pesticide concentrations to assess effectiveness of management practices.
Pesticide Mixing/Loading Setbacks – Setbacks are maintained adjacent to waterways and other sensitive areas for pesticide application, mixing, and loading.
Soil Amendments – Amendments are added to the soil to bind pesticides, thereby reducing offsite movement and/or reducing their toxicity.
Sprayer Shields – A shield on the spray boom is used to reduce drift.
Irrigation Water Management – The volume, frequency, and application rate of irrigation water is planned to minimize runoff.
County Pesticide Permit Compliance – All applicable pesticide regulations and handling and application directions are being followed.
Crop Rotation – Crops are rotated seasonally in a sequence to reduce use of pesticides and fertilizers and to reduce erosion.
End of Row Shutoff When Spraying – The pesticide sprayer is shut off at the end of the row and kept off in the turnaround.
Avoid Surface Waters When Spraying - Pesticides are not sprayed in and around surface waters where they can contact surface waters directly considering, among other things, wind direction and strength
No Spray Buffer Zone – Areas where spraying does not take place from between the downwind edge of the application area and an identified sensitive area.
Drift Control Agents – Additives are used to increase droplet size to reduce drift.
Monitor Climatic Conditions – Wind speed and direction, temperature, and relative humidity are monitored and considered in planning pesticide applications.
Application Timing and Rain Forecasting – The rain forecast is monitored to anticipate storm events that produce runoff pesticide application are planned to lengthen the amount of time prior to a storm event.

Pesticide Management Practices *Management practices to prevent, minimize or eliminate the discharges of pesticides to surface water and groundwater*
Pesticide Applicator Adjustments – Spray nozzle pressure and height and droplet size are adjusted to better target the pesticide application, minimize drift, and improve the efficiency of applications, which can all reduce the amount of pesticide required.

Nitrogen Management Practices *Management practices to prevent, minimize, or eliminate overapplication of nitrogen and the percolation of nitrogen into groundwater.*
Nutrient Application at Agronomic Rates – Nutrients are applied at rates to meet crop needs while reducing nutrient runoff and infiltration to groundwater.
Nutrient Budget – Nutrients applied versus nutrients removed (nutrient balance) is calculated to arrive at a nutrient application rate that minimizes excess application of nutrients.
Soil Testing – Nitrogen concentration in soils is measured and applications are adjusted accordingly.
Irrigation Water Testing – Nitrogen concentrations in irrigation water are measured and fertilizer nitrogen applications are adjusted accordingly.
Use of Beneficial Cover Crops – Cover crops that fix and utilize nitrogen are used to minimize nitrogen applications and leaching to groundwater.

Wellhead Protection and Good Housekeeping *Management practices to protect wellheads from surface water intrusion; and management practices for the proper handling, storage, disposal, and management of fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals.*
Wellhead Protection
Wellhead Protection – An area around the wellhead is delineated where certain activities are limited in order to protect the wellhead from contamination.
Backflow Prevention - Install and maintain backflow prevention devices on irrigation wells***.***
Abandoned or Inactive Wells - Properly destroy permanently inactive groundwater wells
Good Housekeeping

Wellhead Protection and Good Housekeeping *Management practices to protect wellheads from surface water intrusion; and management practices for the proper handling, storage, disposal, and management of fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals.*
Proper Disposal of Pesticides – Pesticides containers are triple rinsed before disposal and rinse water is mixed and applied according to label requirements. Pesticides are considered hazardous waste and disposed of accordingly.
All Applicable Pesticide Storage, Handling, and Use Laws are followed – State and local laws relating to the proper handling, storage, and use of pesticides are followed. Pesticide storage areas are well-maintained with proper signage.

Additional Reasonably Foreseeable Management Practices as Determined from Available Literature

Practices to Reduce Nutrient Loading to Surface Water and Groundwater

Reduce/eliminate irrigation discharge.
Reduce/eliminate stormwater discharge.
Plant cover crops; use them and manage them appropriately (e.g., not applying fertilizer to them).
Manage irrigation, examples include:
Irrigation distribution uniformity.
Reduce irrigation water applied.
Use micro-irrigation.
Maintain irrigation system; check for leaks and broken emitters, and fix/replace as needed.
Install buffer strip, vegetated filter strip, or swale.
Install constructed wetlands or other vegetated treatment system.
Install backflow prevention devices.
Apply less fertilizer.
Test water in wells to determine nutrient concentration before irrigating and fertilizing and reduce fertilizer application based on irrigation water nutrient concentration and volume to be applied.
Install appropriate storage of fertilizers, if kept on site.
Develop a nutrient Management Plan.
Apply nutrients at rates necessary to achieve realistic crop yields.
Improve timing of nutrient application.
Use agronomic crop production technology to increase nutrient use efficiency.
Avoid winter nitrogen applications.
Plan timing of fertilizer application to avoid applying before predicted rainfall events.
Monitor the nutrient content of the soil to reduce fertilizer applications.
Account for nutrient content of unharvested plant material to reduce fertilizer applications.
Rinse and dispose of chemical containers safely.
Manage soil health to improve water and nutrient retention and reduce leaching.

Practices to Reduce/Eliminate Pesticides from Entering Surface Water or Groundwater

- Reduce/eliminate irrigation discharge Reduce/eliminate stormwater discharge.
- Plant cover crops; use them and manage them appropriately.
- Manage irrigation, examples include:
  Irrigation distribution uniformity.
  Reduce irrigation water applied.
  Use micro-irrigation.
  Maintain irrigation system; check for leaks and broken emitters, and fix/replace as needed.

Install buffer strip, vegetated filter strip, or swale.
- Install constructed wetlands or other vegetated treatment systems.
- Install backflow prevention devices.
- Apply pesticide per labeling directions (e.g., do not apply during windy conditions, do not apply right before forecasted rain, do not irrigate directly after pesticide application, apply lowest dose, apply based on infestation thresholds).
- Use an IPM strategy.
- Install appropriate storage of chemicals, if kept on site.
- Install hedgerows.
- Use beneficial insects to reduce pesticide applications.
- Scout for pests prior to pesticide applications.
- Minimize deep percolation.
- Reduce pesticide applications.
- No dormant spray.
- Spot-treat infestations.
- Rinse and dispose of chemical containers safely.
- Install Treatment System
- Soil amendments

Practices to Reduce/Control Erosion and Discharge of Sediment to Surface Waters

- Reduce/eliminate irrigation discharge Reduce/eliminate stormwater discharge.
- Plant cover crops; use them and manage them appropriately.
- Install buffer strip, vegetated filter strip, or swale Install constructed wetlands or other vegetated treatment system.
- Minimize bare soil.
- Limit movement of water to surface waters.
- Minimize tillage.
- Install and maintain sediment trapping measures.
- Conservation tillage
- Conservation cover.
- Critical area planting.
- Mulching.
- Contour farming or strip-cropping.
- Contour buffer strips.
- Properly construct and maintain roads.
- Out-slope roads.

Practices to Control Impacts to Stream Temperature

- Re-establish (and/or preserve) riparian buffers.
- Expand riparian and wetland buffers.
- Increase riparian canopy for surface waters to support beneficial uses.

- Establish native species (grasses, forbs, legumes, shrubs, and trees) near riparian areas.
- Exclude people and vehicles from an area to protect, maintain, or improve the quantity and quality of riparian vegetation.
- Plant native vegetation to increase shade in accordance with site-specific potential.

Also refer to USEPA National Managment Measures to Control Nonpoint Source Pollution from Agriculture (https://www.epa.gov/nps/national-management-measures-control-nonpoint-source-pollution-agriculture).

Typical Construction, Operation, and Maintenance Processes for Selected Generalized Reasonably Foreseeable Management Practices

The number of reasonably foreseeable management practices listed in the prior table is too great to provide detailed information regarding typical construction/installation, operation, and maintenance processes for each one. Additionally, many of the practices listed (e.g., apply less fertilizer, apply pesticides in accordance with label instructions, less tillage, etc.) would have limited potential to result in significant adverse environmental impacts. Therefore, a selected number of generalized reasonably foreseeable management practices with the greatest potential for environmental impacts associated with their construction, operation, and/or maintenance is presented here.

Runoff Management Features (e.g., Buffer Strip, Vegetated Filter Strip, or Swale)

Runoff management features may include buffer strips, vegetated filter strips, or swales, all of which serve to manage runoff through vegetation that absorbs and filters water and sediments. These features usually include sloped areas of planted vegetation positioned between a waterbody receiving runoff and pollutant source area. Construction/installation activities could include light disking, use of a “no till” or grass drill for seeding the proposed vegetated area, and associated transport of materials and equipment. Minor excavation and off- haul of soils may be required for construction of swales. General vegetation management (e.g., mowing, weeding, etc.) may be required for periodic maintenance of the facilities. Generally, these types of runoff management features would not use or require energy, other than for operation of any equipment used in maintenance activities.

Retention/Detention Basins

Retention/Detention basins are constructed from an embankment or excavation to capture and retain pollutant-laden runoff. Sediment retention basins typically are constructed with an engineered outlet and are designed to retain runoff for a sufficient length of time to allow the sediment to settle out in the basin. Heavy equipment is required for construction of sediment retention basins, such as dozers, hydraulic excavators, trenchers, dump trucks, scrapers, etc. Engineered fill material may need to be imported to the site for construction of the embankment, and/or excavated material

may need to be hauled off from the site and disposed of at a landfill. Maintenance activities include periodic inspections of the basin, removal of accumulated sediment, debris/trash removal, replacement of damaged parts, and vegetation management.

Riparian Buffer Areas

Riparian buffer areas are communities of perennial vegetation including trees, shrubs, and grasses adjacent to a body of water that provide important habitat and water quality functions, including passive removal of pollutants (e.g., sediment, pesticides, etc.) and temperature regulation through shading. Depending on the existing vegetation/ground cover in the targeted area, construction of the riparian buffer area may include removal of existing farm area, light disking, and broadcast seeding or plug planting of riparian vegetation species. Equipment used during construction could include a “no till” or grass drill, skidsteer loader, and trucks for transport of materials. Following construction/installation, riparian buffer areas may require some watering, particularly in the early plant stages to ensure survival, but otherwise would not use substantial water or energy. Maintenance activities may include periodic inspections of streambank stability/evidence of erosion, exclusion of livestock, and general vegetation management.

Treatment Systems

Treatment Systems for capturing and treating pollutant-laden storm runoff could include the construction of stormwater capture basins which are typically are constructed to retain runoff for a sufficient length of time to allow the treatment system to be effective. Heavy equipment is required for construction of such basins, such as dozers, hydraulic excavators, trenchers, dump trucks, scrapers, etc. Engineered fill material may need to be imported to the site for construction of the embankment, and/or excavated material may need to be hauled off from the site and disposed of at a landfill. Maintenance activities include periodic inspections of the basin, removal of accumulated sediment, debris/trash removal, replacement of damaged parts, and vegetation management.

ATTACHMENT C: Plans and Policies Relevant to the Proposed Project

Del Norte County General Plan 2003

Natural Resources/Conservation Element

AGRICULTURAL RESOURCES

Goal 1.G. To designate agricultural land and promote development of agricultural uses to support the continued viability of Del Norte County's agricultural economy.

Policies

1.G.1. The County defines prime agricultural lands as those, which meet both of the following criteria:

a. Land of high agricultural value: Lands "actively used" (lands may be considered "actively used" even though they lie idle for up to ten years) for agricultural production such as nursery crops, pasture crops, dairy products, and/or livestock, or;

Lands which qualify for rating 80 through 100 in the Storie Index.

b. A minimum of 20 acres in contiguous ownership. £* LR II.G.2.c

1.G.2. The County defines general agricultural land as lands that meet all of the following criteria:

a. A minimum of 5 acres of contiguous ownership;

b. Lands in agricultural use or adjacent to agricultural use; and

c. Lands where small-scale agriculture provides or can provide food, fiber or animal management for the enjoyment or economic benefit of the property owner or renter. £ .. LU 111.8., LR III.C.2.

1.G.3. The County deems continuation of existing agricultural uses such as grazing and pastoral activities and the raising and harvesting of crops to be a principal use within existing Farmed Wetlands. Maintenance activities auxiliary to the above agricultural uses are, therefore, allowable uses including drainage related to crop rotation. Such areas are subject to the other policies of this General Plan. £ LR III.C.B

1.G.4. The County shall continue to conserve prime agricultural soils by review of development which may cover-over or displace such soils (i.e., roads and accessory structures) and require redistribution of impacted soils for other agricultural uses as mitigation. The County shall encourage agricultural structures to be placed in a location that will have the least impact upon on-site agricultural activity. ~* (New)

1.G.5. The County shall designate agricultural industrial areas to allow agricultural service uses (i.e., commercial and industrial uses) to locate in agricultural areas if they

relate to the primary agricultural activity in the area. The County shall use the following guidelines to analyze the suitability of a proposed agricultural service use:

a. The use will not adversely affect agricultural production in the area;

b. The use supports local agricultural production;

c. It is compatible with existing agricultural activities and residential uses in the area; and

d. The use will not require the extension of sewer service. ~* (New)

1.G.6. The County shall support appropriate efforts by private conservation organizations to use conservation easements as a tool for agricultural preservation. ~* (New)

1.G.7. The County shall encourage infill development in urban areas as an alternative to expanding urban boundaries into prime agricultural areas. ~* (New)

1.G.8. In the Coastal Zone, the County defines new or expanded agricultural operations that involve the removal of major vegetation, excluding agricultural crops, as new development. Accordingly, such operations are subject to the permit requirements and all other applicable policies of this General Plan pertaining to new development. ~ LR III.C.g.

1.G.9. The County shall permit conversion of land designated for agriculture use only when agricultural use is no longer feasible and such conversion shall be subject to Coastal Act priorities for coastal land uses (e.g., recreation, coastal dependent industries). Priority shall also be given to land uses that are least likely to conflict with agricultural productivity or activity, particularly other resource activities as set forth elsewhere in this General Plan. ~ LR III.C.3.

1.G.10. If a parcel is designated for prime agricultural use, conversion to non-agricultural use shall not be permitted, except where allowed in Section 30241 of the Coastal Act. ~ LR III.C.1.

1.G.11. The County should support education programs in agricultural sciences to insure a future of well-trained agronomists and informed citizens. \J LR III.C.6.

RIGHT TO FARM

1.G.12. The County shall adopt a right-to-farm ordinance that provides that existing agricultural operators are protected from nuisance complaints resulting from normal operations. ~* (New)

1.G.13. The County shall continue to designate as agriculture those lands most suited to agricultural production by restricting inappropriate development on prime land and directing future development to non-prime areas. ~.. COS P'SAG.3

1.G.14. The County shall, as part of its right-to-farm ordinance, require development within or adjacent to designated agricultural areas to include design, construction, and maintenance techniques that protect agriculture and minimize conflicts with adjacent agricultural uses. ~"COS G.SAG.3 ., COS P.SAG.2 ., COS LR.III.G.5.

1.G.15. The County shall require new non-agricultural development immediately adjacent to agricultural areas to include location, design, construction, and maintenance techniques that protect agriculture uses and the non-agriculture uses. ~ .. (New)

1.G.16.The County shall maintain prime agricultural lands in large parcel sizes (greater than 20 acres) to retain viable farming units. ~.. (New)

1.G.17. The County shall afford parcels of 20 acres or larger committed to agricultural use the opportunity to participate in Williamson Act contracts or an equivalent method of taxation. ~ LV 111.0.13.

WILLIAMSON ACT

The Williamson Act is specifically referenced in policy 1.G.17 above, emphasizing the County's commitment to afford parcels of 20 acres or larger committed to agricultural use the opportunity to participate in Williamson Act contracts or an equivalent method of taxation, supporting agricultural preservation through tax incentives.

FORESTRY RESOURCES

Goal 1.H. To conserve Del Norte County's forest resources, enhance the quality and diversity of forest ecosystems, reduce conflicts between forestry and other uses, and to encourage a continued yield of forest products.

Policies

1.H.1. The County recognizes commercial timberland as a resource in its own right as well as a protector of many other resources and shall strive to maintain commercial forest land as such. ~"COSP.CTP

1.H.2. The County shall continue to maintain in a commercial timberland use those lands possessing climate and soils suitable for growing commercial conifer timber crops (including spruce) through the State Timberland Production Zone (TPZ) program. Those upland soils with timber sites I through III which are in parcels of 20 acres or more should not be allowed to reduce in parcel size below 20 acres. £ .. COS P.CTP.4., LR V.C. 5. (Revised)

1.H.3. The County shall ensure that other timberlands 20 acres or more in size which are within or adjacent to commercial timber production areas, U.S. Forest boundaries,

hillside areas, and/or wild land fire risk areas are designated as Timberland with timber related uses and are subject to the restrictions of Policies 1.H.2. and 1.HA. ~ LR V.C. 3. (Revised)

1.HA. For lands not zoned TPZ, the County may consider parcels designated as Timberland for division into a parcel of 20 acres or larger in size, provided such divisions comply with other County development standards. The creation of parcels less than 20 acres in size when the one unit 20 acres density is not exceeded may only be approved subject to the County's D district combining zone to ensure that there is no further division than that permitted by this General Plan. ~* LR V.C.7. (Revised)

1.H.5. The County should require the placement of commercial timberland uses and adjacent uses so that, in general, lower intensity uses are adjacent to commercial timberlands with higher intensity uses placed in a logical transition away from these timberlands. Lower intensity uses shall include other resource activities as set forth in the Agriculture, Marine Resources, and Water Resources policies of this General Plan. ~* LR V.C.9

1.H.6. The County shall protect commercial timberland and timber production activities from development practices that erode their economic viability. New non-timber development immediately adjacent to timberlands shall be designed to provide a buffer in the form of a setback of sufficient distance to avoid land use conflicts between timber management and the non-timber uses. ~*COS P.CTP.1. (Revised)

1.H.7. Due to a preference to follow lot lines or quarter section lines, some areas designated as timberlands contain large, sizable areas of unforested lands used for low intensive agricultural production (primarily grazing). This is due to the conflicts between the timber yield and taxation legislation and the Coastal Act. Those lands designated as forestlands but used agriculturally are deemed not to be in conflict. Similar lands designated agriculturally but presently zoned TPZ are deemed not to be in conflict. ~* LV 111.0.17.

1.H.8. The County should continue to cooperate with the Six Rivers and Siskiyou National Forests in the management of all National Forest lands within the county. The County should strongly support the concept of multiple use of all forest lands, emphasizing commercial timber production, recreational, and resource values. ~ *COS P.CTP.5.

1.H.9. The County shall consider those lands defined as timber growing lands based upon size-of-parcel criteria and which are designated by this General Plan for urban, rural, or public land use categories to be approved for timberland conversion in order to provide for directed population growth so that Resource designated lands, including Resource Conservation habitat areas, may be protected. ~* (New)

1.H.10. The County shall encourage the California Board of Forestry to limit issuance of timber conversion permits to projects which have demonstrated development permit approval. \J (New)

1.H.11. The County supports the productive use of wood waste generated in the county. ~* (New)

MARINE RESOURCES

Goal 1.A. To maintain and where possible enhance marine resources, coastal waters, and sensitive coastal habitats, thereby recognizing the economic and biologic significance of these resources. MWR VI. C.

Policies

1 .A.1 . The County shall seek to maintain and where feasible enhance the existing quality of all marine resources. ~ MWR VI. C. 1.

1.A.2. The County shall continue to enforce regulations, which require that all surface and subsurface waters be maintained at the highest level of quality to ensure the safety of public health and the biological productivity of coastal waters. ~ MWR VI.C.3.

1.A.3. The County shall encourage community programs that are designed to improve the quality of coastal fisheries and other marine resources. ~ MWR VI.C.2.

Estuaries

1.A.13. New shoreline development shall not be permitted to neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. ~ (New)

1.A.14. The County shall strive to ensure that estuarine systems are maintained at their highest
feasible level of productivity in order to protect and enhance coastal fisheries and other marine
resources. MWR VII.C.4.a

1.A.15. The County shall allow the alteration of existing estuarine water channels through dredging, diking, or filling only when consistent with Coastal Act Policy 30233 A & B and when such activity would enhance the biological productivity of the estuary. MWR VII.C.4.b

1.A.16. The County shall require that all permitted activities in estuaries as identified in Policy 1.A.15. are carried out in a manner that will minimize impacts on the biota and productivity of the area. MWR VII.C.4.c

1.A.17. The County shall permit the extraction of sand and gravel consistent with applicable marine resources, extraction, and habitat policies. MWR VII.C.4.d

1.A.18. The County supports channel navigational modifications of the Smith and Klamath Rivers that are seasonal and do not require construction of permanent facilities that will adversely affect the flow of the stream if the following determinations are made:

a. The modifications are not permanent and will be removed before or during the following high water period;

b. The modifications are necessary to provide free movement of recreational and/or
commercial boating; and

c. The project is consistent with all applicable laws and regulations local, state, and federal. MWR VII.C.4.e

1.A.19. The County shall require implementation of approved management measures specified for urban areas in the recently approved State Water Resources Control Board and California
Coastal Commission's non-point source pollution control program to minimize polluted runoff
from construction activities and land use activities to insure the safety of public health and the
biological productivity of coastal waters.

1.A.20. The County shall enforce regulations which promote that all subsurface water be maintained at a high level of quality to ensure the safety of public health.

WATER RESOURCES

Goal 1.B. To protect and enhance the natural qualities of Del Norte County's streams, creeks and groundwater and to insure sufficient water supplies of good quality for all beneficial uses. COS WR.G.1. , COS WR.G.2., COS WR.G.3.

Policies

1.B.1. The County shall seek to maintain, and where feasible, enhance the existing quality of all water resources in order to ensure public health and safety and the biological productivity of waters. MWR VI.C.1., MWR VI.C.3., MWR VI.C.4.

1.B.3. The County shall continue to follow all existing and future Federal and State water quality standards. COS WR.P.4.

1.B.6. The County shall encourage community programs designed to improve the quality of fisheries and other water resources, including the voluntary incorporation of conservation buffers where pesticide and fertilizer application is a regular occurrence and public outreach and awareness related to home an business opportunities to improve fisheries and water resources. MWR VI.C.2.

1.B.7. The County shall continue to comply with the policies of the Wild and Scenic Rivers Act

designations on the Smith River and Klamath River.

1.B.8. The County shall require that proposals to create new parcels include adequate space outside of watercourses' setback areas to place improvements (e.g., buildings, sewage disposal where applicable, and appurtenant structures) outside areas that require protection pursuant to WCQB standards and/or zoning requirements.

ONSHORE FISHERIES RESOURCES

Goal 1.C. To achieve the long-term goal of maintaining viable runs of anadromous fisheries through the protection, maintenance, enhancement, or restoration of anadromous fisheries spawning and nursery habitat.

Policies

1.C.1. The County shall, during the review of new development, protect and maintain the existing level of anadromous fisheries habitat when such development is adjacent to or may affect fisheries habitat.

1.C.2. The County shall continue its program of establishing riparian corridors for streams identified as habitat areas sensitive to anadromous fish productivity to land outside of the Coastal Zone and within the jurisdiction of the County.

1.C.3. When a use is permitted within an estuary, a riparian corridor, or a wetland buffer area and where no feasible, less environmentally damaging alternative is available; the County shall require that feasible mitigation measures shall be incorporated into the permitted activity. Such mitigation shall:

a. Minimize potential adverse impacts to the riparian corridor or wetland such as increased peak runoff, sedimentation, increased water temperatures, and loss of shade;

b. Require the siting of the permitted activity to be located to reduce or prevent impacts
incompatible with the continuance of the habitat function; and

c. Provide for replacement of habitat loss at a minimum ratio of 2:1.

1.CA.5. The County shall review and revise its road surfacing, grade slope, crown slope, culvert, ditch, bridge, and other maintenance practices to reflect techniques to reduce impacts on anadromous fisheries and be institutionalized so that such practices become standard for daily activities of the road crew.

1.CA.6. The County shall adopt mechanisms to restrict winter land grading activities on hillsides through amendments to the grading ordinance, standardized conditions, or through mitigation imposed through the environmental review process.

1.C.9. The County shall continue to utilize natural drainage courses rather than channelizing streams for stormwater runoff.

1.C.10. For drainage courses within the county flood control system (which are used for storm water runoff and are identified as streams which support anadromous fisheries), the County shall amend its maintenance practices to the extent practicable, provide for retention of the riparian canopy.

1.C.11. The County shall continue to limit development involving significant alteration of the natural landform on slopes greater than 30 percent.

SOIL RESOURCES

Goal 1.D. To maintain the productivity of Del Norte County's soils, reduce erosion, and prevent unsafe and unhealthy soil conditions.

Policies

1.D.5. In areas of unstable soils and/or steep terrain, the County shall limit the intensity of
development to minimize the potential for erosion and landform instability.

1.D.6. The County shall continue to regulate the grading of land to minimize the impact of soil erosion from wind, water, and landslides in areas with slope instability.
1.D.7. implementation of best management practices to minimize the impacts of tilling and grading on soil erosion.

WILDLIFE HABITAT RESOURCES

Goal 1.E. To protect, restore, and enhance habitats that support fish and wildlife species throughout Del Norte County.

Policies

1.E.1 . The County recognizes the following areas as major locations of excellent wildlife habitat, native or natural vegetation, and of aesthetic value:
a. All offshore rocks and islands (seaward of the mean high tide line) excluding Whaler
and Battery Islands;

b. Inland of the mean high tide line to the first line of vegetation (except in the areas of
coastal bluffs when the area will be to the crest of the bluff), excluding the Crescent
City Harbor area;

c. Lakes Earl and Talawa and their immediate marshland, allowing continued agricultural uses;

d. Sand dunes and wet sand areas, excluding limited development in appropriate areas;

e. The tidal-influenced areas of the Smith and Klamath Rivers. Commercial-Recreational and Public-Recreational development shall be allowed, but be carefully controlled to prevent significant alteration of the habitat areas. Gravel extraction shall be allowed on a scale consistent with local policy and state regulations;

f. Riparian corridors which preserve and protect wildlife and fisheries habitat; and

g. The Crescent City Marsh, Elk Creek Wildlife Area, and their surrounding wetlands.

These areas should be maintained as wildlife habitat and protected from adverse activity. The
County shall prohibit further development except that which is in the best interest of the public
health, safety, and welfare, or as noted. COS P.WHV. 7.

1.E.2. The County shall support the critical habitat protections for federally listed threatened and endangered species.

1.E.3. The County shall support the beneficial improvement and/or reestablishment of fisheries in the rivers and streams within the county, whenever feasible.

1.E.4. The County should recognize and encourage the various uses of wildlife and their habitat, including such activities as passive watching, scientific studies, educational purposes, and hunting and fishing. COS P.WHV.6.

1.E.5. The County shall require that development on hillsides be design to utility native vegetation when possible or natural vegetation as erosion control measures

1.E.6. The County should encourage the maintenance of forest lands in production under the multiple use concept which includes recreation and wildlife habitat. COS P.WHV.5.

LISTED SPECIES

1.E.8. The County shall continue to consult with the California Department of Fish and Game [17](CDFW) for identification and protection of rare, threatened, and endangered species that may be adversely affected by public or private development projects.

1.E.9. The County shall require that new development is consistent with critical habitat protection for federally listed threatened and endangered species, when such critical habitat is specifically identified at the affected project site or the development has identified offsite impacts that affect critical habitat.

1.E.10. The County shall require clustering of development and work with other public agencies in the acquisition of conservation easements to provide habitat protection of State or Federally listed rare, threatened, or endangered, and/or other special status species.

[17] Previously California Department of Fish and Game (CDFG); changed to California Department of Fish and Wildlife (CDFW) in on January 1, 2013

1.E.11. The County shall continue to pursue a cooperative role with the U.S. Forest Service and State and National Park services in the protection and continued maintenance of all plants and animal species and their habitat. COS P.WHV.10.

ENVIRONMENTALLY-SENSITIVE HABITAT AREAS

1.E.12. The County shall continue to define the following as specific environmentally-sensitive habitat areas:
Coastal Sand Dune - Ridges of sand created by wind deposited materials carried from ocean beaches. An active dune is one in the process of gaining or losing sand, commonly unvegetated or covered with sparse grasses and low-growing succulents. Stabilized dunes are usually covered by woody vegetation such as the beach pine. MWR VII.G.1
Coastal Estuary - A coastal water body usually semi-enclosed by land, but which has open, partially obstructed, or intermittent exchange with the ocean and in which ocean water is at least occasionally diluted with freshwater runoff from the land. MWR VII.C.1
Coastal Wetland - Lands within the coastal zone which may be covered periodically or permanently with shallow water such as marshes, swamps, mudflats, bogs, and fens. Farmed wetlands shall be defined as wetland areas, which are used for agricultural purposes such as grazing, planting or forage during parts of the year. Maintained roadside ditches shall not be deemed to be a coastal wetland unless within an area directly subject to tidal influence; in any case, existing roadside ditches may be maintained and improvements made which address safety concerns.
Riparian Vegetation - The plant cover normally found along water courses including rivers, streams, creeks, and sloughs, usually characterized by dense growths of trees and shrubs. MWRVII.E.1
1.E.13. The County shall maintain maps that identify the locations of specific environmentally sensitive coastal sand dunes, coastal estuary and wetlands, and riparian habitat areas within Del Norte County. Due to the scale of such maps, questions may arise as to the specific boundary limits of an identified environmentally sensitive habitat area. Where there is a dispute over the boundary or location of an environmentally sensitive habitat area, the County may request the applicant to provide the following information:

a. A base map delineating topographic lines, adjacent roads, location of dikes, levees,
flood control channels, and tide gates;

b. Vegetation map;

c. Soils map; and

d. A biologist's report, where necessary.

The County shall cooperate with the CDFW to review this information and the County's determination shall be based upon specific findings as to whether an area is or is not an environmentally sensitive habitat area based on General Plan criteria, definition, and,

within the Coastal Zone, criteria set forth by the Coastal Act regarding Environmentally Sensitive Habitat Areas. MWR VII.D.4.g

1.E.14. The County shall continue to implement the existing Resource Conservation Area program to guide development in and adjacent to environmentally sensitive habitats, both natural and man- made, so as to allow utilization of land areas compatible with other policies while providing adequate protection of the subject habitat. MWR VII.D.4.d

1.E.15. The County shall encourage the California Board of Forestry to adopt updated Forest Practice Rules which prohibit timber harvest within riparian, wetland, estuary habitat, or related buffer areas, designated by a locally adopted General Plan or Local Coastal Plan.

COASTAL SAND DUNES

1.E.16. To ensure their values as groundwater recharge regions and wildlife habitats, the County shall encourage the maintenance in their existing states or return to their natural states where feasible of coastal sand dunes, as mapped on the County sensitive habitat maps. MWR VII.G.4.a

1.E.17. The County shall develop enforceable regulations to limit the use of motorized vehicles to unvegetated dunes. MWR VII.G.4.b, RIV I.F3.

1.E.18. The County shall discourage the removal or unnecessary disturbance of dune vegetation. MWR

COASTAL ESTUARIES

[See Policies 1.A.14., 1.A.16., 1.A.17., and 1.A.19]

COASTAL WETLANDS

1.E.19. The County shall permit the diking, filling, or dredging of wetlands in accordance with other applicable provisions of this General Plan where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse environmental effects. Within the coastal zone, such projects shall be limited to those identified in Section 30233 of the Coastal Act. MWR VII.D.4.a

1.E.20. In order to provide that the maximum amount of agricultural production in existing farmed wetlands and cultivated lands (cultivated within the last ten years), the County shall permit maintenance and repairs for existing dikes, levees, drainage ditches, and other similar agricultural drainage systems, subject to any and all applicable policies within the General Plan. MWR VII.D.4.c

1.E.21. The County shall ensure that development in areas adjacent to environmentally sensitive wetland habitat areas be sited and designed to prevent impacts which could significantly degrade such areas, and shall be compatible with the continuance of such

habitat areas. The primary tool to reduce impacts around wetlands between the development and the edge of the wetland shall be a buffer of one hundred feet in width. A buffer of less than one hundred feet may be utilized where it can be determined that there is no adverse impact on the wetland. A determination to utilize a buffer area of less than one hundred feet shall be made in cooperation with the California Department of Fish and Game and the County's determination shall be based upon specific findings as to the adequacy of the proposed buffer to protect the identified resource. MWR VII.D.4.f

1.E.22. The maintenance opening of the sandbar at Lake Talawa shall be permitted consistent with agreements negotiated between the County and the CDFW. MWR VII.D.4.e

1.E.23. The County shall require that dredging and spoils disposal be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment when feasible should be transported for such purposes to appropriate beaches or into suitable longshore current systems. MWR VII.D.4.b

1.E.24. The County shall prohibit direct runoff of pollutants and siltation into wetland areas from development. Development shall be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.

1.E.2S. The County shall require new development to mitigate wetland loss through any combination of the following, in descending order of desirability:

• Avoidance of wetland habitat;

• Where avoidance is not possible, minimization of impacts on the resource; or

• Replacement, including use of a mitigation-banking program.

1.E.26. In cases where the County requires replacement for a wetland loss, the level of replacement to be required with respect to any given project will be evaluated according to the following criteria:

1. On-site mitigation shall be preferred to off-site, and in-kind mitigation shall be preferred to out-of-kind;

2. Functional replacement ratios may vary to the extent necessary to incorporate a margin of safety reflecting the expected degree of success associated with the mitigation plan; and

3. Acreage replacement ratios may vary depending on the relative functions and values of those wetlands being lost and those being supplied, including compensation for temporal losses.

1.E.27. The County deems the continuation of existing agricultural uses such as grazing and pastoral activities and the raising and harvesting of crops to be a principle use

within existing Farmed Wetlands. Maintenance activities auxiliary to the above agricultural uses are, therefore,
allowable uses including drainage related to crop rotation. Such areas are subject to the other
policies of this General Plan. LR III. C. B.

RIPARIAN AREAS

1.E.28. The County shall ensure that riparian vegetation be maintained along streams, creeks, and sloughs and other water courses for their qualities as wildlife habitat, stream buffer zones, and bank stabilization. Where alterations to segments of stream habitat cannot be avoided, policy 1.E.29 shall apply. MWR VII.E.4.a

1.E.29. The County shall require mitigation for development projects where segments of stream habitat are unavoidably altered. Such impacts should be mitigated on-site with in-kind habitat replacement or elsewhere in the stream system through stream or riparian habitat restoration work.

1.E.30. The County shall require development projects proposing to encroach into a creek corridor or creek setback to do one or more of the following, in descending order of desirability:

a. Avoid the disturbance of riparian vegetation;

b. Replace riparian vegetation (on-site, in-kind);

c. Restore another section of creek (in-kind); and/or

d. Participate in a mitigation-banking program.

1.E.31. The County should provide for diversified recreational use of fish and wildlife while providing preservation of their habitat. COS P. WHV.4.

1.E.32. The County should seek funding to reestablish riparian vegetation in selected stream corridors. MWR VII.E.4.b

1.E.33. The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for agricultural activities.

Land Use Designation Element

SMITH RIVER SUBAREA RECOMMENDATIONS

Goal 3.H. To address additional specific land use and development issues of the Smith River subarea.

Policies

3.H.4. The County shall encourage the agricultural-industrial complex on Sarina Road to maximize the efficiency of its existing area facilities. This may include, but not be limited to, energy facilities utilizing recycling systems and appropriate greenhouse technology**.**

3.H.10. The County shall continue to allow agricultural uses in the floodplain of the Smith River and its adjacent streams.

Recreational and Cultural Resources Element

CULTURAL RESOURCES

Goal S.H. To encourage identification, protection, and enhancement of Del Norte County's important historical, archaeological, paleontological, and cultural sites and activities, and their contributing environment. COS CR.G.1. (Revised)

Policies

S.H.8. The County shall continue to solicit the views of the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance. (New)

S.H.9. The County shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts. (New)

General Plan, Coastal Element, 1983 (Local Coastal Program Land Use Plan)

MARINE & WATER RESOURCES

General Policies

Coastal Act Policies: A major objective of the Coastal Act is to maintain and enhance the quality of coastal waters and marine resources and to mitigate potential adverse impacts of land uses adjacent to sensitive coastal habitats. To this end the following policies were enacted by the legislature:

30230. Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of groundwater supplies and encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

30236. Channelization's, darns, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and limited to (1) necessary water supply projects; (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or; (3) developments where the primary function is the improvement of fish and wildlife habitat.

30240. (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

Present Local Policies

The Del Norte County General Plan recognizes the importance of biologically sensitive habitats and seeks to conserve and manage these resources for the educational, recreational and economic needs of present and future generations. The significant coastal habitat areas presently acknowledged by the County are:

- Prince Island and Hunter Rocks
- Tidal area of the Smith River
- Lakes Earl and Talawa and their immediate marshland Castle Rock
- Marsh area of Elk Creek
- False Klamath Rock
- Tidal area of the Klamath River
- White Rock
- Sand dunes of Dead Lake
- Crescent City Sitka Spruce Stand
- Wetland of Sandmine Road and Highway 101

Standards for the management of wildlife, habitat and vegetation in the County have also been developed. Important policies concerning the maintenance of sensitive coastal habitats include:

1. The County should require Environmental Impact Reports to ensure the protection of fish, wildlife and plant species in the area considered for development.
2. Development to "improve" the Klamath and Smith Rivers with flood control facilities should be carefully reviewed and evaluated. Efforts should be made to maintain the natural function of the rivers.
3. The County should maintain all existing species of fish, wildlife, and vegetation for their economic, intrinsic and ecological values as well as pr6viding adequate protection of rare and endangered species.
4. The following areas are recognized as major locations of excellent wildlife habitat, native or natural vegetation and of aesthetic value. These areas should be maintained as wildlife habitats and protected from adverse activity. No further commitment to development should be allowed except that which is in the best interest of the public health, safety and welfare, or as noted.

a. All offshore rocks and island (seaward of the mean high tide line) excluding Whaler and Battery Islands.
b. Inland of the mean high tide line to the first line of vegetation (except in the areas of coastal bluffs when the area will be to the crest of the bluff), excluding the harbor area.
c. Lakes Earl and Talawa and their immediate marshland, allowing continued agricultural uses.
d. Sand dunes and wet sand areas, excluding limited development in appropriate areas.
e. The tidal influenced areas of the Smith and Klamath Rivers. Commercial-Recreational and Public-Recreational development should be allowed but be carefully controlled to prevent significant alteration of the habitat areas. Gravel extraction should be allowed on a small scale consistent with local policy and state regulations.

5. The County should establish riparian corridors along local streams, creeks and sloughs to maintain their aesthetic appeal, wildlife habitat, control of erosion, and to provide natural vegetation separations between developed uses.

C. LCP Policies

Del Norte County recognizes the economic and biologic significance of maintaining and where possible enhancing marine resources, coastal waters and sensitive coastal habitats. General policies designed towards achieving these important goals are stated in this section.

1. The County seeks to maintain and where feasible enhance the existing quality of all marine and water resources.
2. The County encourages programs (e.g., fish hatcheries habitat rehabilitation) designed to improve the quality of coastal fisheries and other marine resources.
3. All surface and subsurface waters shall be maintained at the highest level of quality to ensure the safety of public health and the biological productivity of coastal waters.
4. Wastes from industrial, agricultural, domestic or other uses shall not impair or contribute significantly to a cumulative impairment of water quality to the extent of causing a public health hazard or adversely impacting the biological productivity of coastal waters.
5. Water conservation measures (e.g., flow restrictors, industrial recycling of usable waste waters) should be considered by present users and required in new development to lessen cumulative impacts on existing water systems and supplies.
6. Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas, Development in areas adjacent to environmentally sensitive habitat areas shall be sited and designed to prevent impacts which would significantly degrade such areas and shall be compatible with the continuance of such habitat areas.

Specific Area Policies and Recommendations

Several areas of biological significance require particular attention in formulating a Coastal Plan designed to maintain the unique qualities and generally high productivity of both marine and inland water resources. This section will selectively identify and define these areas of concern and discuss specific policies and recommendations regarding their maintenance.

In general location of the sensitive habitats in coastal Del Norte County have been mapped at the scale of 1" = 2 miles and appended to the Del Norte County General Plan, Coastal Element, 1983 (Local Coastal Program Land Use Plan).

C. Estuaries:

Definition: An estuary is a coast.al water body usually semi enclosed by land, but which has open, partially obstructed, or intermittent exchange with the ocean and in which ocean water is at least occasionally diluted by freshwater runoff from the land.

Principal Distributions: The primary estuarian habitats in Del Norte County are the mouths of the Smith and Klamath Rivers. The tidal influence on the Smith River extends approximately four miles upstream to Rowdy Bar. On the Klamath River the tide reaches some three and a half miles upstream. Lake Earl and Talawa become estuarine in nature upon the breaching of the sandbar blocking their opening to the sea.

Policies and Recommendations:

a. Estuarine systems should be maintained at their highest feasible level of productivity in order to protect and enhance coastal fisheries and other marine resources.
b. The alteration of existing estuarine water channels through dredging, diking, or filling shall be allowed only when consistent with Coastal Act Policy 30233 A & B and when such activity would enhance the biological productivity of the estuary.
c. All permitted activities in estu2ries as identified in 4-b (above) shall be carried out in a manner that will minimize impacts on the biota and productivity of the area.
d. Extraction of sand and gravel shall conform with the policies cited under general LCP policies in the previous section (Section VI-C).
e. Channel navigational modifications of the Smith and Klamath Rivers which are seasonal and do not require construction of permanent facilities which will adversely affect the flow of the stream shall be allowed if the following is determined:

i. The modifications are not permanent and will be removed before or during the following high-water period.
ii. The modifications are necessary to provide free movement of recreational and/or commercial boating.
iii. The project is consistent with all applicable laws and regulations local, state and federal.

D. Wetlands:

Definition: Definition: "Wetland" means lands within the Coastal Zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, bogs, and fens. The land use category will be Resource Conservation Area.

Farmed wetlands shall be defined as wetland areas which are grazed, planted or cut for forage during parts of the year. The land use category will be Resources Conservation Area with existing agricultural uses being deemed a principal use.

Principal Distributions: Wetland habitats are found throughout the generally flat-lying coastal plain of Del Norte County. The following identifies the major wetland areas of the Coastal Zone.

a. Tilas Slough
b. Goodwin Pond
c. Yontocket Slough
d. Silva Slough
e. Talawa Slough
f. Lake Talawa
g. Lake Earl
h. McLaughlin Pond
i. Standard Plyvrnod
j. Cadra Slough
k. Dead Lake and Adjacent Ponds
l. Marhoffer Creek
m. Elk Creek Wetland
n. Sandmine Road Wetland
o. Jordan Creek

Policies and Recommendations:

a. The diking, filling, 6r dredging of wetlands shall be permitted in accordance with other applicable provisions of this program, where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse environmental effects. Such projects shall be limited to those identified in Section 30233 of the Coastal Act.
b. Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife, habitats and water circulation. Dredge spoils suitable (for beach replenishment when feasible should be transported for such purposes to appropriate beaches or into suitable longshore current systems.
c. In order to provide that the maximum amount of agricultural production in existing farmed wetlands and cultivated lands (cultivated within the last ten years), maintenance and repairs shall be permitted for existing dikes, levees, drainage ditches and other similar agricultural drainage systems and will be subject to any and all applicable policies within the certified land use plan.
d. Performance standards shall be developed and implemented which will guide development in and adjacent to wetlands, both natural and man-made, so as to allow utilization of land areas compatible with other policies while providing adequate protection of the subject wetland.
e. The maintenance opening of the sandbar at Lake Talawa shall be permitted consistent with agreements negotiated between the County and the California Department of Fish and Game.
f. Development in areas adjacent to environmentally sensitive habitat areas shall be sited and designed to prevent impacts which could significantly degrade such areas, and shall be compatible with the continuance of such habitat areas. The primary tool to reduce the above impacts around wetlands between the development and the edge of the wetland shall be a buffer of one-hundred feet in

width. A buffer of less than one-hundred feet may be utilized where it can be determined that there is no adverse impact on the wetland. A determination to utilize a buffer area of less than one-hundred feet shall be done in cooperation with the CDFW and the County's determination shall be based upon specific findings as to the adequacy of the proposed buffer to protect the identified resource. Firewood removal by owner for onsite use and commercial timber harvest pursuant to CDF timber harvest requirements are to be considered as allowable uses within 100-foot buffer areas.

g. Due to the scale of the constraint's maps, questions may arise as to the specific boundary limits of an identified environmentally sensitive habitat area. Where there is a dispute over the boundary or location of an environmentally sensitive habitats area, the following may be requested of the applicant:

i. A base map delineating topographic lines, adjacent roads, location of dikes, levees, flood control channels and tide gates.
ii. Vegetation map.
iii. Soils map.

Review of this information shall be in cooperation with the CDFW and the. County's determination shall be based upon specific findings as to whether an area is or is not an environmentally sensitive habitat area based on land use plan criteria, definition, and criteria included in commission guidelines for wetland and other wet environmentally sensitive habitat areas as adopted February 4, 1981. The CDFW shall have up to fifteen days upon receipt of County notice to provide review and cooperation.

E. Riparian Vegetation:

Definition: Riparian vegetation is the plant cover normally found along water courses including rivers, streams, creeks and sloughs. Riparian vegetation is usually characterized by dense growths of trees and shrubs.

Principal Distribution: Riparian vegetation systems are mapped in the Del Norte County General Plan. Principal riparian habitats include*:

a. Gilbert Creek
b. Lopez Creek
c. Rowdy Creek
d. Ponds in the Coastal Dune Area North of Point St. George
e. Talawa Slough
f. Jordan Creek
g. Marhoffer Creek
h. Elk Creek

Policies and Recommendations:

a. Riparian vegetation shall be maintained along streams, creeks and sloughs and other water courses within the Coastal Zone for their qualities as wildlife habitat, stream buffer zones, and bank stabilization.

b. The County should seek funds from the Coastal Conservancy to reestablish riparian vegetation in selected stream corridors.

F. Sea Cliffs:

Definition: A sea cliff or bluff is a more or less vertical escarpment fronting the ocean.

*NOTE: This is not an all-inclusive list and excludes streams within the Redwood National Park boundaries and does not include all of streams which meet Coastal Zone criteria.

Principal Distribution: A large portion of the coastline in Del Norte County consists of sea cliffs ranging from a few to hundreds of feet in height. The primary areas of the sea cliffs are:

a. North of the Smith River
b. Point St. George to Crescent City
c. South of Crescent City Along Most of the Redwood National Park Coastline

Policies and Recommendations:

Geologic studies shall be required for new construction within the area of demonstration* on bluff-tops to determine:

I. Their suitability for development; and
II. The necessary setbacks required to avoid hazards associated with bluff failure

*Note: The area of demonstration of stability includes the base, face and top of all bluffs and cliffs. The extent of the bluff top considered should include the area between the face of the bluff and a line as described on the bluff top by the intersection of a plane inclined at a 20° angle from horizontal passing through the toe of the bluff or cliff, or fifty feet inland from the edge of the cliff or bluff, whichever is greater. However, the County may designate a lesser area of demonstration in specific areas of known geologic stability (as determined by adequate geologic evaluation and historic evidence) or where adequate protective works already exist. The county may designate a greater area of demonstration or exclude development entirely in areas of known high instability.

G. Coastal Sand Dunes:

Definition: Coastal dunes are ridges of sand created by wind deposited materials carried from ocean beaches. An active dune is one in the process of gaining or loosing sand; such a mobile dune is commonly unvegetated or covered with sparse grasses and low-growing succulents. Stabilized dunes are usually covered by woody vegetation such as the beach pine.
Principal Distribution: Large areas of coastal dunes exist between Point St. George and the mouth of the Smith River. Other scattered localities of dunes in the Coastal Zone include: the vicinity of Lopez Creek; the Dead Lake area; and adjacent to Pebble Beach Drive near Marhoffer Creek.

Policies and Recommendations:

a. Coastal sand dunes, as mapped on the County constraint maps should be ·maintained in their existing states or returned to their natural states where feasible to ensure their values as groundwater recharge regions and wildlife habitats.
b. Enforceable regulations should be developed to limit the use of motorized vehicles to non-vegetated dunes.
c. The removal or unnecessary disturbance of dune vegetation should be avoided.

Del Norte County Zoning Ordinance

Del Norte County Code

21 Coastal Zoning

21.11 RCA1 General Resource Conservation Area District:

Resource conservation areas are those environmentally sensitive habitat areas which are identified by the General Plan Coastal Element as wetlands, farmed wetlands, riparian vegetation, estuary and coastal sand dunes. The general resource conservation area zone is intended to designate those resource conservation areas which require further data, particularly mapping, prior to new or additional development and to serve as a transition zone until such data is made available, reviewed and adopted by the county. Changes of zone from general resource conservation area to another classification are to be made subject to the requirements of Section 21.11.60 herein and only where such uses are in accord with the General Plan or adopted specific plan.

For the purposes of Section 21.52.20(A)(4), the general resource conservation area uses listed under the principal permitted use section herein, shall be considered as the principal permitted use in the California Coastal Zone. Variances and adjustments to the district's requirements and standards shall not be considered a principal permitted use for the purposes of Section 21.52.20(A)(4).

The regulations set forth in this chapter apply in all RCA1 districts and are subject to the provisions of Chapters 21.02 through 21.60**.**

ATTACHMENT D: Special Status Species

Table A.1. Special-status Plant Species with Potential to Occur in or Near Commercial Lily Bulb Operations In The Smith River Plain the North Coast Region

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**
Abronia umbellate var. Breviflora Pink sand-verbena	- / - / 1B.1	Coastal dunes and coastal strand. Foredunes and interdunes with sparse cover. A. umbellata var. breviflora is usually the plant closest to the ocean. 0-75 m. Blooms July through October.
Anthoxanthum nitens ssp. nitens vanilla-grass	- / - / 2B.3	Meadows and seeps. Wet sites. 3-1895 m. Blooms April through July.
Calamagrostis crassiglumis Thurber's reed grass	- / - / 2B.1	Coastal scrub, marshes and swamps. Usually in marshy swales surrounded by grassland or coastal scrub. 5-50 m. Blooms May through August.
Cardamine angulata seaside bittercress	- / - / 2B.1	North coast coniferous forest, lower montane coniferous forest. Wet areas, streambanks. 5-515 m. Blooms April through June.
Carex arcta northern clustered sedge	- / - / 2B.2	Bogs and fens, north coast coniferous forest. Mesic sites. 60-1405 m. Blooms June through September.
Carex lenticularis var. limnophila lagoon sedge	- / - / 2B.2	Bogs and fens, marshes and swamps, north coast coniferous forest. Lakeshores, beaches. Often in gravelly substrates. 0-6 m. Blooms June through August.
Carex lyngbyei Lyngbye's sedge	- / - / 2B.2	Marshes and swamps (brackish or freshwater). 0-200 m. Blooms April through August.
Carex praticola northern meadow sedge	- / - / 2B.2	Meadows and seeps. Moist to wet meadows. 15-3200 m. Blooms May through July.
Carex serpenticola serpentine sedge	- / - / 2B.3	Meadows and seeps. Mesic, serpentine sites. 20-1710 m. Blooms March through May.
Carex viridula ssp. viridula green yellow sedge	- / - / 2B.3	Bogs and fens, marshes and swamps (freshwater), north coast coniferous forest. Mesic sites. 0-1705 m. Blooms (June) July through September (Nov).

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**
Castilleja litoralis Oregon coast paintbrush	- / - / 2B.2	Coastal bluff scrub, coastal dunes, coastal scrub. Sandy sites. 5-255 m. Blooms in June.
Cochlearia groenlandica Greenland cochlearia	- / - / 2B.3	Coastal bluff scrub. Sea bird nesting areas on offshore rocks. 0-50 m. Blooms May through July.
Empetrum nigrum black crowberry	- / - / 2B.2	Coastal bluff scrub, coastal prairie. 3-15 m. Blooms April through June.
Eriogonum nudum var. paralinum Del Norte buckwheat	- / - / 2B.2	Coastal bluff scrub, coastal prairie. Open places along immediate coast. 5-80 m. Blooms July through September.
Eriogonum pendulum Waldo wild buckwheat	- / - / 2B.2	Lower montane coniferous forest, upper montane coniferous forest. On dry, rocky ultramafic soils; open somewhat grassy areas within pine forest. 240-915 m. Blooms August through September.
Erysimum concinnum bluff wallflower	- / - / 1B.2	Coastal dunes, coastal bluff scrub, coastal prairie. More or less a coastal generalist within coastal habitat types. 3-60 m. Blooms February through July.
Erythronium hendersoni Henderson's fawn lily	- / - / 2B.3	Lower montane coniferous forest. 60-900 m. Blooms April through July.
Erythronium howellii Howell's fawn lily	- / - / 1B.3	Lower montane coniferous forest, north coast coniferous forest. 120-1150 m. Blooms April through May.
Fissidens pauperculus minute pocket moss	- / - / 1B.2	North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 30-1025 m.
Gilia capitata ssp. pacifica Pacific gilia	- / - / 1B.2	Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland. 5-1345 m. Blooms April through August.
Gilia millefoliata dark-eyed gilia	- / - / 1B.2	Coastal dunes. 1-60 m. Blooms April through July.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**
Hesperevax sparsiflora var. brevifolia short-leaved evax	- / - / 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Sandy bluffs and flats. 0-640 m. Blooms March through June.
Kopsiopsis hookeri small groundcone	- / - / 2B.3	North coast coniferous forest. Open woods, shrubby places, generally on Gaultheria shallon. 120-1435 m. Blooms April through August.
Lasthenia californica ssp. macrantha perennial goldfields	- / - / 2B.2	Coastal bluff scrub, coastal dunes, coastal scrub. 5-185 m. Blooms January through November.
Lathyrus japonicus seaside pea	- / - / 2B.1	Coastal dunes. 3-65 m. Blooms May through August.
Lathyrus palustris marsh pea	- / - / 2B.2	Bogs and fens, lower montane coniferous forest, marshes and swamps, north coast coniferous forest, coastal prairie, coastal scrub. Moist coastal areas. 2-140 m. Blooms March through August.
Lilium occidentale western lily	FE / SE / 1B.1	Coastal scrub, freshwater marsh, bogs and fens, coastal bluff scrub, coastal prairie, north coast coniferous forest, marshes and swamps. Well-drained, old beach washes overlain with wind-blown alluvium and organic topsoil; usually near margins of Sitka spruce. 3-110 m. Blooms June through July.
Lysimachia europaea arctic starflower	- / - / 2B.2	Meadows and seeps, bogs and fens. Coastal boggy areas. 3-15 m. Blooms June through July.
Moneses uniflora woodnymph	- / - / 2B.2	Broadleafed upland forest, North Coast coniferous forest. 50-260 m. Blooms May through August.
Monotropa uniflora ghost-pipe	- / - / 2B.2	Broadleafed upland forest, north coast coniferous forest. Often under redwoods or western hemlock. 15-855 m. Blooms June through August (Sept).
Montia howellii Howell's montia	- / - / 2B.2	Meadows and seeps, north coast coniferous forest, vernal pools. Vernally wet sites; often on compacted soil. 10-1215 m. Blooms (Feb) March through May.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**
Oenothera wolfii Wolf's evening-primrose	- / - / 1B.1	Coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest. Sandy substrates; usually mesic sites. 0-125 m. Blooms May through October.
Packera bolanderi var. bolanderi seacoast ragwort	- / - / 2B.2	Coastal scrub, north coast coniferous forest.Sometimes along roadsides. 30-915 m. Blooms (Jan - April) May through July (Aug).
Phacelia argentea sand dune phacelia	FT / - / 1B.1	Coastal dunes. Stabilized and recently moving sand dunes. 3-25 m. Blooms June through August.
Pinguicula macroceras horned butterwort	- / - / 2B.2	Bogs and fens. Meadow edges, seepage areas. Serpentine soil. 20-1830 m. Blooms April through June.
Polemonium carneum Oregon polemonium	- / - / 2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. 15-1525 m. Blooms April through September.
Potamogeton foliosus ssp. fibrillosus fibrous pondweed	- / - / 2B.3	Marshes and swamps. Shallow water, small streams. 5-1300 m. Blooming period unknown.
Pyrrocoma racemosa var. congesta Del Norte pyrrocoma	- / - / 2B.3	Chaparral, lower montane coniferous forest. Serpentine soils, from dry roadsides to damp hills; often in forest openings. Apparently equally likely to occur in wetlands or non-wetlands. 240-765 m. Blooms August through September.
Ramalina thrausta angel's hair lichen	- / - / 2B.1	North coast coniferous forest. On dead twigs and other lichens. 75-1390 m.
Romanzoffia tracyi Tracy's romanzoffia	- / - / 2B.3	Coastal bluff scrub, coastal scrub. Rocky sites. 15-300 m. Blooms March through May.
Sabulina howellii Howell's sandwort	- / - / 1B.3	Lower montane coniferous forest, chaparral. Dry open places, often on serpentine hillsides and ridges, near Jeffrey pines. 550-1000 m. Blooms April through June.
Sagittaria sanfordii Sanford's arrowhead	- / - / 1B.2	Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0-605 m. Blooms May through October (Nov).

Scientific Name **Common Name**	**Listing status*** **(Federal/ State/CNPS)**	**Habitat Association**
Sanguisorba officinalis great burnet	- / - / 2B.2	Bogs and fens, meadows and seeps, broadleafed upland forest, marshes and swamps, north coast coniferous forest, riparian forest. Rocky serpentine seepage areas and along streams. 5-1400 m. Blooms July through October.
Sidalcea malviflora ssp. patula Siskiyou checkerbloom	- / - / 1B.2	Coastal bluff scrub, coastal prairie, north coast coniferous forest. Open coastal forest; roadcuts. 5-1255 m. Blooms (March – April) May through August.
Sidalcea oregana ssp. eximia coast checkerbloom	- / - / 1B.2	Meadows and seeps, north coast coniferous forest, lower montane coniferous forest. Near meadows, in gravelly soil. 5-1805 m. Blooms June through August.
Sulcaria spiralifera twisted horsehair lichen	- / - / 1B.2	North Coast coniferous forest (immediate coast), coastal dunes. Usually on conifers. 0-90 m.
Viola langsdorffii Langsdorf's violet	- / - / 2B.1	Bogs and fens. Coastal wet areas. 2-10 m. Blooms May through June.
Viola palustris alpine marsh violet	- / - / 2B.2	Coastal scrub, bogs and fens. Swampy, shrubby places in coastal scrub or coastal bogs. 0-150 m. Blooms March through August.
Viola primulifolia ssp. occidentalis western white bog violet	- / - / 1B.2	Bogs and fens, marshes and swamps. Streamside flats and bogs; serpentine soils. 120-855 m. Blooms April through September.

* **List of Abbreviations for Species Status follow below**:
FE = Federal endangered
FT = Federal threatened
FC = Federal Candidate
SC = State Candidate
SE = State Endangered (California)
ST = State Threatened (California)
SR = State Rare (California)
SCC = Species of Special Concern
FP= Fully Protected
CA Rare Plant Rank

1A = Plants presumed extinct in California and rare/extinct elsewhere
1B.1 = Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California
1B.2 = Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California
1B.3 = Plants rare, threatened, or endangered in California and elsewhere; not very threatened in California
2B.2 = Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California
Source: California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database.

Table A.2. Special-status Animal Species with Potential to Occur in or Near Commercial Lily Bulb Operations In The Smith River Plain the North Coast Region

Scientific Name **Common Name**	**Listing status*** **(Federal/ State)**	**Habitat Association**
Invertebrates		
Bombus occidentalis Western bumble bee	- / SCE	Open grasslands, shrublands, chaparral, desert margins, including Joshua tree and creosote scrub, and semi-urban settings. Food plant include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum*. Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease. Western bumble bee populations in California are currently largely restricted to high elevation sites in the Sierra Nevada and a few records on the northern California coast (Xerces Society et al. 2018).
Speyeria zerene hippolyta Oregon silverspot butterfly	FT / -	Coastal meadows, northern coastal bluff scrub and northern coastal dune scrub in Del Norte County. Larvae feed only on the foliage of western dog violet (*viola adunca*). Adults feed on the nectar of a variety of flowering plants.
Amphibians		
Ascaphus truei Pacific tailed frog	- / SSC	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.
Rana aurora northern red-legged frog	- / SSC	Humid forests, woodlands, grasslands, and streamsides in northwestern California, usually near dense riparian cover. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.

Scientific Name **Common Name**	**Listing status* (Federal/ State)**	**Habitat Association**
Rana boylii pop. 1 foothill yellow-legged frog - north coast DPS	- / SSC	Northern Coast Ranges north of San Francisco Bay Estuary, Klamath Mountains, and Cascade Range including watershed subbasins (HU 8) Lower Pit, Battle Creek, Thomes Creek, and Big Chico Creek in Lassen, Shasta, Tehama, and Butte Counties. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.
Rhyacotriton variegatus southern torrent salamander	- / SSC	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest. Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rocks within trickling water.
Reptiles		
Actinemys marmorata Northwestern pond turtle	PT / SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.
Fish		
Eucyclogobius newberryi tidewater goby	FE / SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, requires fairly still but not stagnant water and high oxygen levels.
Oncorhynchus clarkii coast cutthroat trout	- / SSC	Small coastal streams from the Eel River to the Oregon border. Small, low gradient coastal streams and estuaries. Needs shaded streams with water temperatures <18C, and small gravel for spawning.
Oncorhynchus kisutch pop. 2 coho salmon - Southern Oregon - Northern California Coast ESU	FT / ST	Open ocean, estuaries, and rivers. Federal listing includes populations between Cape Blanco in Oregon and Punta Gorda in California. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State)**	**Habitat Association**
Spirinchus thaleichthys longfin smelt	- / ST	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt but can be found in completely freshwater to almost pure seawater. Inhabits coast estuaries north of the Russian River (primarily) and south of Pillar Point, Half Moon Bay.
Thaleichthys pacificus eulachon	FT / SSC	Found in Klamath River, Mad River, Redwood Creek, and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.
Birds		
Aquila chrysaetos golden eagle	- / FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.
Brachyramphus marmoratus marbled murrelet	FT / SE	Lower montane coniferous forest, old growth, redwood. Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.
Charadrius alexandrinus nivosus western snowy plover	FT / SSC	Sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.
Coturnicops noveboracensis yellow rail	- / SSC	Shallow brackish and freshwater marshes, wet meadows, and occasionally rice fields. Summer resident in eastern Sierra Nevada in Mono County.
Elanus leucurus white-tailed kite	- / FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.
Empidonax traillii brewsteri little willow flycatcher	- / SE	Mountain meadows and riparian habitats in the Sierra Nevada and Cascades. Nests near the edges of vegetation clumps and near streams.

Scientific Name **Common Name**	**Listing status*** **(Federal/ State)**	**Habitat Association**
Fratercula cirrhata tufted puffin	- / SSC	Protected deepwater coastal communities. Open-ocean bird; nests along the coast on islands, islets, or (rarely) mainland cliffs. Requires sod or earth into which the birds can burrow, on island cliffs or grassy island slopes.
Gymnogyps californianus California condor	FE / SE	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. forages up to 100 miles from roost/nest.
Haliaeetus leucocephalus bald eagle	FD / SE, FP	Lower montane coniferous forest, old growth. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.
Riparia riparia bank swallow	- / ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.
Mammals		
Martes caurina humboldtensis *Pacific Marten Coastal Distinct Population Segment* Humboldt marten	FE / SE / SSC	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County. Associated with late-successional coniferous forests, prefer forests with low, overhead cover.

Source: California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database.
* List of Abbreviations for Federal and State Species Status follow below:
FE = Federal endangered
PE = Proposed endangered
FT = Federal threatened
PT = Federal proposed threatened
FC = Federal proposed candidate
SE = State endangered
ST = State threatened
SCE = State candidate endangered

SSC = Species of special concern (CDFW)
FP = Fully protected (CDFW)

ATTACHMENT E: Cost Analysis

The cost of compliance with the Order under existing conditions includes the costs associated with any management practices they may need to implement pursuant to the Order requirements, permit fees, and monitoring and reporting costs. These costs are described further below.

Water Quality Fees

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

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

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

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

Compliance with Order Requirements

All Enrollees must comply with requirements to implement and adapt management practices related to sediment and erosion control; irrigation, pesticide, and nutrient management; and Streamside Area setbacks. This Order provides Enrollees flexibility in selecting management practices and requires Enrollees to monitor and report discharges and implement management practices to minimize or prevent discharges of waste.

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

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

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

The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) has developed standard agricultural management practices to address irrigation and nutrient management, pesticide management, and sediment and erosion control management, some of the more common of which are discussed below. Implementation of many of these practices would result in compliance with multiple requirements of the Order. Table 1 provides estimated costs of management practices/scenarios Enrollees may implement to meet the requirements in the Order, as reported by USDA, NRCS.

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

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

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

d) Integrated Pest Management (IPM) program – involves implementing a site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies. An IPM approach seeks to prevent or mitigate offsite pesticide risks to water quality from leaching, solution runoff

and adsorbed runoff losses; and prevent or mitigate on-site pesticide risks to pollinators and other beneficial species through direct contact; among other goals. Costs range between $50 and $100 per acre.

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

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

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

h) Vegetated Treatment Area – involves permanent herbaceous vegetative area or channel installed down slope from a planted area. Stormwater runoff is directed into the VTA to capture dissolved pollutants. This practice addresses water quality degradation due to uncontrolled pesticide runoff that can flow into surface waters or leach into ground water. Costs are estimated between $10,000 and $12,000 per acre.

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

Table E.1: Estimated Costs[18] of Management Practices/Scenarios for Water Quality Protection

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

Monitoring and Reporting

All Enrollees are required to conduct surface water and groundwater monitoring and reporting either individually or as part of a Coalition effort. All Enrollees are required to report management practice implementation annually in their Farm Evaluation and report nitrogen applied and removed, in the Irrigation and Nitrogen Management Plan (INMP). Refer to Attachment A of the Lily Bulb Order for monitoring and reporting requirements and Tables E.2-7 for estimated costs.

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

Table E.2: Estimated Cost of Surface Water Monitoring Requirements

Parameter	Annual Cost (Analytical + Materials and Labor) per Monitoring Station	Per Acre Cost (assumes 1000 acres) per Monitoring Station	Per Acre Cost for 7 Monitoring Stations
Dissolved Copper	$300	$0.30	$2.10
BLM Field Parameters	$150	$0.15	$1.05
BLM Lab Parameters (optional)	$600	$0.60	$4.20
Imidacloprid	$900	$0.90	$6.30
Diuron	$900	$0.90	$6.30
Ethoprop	$900	$0.90	$6.30

Table E.2 estimates the total annual cost of surface water monitoring requirements (per monitoring site) given a sampling frequency of three times per year. Collecting BLM lab parameters are ***optional***; Enrollees or the Coalition may instead use tributary-specific default values for BLM Analysis given in Attachment A: Monitoring and Reporting Program. Assuming seven monitoring sites and 1000 enrolled acres, the estimated cost per acre for surface water monitoring for Enrollees in a Coalition is **$22.05**. If the default BLM lab parameters are not used, and instead BLM lab parameters are collected, the total cost is estimated to be **$26.25 per acre**.

For Individual Enrollees, assuming monitoring of one site, the total of surface water monitoring is **$3,150** per year**.** If the default BLM lab parameters are not used, the total cost is **$3,750** per year. Per acre costs are variable by farm size.

Table E.3: Estimated Cost of Groundwater Trend Monitoring Requirements

Parameter	Annual Cost per location	Per Acre Cost (3 sites, 1000 acres)
Nitrate	$750	$2.25
Pesticides	$1550	$4.65

Table E.3 estimates the total cost of Groundwater Trend Monitoring Requirements. The total annual cost for Individual Enrollees would be **$2,300**. The total annual per-acre cost for Enrollees in a Coalition would be **$6.90** per acre.

Table E.4 estimates total cost of representative monitoring requirements for Enrollees in a Coalition and Individual Enrollees. Cost estimates assume the use of default values, where possible, for BLM analysis.

Table E.4: Estimated Cost of Representative Monitoring Requirements

Task	Total Estimate for Individual Enrollees	Total Cost per acre for Enrollees in a Coalition
Surface Water Monitoring	$3,150	$22.05
Groundwater Monitoring	$2,300	$6.90
Total	**$5,450**	**$28.95**

Table E.5 estimates farm-specific monitoring annualized over five years. Table I.8 provides those estimates for Enrollees in a Coalition.

Table E.5: Estimated Annualized Monitoring and Reporting Costs over Five Years for Individual Enrollees

Task	Cost Estimate	Requirements
Drinking Water Supply Well Monitoring (nitrates)	$110 per well	Annual sampling for three years for nitrates and once every five years after that.
Drinking Water Supply Well Monitoring (pesticides)	$200-1050 per well.	Sampling every five years for 6800(a) listed pesticides that the Enrollee has applied.
INMP Requirements	$250 per farm	Includes annual soil and irrigation water testing and INMP certification[15].
Annual Compliance Form	$250-$500	Includes management practice reporting, nitrogen reporting, outreach attendance, CEQA mitigation measure monitoring, and annual water quality monitoring results.
Trend Monitoring Report	$250-500	Includes water quality results for five-year monitoring requirements and trend analysis.

Table E.6: Estimated Annualized Monitoring and Reporting Costs Over Five Years for Enrollees in a Coalition

Task	Cost Estimate	Requirements
Drinking Water Supply Well Monitoring (nitrates)	$110 per well	Annual sampling for three years for nitrates and once every five years after that.
Drinking Water Supply Well Monitoring (pesticides)	$200-1050 per well.	Sampling every five years for 6800(a) listed pesticides that the Enrollee has applied.
INMP Reporting	$2.50 per acre	Includes annual soil and irrigation water testing and INMP certification[16].
Annual Compliance Report	$12.50 per acre	Includes annual management practice reporting and annual water quality monitoring results.
Trend Monitoring Report	$5.00 per acre	All elements and requirements as detailed in the MRP.

Technical Reports and Planning Documents

As part of Order compliance, Individual Enrollees and Coalitions on behalf of their enrolled members are required to submit the following technical reports and planning documents:

Table E.7: **Estimated Annualized Technical Reports and Planning Document Costs Over Five Years**

Task	Cost Estimate	Requirements
Water Quality Monitoring Workplan (Individual Enrollees)	$5000	Workplan that details how Enrollee shall comply with monitoring and reporting requirements as detailed in Attachment A: MRP.
Water Quality Monitoring Workplan (Coalition)	$5000-$10,000	Workplan that details how Coalition shall comply with monitoring and reporting requirements as detailed in Attachment A: MRP.
Groundwater Protection Plan (Coalition)	$5,000-$10,000	Coalition may elect to propose a Groundwater Protection (GWP) Formula to the Executive Officer as described in Attachment A: Section V.
Water Quality Management Plan (WQMP) for Surface Water	$10,000-$20,000	Enrollee or Coalition must submit a WQMP as part of Adaptive Management requirements that quantifiably demonstrate that practices implemented will meet Receiving Water Limitations of Order. Note: cost estimate includes WQMP development only. See Table I.3 for estimates of implementing management practices for water quality protection.
WQMP for Groundwater	$10,000-$20,000	Enrollee or Coalition must submit a WQMP as part of Adaptive Management requirements that quantifiably demonstrate that practices implemented will meet Receiving Water Limitations of Order. Note: cost estimate includes WQMP development only. See Table I.3 for estimates of implementing management practices for water quality protection.
Hydrogeological Evaluation of Groundwater Impacts	$10,000-$20,000	Enrollee or Coalition must submit a determination of parcels that may be causing or contributing to exceedance of Receiving Water Limitations in groundwater monitoring well.

ATTACHMENT F: Tolowa Dee-Ni' Nation Tribal Cultural Resources Submittal

The following document was submitted to Montrose Environmental by the Tolowa Dee-ni' Nation under a subcontract to provide Tribal Cultural Resources expertise for this Draft EIR and is included in its entirety.

NCRWQCB
GWDR for Commercial Easter Lily Bulb Operations in the Smith River Plain
EIR Tribal Cultural Resources Baseline

Authored by: Cynthia Ford, Tolowa Dee-ni' Nation Tribal Heritage Preservation Office and Rachel McCain, Tolowa Dee-ni' Nation Natural Resources Department

First Draft: August 1, 2025
Second Draft including review by Tolowa Dee-ni' Nation Culture Committee: August 29, 2025

Tvtlh-xvt mvn xwee-nish **(water is life/water for-that-reason life)**

Summary

The Project Area under proposed permitting activity by the *GWDR for Commercial Easter Lily Bulb Operations in the Smith River Plain* is located in *Taa-laa-waa-dvn* (Tolowa Dee-ni' Aboriginal Territory). The Area has been inhabited by *Taa-laa-wa Dee-ni'* (Tolowa People) since time immemorial. The *Taa-laa-wa Dee-ni'* Genesis account, *Tax-ne Nes-ya~,* takes place at *Yan'-daa-k'vt*, located on the south bank of the lower Smith River. With the Smith River and *Yan'-daa-k'vt* (Yontocket) in The Center of The World, the territory encompasses the lands and watersheds of *Daa-ghestlh-ts'a' Taa-ghii~-li~* (Wilson Creek) to the south, the *Ts'aa-xwii-chit* (Sixes River) to the north, east to the *Taa-xuu-me' Tr'ee-ghii~-li~* (Applegate Watershed) in the Coastal Range, and west to the Pacific Ocean horizon, including all sea stacks, and all usual and accustomed places.

Environmental Relationships

The environmental setting of the *Taa-laa-waa-dvn* encompasses over 100 miles of coastal shoreline and approximately 2.87 million acres of land and undefined acreage of marine waters in northern California and southern Oregon. The area includes a unique combination of mountain ranges, significant rocks/sea stacks, geography and unique geology and is located within portions of the Western Cascade Range, the Siskiyou Mountains, the Northern Coast Ranges and the Klamath Mountains. Present-day settlements of Smith

River and Crescent City are in the central and south-central coastal part of the Project Area. This area of the coast is centered around the *Xaa-wvn' Taa-ghii~-li~* (Smith River). The Smith River is one of the last free-flowing rivers in California. The proposed Project Area under consideration for development of a GWDR is limited to Del Norte County, which is only a portion of the broader aboriginal territory. The county home to sacred old-growth *k'vsh-chu ch'ee-taa-ghee-dvn* (redwood forests), with some of the oldest and tallest redwood trees in the world.

Cultural Condition

The *Taa-laa-wa Dee-ni'* have inhabited the Project Area since the beginning of time, which is reflected in the *Tax-ne Nes-ya~,* Genesis account. A network of rivers and trails, many now modern roads and highways, link the areas and allow for travel, shared cultural values and trade. The *Taa-laa-wa Dee-ni'* are spread out across the vast aboriginal territory into 11 *yvtlh-'i~* (polities/political districts)). Each *yvtlh-'i~* has headmen/leaders, with each group being connected to certain *yvtlh-'i~* and the land, waters, and resources within.

Prior to 1850, contact with visitors from Russia, Spain, and the Pacific Islands was largely limited to the coast. By 1850, after gold was discovered on the Trinity River, visions of sudden wealth inspired thousands of miners to immigrate to the region, triggering the American invasion and the state sanctioned genocide of the *Taa-laa-wa Dee-ni'*. For *Taa-laa-wa Dee-ni'* and other natives, the Gold Rush era was “The time the world was turned upside down” (Reed, 1999). Prior to the 1850’s the *Taa-laa-wa Dee-ni'* population is estimated to have been approximately10,000. Post invasion, the population of the *dee-ni'* in Del Norte County plummeted to just over 100.

In the early twentieth century, ethnographers (Baumhoff 1958, 1963; Bodega 1775; Driver 1939; Drucker 1937; DuBois 1932, 1936, 1939; Gould 1966a, 1966b, 1966c, 1975; Goddard 1903, 1904; Harrington 1931, 1932; Kroeber 1925, 1936; Kroeber and Barrett 1960; Kroeber and Gifford 1949; Powers 1877; Smith in Sullivan 1934; Vancouver 1793; Waterman 1920, 1925; Gould 1966a, 1966b, 1975, 1978; Swezey and Heizer 1993) interviewed and documented the *Taa-laa-wa Dee-ni'.* Today, the *Taa-laa-wa Dee-ni'* provide further insight and valuable information about the culture and history of the proposed Project Area. Tribal cultural resources ("TCR") within the Project Area continue to be held sacred by the *Taa-laa-wa Dee-ni'* today, and include at least 35 permanent villages, associated

cemeteries, massacre sites, clandestine graves, gathering/harvesting/hunting areas, travel corridors, ceremonial, and sacred sites, landmarks, water bodies, plants, rocks, animals, soil, and viewsheds. The Project Area includes portions of the 1862 Smith River Indian Reservation, and the 1906/1908 Reservation (Smith River Rancheria). Today, the Tolowa Dee-ni' Nation is federally recognized as a sovereign tribal government with over 2100 enrolled citizens, a duly elected Tribal Council, and a Constitution and Tribal Code. The majority of the Nation's current land holdings are within Del Norte County and the Project Area. The Nation and its enterprises employ more than 300 staff, including a robust Natural Resources Department and Tribal Heritage Preservation Office, which have the responsibility to steward and protect tribal resources, culture, and interests throughout the ancestral territory. The Nation's government ensures consistency and compliance among tribal, federal and state laws. Tolowa Dee-ni' citizens continue to inhabit their ancestral territory, practice cultural traditions, and maintain deep and sustaining relationships to the landscape and environment.

In addition to the *Tax-ne Nes-ya~* of the *Taa-laa-wa Dee-ni'*, the pre-contact/archaeological resources within the Project Area provide further supporting evidence of habitation and ceremonial use. Archaeologists claim that Paleoindian peoples were present along the southern Oregon and northern California coastal areas by about 11,000 to 12,000 years ago, which is encompassed by what archaeologists have called the Terminal Pleistocene (12,000-10,000 BP). Like others around the world, Taa-laa-wa Dee-ni' culture was an established and advanced civilization. Archeological evidence within the Project Area dates to 8,500 years before present, (Tushingham, 2013). A records search was conducted through the Northwest Information Center (NWIC) Information Center at Sonoma State University by the lead agency. The Project Area has not been fully surveyed, and previous recordation efforts vary in methodology. Numerous studies conducted within the Project Area have identified pre-contact/archaeological sites and the State Historic Preservation Officer has confirmed the eligibility status of many of these archaeological sites. CEQA §15064.5 considers historical resources significant if they are eligible for, or are listed in, the California Register of Historical Resources. Cultural/historic resources must meet one of the following criteria to be eligible:

- *It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.*
- *It is associated with the lives of persons important to local, California, or national history.*
- *It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.*
- *It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.*

These previous evaluations focused on eligibility based on the archaeological research value of their potential to yield information. Most of the TCRs have not been evaluated for eligibility for listing on the National Register of Historic Places and/or the California Register of Historical Resources under any other criteria, and in most cases did not benefit from input or consultation with the *Taa-laa-wa Dee-ni'*. Notably missing from previous evaluations is consideration of how archaeological and tribal cultural resources contribute to the rich history of the area, thereby expanding the lines of evidence for eligibility under other criteria. Contributing elements upon Nvn-nvst-'a~ (Mother Earth) and associations of TCRs are all-encompassing and include: people, rivers, creeks, holes in the ground, landmarks, viewsheds, habitation areas, resource processing areas, resource harvesting areas, resource extraction areas, corridors and trails, rock shelters and caches, prayer seats, rock art, water bodies and springs, places of legend, ceremonial practices, locations and items, burials, massacre sites, clandestine graves, and burial grounds, plants, animals, soil, rocks, and the geologic foundation and atmospheric condition of the planet. It is important to note that the physical contributing elements within the Project Area are connected by the spaces in between. The space in between, and the interconnectedness it represents, is also considered a cultural resource/contributing element to the landscape and to the *Taa-laa-wa Dee-ni'* relationship to place. While there are no physical traces in some of these areas, the *Taa-laa-wa Dee-ni'* experience them and continue to experience them. Viewsheds are considered for their ranges outside of the physically defined landscape as those vistas create connection and meaning for the *Taa-laa-wa Dee-ni'*.

Per PRC 21074 (a)(1)(A)-(B), as the lead agency in developing and enforcing this Order, the Regional Water Board can choose to designate the lower Smith River and adjacent terrace a Tribal Cultural Landscape ("TCL"). Regardless of the decision made, the Tolowa Dee-ni' Nation asserts that the Project Area covered under this GWDR is a TCL, as evidenced by continued habitation for at least 11,000 years and ceremonial significance detailed in the oral history, and is using that position to evaluate historic condition and

assess potential impacts of implementing a permitting system for continued cultivation of Easter Lily bulbs in the area.

Mitigation Measures

Developing feasible measures to reduce or avoid significant impacts, such as archaeological data recovery, preservation in place, or consultation with relevant tribes.

The activities proposed under this Order have the potential to significantly impact previously unidentified cultural resources, including historical resources, archaeological sites, and/or TCRs as defined in CEQA Sections 15064.5 (a), 15064.5(c)(2), and 21074, respectively.

Easter Lily bulb cultivation requires a complex combination and significant quantity of chemical pesticides, herbicides, and fertilizers. The specifications and application amounts of these compounds are detailed in other areas of this report and throughout the Initial Study which provides background and justification for developing discharge requirements for this industry. When evaluating potential impacts to cultural resources in the project area, it is impossible to extricate the impacts of historic and continued use of chemical pesticides from the overall impacts resulting from development of this order and allowing continued cultivation of this commodity. Specific chemical compounds heavily relied upon in this industry include copper sulfate, a substance with documented adverse effects on the homing abilities and overall survival of salmonids. Salmonids, including Chinook and coho salmon, are integral to many sacred ceremonies critical to the continued existence of the *Tolowa Dee-ni'*. Without a clean river providing healthy and abundant habitat for salmon and other aquatic species, there cannot be the full expression and practice of Tolowa culture. By continuing to allow and permit degradation of the lower Smith River watershed and adjacent plains, this agricultural practice is perpetuating genocide. Even in simpler terms, impacts to inground cultural resources cannot be mitigated through traditional 1-1 replacement methods; once a resource is disturbed or destroyed, it is gone.

Human Remains

If human remains are identified or suspected, all provisions of the Health and Safety Code 7054 and 7050.5 and the Public Resources Code 5097.9 through 5097.99 will be followed. No photographs will be taken of any human remains, unless required for identification purposes and with permission from Tribal representatives. There shall be no further

excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent human remains until the following occurs:

1. The Permit Holder will immediately contact the Del Norte County Coroner (Coroner).

Del Norte County Coroner
650 5th Street, Crescent City CA. 95531
Phone: 707-464-4191

2. If the Coroner determines the remains to be Native American:

1. The Coroner will contact the Native American Heritage Commission (NAHC) within 24 hours.

2. The NAHC will designate a Most Likely Descendant (MLD) [CCR 15064.5(e)(1)(B)].

3. The designated MLD will meet with the Permit Holder as soon as feasible, to make a recommendation on the treatment of the remains and associated artifacts.

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

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

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