

COASTAL CONSERVANCY

Staff Recommendation
June 18, 2020

**COCHRAN CREEK FISH PASSAGE AND CHANNEL RESTORATION:
CONSTRUCTION PHASE**

Project No. 16-013-02
Project Manager: Su Corbaley

RECOMMENDED ACTION: Authorization to disburse up to \$640,000 to California Trout, Inc. to restore fish passage and enhance habitat on Cochran Creek, a tributary to Fay Slough on Humboldt Bay, and adoption of findings under the California Environmental Quality Act.

LOCATION: 6821 Myrtle Avenue, Eureka, Humboldt County

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

- Exhibit 1: [Project Location Maps](#)
 - Exhibit 2: [Project Area Overview](#)
 - Exhibit 3: [Project Area Photographs](#)
 - Exhibit 4: [Restoration Design Components](#)
 - Exhibit 5: [Project Letters](#)
 - Exhibit 6: [Mitigated Negative Declaration](#)
 - Exhibit 7: [Mitigation Monitoring and Reporting Plan](#)
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RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31251-31270 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of an amount not to exceed six hundred forty thousand dollars (\$640,000) to California Trout, Inc. (“the grantee”) to implement the Cochran Creek Fish Passage and Channel Restoration Project on Humboldt Bay near the city of Eureka.

This authorization is subject to the following conditions:

1. Prior to commencement of the project, the grantee shall submit for the review and written approval of the Executive Officer of the Conservancy the following:
 - a. A detailed work program, schedule, and budget.
 - b. Names and qualifications of any contractors to be retained in carrying out the project.
 - c. A plan for acknowledgement of Conservancy funding and Proposition 1 as the source of that funding.
 - d. Evidence that all permits and approvals required to implement the project have been obtained.
2. Prior to commencing construction of the project, the grantee shall enter into and record an agreement sufficient to enable the grantee to implement and maintain the project and, , sufficient to protect the public interest in the improvements.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 6 of Division 21 of the Public Resources Code, regarding the enhancement of coastal resources.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. The grantee is a nonprofit organization organized under section 501(c)(3) of the U.S. Internal Revenue Code.
4. The Conservancy has independently reviewed and considered the Fish Passage and Habitat Enhancement Project, Cochran Creek and Quail Slough Mitigated Negative Declaration adopted by the County of Humboldt on May 2, 2019 pursuant to the California Environmental Quality Act (CEQA) and attached to the accompanying staff recommendation as Exhibit 6. The Conservancy finds that the proposed project as designed and mitigated avoids, reduces, or mitigates the potentially significant environmental effects to a less-than-significant level, and that there is no substantial evidence based on the record as a whole that the Project may have a significant effect on the environment, as defined in 14 Cal. Code Regulations Section 15382.”

PROJECT SUMMARY:

Staff recommends the Conservancy authorize disbursement of up to \$640,000 to California Trout, Inc. (CalTrout), to implement the Cochran Creek Fish Passage and Habitat Restoration Project (the project) located on 35 acres of privately-owned agricultural land west of Myrtle Avenue near the town of Eureka on Humboldt Bay (Exhibit 1). The project will restore fish passage between Cochran Creek and Humboldt Bay, enhance and expand tidal, brackish,

freshwater and riparian habitat on Cochran Creek and Quail Slough, and increase flood protection of agricultural lands. It involves realigning and enhancing approximately 1,000 feet of Cochran Creek, expanding and enhancing approximately 2,100 feet of Quail Slough, restoring approximately 5 acres of tidal wetlands on agricultural land, planting approximately 1.5 acres of wetland plants and approximately 2.7 acres of trees, and raising the surface elevation of adjacent agricultural lands. The total project disturbance area (excavation, filling, grading) is approximately 21.8 acres.

The lower reach of Cochran Creek where it discharges to Fay Slough was historically a transitional area from upstream freshwater aquatic habitats to brackish-water, estuarine habitat typical of low-lying areas along the Humboldt Bay bottomlands. However, due to residential, commercial and ranching development in the upper watershed and around the bay, lower Cochran Creek currently has very little effective tidal connection to Humboldt Bay and now functions as agricultural grasslands with none of the historic salt marsh present (Exhibit 2). The once dominant ecosystem process, a twice-daily tidal inundation that imported marine energy and nutrients, and exported terrestrial derived sediments, nutrients, and organic material, has been lost on Cochran Creek. Fish passage is severely impeded and fish habitat is extremely limited.

Cochran Creek and Quail Slough channels lack complexity, shade canopy, and habitat diversity. Stream flood-plain/wetland connectivity is nonexistent, and the channels are primarily slow-moving and vegetation-choked. The north-south running segment of Cochran Creek downstream of Myrtle Avenue has been straightened and channelized, with the creek pushed up against the levee on the north side of the pasture into a ditch. Simple riparian shade vegetation exists only on the north side of the channel exposing the stream to full sun. The Cochran Creek channel is undersized and confined which forces most flood flows to go out-of-bank and flow west across nearby fields causing flooding. See Exhibit 3 for photographs of the current site conditions.

The proposed project will correct the following key issues:

Fish Passage. The project will replace an existing top-hinged tide gate at the confluence of Cochran Creek and Fay Slough with a fish-friendly side-hinged tide gate with an adjustable opening. This will increase migration access for adult and juvenile salmonids and other native fish species, such as lamprey and tidewater goby. The new tide gate will support a muted tidal cycle of Cochran Creek and Quail Slough, resulting in the establishment of tidal/brackish water wetlands.

Rearing habitat quality/availability. The project will increase instream rearing habitat for salmonids. A new 20-ft. wide, 2-ft. deep Cochran Creek channel and associated floodplains and tidal berms will be constructed between the new tide gate and the upstream culvert under Myrtle Avenue. The existing Quail Slough channel will be widened to approximately 25 ft. and an inset floodplain will be excavated in the lower reach to provide tidal/brackish wetland habitats, increase habitat complexity and restore important declining wetland types. Backwater features/ponds will be constructed to provide seasonal off-channel rearing habitat for salmonids in Cochran Creek and Quail Slough.

Riparian and wetland habitat quality. The project will establish functioning riparian corridors along Cochran Creek and Quail Slough, including creating complex riparian shade cover and removing invasive plants, and creating salt marsh habitat. Reed canary grass will be physically removed from the existing Cochran Creek channel. Its regrowth is expected to be controlled by the regular influx of saltwater along Cochran Creek created by the installation of the new tide gate. Tidal/brackish wetlands in the floodplain adjacent to the Cochran Creek and Quail Slough channels will be planted with appropriate tidal/brackish tolerant plant species. Riparian trees will be planted adjacent to the floodplain channel on tidal berms along the south side of Cochran Creek and on both banks of Quail Slough. These will provide diversity of habitat and wildlife foraging opportunities, and the shade they will provide will help to control reestablishment of reed canary grass.

Sedimentation of freshwater habitats. The project will enhance sediment routing within Cochran Creek and Quail Slough to decrease channel aggradation and restore tidal prism flushing and reduce flooding of working lands. To improve drainage and eliminate tidal flooding of the agricultural land, materials excavated from Cochran Creek and Quail Slough will be placed and graded to raise the elevation of adjacent agricultural areas. 1.5 foot diameter tide gates will be installed along Quail Slough to enhance storm and runoff.

Exhibit 4 depicts the project design elements discussed above.

Though the existing tide gate at the mouth of Cochran Creek is recognized as being largely unsuitable for fish passage, Cochran Creek supports limited anadromy. In 2016, fish surveys conducted during the planning phase of this project found juvenile coho distributed throughout the lower Cochran Creek corridor. These recent observations of native-spawned coho salmon above the tide gate suggest that if unimpeded migratory access is provided, spawning populations of these species will re-establish themselves in the Cochran Creek watershed. The close proximity and hydraulic connectivity of Fay Slough to Freshwater Slough, a watershed that supports stable populations of Chinook, coho, and steelhead, bodes well for immediate re-colonization of the Cochran Creek watershed.

The proposed project represents an excellent opportunity to accomplish meaningful restoration of an anadromous-accessible tributary in the Humboldt Bay watershed. As discussed in greater detail under "Project History" below, the project will complete an effort begun in 2005 but halted in 2011 after the property changed hands and the new property owners expressed concerns about restoration impacts to their farm. In 2016 the project was revived to complete the planning phase. The designs are completed, the environmental document analyzing the project under CEQA is complete and has been certified by the County of Humboldt, and permits are secured. Finally, CalTrout has secured the additional funds necessary to complete the project.

Site Description: The Cochran Creek watershed, located in the larger Freshwater Creek watershed east of Humboldt Bay, is 1.5 square miles and has 3.1 miles of perennial stream that flows generally east to west from an elevation of approximately 800 feet to sea level where it drains to Humboldt Bay through Fay and Eureka Sloughs (Exhibit 1, pg. 3). The upper watershed has steep slopes that are primarily vegetated with mature redwood forests, with some limited

residential development. The lower portion of the watershed is comprised primarily of agricultural land which was converted from historic salt and brackish marshes.

The project area is located west of Myrtle Avenue and encompasses approximately 35 acres of privately-owned agricultural land. It includes 1,000 feet of Cochran Creek and 2,100 feet of Quail Slough. Cochran Creek enters the project area through a culvert passing under Myrtle Avenue, and then flows in an artificially confined channel first northerly along the west side of Myrtle Avenue, and then westerly along the toe of a levee at the edge of the agricultural land and enters Fay Slough through a single-opening large wood-flap tide gate (Exhibit 2).

Quail Slough is a seasonal stream that drains the southern portion of the project area pasture and a small sub-watershed upstream of Myrtle Ave. Quail Slough has a total stream length of 0.9 miles, with 0.4 miles of stream within the project area. The majority of existing Quail Slough habitat is predominantly choked by vegetation and sediment and is completely lacking any riparian canopy cover. The lowermost 300 feet (before confluence with Cochran Creek) provides marginal aquatic habitat, varying in width from 2 to 6 feet with depths of 1 to 3 feet.

Grantee Qualifications: California Trout Inc. is a 501(c)(3) nonprofit organization whose mission is to protect and restore wild trout, steelhead, salmon and their waters throughout California. The organization is currently managing or has recently managed several grants from the Coastal Conservancy for Humboldt County projects including Eel River Delta restoration work, Elk River habitat enhancement, Mad River flood plain enhancement and various fish passage improvement projects. Local CalTrout staff have been involved in the Cochran Creek project since its inception.

Project History: In 2002, the Conservancy, the California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB) and the University of California Cooperative Extension Sea Grant program each contributed to watershed-scale planning for the stream systems that constitute the Humboldt Bay watershed. The effort was facilitated by Redwood Community Action Agency (RCAA) under the guidance of the Humboldt Bay Watershed Advisory Committee, a multi-stakeholder collaborative watershed-based working group. The effort resulted in the Salmon and Steelhead Conservation Plan (SSCP), which was accompanied by technical information, detailed profiles, and conceptual plans for restoring salmonid habitat in the bay's four primary sub-watersheds: Jacoby Creek, Elk River, Salmon River and Freshwater Creek. Cochran Creek is located in lower Freshwater Creek watershed.

The SSCP compiled information and detailed results from numerous assessments to determine current watershed conditions and limiting factors in each sub-watershed. A Technical Advisory Team prioritized SSCP goals by analyzing the factors that would lead to long-term sustainability of functional salmonid habitat.

In 2005, CDFW awarded a grant of \$47,388 to RCAA for the initial planning effort in Fay Slough, including the Cochran Creek project area and adjacent Redmond Creek. RCAA developed a conceptual estuary rehabilitation plan to restore fish access, muted tidal hydrology, and salmonid rearing habitat in approximately 1.75 miles of channels upstream of Fay Slough on Redmond and Cochran Creeks. In late 2005, the Conservancy awarded a grant of \$245,000 to RCAA to convene a technical team and complete the designs. Following development of initial

engineering designs, several of the agencies' technical staff were changed, which led to a protracted design and review process.

During this time, the ownership of the property comprising the Cochran Creek project area changed. The new owners were wary of proceeding with restoration due to concerns over what the effects might be to their farm and decided not to participate in the project. As a result of these delays, the owner of the Redmond Creek property also withdrew his participation, and the project stalled. Compounding this, the state budget crisis in 2009 caused the cessation of project spending for several months. Due to these issues, Conservancy staff decided to prepare 30% design documents for Redmond and Cochran Creek restoration, prepare a limited regulatory constraints analysis, complete cultural resources and biological reviews, and compile all this information into a report in hopes of a future project opportunity. In 2011, RCAA submitted the *Fay Slough Enhancement Project: Redmond and Cochran Creeks, 30% Design* report to the Conservancy, which was kept on the shelf and available in anticipation of reviving the project.

In late 2014, the landowner re-engaged with local biologists to discuss how fish restoration could be compatible with improving drainage from their agricultural lands. The owners agreed that if project funding were secured, they would make their land available for restoration. In 2016 the Conservancy awarded a grant of \$250,000 to the Coastal Ecosystem Institute of Northern California to prepare final engineering designs, an environmental document and obtain permits for the Cochran Creek fish passage and channel restoration project. The environmental document was adopted by Humboldt County, the lead agency for CEQA in May 2019, most permits have been secured, and engineering designs have been completed.

PROJECT FINANCING

Coastal Conservancy	\$640,000
California Natural Resources Agency	\$500,000
California Department of Fish and Wildlife	\$996,986
Project Total	\$ 2,136,986

The expected source of Conservancy funds for the construction phase of the Cochran Creek Fish Passage and Channel Restoration project is an appropriation to the Conservancy from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code § 79700 et seq.). Funds appropriated to the Conservancy derive from Chapter 6 (commencing with § 79730) and may be used “for multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds of the state” (Section 79731). Section 79732(a) identifies specific purposes of Chapter 6. The proposed project will achieve several of those purposes, including those in the following subsections: (1) protect and increase the economic benefits arising from healthy watersheds, fishery resources and in-stream flow; (2) implement watershed adaptation projects for which grantee has consulted with the state and local conservation corps and included their services if feasible; (4) protect and restore aquatic,

wetland and migratory bird ecosystems including fish and wildlife corridors and the acquisition of water rights for in-stream flow; (6) remove barriers to fish passage; (7) collaborate with federal agencies in the protection of fish native to California and wetlands in the central valley of California; (9) protect and restore rural and urban watershed health to improve watershed storage capacity, forest health, protection of life and property, storm water resource management, and greenhouse gas reduction; (10) protect and restore coastal watersheds including but not limited to, bays, marine estuaries, and near shore ecosystems; and (12) assist in the recovery of endangered, threatened, or migratory species by improving watershed health, in-stream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation.

As required by Proposition 1, the proposed project provides multiple benefits. The project will: improve drainage, and reduce maintenance of flood control structures for agricultural land owners; increase the flood confinement and flood conveyance of Cochran Creek and Quail Slough channels through excavation of wider and deeper channels; improve sediment routing from adjacent agricultural pasturelands to Cochran Creek and Quail Slough, through Fay Slough and Eureka Slough, and ultimately to Humboldt Bay; continue to foster working relationships with resource agencies and agricultural landowners to advance essential work on private lands in historic estuarine areas around Humboldt Bay; and provide resilience against climate change-induced loss of anadromous fish rearing habitat. Finally, this project advances previous Conservancy-funded planning efforts to restore anadromous habitats in Cochran Creek.

In accordance with Section 79707(b) which requires agencies to prioritize “projects that leverage private, federal, or local funding or produce the greatest public benefit”, this project leverages local in-kind contributions. Humboldt County Department of Public Works will contribute to the project by cleaning out the culvert under Myrtle Avenue and discussions are currently underway with PGE to eliminate a power pole that is anchored in and through a culvert on Quail Slough. California Natural Resources Agency (CNRA) has recently awarded CalTrout \$500,000 of Caltrans Environmental Enhancement and Mitigation Program (EEMP) grant funds, and CDFW has notified CalTrout that it will receive \$996,986 in CDFW Proposition 1 funds. There will be significant public benefit from completing the project. It will improve fish passage and habitat to benefit endangered salmonids, once a staple in Humboldt Bay. It will increase bayside lands’ resiliency to sea level rise by increasing function and flow of tidal and storm water through the system, thus reducing flooding of important coastal agricultural lands. It will increase the amount of nationally declining estuarine and palustrine wetlands, which also help absorb the effects of sea level rise. And finally, it will eliminate upstream flooding across Myrtle Avenue, a critical thoroughfare for residences and businesses east of the project area.

The project was reviewed and subsequently recommended for funding through a competitive grant process under the Conservancy’s *Proposition 1 Grant Program Guidelines* adopted in June 2015 (See § 79706(a)). The proposed project meets each of the evaluation criteria in the Prop 1 Guidelines as described in further detail in this “Project Financing” section, the “Project Summary” section and in the “Consistency with Conservancy’s Project Selection Criteria & Guidelines” section of this staff recommendation.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed project would be undertaken pursuant to Chapter 6 of the Conservancy's enabling legislation, Public Resource Code Sections 31251-31270, as follows:

Pursuant to Public Resource Code Section § 31251, the Conservancy may award grants to nonprofit organizations for the purpose of enhancement of coastal resources which, because of human-induced events, or incompatible land uses, have suffered loss of natural and scenic values. This project will restore the tidal flow and function to Cochran Creek above Fay Slough which has been altered by failing tide gates and narrowed creek channel.

As provided in Public Resource Code Section § 31252, the proposed project is consistent with the County of Humboldt's Local Coastal Program, as described in the "Consistency with Local Coastal Program Policies" section below.

Pursuant to Public Resource Code Section § 31253, the Conservancy may provide up to the total of the cost of any coastal resource enhancement project taking into consideration the total cost of the project, the urgency of the project and other factors as determined by the Conservancy. Consistent with this section the amount of funding recommended for the proposed project is based on the total amount of funding available for coastal resource enhancement projects, and the urgency of the project relative to other eligible coastal resource enhancement projects.

CONSISTENCY WITH CONSERVANCY'S [2018-2022 STRATEGIC PLAN](#) GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 6, Objective B** of the Conservancy's 2018-2022 Strategic Plan, the proposed project will restore and enhance 5 acres of coastal habitats, including coastal wetlands and intertidal areas and stream corridors.

Consistent with **Goal 6, Objective D** of the Conservancy's 2018-2022 Strategic Plan, the proposed project will preserve and enhance a coastal watershed and floodplain.

Consistent with **Goal 7, Objective B** the proposed project will implement a project that fosters the long-term viability of coastal working lands.

Consistent with **Goal 6, Objective E** of the Conservancy's 2018-2022 Strategic Plan, the proposed project will restore fish habitat including projects to improve fish passage, ensure sufficient instream flow, and provide in stream habitat and favorable water temperatures.

Consistent with **Goal 6, Objective G** of the Conservancy's 2018-2022 Strategic Plan, the proposed project will improve water quality to benefit coastal and ocean resources.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.

2. **Consistency with purposes of the funding source:** See the “Project Financing” section above.
3. **Promotion and implementation of state plans and policies:** The proposed project is consistent with several state plans and policies, as follows:

The proposed project is consistent with the goal of the **California @ 50 Million: The Environmental Goals and Policy Report** to Steward and Protect Natural and Working Landscapes by supporting landscape-scale approaches to conservation and mitigation that account for multiple benefits. The restoration designs considered multiple ecosystem benefits such as disturbance regimes, species habitat and protection, and impacts on air and water quality; the effects of management actions on upstream and downstream communities and ecosystems; and the quality of mitigation measures.

The project will help implement priorities in the **2014 California Water Action Plan** Action 4: Protect and Restore Important Ecosystems. The project will implement this action by restoring tidal flow to a disconnected wetland/stream channel, and reconnecting fish habitat between important upstream spawning and estuary rearing habitat.

The project is consistent with the **CA Climate Adaptation Strategy (2009)/Safeguarding California: 2018 update (CNRA 2018)** Actions Needed to Safeguard Biodiversity and Habitats. Action B-2, Improve habitat connectivity and protect climate refugia. Enhancing connectivity, especially when informed by climate change information, will allow for dynamic changes on the landscape and will likely benefit a multitude of species. Action B-3, Increase restoration and enhancement activities to increase climate resiliency of natural and working lands. Action B-3.2, Prioritize restoration or enhancement of areas with highly or moderately vulnerable ecosystems and with appropriate species and genetic stock to increase the likelihood of population persistence into the future. Action B4, Increase biodiversity monitoring efforts to better understand baseline conditions and make possible the early detection of climate impacts.

The project is consistent with statewide conservation strategies for anadromous fish species identified in the **CA Wildlife Action Plan** in that it will help to address In-River Spawning and Rearing Habitat by promoting restoration actions that focus on ecological processes and climate change resilience (e.g.: removing barriers to migration, expanding riparian corridors) and Wetland Habitats by restoring marsh and riparian habitat associated with anadromous fish species. The project is also consistent with the following identified “north coast” conservation strategies for anadromous fish species for coastal estuaries: Restore and enhance estuarine habitats, connectivity, and ecological processes essential for anadromous fish species, and establish estuary function and structure that will allow anadromous migration and be responsive to climate change.

The project will help implement priority recovery actions for recovery of coho in Humboldt Bay tributaries (HBT) identified in the **SONCC Coho Recovery Plan** prepared by National Marine Fisheries Service (NMFS) in 2014, including: HBT.1.2.40 – to improve and restore estuarine and tidal wetland habitat; HBT.1.3.4 to increase tidal exchange of water and remove or replace tide gates; HBT.2.1.1 to increase channel complexity; HBT.2.1.1.2 to

place instream structures; HBT.2.2.2 to reconnect the channel to the floodplain, construct off channel habitats, alcoves, backwater habitats; HBT.2.2.2.2 to implement restoration projects that improve off channel habitats to create refugia habitat; HBT.7.1.46 to improve wood recruitment, bank stability, shading, and food subsidies and restore riparian vegetation in tidal zones; HBT.7.1.46.2 to restore tidal marshlands; and HBT.5.1.43.1 to eradicate reed canary grass.

Restoration of estuarine processes and salmonid access to estuary habitat has been identified as a high priority in the **Recovery Strategy for California Coho Salmon**, prepared by CDFW in 2004. The project will help implement several goals for the Eureka Plain Hydrologic Unit (EP-HU), SONCC ESU in that the project seeks to restore estuarine and associated wetland ecosystems by working with agencies and landowners to re-establish estuarine function and reconfigure channelized streams to benefit coho salmon (EP-HU-2); identifying impacted reaches where a functioning flood plain could be re-established including developing site specific project objectives to protect and restore naturally functioning channel and flood plain conditions where feasible (EP-HU-6); and cooperating with willing landowners to restore and maintain historical tidal areas, backwater channels and salt marsh (EP-HU-10).

Although this project will focus on restoration that benefits listed salmonids, multiple species benefits are expected to result from these efforts, including those for the federally endangered tidewater goby. Thus, the project will help implement several recovery actions (RA) identified in the **Final Recovery Plan for the Tidewater Goby** prepared by USFWS in 2005, including managing extant tidewater goby habitat (RA-1.2); monitoring tidewater goby population status, trends, and habitats (RA-1.2.8); and determining water quality parameters for tidewater goby habitats (RA-2.1).

The project is in alignment with the following goals and objectives of the **North Coast Integrated Regional Water Management Plan Phase III** (2014) including conserving, enhancing, and restoring watersheds and aquatic ecosystems, including functions, habitats, and elements that support biological diversity (Goal 3: Objective 5), and enhancing salmonid populations by conserving, improving, and/or restoring required habitats/watershed processes (Goal 3: Objective 6).

4. **Support of the public:** The proposed project is supported by several agencies and the public. The project-site landowner supports the project, as do several adjacent and nearby watershed neighbors. See Exhibit 5 for Project Letters.
5. **Location:** The proposed project would be located within the coastal zone of Humboldt County.
6. **Need:** Conservancy funding has been a catalyst for the project and is leveraging the EEMP funds and CDFW funds. Without Coastal Conservancy funding, the project would not occur.
7. **Greater-than-local interest:** Humboldt Bay and its tributaries provide essential nursery and spawning habitats for threatened and endangered species such as coho salmon, steelhead trout, and fall-run Chinook salmon, as well as coastal cutthroat trout. The proposed project

will lead to the eventual restoration and expansion of critical salmon habitat on Cochran Creek that will benefit northern California populations of these species.

8. **Sea level rise vulnerability:** An important consideration for both the landowner and the ecological function of the restoration will be impacts resulting from SLR. The planning and design phase considered the effects of SLR. In addition to providing salmonid habitat, passage, and restoring ecological function of the stream channels, modifications to the tide gate, dikes, and channels will ameliorate current agricultural land drainage and minor flooding, enhancing the value of the agricultural land. While it is possible to engineer protection from 55" of sea level rise, it is only desirable to do so in the context of the surrounding infrastructure. The entire Humboldt Bay shoreline is susceptible to SLR and substantial infrastructure exists between the project site and Humboldt Bay (e.g. Highway 101). It is anticipated that, without additional improvements to the dikes in the Eureka Slough hydrologic unit, the project will continue to function even in light of SLR until approximately 2070, when catastrophic overtopping of Humboldt Bay dikes is expected to occur.

Additional Criteria

9. **Urgency:** After withdrawing their participation in the project more than 10 years ago, the landowner is actively engaged in the restoration on their property. This presents a unique opportunity to complete the project on private property and realize full restoration design for Cochran Creek.
10. **Resolution of more than one issue:** The project will address multiple resource enhancement objectives including fishery enhancement, wetland restoration, riparian corridor enhancement while at the same time improving conditions for agricultural operations.
11. **Leverage:** See the "Project Financing" section above.
12. **Conflict resolution:** As discussed earlier in "Project History" the project was halted for several years. However, with the completion of the planning and design, construction can proceed, and alleviate conditions that are adversely affecting fisheries and agriculture. Completion of the project will also increase trust and cooperation between resource agencies and private landowners
13. **Innovation:** A successful outcome for this project may serve as a catalyst for adjacent landowners to explore habitat restoration on their property to reduce flooding and become more resilient to SLR.
14. **Readiness:** The grantee will have all funds in place by early summer 2020 and can begin activities immediately thereafter.
15. **Realization of prior Conservancy goals:** See "Project History" above.
16. **Cooperation:** The proposed project has involved cooperation with the local scientific community, federal, state and local resource agencies, and the Conservancy. This collaboration will continue during the construction phase, as needs arise. Additionally, the landowner will remain involved in decision-making as the project progresses.

- 17. Vulnerability from climate change impacts other than sea level rise:** The primary expected stressors resulting from climate change to the northern California coastal salmonid populations, the primary beneficiary of this proposed restoration effort, are increased temperature and variations in precipitation. The best available science from the California state scientific and research community (<http://cal-adapt.org>) predicts that the temperature increase due to GHG emissions by 2100 will be between 3.0 and 5.3 degrees Fahrenheit (F), and that the average high temperature is forecast to increase from 67.6 to 75.0 degrees F with heat wave durations increasing from 4 to 50 days. While precipitation will continue in the Mediterranean seasonal pattern of dry summers and wet winters, the summers could be drier and the winters wetter. The proposed project will restore habitat that will provide winter rearing habitat safe from high flows, riparian cover and habitat that will sequester carbon and keep stream temperatures cool, safeguarding fish from anticipated climate changes.
- 18. Minimization of greenhouse gas emissions:** The grantee will ensure that its contractors utilize best management practices to reduce GHG emissions resulting from the construction activities. Further, as possible and feasible, consultants and site workers will carpool to the work site, and construction managers and oversight staff will utilize telecommunications technology for conferencing as opposed to driving to meeting locations.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The project is consistent with the Humboldt Bay Area Plan of the Humboldt County Local Coastal Plan (Humboldt County General Plan, Volume II), (certified October 14, 1982). The Plan, and its supporting zoning regulations for the project area, contains policies to protect prime agricultural land, protect endangered species, and to preserve natural resource areas. Specifically, Chapter 3, Section 5(a) and its supporting maps designate much of the project area either as “Farmed Wetlands” or “Wetland Restoration Study Areas” and supports wetlands restoration “...where the project will not interfere with adjacent agricultural operations.” The proposed project would lead to actions that would achieve gains both in habitat quality and agricultural productivity thus assisting Humboldt County in effectuating its Local Coastal Program and related Coastal Act policies.

CEQA COMPLIANCE:

Staff has independently evaluated the Fish Passage and Habitat Enhancement Project, Cochran Creek and Quail Slough Mitigated Negative Declaration (MND) adopted by the County of Humboldt on May 2, 2019 (Exhibit 6), and Mitigation Monitoring and Reporting Program (MMRP) (Exhibit 7) prepared by the County, and concurs that there is no substantial evidence that the proposed project will have a significant effect on the environment. Staff therefore recommends that the Conservancy find that the project as mitigated avoids, reduces or mitigates the possible significant environmental effects to a level of less-than-significant and that there is no substantial evidence that the project will have a significant effect on the environment as that term is defined by 14 Cal. Code Regs. §15382. Staff also recommends that the Conservancy adopt the Mitigation, Monitoring and Reporting Program, consistent with Public Resources Code Section 21081.6.

The MND assesses the proposed project's potential impact to resources and found that there is no potential significant impact to Aesthetics, Agricultural Resources, air quality, greenhouse gas emissions, Land Use And Planning, Mineral Resources, Population And Housing, Public Services, Recreation, Transportation And Traffic, Tribal Cultural Resources or Utilities and Service Systems. The MND identified potentially significant impacts, if not mitigated, to **biological resources, cultural resources, geology and soils, hydrology/water quality**, and from **hazards/hazardous materials and noise**.

The following potentially significant environmental impacts were identified. They will be reduced to less-than-significant impact by the following mitigation measures. The mitigation measures are numbered to correspond with the respective section in the MND.

Biological Resources

With regard to **biological resources**, the project may have possible adverse impacts on fisheries, plants, amphibians, and mammals from construction-related activities. Project impacts to protected fish and amphibian species will be short-term and specifically a consequence of isolating the project area, blocking access to the work area, capturing and relocating individuals to suitable habitat areas upstream, diverting stream flow, dewatering work areas, and rewatering the new channel post construction.

The project may have possible impacts to three plant species found in brackish coastal marshes: Lyngbye's sedge (*Carex lyngbyei*), a plant species listed as rare by the California Native Plant Society; Humboldt Bay Owl's Clover (*Castilleja ambigua humboldtensis*) and Point Reyes Bird's-Beak (*Cordylanthus maritimus*). The proposed project will expand brackish marsh habitat. Experience with similar tidal/brackish wetland restoration projects indicate that all three brackish wetlands species of concern will passively recolonize newly constructed surfaces at design elevations that are tidally inundated for an appropriate length of time. The proposed project's revegetation plan also includes planting these species.

The potential impacts to biological resources cited above will be reduced to a level of insignificance by implementing mitigation measures including:

- 4.1 Isolation of the work area on Cochran Creek and construction shall only occur between July 1st and October 31st when freshwater inflow to Cochran Creek and Quail Slough is at its lowest and when the ground surface is dry and to reduce the chance of stormwater runoff occurring during construction.
- 4.2 Surveys of freshwater habitat by a qualified biologist for fish, amphibian, and reptile species of concern shall occur two weeks prior to disturbance activities in the areas to be de-watered.
- 4.3 A fish screen barrier will be installed on Cochran Creek upstream of the culvert under Myrtle Avenue to prevent fish from moving into the work area. The tide gate at the mouth of Cochran Creek on Fay Slough will be closed to prevent fish from entering the work area. The supervising biologist will oversee selecting suitable block nets and their installation. The upstream most block net will be installed first to prevent movement of fish into the work area. Fish will be captured moving upstream from the tide gate pool, with

anticipated reach lengths of 150-300 ft before an additional block net is installed to isolate areas that have been cleared from upstream habitats still holding fish.

- 4.4 Fish capture and relocation of fish and herpetofauna will occur in accordance with CDFW and NMFS protocols and guidelines to avoid impacts to sensitive species.
- 4.5 Stream flow diversion and dewatering of Cochran Creek and Quail Slough will follow isolating the work area and fish relocation. The project will be dewatered in accordance with CDFW and NMFS protocols and guidelines to avoid impacts to fish and herpetofauna species. Flow diversion and channel construction dewatering will be implemented to maintain a dry work site for the duration of construction. All work areas will be dewatered to accommodate excavation in areas of expected high groundwater. Dewatering of Cochran Creek will be done at the upstream end of the Project by either screened gravity flow or mobile pump, and discharge either into the in-board ditch that drains to Redmond Creek, or directly into Fay Slough. A mobile pump with an approved fish screen and pipe system will be utilized to dewater the work area and divert the construction water from Cochran Creek to Quail Slough. To dewater Quail Slough, a coffer dam with a pump and pipe system will collect and divert seepage and treated water during construction in the downstream end of Cochran Creek, into the either the in-board ditch that drains to Redmond Creek, or directly into Fay Slough. Prior to the start of construction, the contractor will develop a dewatering plan for approval by the Project Team that demonstrates compliance with CDFW and NMFS protocols and guidelines, and all Permit requirements.
- 4.6 Reintroduction of stream flow will occur by unbolting the tide gate and removing the downstream cofferdams at low tide. Diverted stream flows will be slowly reintroduced into the dewatered area by leaving a silt barrier, silt bag, or equivalent protective measure in place to allow water to slowly seep through while filtering fine sediments to the maximum extent possible. When removing the upstream cofferdam and block net, flows will gradually be restored to the channel to avoid a surge of water that could cause erosion or scouring. During the reintroduction of stream flows, the directing biologist and contractor will continuously visually monitor the water flow to ensure that no downstream scour or erosion takes place
- 4.7 Construction activities shall occur only when the area is dry and when adult red-legged frogs are not expected to be present.
- 4.8 Western pond turtle surveys shall be carried out by a qualified biologist along tidal margins two weeks prior to commencement of ground disturbing activities. Surveys shall be utilized to locate and flag western pond turtle nests with eggs, or to remove hatchlings and adults that may be present in the stream reaches above the existing tidal zone below first diversion. Any active nests located shall be left undisturbed until hatchlings have emerged or have been relocated to suitable areas outside of the area of disturbance; similarly, adults will also be relocated. No existing freshwater ponds shall be impacted by the project.

- 4.9 If work must be completed during the nesting season (prior to August), a qualified biologist shall conduct preconstruction surveys of all ground disturbance areas to verify absence of nesting migratory birds in the project area within two weeks prior to vegetation removal and the start of construction. If nesting migratory birds are found in the project construction area during the preconstruction surveys, they shall be avoided with an appropriate buffer area until the young birds have fledged. Buffers shall be 250 ft for raptors, 100 ft for threatened and endangered species, 50 ft for other special-status bird species; however, buffers may be modified after consultation with, and agreement by CDFW.
- 4.10 Vegetative disturbance shall be contained within the limits of grading and kept to a minimum area.

Cultural Resources

Regarding **cultural resources**, potential impacts to archaeological resources have been identified and include a potential adverse change to the significance of archaeological resource. An archeological and cultural resource investigation of the project area was completed in 2007 (King Smith and Van Kirk 2007). The report concluded that there were no prehistoric or archaeological resources noted within the project area. No ground disturbance will occur in forested upland areas above the margin of the former salt marsh; proposed project activities will occur on diked former tidelands where archeological resources are not likely to be encountered. Consultation (Pers. Com. 2018) with the Tribal Historic Preservation Officers (THPO) for the Wiyot Tribe, Bear River Rancheria and Blue Lake Rancheria requested that the Inadvertent Archaeological Discovery Protocol be followed for this project.

Inadvertent Archaeological Discovery protocol: If archaeological resources are encountered during construction activities, all onsite work shall cease in the immediate area and within a 50-foot buffer of the discovery location. A qualified archaeologist will be retained to evaluate and assess the significance of the discovery, and develop and implement an avoidance or mitigation plan, as appropriate. For discoveries known or likely to be associated with Native American heritage and select historic period sites, the Tribal Historic Preservation Officers (THPOs) for the Bear River Band of Rohnerville Rancheria, Blue Lake Rancheria, and Wiyot Tribe are to be contacted immediately to evaluate the discovery and, in consultation with the project proponent and consulting archaeologist, develop a treatment plan in any instance where significant impacts cannot be avoided. Prehistoric materials may include, but are not limited to, obsidian or chert flakes, tools, locally darkened midden soils, ground stone artifacts, shellfish or faunal remains, and human burials. Historic archaeological discoveries may include, but are not limited to, 19th century building foundations; structural remains; or concentrations of artifacts made of glass, ceramic, metal or other materials found in buried pits, old wells or privies. Should known or suspected Native American skeletal remains or burials be inadvertently discovered, the provisions of Section 7050.5 of the California Health & Safety Code and Section 5097.98 of the Public Resources Code shall apply.

The potential impacts to cultural resources will be reduced to a level of insignificance by implementing mitigation measures including:

- 5.1 Inadvertent Archaeological Discovery Protocol: If archaeological resources are encountered during construction activities, all onsite work shall cease in the immediate area and within a 50-foot buffer of the discovery location. A qualified archaeologist will be retained to evaluate and assess the significance of the discovery, and develop and implement an avoidance or mitigation plan, as appropriate. For discoveries known or likely to be associated with Native American heritage and select historic period sites, the Tribal Historic Preservation Officers (THPOs) for the Bear River Band of Rohnerville Rancheria, Blue Lake Rancheria, and Wiyot Tribe are to be contacted immediately to evaluate the discovery and, in consultation with the project proponent and consulting archaeologist, develop a treatment plan in any instance where significant impacts cannot be avoided. Prehistoric materials may include, but are not limited to, obsidian or chert flakes, tools, locally darkened midden soils, ground stone artifacts, shellfish or faunal remains, and human burials. Historic archaeological discoveries may include, but are not limited to, 19th century building foundations; structural remains; or concentrations of artifacts made of glass, ceramic, metal or other materials found in buried pits, old wells or privies. Should known or suspected Native American skeletal remains or burials be inadvertently discovered, the provisions of Section 7050.5 of the California Health & Safety Code and Section 5097.98 of the Public Resources Code shall apply.

The Inadvertent Archaeological Discovery Protocol shall be followed and shall be reviewed at weekly onsite coordination meetings with contractors.

- 5.2 If project related geotechnical excavations become necessary, as a result of final design, and those excavations are to be more than one ft deep, then the THPOs of each local native American tribe, as noted above, will be contacted and given the date and time of excavations so that a cultural monitor may be present to observe for the presence of buried archaeological materials.

Geology and Soils

Potential impacts to the environment could occur that result in substantial acceleration of the rate of soil erosion or loss of topsoil. Humboldt County requires a grading permit for all grading in excess of 5,000 CY. Compliance with the grading permit will help ensure that grading activities will not pose a risk of soil erosion or topsoil loss by establishing criteria for cut/fill slopes, setbacks, drainage, on-site soil management, and other parameters. The project will also be required to obtain a water quality certification from the North Coast Water Quality Control Board, which will further protect Waters of the State from potential soil erosion impacts.

On-site grading, erosion management, and sediment control will be consistent with the guidelines and regulations established in Humboldt County's grading ordinance as well as permit conditions associated with the project's North Coast Water Quality Control Board water quality certification and grading permit.

The potential impacts to geology and soils will be reduced to a level of insignificance by implementing mitigation measures including:

- 6.1 Construction shall only occur between July 1st and October 31st when the ground surface is dry and to reduce the chance of stormwater runoff occurring during construction and when Cochran Creek and Quail Slough inputs are at summer baseflow thresholds.
- 6.2 Placement of fill in the project area shall occur when the area is not inundated by water.
- 6.3 Dewatering measures shall be in place to bypass any discharge from entering the work site.

Hazards and Hazardous Materials

Potential impacts to the environment or people could occur from exposure to hazardous materials, substances or waste. The potential impacts from hazards and hazardous materials will be reduced to a level of insignificance by implementing mitigation measures including:

- 8.1 Heavy equipment used in the project shall be in good condition and shall be inspected for leakage of coolant and petroleum products and repaired, if necessary, before work is started.
- 8.2 Equipment operators shall be trained in the procedures to be taken should an accidental spill occur.
- 8.3 Prior to the onset of work the contractor shall prepare a plan for the prompt and effective response to any accidental spills.
- 8.4 Absorbent materials designed for spill containment and cleanup shall be kept at the project site for use in case of an accidental spill.
- 8.5 Refueling of equipment shall occur within the staging area or a minimum of 150 ft away from stream channels or perennial wetlands. All refueling will occur on a pad to capture any drips or spills.
- 8.6 If equipment must be washed, washing shall occur off-site.
- 8.7 Stationary equipment shall be positioned over drip pans.
- 8.8 Equipment on site during construction shall be required to have emergency spill cleanup kits immediately accessible in the case of any fuel or oil spills.
- 8.9 Staging, fueling and maintenance of equipment shall be conducted only in staging areas or no closer than 150 ft from open water or in any location where hazardous material spills could become entrained in flowing water.

Hydrology and Water Quality

With regard to hydrology and water quality, the primary project actions that could affect state water quality standards or waste discharge requirements include: excavating and grading channel features, flushing accumulated sediments from culverts, installing large wood habitat features, and upgrading an existing tide gate by replacing a top-hinged tide gate with a side-

hinged tide gate that has an adjustable opening to improve fish passage and expand and maintain a muted tide cycle. All project construction activities will occur from July through October to avoid stormwater runoff. All construction areas will be dewatered.

The project is not expected to affect water temperatures. However, the project may cause a short-term increase in suspended materials and turbidity when the new channels are rewatered. Turbidity pulses from the rewatering of Cochran Creek and Quail Slough and two ephemeral backwater features are not expected given the anticipated lack of flow in both features at the end of the construction period in late summer or early fall.

A second small turbidity pulse is expected during the first rain after construction. The post-project turbidity pulse should not exceed background turbidity typically present in the stream during rain events.

The potential impacts to hydrology and water quality will be reduced to a level of insignificance by implementing mitigation measures including:

- 9.1 Construction shall only occur between July 1st and October 31st when the ground surface is dry and to reduce the chance of stormwater runoff occurring during construction and when background freshwater inputs are at summer baseflow thresholds. Excavated materials shall not be stockpiled overwinter. Sediment control measures shall be in place while materials are being stockpiled to minimize sediment and pollutant transport from the project site.
- 9.2 Placement of fill in the project area shall occur when the area is not inundated by water.
- 9.3 Excavation shall include handling of saturated soils. Saturated soils shall be dewatered and/or transported saturated in a manner that prevents excess discharge or spillage of soils or water within the construction access areas. A silt fence shall be installed around the perimeter of temporary stockpiles of saturated soils to prevent runoff from leaving the site.
- 9.4 During construction, a silt fence shall be deployed to isolate work areas from existing channels, and to trap suspended sediment that might leave the construction site if stormwater runoff were to occur. If the silt fence is not adequately containing sediment, the construction activity shall cease until remedial measures are implemented that prevent sediment from entering the waters below.
- 9.5 No construction materials, debris, or waste shall be placed or stored where it may be allowed to enter or be washed by rainfall into waters of the U.S./State.
- 9.6 Following completion of excavation, placement of fill, and grading, all ground to the limits of disturbance (except newly constructed streambeds, pond beds, and tidally inundated areas) above 6 ft shall be treated for erosion prior to the onset of precipitation capable of generating run-off or the end of the yearly work period, whichever comes first. Treated areas that are not exposed to tidal influence shall be mulched with at least 2 to 4 inches of certified weed-free straw mulch with wheat or other straw for riparian and wetland areas

and rice straw for uplands and use of a seed mix with coverage equivalent to 100 lbs/acre of barley seed and appropriate riparian vegetation for immediate erosion control. No annual (Italian) ryegrass (*Lolium multiflorum*) shall be used.

- 9.7 All temporary fill, synthetic mats and silt fences shall be removed from wetlands and waters of the U.S./State immediately on cessation of construction. Biodegradable geotextile fabrics shall be used, where possible.
- 9.8 Soil and material stockpiles shall be properly protected to minimize sediment and pollutant transport from the construction site.
- 9.9 The following Best Management Practices (California Storm Water Quality Association Storm Water Best Management Practice (BMP) Handbook for Construction 2003) shall be implemented to prevent entry of storm water runoff into the excavation site, the entrainment of excavated contaminated materials leaving the site, and to prevent the entry of polluted storm water runoff into coastal waters during the transportation and storage of excavated contaminated materials:

EC-2 Preservation of Existing Vegetation. The best way to prevent erosion is to not disturb the land. In order to reduce the impacts of new development and redevelopment, projects may be designed to avoid disturbing land in sensitive areas of the site. To the extent feasible, and consistent with the project's design, goals, and objectives, some existing vegetation will be preserved on the site must be protected from mechanical and other injury while the land is being developed. The purpose of protecting existing vegetation is to ensure the survival of desirable vegetation for shade and erosion control (CSWQA 2003).

EC-6 Straw Mulch. Straw mulch is suitable for soil disturbed areas requiring temporary protection until permanent stabilization is established. Where appropriate, weed-free straw mulch will be used for erosion control on disturbed areas until soils can be prepared for permanent vegetation. Straw mulch is also used in combination with temporary and/or permanent seeding strategies to enhance plant establishment (CSWQA 2003).

EC-7 Geotextile and Mats. Mattings are commonly applied on short, steep slopes where erosion hazard is high, and vegetation will be slow to establish. Mattings are also used on stream banks where moving water at velocities between 3 ft/s and 6 ft/s are likely to wash out new vegetation, and in areas where the soil surface is disturbed and where existing vegetation has been removed. Where appropriate, matting may also be used when seeding cannot occur (e.g., late season construction and/or the arrival of an early rain season). Erosion control matting will be considered in portions of the project area where soils are fine grained and potentially erosive (CSWQA 2003).

EC-8 Wood Mulching. Wood mulching is suitable for disturbed soil areas requiring temporary protection until permanent stabilization is established. The primary function of wood mulching is to reduce erosion by protecting bare soil from rainfall impact, increasing infiltration, and reducing runoff (CSWQA 2003). Vegetation removed during

construction will be chipped on-site and reused as erosion control mulch where feasible and appropriate.

EC-9 Earth Dikes and Drainage Swales. The temporary earth dike is a berm or ridge of compacted soil, located in such a manner as to divert stormwater to a sediment trapping device or a stabilized outlet, thereby reducing the potential for erosion and offsite sedimentation. Where appropriate, earth dikes will also be used to divert runoff from off site and from undisturbed areas away from disturbed areas and to divert sheet flows away from unprotected slopes (CSWQA 2003).

EC-10 Velocity Dissipation Devices. Velocity dissipation devices can be used whenever discharge velocities and energies at the outlets of culverts, conduits, or channels are sufficient to erode the next downstream reach. Outlet protection is a physical device composed of rock, grouted riprap, or concrete rubble, which is placed at the outlet of a pipe or channel to prevent scour of the soil caused by concentrated, high velocity flows (CSWQA 2003). During the time of construction, the Elk River has typically low (zero m/s or close thereto) velocities. However, in the event of a significant summer/early fall rain event, the contractor will be prepared to mitigate potential erosion control impacts from storm peak velocities with a velocity dissipate device (e.g. on the dewatering bypass for the in-channel work components).

SE-1 Silt Fences. Silt fences are suitable for perimeter control, placed below areas where sheet flows discharge from the site. Where appropriate, they will be used as interior controls below disturbed areas where runoff may occur in the form of sheet and rill erosion. Silt fences are generally ineffective in locations where the flow is concentrated and are only applicable for sheet or overland flows. Silt fences are most effective when used in combination with erosion controls (CSWQA 2003).

NS-5 Clear Water Diversion. Clear water diversion consists of a system of structures and measures that intercept clear surface water runoff upstream of a project, transport it around the work area, and discharge it downstream with minimal water quality degradation from either the project construction operations or the construction of the diversion (CSWQA 2003). Dewatering the in-channel work areas and establishing a flow bypass will serve as the clear water diversion for the project.

WM-3 Stockpile Management. Stockpile Management procedures and practices will be designed to reduce or eliminate air and stormwater pollution from stockpiles of soil excavated from in-channel and floodplain areas (CSWQA 2003).

WM-9 Sanitary/Septic Waste Management. Proper sanitary and septic waste management prevent the discharge of pollutants to stormwater from sanitary and septic waste will be provided via convenient, well-maintained facilities, and arranging for regular service and disposal (CSWQA 2003)

Noise

The potential exists for impacts to people from exposure to noise levels in excess of local plans and standard from the use of construction equipment. Noise resulting from this project will be

compliant with Humboldt County's performance standard for short-term noise (N-S8). The daily maximum dBA for daily noise on agriculturally-zoned land, such as the project site, is 80 dBA.

The project may temporarily generate noise at the work site that exceeds 80 dBA for a short-term period when using heavy equipment. Workers in close proximity to operating equipment and equipment operators will be exposed to noise levels in excess of 80 db.

The potential impacts from noise will be mitigated to a level of insignificance by implementing mitigation measures including:

- 12.1 Workers shall be required to wear hearing protection when in the vicinity of or while operating equipment producing noise levels equal to or greater than 85 db.
- 12.2 Restrict noise from earthmoving and hauling of soils to daytime hours. Hours of construction for outdoor activities exceeding 80 dBA shall be limited to Monday through Friday 7:00 a.m. to 7:00 p.m. and weekends and holidays from 8:00 a.m. to 6:00 p.m. Movement and hauling of material, and associated activities such as re-fueling or maintenance, shall be limited to normal working hours for the area, as specified above. More restrictive operation hours may be specified in the construction documents and may be property-specific.
- 12.3 All equipment shall operate with factory-equipped mufflers, and staging areas shall be located as far from residential uses as is practical. These conditions shall be incorporated into project contract specifications.
- 12.4 Construction personnel shall conduct all work activities in a manner that minimizes noise generation. A variety of contractor actions are available that will reduce construction noise, including: i) turning off engines on all construction equipment not in active use, ii) shielding noisy equipment with less noisy equipment, and iii) avoiding high RPM engine operation whenever possible.
- 12.5 Notify commercial property neighbors when activity involving heavy construction equipment is scheduled to occur within 250 ft of occupied structures. Construction personnel shall provide written notification to the adjacent property owners prior to using heavy construction equipment. The written notification shall be provided to each potentially affected property at least 72 hours prior to the start of the activity and shall indicate the approximate duration of time (dates and hours) during which the noise-generating activity is expected to occur.

Cumulative Impacts

The MND also considered cumulative impacts of the project and determined that these impacts would be either insignificant or beneficial. The project, as proposed and mitigated, will not degrade the quality of the environment, substantially reduce fish or wildlife habitat, cause a fish or wildlife population to drop below self-sustaining, threaten a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

The project, as proposed and mitigated, will not cause environmental impacts that are cumulatively significant. The project does not have adverse impacts that are individually

limited, but cumulatively considerable. It is the goal of the project that the beneficial effects of tidal marsh restoration and habitat enhancement will be cumulative over time.

The project, as proposed and mitigated, is not expected to cause any substantial adverse environmental effects that will cause harm to human beings either directly or indirectly. The habitat enhancement and restoration actions implemented as part of this project will be beneficial to human beings.

Upon approval of the project, Conservancy staff will file a Notice of Determination.