

STATE OF CALIFORNIA
THE NATURAL RESOURCES AGENCY
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
MITIGATED NEGATIVE DECLARATION
FOR
THE 2025 FISHERIES RESTORATION GRANT PROGRAM'S MITIGATED NEGATIVE
DECLARATION PROJECT
IN
DEL NORTE, HUMBOLDT, MARIN, MENDOCINO, MONTEREY, SAN LUIS OBISPO,
SISKIYOU, AND SONOMA COUNTIES
AND
REQUIRED AGREEMENT REGARDING PROPOSED STREAM OR LAKE ALTERATION

Prepared By:

Fisheries Restoration Grant Program

This Report Has Been Prepared Pursuant to the
California Environmental Quality Act of 1970
State of California
The Resources Agency
California Department of Fish and Wildlife

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2025 FRGP MND, please contact FRGP staff at frgp@wildlife.ca.gov.

INITIAL STUDY
AND
MITIGATED NEGATIVE DECLARATION
FOR
THE 2024 FISHERIES RESTORATION GRANT PROGRAM'S MITIGATED NEGATIVE
DECLARATION PROJECT
IN
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The Project: This project uses grant funds approved by the California Legislature to initiate activities that are designed to restore, enhance, and protect salmon and steelhead trout (*Oncorhynchus spp.*) habitat in coastal and central valley streams and watersheds. Years of poor land management within California's watersheds which combined with natural events has altered native habitats. This has limited the ability of fish to survive and successfully reproduce in coastal and central valley streams that historically produced large populations of salmon and steelhead trout. These proposed projects are designed to increase populations of wild anadromous fish in coastal and central valley streams by restoring ecological function to their habitat.

The project's objectives are to improve spawning success for adult salmon and steelhead trout as well as to increase survival for eggs, embryos, and rearing juvenile salmonids. Bank erosion and riparian enhancement treatments improve spawning conditions and embryo survival by reducing sediment yield to streams. Upslope road decommissioning or upgrading also help address these widespread problems. The replacement of migration barriers at stream crossings with bridges or natural stream bottom culverts allow adult and juvenile salmonids access to additional spawning and rearing habitats. The installation of instream habitat improvement structures recruit and sort spawning gravel for adult salmon and steelhead trout and create summer rearing pool and over-wintering habitat for juveniles.

The Finding: Although the projects may have the potential to cause minor short-term impacts on soil, vegetation, wildlife, water quality, and aquatic life, the measures that shall be incorporated into the project will lessen such impacts to a level that is less than significant (see initial study and environmental checklist).

Basis for the Finding: Based on the initial study, it was determined there would be no significant adverse environmental effects resulting from implementing the proposed project. In addition, the project is expected to achieve a net benefit to the environment by enhancing and maintaining quality salmonid spawning and rearing habitat in the project area. The California Department of Fish and Wildlife (CDFW) finds that implementing the proposed projects will not have a significant environmental impact. Therefore, this mitigated negative declaration is filed pursuant to the California Environmental Quality Act (CEQA), Public Resources Code (PRC) § 21080 (c2) and California Code of Regulation (CCR) Title 14 § 763. This proposed mitigated negative declaration consists of all of the following:

- **Introduction - Project Description and Background Information**
- **Initial Study Environmental Checklist Form**
- **Explanation of Response to Initial Study Environmental Checklist Form**
- **Appendix A.**
 - **Non-Physical Items**
 - **Action Items**
 - **State-Wide Action Items Location Maps**
- **Appendix B. Mitigation Measures, Monitoring and Reporting Program For the 2025 Fisheries Restoration Grant Program's Mitigated Negative Declaration Project**
- **Appendix C. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities**
- **Appendix D. Procedure for the Programmatic Evaluation of Paleontological Resources for the 2025 Fisheries Restoration Grant Program's Mitigated Negative Declaration Project**
- **Appendix E. Procedure for the Programmatic Evaluation of Archaeological Resources for the 2025 Fisheries Restoration Grant Program's Mitigated Negative Declaration Project**

DETAILED PROJECT DESCRIPTION AND BACKGROUND INFORMATION
FOR
THE 2025 FISHERIES RESTORATION GRANT PROGRAM's MITIGATED NEGATIVE
DECLARATION PROJECT
IN
DEL NORTE, HUMBOLDT, MARIN, MENDOCINO, MONTEREY, SAN LUIS
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INTRODUCTION

The 2025 Fisheries Restoration Grant Program's Mitigated Negative Declaration (2025 FRGP MND) project is awarding Fisheries Restoration Grant Program (FRGP) for projects in Del Norte, Humboldt, Marin, Mendocino, Monterey, San Luis Obispo, Siskiyou, and Sonoma counties. These projects are subject to review under the California Environmental Quality Act (CEQA) (PRC § 21000 et seq.). CDFW received 53 applications in response to its 2025 FRGP Proposal Solicitation Notice. For some of those applications, a lead agency has already prepared an environmental impact report or negative declaration for its approval of the project proposed in the application. Accordingly, the projects proposed in such applications are not included in this Initial Study and MND but still may be considered for funding and are not included in the 24 projects listed in this document.

CDFW conducted administrative reviews on all applications it received in response to its 2025 FRGP Proposal Solicitation Notice and technical reviews on all applications that passed administrative review. Based on those reviews, the CDFW is considering funding, in whole or in part, up to 24 habitat restoration items that are included in this Initial Study and MND: 18 action items and 6 non-physical items. At the time this document is being prepared, CDFW has not made final funding decisions on these items. Therefore, some of the projects described in this document may not receive funding from the CDFW. Projects not selected for funding from the CDFW would then be void from using this CEQA document. This analysis includes all 24 habitat restoration items in order to disclose the greatest possible potential impacts that could result from CDFW's implementation of the 2025 FRGP MND project.

The 18 action items, which are discussed in detail in the environmental analysis that follows (listed in Appendix A, Action Items) are the principal focus of the environmental analysis set forth below.

The 6 non-physical items are proposed to be carried out within various counties of California. These non-physical items involve activities such as watershed evaluation, assessment, project planning, technical training, monitoring, and public involvement. Each of these non-physical items are identified in Appendix A, Non-Physical Items. If reviewed individually, these items would likely be appropriate for categorical exemptions such as CEQA Guidelines § 15262 (Feasibility and Planning Studies), § 15306 (Information Collection), § 15313 (Acquisition of Lands for Wildlife

Conservation Purposes), and § 15321 (Enforcement Actions by Regulatory Agencies). However, as part of the 2025 FRGP MND project, these items are included within the analysis of this Initial Study and MND. Because these items are limited to non-physical activities that would not be anticipated to result in any environmental impacts or result in significant impacts due to unusual circumstances, they would not incrementally add to any potentially significant impacts that may result from the physical items. Therefore, these non-physical items are not discussed further in the analysis.

The initial study and MND also serve to address potential environmental impacts that may occur to the extent an individual restoration activity requires a Lake and Streambed Alteration Agreement (LSAA) from the CDFW (See Fish and Game Code, § 1600 et seq.). Construction of all or a portion of some of the individual restoration activities may occur in subsequent years, depending on the terms for each individual 2025 FRGP MND Project grant awarded by the CDFW.

PROJECT GOAL AND OBJECTIVES

The primary goal of the 2025 FRGP MND project is to maintain and restore natural watershed and river processes that create habitat characteristics favorable to salmonids and surrounding species.

The objectives of the 2025 FRGP MND action items are to enhance the capability of streams to produce wild anadromous salmonids by maintaining, restoring, and improving stream function essential to salmonid production.

Finally, it is the CDFW's objective to implement this project while not causing a significant adverse effect on the environment or reducing the number or restricting the range of an endangered, threatened, or rare species.

BACKGROUND

The CDFW may grant funds for habitat restoration to public and nonprofit organizations and Native American Tribes. Sections 1501 and 1501.5 of the Fish and Game Code and Section 6217.1 of the Public Resources Code pertain to activities funded by the CDFW.

The FRGP was established in 1981 and is administered by the CDFW. This program was initiated by the precipitous drop in the population of fish in coastal streams, mainly salmon and steelhead trout. This program was developed as a mechanism to administer grant funds designated for the restoration of fish populations. Through the past several decades to the present time, funds allocated by the California Legislature have been used in this grant program in an effort to rebuild fish populations (see Fish and Game Code § 6900 et seq.). Initially, grants were awarded in three categories: stream restoration, fish rearing, and education. Since 1997, a more holistic restoration approach has been emphasized that facilitates habitat enhancement throughout the watershed.

There are many factors responsible for the decline of California salmon and steelhead trout stocks. One important factor is the degradation of stream habitats. Activities in watersheds including logging, mining, road building, livestock grazing, water diversions, urban sprawl and dam construction have seriously impacted the

ability of fish to survive and reproduce. For example, excessive fine sediment has reduced egg and fry survival, removal of riparian vegetation has contributed to increased water temperatures, water diversions, and culverts have impaired habitats and dams have blocked fish passage. Habitat destruction has been instrumental in drastically reducing native anadromous fish populations. Natural events such as wildfire, drought, and floods have exacerbated these problems and accelerated the alteration of habitat further. The resulting decline in fish populations has caused extreme financial hardship to a once thriving commercial fishery and drastically reduced, or in some cases eliminated, a very popular sport fishery. Poor ocean conditions resulting in the collapse of the marine food chain along with the various factors stated above has culminated in the population crash of the Central Valley Chinook Salmon (*Oncorhynchus tshawytscha*) in 2008 and 2009. This event prompted the closure of recreational and commercial ocean salmon season in 2008 and 2009. Most stocks have been reduced to the point where listing under the Federal and State Endangered Species Acts has become necessary.

Climate change is intensifying droughts, increasing pressure on water resources and ecosystems. Droughts in 2012-2016 and 2019-2022 have added to the decline in salmon and steelhead populations. In 2023, 2024, and 2025 recreational and commercial ocean salmon fishing was closed.

The FRGP was instituted because the critical need to restore salmon and steelhead trout habitat was recognized. Guided by the *California Salmonid Stream Habitat Restoration Manual* 4th Edition (Flosi et al., 2010), hundreds of habitat restoration actions funded by the FRGP have been completed by government agencies, Indian Tribes and nonprofit groups. Activities have included revegetation with livestock exclusion fencing, riparian planting, removal of barriers to fish passage, bank stabilization and other bank protection structures, decommissioning of roads, and improving drainage systems on existing roads. Instream structures such as boulder clusters, wing deflectors, and log cover have also been used. Road crossings that have impeded fish migration have been replaced with bridges or culverts with natural stream bottoms allowing fish to access additional stream reaches. Confined channels are widened, and floodplains are reactivated for refuge and rearing habitat. Other watershed improvement activities include installation of fish screens to prevent entrainment of juvenile salmon and steelhead trout. These actions create spawning and nursery habitat, provide escape cover and prevent fine sediments from entering streams. Project monitoring has shown significant habitat improvements in streams where this work has taken place. As this program continues, there is an expected gradual rebuilding of salmon and steelhead trout populations.

PROJECT LOCATION

Activities performed in the 2025 FRGP MND occur in watersheds that have been subjected to significant levels of logging, road building, mining, grazing, and other activities that have reduced the quality and quantity of stream habitat available for native anadromous fish.

Coastal watersheds previously dominated by mature redwood and Douglas fir forests, contain extensive road and skid trail systems from tractor logging. These previous mature, forested areas can now be found in various seral stages of

vegetative recovery and are predominate in the coastal FRGP region. Action items are implemented within the stream course to improve fish habitat. Upslope restoration actions improve fish habitat by reducing the input of fine sediment to the stream environment. Coastal locations such as estuaries, coastal wetlands, and salt marshes.

Inland locations are usually in watersheds dominated by pine and fir forests, often with steep unstable terrain; some inland locations are in valley areas adjacent to agricultural use. Most restoration activities are intended to reduce sediment delivery to streams and provide spawning and rearing habitat in the streams. Streams flowing through valley areas will be treated to stabilize stream banks and increase riparian vegetation. Map 1 illustrates the FRGP geographic range, which include the coastal limits of anadromy and the inland range of anadromy in the Central Valley.

Fisheries Restoration Grant Program Geographic Project Scope



Map 1. Area covered by FRGP

SCHEDULE

The activities carried out in the 2025 FRGP MND project will typically occur during the annual period of dry weather. Stream work is normally confined to the period of June 15 through November 1 or the first significant fall rainfall, whichever comes first. This is to take advantage of low stream flows and is outside the spawning and egg/alevin incubation period of salmon and steelhead trout.

Generally, upslope work occurs during the same approximate period. Road decommissioning and other sediment reduction activities are dependent on soil moisture content. Equipment access on dirt roads and the ability of equipment to move soil is inhibited by wet conditions. The scheduling of upslope work may also be affected by the avoidance of nesting or breeding seasons of birds and terrestrial animals.

Some activities may continue after November 1, but the extent of such activities is limited through grant conditions and compliance with any required permit. Post-November 1 activities are generally limited to hand planting of tree seedlings, which typically does not begin until December 1 and may continue until the end of March. Planting during the wet season is necessary to ensure the best survival of seedlings.

PROJECT DESCRIPTION

The CDFW releases an annual FRGP Proposal Solicitation Notice (Solicitation) for proposals to fund fishery restoration, watershed assessment, and planning work throughout California. CDFW received 53 applications in response to its 2025 FRGP Proposal Solicitation Notice. For some of those applications, a lead agency has already prepared an environmental impact report or negative declaration for its approval of the project proposed in the application. Accordingly, the projects proposed in such applications are not included in this Initial Study and MND. CDFW conducted administrative reviews on all applications it received in response to its 2025 FRGP Proposal Solicitation Notice and technical reviews on all applications that passed administrative review. That process involved consideration of benefits to the fishery resources; the benefit for targeted species; project costs; potential environmental impacts of proposed projects; and the need for work in particular drainages or sites, which utilized various watershed assessment and planning work done by CDFW and others, including work previously funded through the FRGP. Based on those reviews, CDFW is considering funding up to 26 habitat restoration items that are included in this Initial Study and MND: 18 action items and 6 non-physical items. Those 26 habitat restoration items include funding proposals for projects in Del Norte, Humboldt, Marin, Mendocino, Monterey, San Luis Obispo, Siskiyou, and Sonoma counties. Prior to making final funding decisions, the Director of CDFW will consider the recommendations of the 2025 FRGP Technical Review Team and this MND together with any comments received during the public review process for this MND. CDFW will then develop and execute grant agreements for the non-physical and action items selected for funding.

The 2025 FRGP MND operates under two Regional General Permits (RGP) issued by the U.S. Army Corps of Engineers (USACE). These permits cover most of the action items in the 2025 FRGP MND project. RGP-12 (file number: SPN-2003-279220) was issued in 2022 by the USACE San Francisco District and covers action items implemented within the regulatory boundaries of the San Francisco District. RGP-78 (file number: SPL-2019-00120-CLH) was issued in 2024 by the USACE Los Angeles District and covers action items implemented within the regulatory boundaries of the Los Angeles District. The RGPs allow the CDFW, grantees, and other individuals and groups to conduct fishery habitat restoration activities using methods described in the *California Salmonid Stream Habitat Restoration Manual* 4th edition (Flosi et al 2010) and [Other FRGP Approved Restoration Guidelines and Manuals for Salmon and Steelhead Habitat Restoration \(PDF\)](#) that have been evaluated by CDFW biologists. The National Oceanic and Atmospheric Administration (NOAA) and the U.S. Fish and Wildlife Service (USFWS) have issued biological opinions, which are incorporated into the corresponding RGPs. The biological opinions address the impacts of the 2025 FRGP MND project and stipulate the mitigations that shall be implemented to avoid and/or minimize impacts to listed species.

CDFW will submit an application for a programmatic Section 401 Water Quality Certification to the State Water Resources Control Board for the 2025 FRGP MND project items covered by the RGP-12 and RGP-78. That application will include a description of project work and methods to prevent impacts to water quality.

The CDFW's Lake and Streambed Alteration Agreement process (Fish and Game Code § 1600 et seq.) is an integral part of stream restoration planning and implementation. An agreement is developed for each Action Item, which defines required measures to minimize disturbance to the stream environment. Procedures to accomplish this task are contained in the CDFW Lake and Streambed Alteration Program (1600) webpage <https://www.wildlife.ca.gov/Conservation/LSA>. Activities such as installing replacement culverts to provide fish passage, operating equipment in or near streams, and installing bank stabilizing structures are all discussed in the context of minimizing impacts, and all required measures for species protection discussed in this document are incorporated into the agreement for each project.

All features of this project requiring CEQA review are being provided in sufficient detail to facilitate public review and clearly define the environmental evaluation. In order to achieve this goal, the 2025 FRGP MND project items are considered to fall into two categories corresponding to similar activities and requirements for CEQA review. These two categories of items are as follows.

Public Involvement, Planning, Research, Monitoring, and Habitat Acquisition – Non-physical Items

Non-physical items in this category include watershed evaluation, assessment, planning, habitat acquisition, and monitoring projects. The names of these 6 non-physical items are listed in Appendix A, Non-physical Items. The non-physical items are all appropriate for either statutory or categorical exemptions under CEQA Guidelines § 15262 (Feasibility and Planning Studies), § 15306 (Information Collection), § 15313 (Acquisition of Lands for Wildlife Conservation Purposes), and § 15321 (Enforcement Actions by Regulatory Agencies). These non-physical items will not have a significant effect on physical conditions including land, air, water, minerals, plants, animals, ambient noise, historic sites, or aesthetics. Accordingly, these types of non-physical items will not be discussed further in this document.

Restoration Element - Action Items

There is a notable difference in the level of activity found under this category. The names of the 18 action items (action items) in this category are presented in a list in Appendix A, Action Items. The location of each action item is illustrated on a statewide and on CDFW regional level maps in Appendix A. A detailed description of each Action Item in this element is also located in Appendix A, sorted by county.

Stream bank stabilization may include the use of boulder and cobble armoring of eroding banks, log cribbing, willow mattresses, or willow siltation baffles. Revegetation of riparian habitat normally involves the use of willow sprigs or willow or alder seedlings or transplants to stabilize banks and slopes, promote long-term shade and channel stability, and enhance large-wood recruitment. Indigenous stocks (when available) shall be used for all planting projects. Upslope earthmoving and culvert replacement require large size material and increased volumes to be moved by heavy equipment and, in so doing, involve certain limited construction activities. The techniques that are used for these action items have proven successful on many coastal streams and are detailed in the current version of the *California Salmonid Stream Habitat Restoration Manual* 4th edition. This manual describes in detail how the work shall be performed in the field. Additional techniques that have proven successful include [Other FRGP Approved Restoration Guidelines and Manuals for Salmon and Steelhead Habitat Restoration \(PDF\)](#) and may be used by Action Item projects.

Typically, stream habitat restoration activities use dump trucks to deliver logs, root wads, or quarry rock to staging areas, and front-end loaders to deliver material to restoration sites. Existing stream crossings are used to access the stream in most cases. If stream crossings do not exist, the least damaging access points are selected based upon the size, type, and density of riparian vegetation. Where use of such access points is necessary, riparian vegetation can be affected, particularly the upper part of plants may be damaged, with the roots and lower parts receiving minimal damage. Plants damaged in this way usually re-sprout and recover. Access to restoration activity sites are identified before implementation of the action item and shall not create bank erosion or cause the removal of riparian trees. Staging areas at the activity sites are set up on dry stream banks where there is a minimum, and less than significant, impact to vegetation. Disturbed or bare mineral soils resulting from work activities, which are subject to surface erosion, are seeded and straw mulched.

Hydraulic excavators or other equipment may be used to excavate trenches or keyways in stream banks to anchor logs or boulder structures. Excavators are used to place materials, construct instream structures, and stabilize stream banks with boulders and logs. Willow cuttings are usually placed into the keyway trenches around the logs or boulders and then the trench is backfilled with cobble and native soil. This procedure anchors the structure into the stream bank, accelerates the establishment of willows around the structure, and prevents the stream from scouring around the newly placed structure.

All work, except for the revegetation, shall take place during the summer and fall (low flow period) and shall be completed by November 1 or before the first significant seasonal rainfall, whichever comes first. Planting of seedlings takes place

after December 1, or when sufficient rainfall has occurred, to ensure the best chance of survival of the seedlings, but in no case later than April 15. All habitat improvements shall be done in accordance with techniques described in the *California Salmonid Stream Habitat Restoration Manual* 4th edition and or [Other FRGP Approved Restoration Guidelines and Manuals for Salmon and Steelhead Habitat Restoration \(PDF\)](#).

Upslope action items upgrade or decommission roads by implementing all or part of the following tasks: road ripping or decompacting; installing or maintaining rolling dips (critical dips); installing or maintaining waterbars and crossroad drains; replacing, maintaining or cleaning culverts; outsloping roadbeds; re-vegetating work sites; and excavating stream crossings with spoils stored on site or end-hauled.

Sites which are expected to erode and deliver sediment to the stream are the only locations where work shall be authorized under this category. Work shall not be authorized to improve aesthetic values only.

Removal of road and skid trails shall include retrieving unstable material sidecast during original road construction and excavation of stream crossings and other watercourse fill. Stream crossings shall be excavated to original width, depth, and slope to expose natural channel morphology and armor. Side slopes will generally match original contours above and below the road. Culverts that are replaced in fish bearing reaches of streams shall be done in a manner to allow for unimpeded upstream and downstream fish passage.

When fill material is placed on road benches for permanent storage, the road bench shall be ripped or decompacted first. The fill shall then be placed against the cutbank and shaped to blend with the surrounding topography that existed prior to road construction. Outsloping of the roadbed will occur as needed, to reduce potential sediment delivery to the stream where there is insufficient fill available to recontour the site, or where there is evidence that the overall long-term stability of the site does not justify a full recontour treatment. Where practical, fill shall be compacted to the top of the filled cut to reduce the potential for fill cut failure. Spoil material shall be stored in stable locations where it will not erode. If stable spoils storage sites are not available within the project area, they will be end-hauled to a stable storage site outside of the project area. Areas chosen for this purpose shall be devoid of tree and shrub vegetation. Upon completion of each site, woody debris shall be scattered over the surface of the restored area as mulch.

Road crossing removal may involve some removal of vegetation that has grown in sediment that has been deposited upslope of road prisms. Most of this vegetation shall be used as coarse wood mulch on bare soils to reduce surface erosion. Some of the material shall be transplanted on-site as one component of the restoration action items. In all cases, disruption of existing vegetation shall be minimized.

Culvert replacement requires diverting stream flow around the project site and excavating the existing culvert with heavy equipment. Normally concrete footings are constructed to support a new bottomless culvert or bridge. If appropriate, grade control structures are incorporated into the project area to prevent excessive down-cutting of the stream. All work concerning culvert replacement shall be consistent with current CDFW and NOAA criteria concerning fish passage. Current NOAA fish passage guidelines can be found on the web at:

http://www.westcoast.fisheries.noaa.gov/fish_passage/solutions/index.html. CDFW fish passage guidelines can be found in Volume II, Part IX of the *California Salmonid Stream Habitat Restoration Manual* 4th edition, available at <http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>.

Appendix A contains a list of major Action Item titles, locations, and descriptions of work that shall be implemented at each site. The action item designs are reviewed by the CDFW and are implemented by grantees utilizing heavy equipment and some hand labor crews. During a pre-project inspection, the grantee and the CDFW will tour the entire activity area and identify the sites and techniques necessary to carry out the recommendations. The site-specific recommendations shall be listed in an inspection report, which will be acknowledged by the grantee's signature, as a required element of the activity. The CDFW shall continue to inspect the work site during and after completion of the action item. All road upgrading, or decommissioning shall be done in accordance with techniques described in Volume II, Part X of the *California Salmonid Stream Habitat Restoration Manual* 4th edition.

All culvert replacement projects shall be done in accordance with techniques and criteria consistent with current CDFW and NOAA guidelines concerning fish passage. Implementation of each major action item shall be conditioned and controlled to prevent any potentially significant impacts under CEQA.

Complete site plans and prescriptions for action and non-physical items located in Del Norte, Humboldt, Mendocino, and Siskiyou counties are available for review at the California Department of Fish and Wildlife, Northern Regional Office at 1455 Sandy Prairie Court, Suite J, Fortuna, California 95540. For an appointment to view this information, contact Senior Environmental Scientist, Trevor Tollefson at (707) 725-1072, Monday through Friday, between the hours of 9 a.m. and 4 p.m.

Complete site plans and prescriptions for action and non-physical items located in Marin and Sonoma counties are available for review at the California Department of Fish and Wildlife, Bay Delta Region, office of Environmental Scientist, Matt Erickson, 2825 Cordelia Road, Suite 200 Fairfield, CA 94534. Appointments may be made by telephoning (707) 210-7007, Monday through Friday, between the hours of 9 a.m. and 4 p.m.

Complete site plans and prescriptions for action and non-physical items located in Monterey and San Luis Obispo county are available for review at the California Department of Fish and Wildlife, Central Regional Office at 20 Lower Ragsdale Dr., Suite 100, Monterey, CA 93940. For an appointment to view this information, contact Environmental Scientist, Megan Rooney at (559) 203-2792, Monday through Friday, between the hours of 9 a.m. and 4 p.m.

Environmental Assessment of Each Major Action Item

Each action item is assigned to the appropriate category using the established criteria for each category. The work to be completed for each action item is carefully evaluated to make this determination. Once this evaluation process is completed, the action items described under the Restoration Element - Major Action Items section, are subjected to a systematic environmental analysis. This analysis ultimately prescribes site-specific conditions, which must be applied in order to avoid potentially significant negative effects on the environment, cultural resources, including such effects on endangered, rare, or threatened species and their habitat.

First, all major action items listed in Appendix A shall comply with CDFW policies to conduct cultural resource surveys, including archaeological or paleontological surveys (if necessary). A qualified cultural resource specialist(s) shall be contracted by the grantee to complete the surveys using standard protocols. Research shall be done on available cultural data repositories and a review of cultural resources with regional experts to identify possible areas of importance within the action item project area will occur. Site-specific detailed research shall be done for projects sites deemed likely to encounter cultural resources (Appendices C & D). Review of cultural surveys shall be completed prior to any ground disturbing activities. If any potentially significant impact cannot be avoided, the action item shall not be implemented. Any site-specific recommendations made by a qualified cultural specialist, to avoid any potentially significant impacts shall become part of the work plan and incorporated into the measures required in the issued Lake and Streambed Alteration Agreement (Fish and Game Code § 1600 et seq.). The CDFW's grant managers shall ensure that the grantee or responsible party is aware of, and implements, these site-specific conditions during routine inspections. The CDFW shall inspect the work site before, during, and after completion of the action item. Any violation of the specific recommendations shall be immediately rectified. Failure, or inability, to rectify a particular recommendation shall cause all work to cease until a remediation plan is developed that avoids the potentially significant impact.

Second, major action items listed in Appendix A shall comply with CDFW policies to protect rare, endangered, and listed animal species. A review of the CDFW's CNDDDB for 9 Quad areas surrounding the project location indicated which animal species found on a State or Federal special status list may be present at the work sites. This site-specific information is also attached to each Statement Of Work in Appendix A. Mitigation measures to avoid impacts to these species are presented along with other mitigation measures in Appendix B; Mitigation Measures, Monitoring and Reporting Program. In the absence of site-specific information, species identified as having potential to be affected at a work site shall be assumed present at the work site and mitigation measures to avoid impact to that species shall be implemented. Any site-specific surveys to confirm the presence, or absence, of a listed animal species at a work site will be performed by qualified biologists according to protocols described in Appendix B. Lake and Streambed Alteration Agreements and grants for each site shall be conditioned to avoid impacts to any special status species that could potentially be affected at that site. The CDFW shall ensure that the grantee or responsible party is aware of all specific conditions that apply to their work site. In addition, the CDFW shall inspect the work site before, during, and after completion of

the action item to ensure compliance with mitigation measures to avoid potential impacts to endangered, rare, or threatened species. Any violation of the specific recommendations shall be immediately rectified. Failure or inability to rectify a particular recommendation will cause all work to cease at that site until a remediation plan is developed.

Third, major action items listed in Appendix A shall comply with CDFW policies to conduct rare plant surveys. A qualified botanist shall be contracted by the grantee to complete the surveys using standard protocols. Rare plant surveys shall be conducted following the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (California Department of Fish and Wildlife, 2018), Appendix C. A review of the CDFW's current California Natural Diversity Data Base (CNDDB) for each project located in the entire seven-county programmatic project area is attached to the statement of work for each major action item listed in Appendix A. These reviews indicate which plant species found on a State or Federal special status list could potentially be affected at the work sites. Rare plant surveys shall be completed prior to any ground disturbing activities. If any potentially significant impact cannot be avoided, the action item shall not be implemented. Any site-specific recommendations made by a CDFW biologist, or other qualified biological consultant, to avoid any potentially significant impacts shall become part of the work plan and incorporated into the measures required in the issued Lake and Streambed Alteration Agreement (Fish and Game Code § 1600 et seq.). The CDFW's grant managers shall ensure that the grantee or responsible party is aware of, and implements, these site-specific conditions during routine inspections. The CDFW shall inspect the work site before, during, and after completion of the action item. Any violation of the specific recommendations shall be immediately rectified. Failure, or inability, to rectify a particular recommendation shall cause all work to cease until a remediation plan is developed that avoids the potentially significant impact.

Through careful design, scheduling, and monitoring, all potentially significant impacts associated with the action items shall be avoided or mitigated to below a level of significance under CEQA. To ensure that each action item adheres to avoidance and mitigation measures, a CDFW grant manager is assigned to each action item to oversee implementation. Additional details regarding implementation of action items, including required mitigation measures, are detailed in the environmental checklist section below.

Monitoring

Project monitoring is considered an important element in the activity development and implementation process. The monitoring process provides performance control during the activity and helps provide a measure of the benefits, insight, and guidance for future projects.

Activity during implementation is overseen by a CDFW grant manager and is geared to ensure that all regulatory environmental issues are strictly addressed including air, water, and avoiding impacts to sensitive plant and animal species. During implementation, activities are carefully monitored to make sure plans are followed and that the correct materials and techniques are used so that the objectives of the activities are met while protecting the environment.

Post-activity monitoring begins with information collected immediately after the activity is completed and documents whether the project was completed as designed and according to grant specifications. This information includes documenting the exact location where the activity has occurred with reference points and survey marks. Final project reports should contain "as-built" descriptions with design drawings and photographs (both before and after the activity) are collected. A complete activity description including the objectives of the activity must be retained.

The next phase of post-activity monitoring is designed to assess the efficacy of the project and shall occur within one to three years after an action item is complete. The CDFW shall randomly select ten percent of the action items within each project work type for effectiveness/validation monitoring. A random sample, stratified by project type and region, shall be chosen from the pool of new restoration projects approved for funding each year. This evaluation shall be recorded on standard project evaluation forms. Effectiveness monitoring addresses the physical response associated with an activity, while validation monitoring evaluates fish response to the project. Pre-treatment monitoring shall be performed for newly selected projects, and post-treatment monitoring shall be performed within three years following project completion.

Complete monitoring specifications can be found in Volume I, Part VIII of the *California Salmonid Stream Habitat Restoration Manual* 4th edition (Flosi *et al* 2010) (<http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>). Additional details on monitoring and reporting requirements are presented in Appendix B.

REFERENCES

- California Department of Fish and Game. Lake and Streambed Alteration Program (1600) webpage <https://www.wildlife.ca.gov/Conservation/LSA>
- California Department of Fish and Game. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. The Resources Agency, State of California, Sacramento, CA.
- California Riparian Habitat Restoration Handbook. River Partners. 2009. The most current version of the manual is available at: <https://riverpartners.org/initiatives/riparian-restoration-handbook/>
- Fish Bulletin 183: The Use of Log and Boulder Weirs in Stream Habitat Restoration. Gary Flosi, Marjorie Caisley. California Dept. of Fish and Wildlife. 2024. The most current version of the manual is available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=223839&inline>
- Fish Bulletin 184: The Use of Large Wood in Stream Habitat Restoration. Gary Flosi, Marjorie Caisley, Mark Smelser. California Dept. of Fish and Wildlife. 2024. The most current version of the manual is available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=225220&inline>
- Flosi, G, S. Downie, J. Hopelain, M. Bird, R. Coey, and B. Collins. 1998, 2009, 2010. *California Salmonid Stream Habitat Restoration Manual*. Fourth Edition. Calif. Fish and Game. The most current version of the manual is available at: <http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>.
- Flosi, G, S. Downie, M. Bird, R. Coey, and B. Collins. 2003, 2006, 2009, 2010. *California Salmonid Stream Habitat Restoration Manual*. Volume II, Fourth Edition. Calif. Fish and Game. The most current version of the manual is available at: <http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>.
- Guidance for stream restoration. Steven E. Yochum. United States Department of Agriculture. 2018. The most current version of the manual is available at: <https://www.fs.usda.gov/biology/nsaec/assets/yochumusfs-nsaec-tn102-4guidancestreamrestoration.pdf>
- Guide to Placement of Wood, Boulders and Gravel for Habitat Restoration. State of Oregon. 2010. The most current version of the manual is available at: https://www.oregon.gov/ode/students-and-family/equity/NativeAmericanEducation/Documents/SB13%20Curriculum/Materials_Guide-to-Placement-of-Wood-Boulders-and-Gravel-for-Habitat-Restoration.pdf
- Hagans and Weaver. 1994. Handbook for Forest and Ranch Roads. 161 p. Prepared by William E. Weaver, Ph.D. and Danny K. Hagans, Pacific Watershed Associates for the Mendocino County Resource Conservation District, 405 Orchard Ave., Ukiah, CA 95482.
- Integrated streambank protection guidelines. Washington State Aquatic Habitat Guidelines Program. 2003. The most current version of the manual is available at: <https://wdfw.wa.gov/publications/00046>
- Low-tech Processbased Restoration of Riverscapes Design Manual. Joseph M. Wheton, Stephen N. Bennett, Nicolaas Bouwes, Jeremy M Maestas, and Scott M. Shahverdian, Editors. Utah State Restoration Consortium. 2019. The

- most current version of the manual is available at:
<https://lowtechpbr.restoration.usu.edu/>
- Oregon aquatic habitat: restoration and enhancement guide. The Oregon Plan for salmon and watersheds. 1999. The most current version of the manual is available at: <https://www.longtom.org/wp-content/uploads/2012/05/OR-Aquatic-Habitat-Restoration-Guide.pdf>
- Stream habitat restoration guidelines. Washington State Aquatic Habitat Guidelines Program. 2012. The most current version of the manual is available at: <https://wdfw.wa.gov/publications/01374>
- Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings. United States Forest Service. 2008. The most current version of the manual is available at: <https://www.nae.usace.army.mil/Portals/74/docs/regulatory/StreamRiverContinuity/USFSSStreamSimulationManual2009.pdf>
- The Beaver Restoration Guidebook: Working with Beaver to Restore Streams, Wetlands, and Floodplains. M.m. Pollock, G. Lewallen, K. Woodruff, C.E. Jordan and J.M. Castro (Editors). United States Fish and Wildlife Service 2015. The most current version of the manual is available at: <https://www.fws.gov/sites/default/files/documents/BRG%20v.1.0%20final%20reduced.pdf>

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐
VII. GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☒	☐	☐
X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☐	☒

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
i)	result in a substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
ii)	substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
iii)	create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
iv)	impede or redirect flood flows?	☐	☐	☐	☒
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

XI. LAND USE AND PLANNING. Would the project:

a)	Physically divide an established community?	☐	☐	☐	☒
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

XII. MINERAL RESOURCES. Would the project:

a)	Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?	☐	☐	☐	☒
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

XIII. NOISE. Would the project result in:

a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b)	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

XIV. POPULATION AND HOUSING. Would the project:

a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

XV. PUBLIC SERVICES. Would the project:

a)	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	☐	☐	☒	☐

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

XVI. RECREATION.

a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

XVII. TRANSPORTATION. Would the project:

a)	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b)	Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	☐	☐	☐	☒
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d)	Result in inadequate emergency access?	☐	☐	☐	☒

XVIII. TRIBAL CULTURAL RESOURCES.

a)	Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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:	☐	☒	☐	☐
i)	Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
ii)	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 Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:

a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

XXI. MANDATORY FINDINGS OF SIGNIFICANCE.

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

ENVIRONMENTAL CHECKLIST FORM

1. Project Title: The 2025 Fisheries Restoration Grant Program's Mitigated Negative Declaration Project in Del Norte, Humboldt, Marin, Mendocino, Monterey, San Luis Obispo, Siskiyou, and Sonoma county.

2. Lead Agency Name and Address:

State of California
Department of Fish and Wildlife
Watershed Restoration Grants Branch
P.O. Box 944209
Sacramento, CA 94244-2090

3. Contact People and Phone Numbers:

Timothy Chorey
(916) 838-0760
Watershed Restoration
Grants Branch, Fisheries
Restoration Grant Program
P.O. Box 944209
Sacramento, CA 94244-
2090

Trevor Tollefson
(707) 725-1072
Northern Region
1455 Sandy Prairie Ct.
Suite J
Fortuna, CA 95540

Matt Erickson
(707) 210-7007
Bay Delta Region
2825 Cordelia Road,
Suite 200
Fairfield, CA 94534

Kristine Atkinson
(559) 907-9416
Central Coast Region
20 Lower Ragsdale Drive,
Suite 100
Monterey, CA 93940

Deena Hanson
(562) 338-5885
South Coast Region
1933 Cliff Drive,
Suite 9
Santa Barbara, CA 93109

4. Project Location: Various sites in Del Norte, Humboldt, Marin, Mendocino, Monterey, San Luis Obispo, Siskiyou, and Sonoma county. (Appendix A).

5. Project Sponsor's Name and Address:

California Department of Fish and Wildlife
Fisheries Restoration Grant Program Headquarters
Watershed Restoration Grants Branch
P.O. Box 944209
Sacramento, CA 94244-2090

6. General Plan Designation: Various

7. Zoning: Various

8. Description of Project: Implementation of 18 action items for restoration of anadromous salmonid habitat (Appendix A). These action items include measures to improve anadromous fish passage, reduce erosion and sedimentation, enhance instream habitat, improve water quality, and improve juvenile survival.
9. Surrounding Land Uses and Setting: Briefly describe the project's surroundings: Action items will be surrounded by lands consisting of agriculture, private holdings, forests used for timber production as well as national, state, and county parks.
10. Other Public Agencies Whose Approval Is Required: U.S Army Corps of Engineers, North Coast Regional Water Quality Control Board, San Francisco Bay Regional Water Quality Control Board, and Central Coast Regional Water Quality Control Board, Los Angeles Regional Water Quality Control Board, and Central Valley Regional Water Quality Control Board.
11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code § 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.? CDFW reached out to traditionally and culturally affiliated California Native American tribes, if consultation is requested FRGP staff will begin consultation pursuant to Public Resources Code § 21080.3.1 immediately.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

This project will not have a "Potential Significant Impact" on any of the environmental factors listed above; therefore, no boxes are checked.

DETERMINATION:

On the basis of this initial evaluation:

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

DocuSigned by:

 64362E6C88464EB...
 Matt Wells
 Branch Chief, WRGB, CDFW

9/16/2025

EXPLANATION OF RESPONSES TO INITIAL STUDY ENVIRONMENTAL CHECKLIST

I. AESTHETICS

- a) The project will not have an adverse effect on a scenic vista. Such an impact will not occur because the project will stabilize, restore, and revegetate damaged and eroded sites to produce a more natural and aesthetically pleasing appearance.
- b) The project will not damage scenic resources such as trees, rock outcroppings, and historic buildings. Such an impact will not occur because the project will not disturb large trees or other scenic features in the process of restoring damaged sites.
- c) The project will not substantially degrade the existing visual character or quality of the work sites and their surroundings; nor will urbanized portions of the project conflict with applicable zoning and other regulations governing scenic quality. Such an impact will not occur because in most cases the restoration project will restore the natural character of disturbed sites. Where non-natural structures (such as fish screens) are constructed, they will be of small size and compatible with the appearance of their surroundings.
- d) The project will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area of the worksites. Such an impact will not occur because none of the action items for restoration style projects requires installation of artificial lighting.

II. AGRICULTURE AND FOREST RESOURCES

- a) The project will not 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 (FMMP) of the California Resources Agency, to non-agricultural use. Such an impact will not occur because most project worksites are located away from FMMP designated farmland. Project actions associated with farmland (such as fish screens) are designed to allow continued use of farmland with reduced impacts to anadromous salmonids.
- b) The project will not conflict with existing zoning for agricultural use or a Williamson Act contract. Fisheries habitat restoration actions will not change existing land use.
- c) The project will not conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timber zoned Timberland Production. Fisheries habitat restoration actions will not change existing land use.
- d) There will be no loss of forestland and the project will not result in the conversion of forestland to non-forest use. Road decommissioning projects in forestland will reduce fine sediment delivery to the streams while restoring forestland by planting with native vegetation.
- e) The project will not involve other changes in the existing environment, which due to their location or nature, could not result in conversion of farmland to non-agricultural

use. Fisheries habitat restoration actions either are away from, or are compatible with, existing agricultural uses.

III. AIR QUALITY

- a) The project will not conflict with or obstruct implementation of the applicable air quality plan. Such an impact will not occur because implementation of the project does not create any features that would be a source of air pollution.

The work window for restoration activities is generally limited from June 15 to November 1. Under a worst-case scenario, the most work that a project can have in a single field season is eighteen weeks and the most number of years a project has to be completed is four years. Based on the worst-case scenario, the CDFW finds that each restoration activity will not likely adversely affect air quality plans with the use of vehicle and heavy equipment because of the short duration of each restoration activity. For most projects, work does not occur for the entire eighteen-week field season and most restoration activities do not take four years to implement. In addition, projects do not need to be implemented in consecutive years. Thus, the amount of time it takes to complete a restoration activity varies. Additionally, not all projects require the use of heavy equipment (although heavy equipment may be used to transport materials to the work site) and not all projects occur simultaneously. Calculating the emissions from a single restoration activity to use as an example would not be representative of the other restoration activities in Appendix A for the reasons listed above.

- b) The project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors). Such an impact will not occur because the project involves no ongoing sources of air pollution.
- c) The project will not expose sensitive receptors to substantial pollutant concentrations. Such an impact will not occur because the project will not significantly increase pollutant concentrations.
- d) The project will not create objectionable odors affecting a substantial number of people. Project actions are designed to restore natural habitat conditions for salmonids and will not create any stagnant water that might produce objectionable odors.

IV. BIOLOGICAL RESOURCES

- a) The project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW), National Oceanic and Atmospheric Administration (NOAA) or U.S. Fish and Wildlife Service (USFWS). Such an impact will not occur because project activities are designed to improve and restore stream habitat, to provide a long-term benefit to both anadromous salmonids and other fish

and wildlife. The project will be implemented in a manner that will avoid short-term adverse impacts to rare plants and animals and cultural resources during construction; the mitigation measures that will be implemented to avoid short-term impacts to rare plants, animals and cultural resources are described in Appendices B, C, D, and E. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance. In addition,

Species Impacts for the following species include (mitigation measures are included in Appendix B):

i. **Arroyo Toad (*Anaxyrus californicus*)**

The arroyo toad was federally listed as endangered in 1994. Typically found in coastal areas, the toad ranges from Salinas River Basin in Monterey and San Luis Obispo Counties south to Arroyo San Simón in northern Baja California, México. The preferred habitat for arroyo toad during breeding season (February–July) includes low gradient sections of slow-moving streams which have adjacent stream terraces, sandbars, and shallow pools. In non-breeding months, this species can be found in a variety of upland habitats such as coastal sage scrub, chaparral, sycamore-cottonwood woodlands, oak, woodlands and grasslands.

During the implementation of a project, activities such as (but not limited to) channel dewatering, unscreened pumping, heavy equipment usage, work with hand tools, removal of riparian vegetation, spills from refueling vehicles, and introduction of non-native species into streams may have the potential to impact arroyo toad—this does not result in habitat removal and/or degradation. All impacts that occur are temporary and can be minimized to avoid take of the species. Furthermore, many of these projects involve restoring the riparian corridor that is absent.

ii. **Crotch's Bumble Bee (*Bombus crotchii*), Franklin's Bumble Bee (*Bombus franklini*), Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*), and Western Bumble Bee (*Bombus occidentalis*)**

Four bumble bee species - Crotch's bumble bee (*Bombus crotchii*), western bumble bee (*Bombus occidentalis*), Franklin's bumble bee (*Bombus franklini*), and Suckley's cuckoo bumble bee (*Bombus suckleyi*) - are current candidates for listing under the California Endangered Species Act. Bumble bees are widespread and highly mobile in their nesting and foraging behaviors, making it challenging to determine the four species' distribution across the state. Crotch's bumble bees are more commonly identified throughout California than the other candidate species, however other species can sometimes be found throughout Northern and Central California.

The potential exists for project work to disrupt bumble bee nesting and foraging during the removal of vegetation or application of herbicides. Limiting such work during the spring and summer months and performing annual rounds of bumble

bee surveys to identify and avoid bumble bee nests will greatly reduce adverse effects. All impacts are temporary and can be minimized to avoid take of the species.

iii. **California Freshwater Shrimp (*Syncaris pacifica*)**

In 1998, the US Fish and Wildlife Service listed California freshwater shrimp as endangered. The distribution of California Freshwater Shrimp is limited to four drainage units in the California counties of Marin, Sonoma, and Napa: 1) tributary streams of the lower Russian River drainage, that flow westward to the Pacific Ocean, 2) coastal streams flowing westward directly into the Pacific Ocean, 3) streams draining into Tomales Bay, and 4) streams flowing southward into San Pablo Bay. California freshwater shrimp depend on the availability of slow-moving perennial water adjacent to continuous, stable, well-vegetated stream banks, or deep stable undercuts banks during winter high flows.

Salmonid restoration projects typically enhance or create habitat that is also suitable for California Freshwater Shrimp. Although project activities in wetted stream habitats may directly affect individuals when present, project activities in dry stream habitats will not have a direct impact on individuals. Mitigation measures are implemented to avoid directly impacting individuals when present however, some short term direct and indirect impacts can occur.

iv. **California Red-Legged Frog (*Rana draytonii*)**

The California red-legged frog (CRLF) was listed as threatened in the Federal Registry in 1996. This species is the largest native frog in the western United States and is primarily found in streams and drainages along the California coast, ranging from southern Mendocino County south to northwestern Baja California. An eastern extension of this population can be found in the Sierra Nevada foothills, though most of the species is found in Monterey, San Louis Obispo, and Santa Barbara counties. Individuals found in coastal areas are active year-round and those found farther inland are less active during the colder months. Breeding season is typically November through March, slightly earlier in southern regions. This species of frog prefers permanent quiet bodies of water but can be found in damp thickets and forest as well as along riparian corridors.

Impacts to the CRLF have the potential to occur during project implementation activities such as (but not limited to) channel dewatering, degradation of water quality, heavy equipment usage, work with hand tools, removal of riparian vegetation, spills from refueling vehicles, and introduction of non-native species into stream. All impacts that occur are temporary and can be minimized to avoid take of the species and does not result in habitat removal and/or degradation. Furthermore, many of these projects involve restoring the riparian corridor that is absent.

v. **California Tiger Salamander (*Ambystoma californiense*)**

The Central California population of California tiger salamander was federally listed as threatened in 2004 but had been endangered in Santa Barbara County since 2000 and in Sonoma County since 2002. The state of California listed the entire population as threatened in 2010. The salamander can be found coastally from Sonoma to Santa Barbara counties as well as in the Central Valley and surrounding foothills—primarily in grassland or open woodland areas from Alameda County south to Monterey County and east to Merced and Madera counties. This nocturnal salamander breeds during the rainy season (November – May) depositing egg masses in standing water. Outside of estivation, the California tiger salamander spends a majority of its time underground finding refuge in animal burrows.

Impacts to the species are highly unlikely as most implementation projects occur in or near the stream and riparian corridor. Upslope projects are typically limited to road upgrading and decommissioning in areas that are steep, eroding, and often in areas vegetated with trees and shrubs. The species uses ponds and vernal pools for breeding and grassland habitat for estivation, both of which are usually not in proximity to anadromous fish-bearing streams.

vi. **Chinook Salmon (*Oncorhynchus tshawytscha*), Coho Salmon (*Oncorhynchus kisutch*), Steelhead Trout (*Oncorhynchus mykiss*), and Coastal Cutthroat Trout (*Oncorhynchus clarki clarki*)**

Winter-run Chinook Salmon have been listed as endangered by the state since 1989 and federally since 1994. Spring-run Chinook Salmon were listed in 1999 as threatened by both the state of California and USFWS. Depending on the evolutionary significant unit (ESU) of the Coho Salmon, the species is listed either as threatened or endangered; federally since 1996 and by the state since 2005. In 1997, USFWS listed the distinct population segment (DPS) of the southern California steelhead as endangered. The four other DPS of steelhead trout (south central, central, Central Valley, and northern) have been federally listed as threatened as early as 1997. Northern California Summer steelhead DPS became a candidate species for state listing as endangered in 2019. Although was found to not constitute a DPS in February 2020 they have a small geographic range that includes the Mad, Eel, Van Duzen, and Mattole rivers, along with Redwood Creek in Humboldt and Mendocino counties. Although, Coastal Cutthroat Trout are not listed as threaten or endangered, they are listed as a species of special concern.

Salmonids can be found throughout the coastal and inland river systems of Northern and Central California. The salmonid lifecycle involves adults maturing in the ocean, migrating back to their natal streams to spawn, embryos incubate within redds, alevins hatching, fry emerging from redds, juveniles growing, and smolts migrating to the estuary to acclimate to saltwater before migrating to the ocean.

Habitat loss and modification are believed to be the major factors determining the current status of salmonid populations. Conservation and recovery of salmonid depend on having diverse habitats with connections among those habitats. While all of the work proposed under this program will enhance habitat for one or more of these species, impacts to the species have the potential to occur during project implementation activities such as, but not limited to, channel dewatering, disturbance of banks, and fish relocation. All impacts are temporary and can be minimized to avoid take of the species.

vii. **Foothill Yellow-Legged Frog (*Rana boylei*)**

The foothill yellow-legged frog (FYLF) was state listed as threatened and endangered in April 2020. The FYLF population was designated into six different clades; two were listed as threatened (Feather and Upper Feather River Watershed Clade, and the Northeast/Northern Sierra Clade), three were listed as endangered (East/Southern Sierra Clade, West/Central Coast Clade, and the Southwest/West Coast Clade), while the Northwest/North Coast Clade was determined not to be under any threat of extinction or endangerment in the near future. The FYLF inhabits lower elevation creeks, streams, and rivers. The species may be found in the project area. They breed in the spring and tadpoles emerge in the summer. The FYLF require flowing water, are not found in standing water, and will stay close to streams during breeding season.

Impacts to the FYLF have the potential to occur during project implementation activities such as, but not limited to, channel dewatering, degradation of water quality, heavy equipment usage, work with hand tools, removal of riparian vegetation, spills from refueling vehicles, and introduction of non-native species into stream. All impacts that may occur are temporary, can be minimized to avoid take of the species, and do not result in habitat removal and/or degradation. Furthermore, many of these projects involve restoring the riparian corridor that is absent or degraded.

viii. **Least Bell's Vireo (*Vireo bellii pusillus*)**

The Least Bell's Vireo was listed as endangered federally in 1986 and by the state in 1980. The breeding season distribution of these small, monogamous, territorial birds range from coastal southern California east to the foothill Central Valley with the majority of the population found in San Diego County (March – September). In colder, non-breeding months, the Least Bell's Vireo migrates south into Baja California. Many return to their same lowland riparian territory to breed, with some building nests in the same scrub used the previous year.

Impacts to the species have the potential to occur as a result of removal of riparian vegetation (willows and low scrub) during the spring and summer or from disturbance within a 0.25-mile radius of the sites. Typically, removal of riparian vegetation for the purpose of implementing a project does not occur but is minimal when it does. Many projects involve restoring the riparian corridor that is absent. Removal of willow branches for revegetation at restoration sites

has the potential to degrade existing Least Bell's Vireo habitat. Noise from heavy equipment has the potential to cause nesting birds to abandon nests. All impacts are temporary and can be minimized to avoid take of the species.

ix. **Marbled Murrelet (*Brachyramphus marmoratus*)**

In 1992, the Marbled Murrelet was federally listed as threatened and as endangered by the State. As coastal birds that range from Alaska to Santa Barbara County, CA, they can be found nesting and brooding along the California coastline in old growth or mature forests from April to September and possibly using the same nest in successive years. In the winter, they can be found using the same habitat for roosting and courtship.

Noise from heavy equipment has the potential to cause nesting birds to abandon nests. Limiting such work (e.g. culvert removal or placement of large woody debris) to the fall and winter months will greatly reduce adverse effects. Projects will not remove or degrade suitable habitat, only restore, and protect habitat.

x. **Northern Spotted Owl (*Strix occidentalis caurina*)**

The Northern Spotted Owl has been federally listed threatened since 1990 and has recently (2013) been listed as a threatened species candidate by the state of California. Old growth and mature forests of northwestern California and Pacific Northwest are the preferred habitat for these monogamous, territorial, medium-sized birds of prey. A pair of owls can occupy up to a 40 sq. km territory, nesting in hollow trees and cliff crevices from February to June.

Noise from heavy equipment has the potential to cause nesting birds to abandon nests. Preventing such work (e.g. culvert removal or placement of large woody debris) from occurring during February to July will greatly reduce adverse effects. Projects will not remove or degrade suitable habitat, only restore and protect habitat.

xi. **Point Arena Mountain Beaver (*Aplodontia rufa nigra*)**

In 1991, the US Fish and Wildlife listed the Point Arena mountain beaver (PAMB) as an endangered species. This beaver is a burrowing rodent found in coastal Mendocino County, in an area of approximately 24 square miles (from about two miles north of Bridgeport Landing south to about five miles south of the town of Point Arena, and from the coast to about five miles inland).

Mountain beaver inhabit underground burrow systems, associated with moist areas with well-drained soils and lush herbaceous vegetation. Populations of PAMB are typically found in riparian, coastal scrub or dune scrub habitats; however, they may occur in any habitat with brushy or herbaceous cover. The presence of PAMB is evaluated by surveying for burrows of characteristic size and shape, with signs of recent activity.

Potential impacts to PAMB from salmonid habitat improvement projects include disruption of nesting or other activities due to equipment noise; collapse or

damage to burrows from heavy equipment, riparian planting, or foot traffic; and removal of vegetation (such removal is usually temporary, but may nonetheless impact PAMB).

xii. **San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*)**

The San Francisco garter snake (SFGS) was federally listed as endangered in 1967 and by the State in 1970. The SFGS is listed as a fully protected species under Fish and Game Code Section 5050. Endemic to California, this multi-colored garter snake is only found from southern San Francisco County south to San Mateo County in grasslands or wetlands near ponds, marshes, and sloughs. Breeding season starts in spring. Females bare live young from June to September. Typically found in densely vegetative ponds nears hills however, the San Francisco garter snake will find animal burrows when ponds dry up in the summer months and will go into a dormant state.

Due to the fully protected status of the SFGS, potential for take of the SFGS will be avoided through the implementation of the avoidance measures listed in Appendix B: Mitigation measures, monitoring and reporting program for the 2024 Fisheries Restoration Grant Program's MND Project. "Take" is defined in Section 86 of the Fish and Game Code as catch, pursue, capture, or attempt to catch, pursue, and capture.

xiii. **Southwestern Willow Flycatcher (*Empidonax traillii extimus*)**

The Southwestern Willow Flycatcher (a sub species of the Willow Flycatcher, *Empidonax traillii*) was placed on the federal species list in 1995 as endangered. Extirpated from most of its California range, this small migratory bird has been reported to return to various river systems in southern California during breeding season. Breeding season is from May to September, with a majority of breeders returning to the same sites in areas of dense mature riparian woodlands along streams and rivers. Native vegetation is preferable for nesting, but this bird will also nest in thickets of non-native species (e.g. tamarisk and Russian olive).

Impacts to the Southwestern Willow Flycatcher have the potential to occur as a result of removal of riparian vegetation (willows and low scrub) during the spring and summer or from disturbance within a 0.25-mile radius of the sites. Typically, removal of riparian vegetation for the purpose of implementing a project does not occur but is minimal when it does. Many projects involve restoring the riparian corridor that is absent. Removal of willow branches for revegetation at restoration sites has the potential to degrade existing Southwestern Willow Flycatcher habitat. Noise from heavy equipment has the potential to cause nesting birds to abandon nests. All impacts are temporary and can be minimized to avoid take of the species.

xiv. **Yellow Billed Cuckoo (*Coccyzus americanus*)**

The western distinct population segment (DPS) of the yellow-billed cuckoo (*Coccyzus americanus*) was federally listed as threatened on November 3, 2014. While California historically hosted a large portion of the breeding population and the species nested at numerous sites primarily in coastal areas from San Diego to Sonoma County, the Central Valley from Kern County to Shasta County, and the lower Colorado River, the California population has decreased to a fraction of its estimated historical size. Breeding can occur from June through August with most cuckoos migrating south by mid-September. Nesting activity typically occurs between late June and late July, based on the availability of large insect prey and a sufficient block of riparian habitat. Cuckoos primarily use willow species such as Gooding's black willow (*Salix gooddingii*), red willow (*S. laevigata*), and coyote willow (*S. exigua*) for nesting and have open saucer type nests (similar to that of a Dove). Other tree species are occasionally used, including Fremont cottonwood (*Populus fremontii*) and alder.

Impacts to the yellow-billed cuckoo have the potential to occur as a result of removal of riparian vegetation and the noise from heavy equipment work during the summer months. Typically, removal of riparian vegetation for the purpose of implementing a project does not occur but is minimal when it does. Many projects involve restoring the riparian corridor that is absent. Removal of willow branches for revegetation at restoration sites has the potential to degrade existing yellow-billed cuckoo habitat. Noise from heavy equipment has the potential to cause nesting birds to abandon nests. All impacts are temporary and can be minimized to avoid take of the species.

xv. Tidewater Goby (*Eucyclogobius newberryi*)

Listed by the state of California for protection in 1987, and federally listed in 1994, the tidewater goby, which is endemic to California, are typically found in coastal lagoons, estuaries, and marshes with relatively low salinities. Tidewater gobies can withstand a range of habitat conditions: they have been documented in waters with salinity levels from 0 to 42 parts per thousands, temperatures from 8°C to 25°C, depths from 25 to 200cm, and dissolved oxygen levels of less than one milligram per liter. Reproduction occurs from late April or May to July and as late as November or December, depending on the seasonal temperature and rainfall.

Measures to reduce impacts to tidewater goby habitat will include adjusting the timing of projects to avoid disruption to breeding activities, the use of silt fencing to reduce sediment loads and as barricades around project sites, and installing cofferdams above and below project sites. Additional measures include, moving individual tidewater gobies found within the enclosures prior to dewatering, minimizing project areas, and requiring qualified biologists to oversee project activities.

xvi. **Little Willow Flycatcher (*Empidonax traillii brewsterii*)**

The Little Willow Flycatcher was listed as endangered by the State of California in 1990. This small migratory bird can be seen during their summer migration throughout a majority of northern and western US. In California, the Little Willow Flycatcher can be found primarily in dense moist willow thickets and riparian woodlands in northern California and along the western side of the Sierras. During spring (May to June), adults can be seen in north central California counties during the spring migration to their breeding sites farther north. Fall migration occurs primarily in August as the travel to the winter habitats in Central and South America.

Impacts to the Little Willow Flycatcher have the potential to occur as a result of removal of riparian vegetation (willows and low scrub) during the spring and summer or from disturbance within a 0.25-mile radius of the sites. Typically, removal of riparian vegetation for the purpose of implementing a project does not occur but is minimal when it does. Many projects involve restoring the riparian corridor that is absent. Removal of willow branches for revegetation at restoration sites has the potential to degrade existing Little Willow Flycatcher habitat. Noise from heavy equipment has the potential to cause nesting birds to abandon nests. All impacts are temporary and can be minimized to avoid take of the species

xvii. **Pacific Lamprey (*Entosphenus tridentatus*)**

The Pacific Lamprey (lamprey) was designated in 2015 as a State Species of Special Concern, as well as a United States Fish and Wildlife Service Species of Concern. This jawless eel-like in form fish is one of only two extant Agnathans remaining today. Similar to Pacific Salmon, lamprey are anadromous, semelparous, and were once historically abundant along the entire West Coast of North America, however their abundance has since declined, and their distribution shrunk. In California area that support lamprey populations vary considerably. Lamprey populations can be found “from cool mountain slopes to moist coastal drainages to arid southern chaparral” (Goodman and Reid 2012).

Impacts to the Pacific Lamprey have the potential to occur as a result of dewatering, flow management and passage barriers. Many projects require dewatering to enhance and restore stream habitat to ideal conditions that benefit lamprey. All impacts to both lamprey populations and habitat are temporary and are minimized to avoid take of the species.

- b) The project will not have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Wildlife or U. S. Fish and Wildlife Service. Such an impact will not occur because the project actions are designed to correct past habitat degradation and restore and enhance riparian habitat and associated upland habitats. In accordance with the Regional General Permits 12, 78, and the Clean Water Act § 401 Water Quality Certification,

construction of action items is allowed during the summer dry season (generally June 15-November 1) to avoid impacts to aquatic habitats. Work that is permitted after November 1 is limited to hand planting of seedlings. Planting of seedlings generally occurs after December 1, or when there is sufficient rainfall to ensure the best survival chance of the seedlings. Mitigation measures to avoid impacts to riparian habitat are found in Appendix B: Mitigation measures, monitoring, and reporting program for the 2024 Fisheries Restoration Grant Program (Section IV).

Furthermore, the CDFW LSAs include project-specific terms and conditions that set out reasonable measures determined by CDFW to be necessary to protect fish and wildlife resources that may be affected by the project.

- c) The project will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. The project actions will have either no effect on wetlands or will be beneficial to wetlands.
- d) The project will not substantially interfere 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. The project will enhance the movement of anadromous fish by the replacement or removal of culverts and bridges that are barriers to fish migration.
- e) The project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Such an impact will not occur because project actions are designed to restore and enhance biological resources. Some minor disturbance of grasses and shrubs will occur where stream structures are keyed into the stream banks. Care will be taken not to disturb any mature trees. Riparian vegetation will be reestablished where construction activities disturb existing plants, and additional native plants will be planted to enhance the riparian vegetation.
- f) The project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Such a conflict will not occur because the project restoration actions will not have a significant adverse impact on any species or habitat. Project actions are designed to restore the natural character of the fish and wildlife habitat at the project work sites. The project specifically supports the California Salmon, Steelhead Trout and Anadromous Fisheries Program Act (Fish and Game Code § 6900 et. seq.)

V. CULTURAL RESOURCES

- a) The project will not cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines § 15064.5. While ground disturbance will be required to implement the project at some work sites that have the potential to affect historical resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B,

Mitigation Measures, Monitoring and Reporting Program and Appendix E, Procedure for the Programmatic Evaluation of Archaeological Resources for all work sites. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

- b) The project will not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5. While ground disturbance will be required to implement the project at some work sites that have the potential to affect archaeological resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program for all work sites. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- c) The project will not disturb any human remains, including those interred outside of formal cemeteries. While ground disturbance will be required to implement the project at some work sites that have the potential to affect these resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program for all work sites. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

VI. ENERGY

- a) The project will not result in any significant environmental impact due to inefficient, wasteful, or unnecessary consumption of energy resources. The proposed project activities will require the consumption of energy in the form of fossil fuels for construction equipment, generators, and worker vehicles. Consumption of energy for the project will be minimized through proper maintenance of equipment and minimized vehicle idling. Additionally, the energy consumption during project activities is necessary for stream and riparian habitat restoration and will only occur during the projects limited work season of a maximum 18 weeks a year during four years with no project activities requiring energy consumption after restoration of sites have reached completion.
- b) The project's activities will not obstruct a state or local plan for renewable energy or energy efficiency. Such an impact will not occur because the project does not create any significant future energy demands, as the project's activities are habitat restoration based and are typically limited to a four-year implementation window that will be completed as efficiently as possible.

VII. GEOLOGY AND SOILS

- a) The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault. Such an impact will not occur because the project does not create any structures for human habitation.
 - i. The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Such an impact will not occur because the project does not create any structures for human habitation.
 - ii. The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Such an impact will not occur because the project does not create any structures for human habitation.
 - iii. The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Such an impact will not occur because the project does not create any structures for human habitation.
- b) The project will not result in substantial soil erosion or the loss of topsoil. Such an impact will not occur because implementation of the restoration project is designed to contribute to an overall reduction in erosion and sedimentation. Existing roads will be used to access work sites. Ground disturbance at most work sites will be minimal, except for road improvements or decommissioning. Road improvements and decommissioning will involve moving large quantities of soil from road fills and stream crossings to restore historic land surface profiles and prevent chronic erosion and sediment delivery to streams. The potential for substantial soil loss associated with road improvement and decommissioning will be avoided through implementation of the mitigation measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- c) Some project worksites are on unstable soils; however, the project will not increase the risk of landslides, lateral spreading, subsidence, liquefaction, or collapse. The project actions are designed to stabilize conditions at these sites in order to reduce sediment delivery to salmonid habitat. Actions implemented to stabilize sites may not be successful in all cases, but site instability will not be increased when compared to existing conditions.
- d) Some project work sites will be located on expansive soil; however, the project will not create substantial risks to life or property. Such an impact will not occur because

the project will create no habitations, and the majority of the restoration actions will not create rigid structures that could be damaged by expansive soils. The few rigid structures to be created by the project (such as fish screens) will be engineered to withstand expansive soils, if they are present.

- e) The project will not create any sources of wastewater requiring a septic system.
- f) The project will not directly or indirectly destroy any unique paleontological resources or sites, or unique geologic features. While ground disturbance to implement the project at some work sites has the potential to affect these resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program and Appendix D, Procedure for the Programmatic Evaluation of Paleontological Resources for all work sites. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

VIII. GREENHOUSE GAS EMISSIONS

- a) The project will emit greenhouse gases (GHG) through the use of fuel to operate vehicles and heavy equipment. The work window for restoration activities is generally limited from June 15 to November 1. Construction is limited to at most eighteen weeks during that window, and work must be completed within four years. However, for most projects, work does not occur for the entire eighteen-week field season and most restoration activities do not take four years to implement. Some action items do not require heavy equipment use at the restoration site but may use vehicles to transport materials. Furthermore, for an individual restoration action, GHG emissions may fluctuate during the implementation, as vehicles and equipment will be necessary to varying degrees. Watershed restoration projects often require more time to construct (six to twelve weeks) than other action items. Projects may be completed in a single year of construction or may require several years. Thus, the amount of time it takes to complete a restoration activity and the use of heavy equipment varies greatly among the actions. Although the project construction schedules and details are constrained by permit and grant conditions, the exact details cannot be specifically stated at this time. However, based on the short duration and small scale of the action items, the project will not generate a significant increase in GHG emissions above existing baseline levels because action items are discrete, limited in scope and implemented during a short time period.
- b) Additionally, some action items involve decommissioning of existing paved or dirt roads in forested landscapes. The decommissioned roads are re-planted with native conifer tree species. Additionally, when plants are removed to implement the restoration activity, the replanting ratio is 1:2 (for every plant removed, two native plants are planted). Once established native habitat restoration requires little to no maintenance and therefore little to no GHG emissions and will increase the presence of native plant species that sequester carbon dioxide.

- c) Due to each action item's short duration, small scale, and minimal on-going maintenance, the project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG. The short-term impacts to the GHG levels are less than significant. Furthermore, the long-term impacts to the GHG levels from re-vegetation actions will aid in decreasing the GHG levels by reforesting areas where roads have been removed and where restoration work has been done.

IX. HAZARDS AND HAZARDOUS MATERIALS

- a) The project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Any potential significant hazard associated with the accidental release of coolant and petroleum products used with equipment during construction will be avoided through implementation of the mitigation measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- b) The project will not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. At work sites requiring the use of heavy equipment, there is a small risk of an accident upsetting the machine and releasing fuel, oil, and coolant. The potential for accidental release will be reduced to a less than significant level through implementation of the mitigation measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- c) The project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Such impact is avoided because the project will not create any feature that will emit hazardous substances.
- d) The project worksites are not located on any site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.
- e) No project work site is located within an airport land use plan or within two miles of a public airport or public use airport. No project work site is located within the vicinity of a private airstrip.
- f) The project will not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Except for the case of road decommissioning, the project has no effect on access. The planned decommissioning of selected unused wild land roads will not have a significant impact on emergency vehicle access.
- g) The project will not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. At work sites requiring the use of heavy equipment, there is a small risk of an accidental spark from equipment igniting a fire. The

potential for accidental fire will be reduced to a less than significant level through implementation of the mitigation measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

X. HYDROLOGY AND WATER QUALITY

- a) The project will not violate any water quality standards or waste discharge requirements. There is the potential for minor short-term increase in turbidity during installation of instream structures or culvert removal, however the mitigation measures described in Appendix B Mitigation, Monitoring and Reporting will assure that the project actions are in compliance with water quality standards. As a result, mitigation measures will ensure that any potentially significant short-term impacts are avoided or mitigated to below a level of significance.
- b) The project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Upslope restoration activities will return drainage to historic patterns thereby decreasing surface runoff and increasing infiltration to the ground water.
- c) The project will not substantially alter the existing drainage pattern of the work sites in a manner that would result in any of the following:
 - i) The project will not result in substantial erosion or siltation on- or off-site. Such an impact will not occur because the project actions are designed to produce decreased erosion overall. Instream habitat structures, such as boulder weirs or flow deflectors, will produce local redistribution of sediments. These structures will produce a local redistribution of bed load, facilitating the deposition of spawning gravel in riffles, and improving scour to maintain pools for juvenile fish habitat. This local redistribution of bed load will not produce a net increase of erosion.
 - ii) The project will not substantially alter the existing drainage pattern of the work sites, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. The project will decrease the risk of flooding through upslope restoration activities that will return drainage to historic patterns, thereby increasing infiltration and decreasing surface runoff.
 - iii) The project will not create or contribute runoff water that would exceed the capacity of existing or planned storm-water drainage systems or provide substantial additional sources of polluted runoff. Such an impact will not occur because upslope restoration activities will stabilize slopes and return drainage to historic patterns, thereby decreasing surface runoff and decreasing the silt load delivered to streams in the area of the project.
 - iv) The project will not impede or redirect flood flows. Culvert removal and replacement to be done as part of the project will remove existing impediments to flood flows. Instream habitat structures, such as boulder weirs, deflectors, and bank armor, are built to change the direction and velocity of stream flow. However, these

structures are small (sized to affect conditions in the low flow channel) and will not impede flood flows.

- d) The project will not expose people or structures to a significant risk of inundation or release of pollutants by seiche, tsunami, or flood hazards. Such an impact will not occur because project actions are designed to improve or stabilize conditions at the work sites. Upslope restoration actions will reduce the chance of mudflow by stabilizing disturbed areas and restoring natural drainage patterns. Project work sites are not located in areas at risk of inundation by seiche or tsunami.
- e) The project will not substantially degrade water quality. During placement of stream habitat structures and culvert replacement, some minor turbidity may be generated. The potential for degradation of water quality will be reduced to a less than significant level through implementation of the mitigation measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program. Some short-term minor increase in turbidity may also occur as the streambed around instream structures adjusts during the first high stream flow following activity completion. However, this is not expected to produce a significant increase over background turbidity. As a result, mitigation measures will ensure that any potentially significant short-term impacts to water quality are avoided or mitigated to below a level of significance.

XI. LAND USE AND PLANNING

- a) The project will not physically divide an established community. This impact will not occur because no culvert removal or road decommissioning is proposed in any established community.
- b) The restoration activities that comprise this project do not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. Such an impact will not occur because the project's restoration activities are designed to be compatible with local land use plans and ordinances.

XII. MINERAL RESOURCES

- a) The project will not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Such an impact will not occur because project actions are only designed to stabilize and restore habitat and soils within the actions area.
- b) The project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Such an impact will not occur because no mineral resource recovery sites occur at the project work sites.

XIII. NOISE

- a) The project will not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Such an impact will not occur because most project structures are passive (i.e., contain no moving parts). The project will also not result in exposure of persons to, or generation of noise levels in excess of, standards established in the local general plan or noise ordinance, or applicable standards of other agencies. There may be a minor temporary increase in noise levels at those work sites requiring the use of heavy equipment. While such short-term increase in noise will not produce a significant increase in the noise level in the general environment, there is a potential for equipment noise to affect workers in close proximity to equipment producing noise levels ≥ 85 dB, such as chainsaws or backhoes. However, such an impact will not occur because personnel operating noisy equipment will be required to wear hearing protection. As a result, mitigation measures will ensure that any potentially significant noise impacts are avoided or mitigated to below a level of significance.
- b) The project will not result in exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels. Such an impact will not occur because only minor amounts of ground-borne vibration or noise will be generated short-term at those work sites requiring the use of heavy equipment.
- c) None of the project work sites is located within the vicinity of a private airstrip. Of all the project work sites in the project, only one is located within two miles of a public airport or public use airport but will not expose people residing or working in the project area to excessive noise levels. Only minor amounts of noise will be generated temporarily at the site requiring the use of heavy equipment for restoration purposes only for the duration of the construction phase.

XIV. POPULATION AND HOUSING

- a) The project will not induce unplanned substantial population growth in an area, either directly or indirectly. Such an impact will not occur because the project will not construct any new homes, businesses, roads, or other human infrastructure.
- b) The project will not displace any existing housing and/or people and will not necessitate the construction of replacement housing elsewhere.

XV. PUBLIC SERVICES

- a) The project will not have any significant environmental impacts associated with new or physically altered governmental facilities. Issuance of restoration grants to government agencies could, in some cases, lead to minor increases in staffing to complete projects. Such increases will not lead to any significant adverse impacts to fire protection, police protection, schools, parks, or other public facilities, because the increases are short term, and no significant construction will be required to accommodate additional staff.

XVI. RECREATION

- a) The project would not increase the use of existing neighborhood and regional parks, or other recreational facilities. Such an impact will not occur because the project actions will restore anadromous fish habitat and do not significantly alter human use or facilities at existing parks or recreational facilities. Overall, the project is expected to increase recreation opportunities by assisting in restoring populations of anadromous fish.
- b) The project does not include recreational facilities and does not require the construction or expansion of recreational facilities.

XVII. TRANSPORTATION/TRAFFIC

- a) The project will not conflict with any applicable plans, ordinances or policies that establish measures of effectiveness for the performance of the circulation systems. Such a conflict will not occur because the project will result in only minor temporary increases in traffic to primarily wild land sites during implementation of habitat improvement measures.
- b) The Project will not conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b). No conflict will occur as project activities are restoration in nature and only result in minor traffic increases during construction times at rural sites. Once the restoration activities of the project are fully completed no additional traffic will occur.
- c) The project will not alter roads in any way that will substantially increase hazards to transportation. The proposed project will reduce hazards to transportation, because the proposed project will correct and reduce landslide and erosion damage on the selected rural roads.
- d) The project will not result in inadequate emergency access. Such an impact will not occur because during replacement of small road crossings, an alternate route for traffic will be provided around the construction.

XVIII. TRIBAL CULTURAL RESOURCES

- a) The project will not cause substantial adverse change in the significance a of tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resource Code 5020.1(k). Although ground disturbance is required to implement the project, impacts to tribal cultural resources will be avoided through implementation of the protective measures presented in Appendix B: Mitigation Measures, Monitoring and Reporting Program; Appendix D: Procedures for the Programmatic Evaluation of Paleontological Resources; and Appendix E: Procedure for the Programmatic Evaluation of Archeological Resources for all work sites, where applicable. Resources identified during site-specific surveys will be protected before any ground-disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

On August 8, 2025, in compliance with PRC § 21080.3.1 and the CDFW Tribal Communications Policy, CDFW provided official notification, by letter and email, of the 2025 FRGP MND project to tribes potentially affected. The CDFW Tribal Liaison will address requests for formal consultation on the 2025 FRGP MND project.

- b) The project will not cause substantial adverse change in the significance of a tribal cultural resource determined by the CDFW to be significant pursuant to the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. Restoration sites will consist mainly of cleanup and revegetation. The CDFW will apply the criteria set forth in subdivision (c) of the Public Resources Code Section 5024.1 to potential tribal cultural resources identified during site-specific surveys and will consider the significance of the resource to California Native American tribes. Tribal cultural resources identified during site-specific surveys will be protected before any ground-disturbing activities are permitted at a site. Potential impacts to tribal cultural resources due to ground disturbance activities will be avoided through implementation of the protective measures presented in Appendix B: Mitigation Measures, Monitoring and Reporting Program; Appendix D: Procedures for the Programmatic Evaluation of Paleontological Resources; and Appendix E: Procedure for the Programmatic Evaluation of Archeological Resources for all work sites, where applicable. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

XIX. UTILITIES AND SERVICE SYSTEMS

- a) The project will not result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities.
- b) The project will have sufficient water supplies available to serve the project. The project is restoration in nature and will not need water supplies for future development during normal, dry and multiple dry years. c) The project will not produce wastewater, so will not be in excess of state or local standards, or in excess of the capacity of local infrastructure, or impair the attainment of solid waste reduction goals.
- c) The project will not generate solid waste.
- d) The project will not generate solid waste requiring disposal in a landfill.

XX. WILDFIRE

- a) The project would not substantially impair an adopted emergency response plan or emergency evacuation plan. Such an impact will not occur as the majority of project activities are instream work in nature. Activities involving the replacement of small road crossings will have an alternate route provided during the construction season and does not require the closure of any adjacent roads that could interfere with an adopted plan.
- b) The project does not pose a significant fire safety risk due to slope, prevailing winds, and other factors that could exacerbate wildfire risks and expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, though some project sites are located within or near mapped 'high' and 'very high' fire hazard severity zones and state responsibility areas. Such a conflict will not occur because project activities are mainly stream habitat restoration and upslope restoration activities will in turn stabilize slopes and return drainage to historic patterns. As well majority of the project sites located within or near mapped 'high' and 'very high' fire hazard severity zones are implemented through hand work only, limiting factors that could exacerbate wildfire risks. The project will also not contribute to any additional temporary or permanent occupants of the project areas due to the work being restoration focused.
- c) The proposed project would not require the installation or maintenance of associated infrastructure such as roads, fuel breaks, emergency water sources, power lines or other utilities that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- d) The project will not expose people or structures to significant risks such as downslope or downstream flooding or landslides, because of runoff, post-fire slope instability, or drainage changes. Project activities, majority of which are in rural areas will restore floodplain areas, re-stabilize slopes, and return drainage to historic patterns. While project sites may need to temporarily divert or dewater, projects will follow the diversion and dewatering plan found within the *California Salmonid Stream Habitat Restoration Manual*.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

- a) The project does have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. However, the potential is reduced to less than significant by implementing the mitigation measures in Appendix B: Mitigation Measures, Monitoring and Reporting Program. The project shall be implemented in a manner that will avoid short-term adverse impacts to rare plants and animals, and cultural resources during construction. The project activities are designed to improve and restore stream habitat; thereby providing long-term benefits to both anadromous salmonids and other fish and wildlife.

- b) The project does not have adverse impacts that are individually limited, but cumulatively considerable. Cumulative adverse impacts will not occur because potential adverse impacts of the project are only minor and temporary in nature. It is the goal of the project that the beneficial effects of habitat enhancement actions will be cumulative over time and contribute to the recovery of listed anadromous salmonids.
- c) The project does not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. The habitat enhancement measures implemented as part of this project will contribute to improved water quality, increased soil stability, and the recovery of listed salmonids, all of which will be beneficial to human beings.

Appendix A

Non-Physical Items

Project ID	Project Type	Title	Applicant	County	Regional ID and HUC Watershed	CDFW Region
1734110	PI	Yr. 33 Watershed Stewards Program in partnership with the California Conservation Corps and AmeriCorps	California Conservation Corps Watershed Stewards Program in partnership with AmeriCorps	Multiple	R1 01 - Upper Klamath HUC 8	Multiple
1734131	TE	Fellows Creek	San Mateo Resource Conservation District	Multiple	R3 41 - Pescadero Creek HUC 10	Multiple
1734170	PD	Upper Klamath River Design and Planning Project - Beaver Creek	Mid Klamath Watershed Council	Siskiyou	R1 02 - Upper Klamath HUC 8	1
1734208	PL	Hydrology to Habitat: Critical Steelhead Restoration Assessments in San Luis Obispo Creek Watershed	Creek Lands Conservation	San Luis Obispo	R4 38 - Upper and Lower San Luis Obispo Creek HUC 12	4
1734278	TE	2027 and 2028 Salmonid Restoration Conferences	Salmonid Restoration Federation	Multiple	R1 18 - Lower Eel HUC 8	Multiple

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1734173	PL	Morro Bay Watershed Steelhead Habitat Assessments and Planning	Morro Bay National Estuary Program	San Luis Obispo	R4 32 - Chorro Creek HUC 12	4

Project Type:

TE: Private Sector Technical Training and Education

PD*: Project Design (these PD projects have no on-the-groundwork necessary for planning survey completion)

PI: Public Involvement and Capacity Building (includes AmeriCorps projects)

PL: Watershed Evaluation, Assessment, and Planning

Appendix A

Action Items

Project ID	Project Type	Title	Applicant	County	Regional ID and HUC Watershed	CDFW Region
1734122	HI	2025 Mainstem Buckeye Creek Instream Enhancement Project	The Conservation Fund	Sonoma	R3 02 - Buckeye Creek HUC 12	3
1734133	HI	Windler Floodplain Habitat Enhancement Phase 2	Salmon River Restoration Council	Siskiyou	R1 06 - Salmon HUC 8	1
1734137	HB	Bouverie Dam Removal for Fish Passage	Audubon Canyon Ranch	Sonoma	R3 28 - San Pablo Bay Estuaries, Schell Creek-Frontal San Pablo Bay Estuaries, Tolay Creek-Frontal San Pablo Bay Estuaries, Fowler Creek, Lower Sonoma Creek, Upper Sonoma Creek HUC 12	3

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1734140	HI	Soda Creek Habitat Enhancement Project (Phase II)	Trout Unlimited, Inc.	Mendocino	R1 33 - Lower Navarro River, North Fork Navarro River, North Branch North Fork Navarro River, South Branch North Fork Navarro River, Upper Navarro River and Indian Creek HUC 12 watersheds	1
1734167	HI	Cox Creek Coho Habitat Improvement Project	Eel River Watershed Improvement Group (ERWIG)	Humboldt	R1 19 - South Fork Eel HUC 8	1
1734177	HI	Lower SF Cottaneva Instream Habitat Improvement Project	Eel River Watershed Improvement Group (ERWIG)	Mendocino	R1 24 - Cottaneva Creek HUC 12	1

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1734187	HI	Bridge Creek - CCC Large Wood Coho Habitat Enhancement Project	California Conservation Corps - Ukiah	Mendocino	R1 33 - Lower Navarro River, North Fork Navarro River, North Branch North Fork Navarro River, South Branch North Fork Navarro River, Upper Navarro River and Indian Creek HUC 12 watersheds	1
1734188	HI	Chamberlain Creek Instream Habitat Enhancement Project	Trout Unlimited, Inc.	Mendocino	R1 31 - Big River HUC 10	1
1734303	HI	Upper SF Eel River Instream Habitat Improvement Project	Eel River Watershed Improvement Group (ERWIG)	Mendocino	R1 19 - South Fork Eel HUC 8	1
1734307	FP	Arroyo Seco River Fish Passage Project - Sycamore Flats	Trout Unlimited, Inc.	Monterey	R4 18 - Arroyo Seco HUC 10	4

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1734338	HI	Upper Tryon Creek Restoration Project, Phase 1	Smith River Alliance	Del Norte	R1 08 - Smith HUC 8	1
1734339	HI	Mattole Headwaters Habitat Enhancement Project	Mattole Salmon Group	Humboldt	R1 17 - Mattole River HUC 10	1
1734344	HI	Green Valley Creek Off-Channel Habitat Enhancement Implementation at Sweetwater Nursery	Gold Ridge Resource Conservation District	Sonoma	R3 10 - Green Valley Creek HUC 12	3
1734345	FP	Elk Creek Fish Passage and Sediment Reduction Project, Crossing 1	Smith River Alliance	Del Norte	R1 07 - Smith HUC 8	1
1734145	PD	Process-Based Floodplain Restoration of Lower Lagunitas Creek	Turtle Island Restoration Network	Marin	R3 22 - Olema-Lagunitas Creek HUC 12, San Geranimo Creek-Lagunitas Creek HUC 12	3
1734185	PD	Cachagua Creek Fish Passage Alternative Plan/Design Project - Quevedo	Trout Unlimited, Inc.	Monterey	R4 08 - Cachagua Creek HUC 12	4

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1734314	PD	Lower SLO Creek Floodplain Preserve Steelhead Habitat Enhancement Project	The Land Conservancy of San Luis Obispo County	San Luis Obispo	R4 38 - Upper and Lower San Luis Obispo Creek HUC 12	4
1734247	PD	Ryan and Freshwater Slough Tidal Wetland Reconnection Project	Eel River Watershed Improvement Group (ERWIG)	Humboldt	R1 16 - Humboldt Bay - Frontal Pacific Ocean HUC 10	1

Project Types:

HI: Instream Habitat Restoration

HB: Instream Barrier Modification for Fish Passage

FP: Fish Passage Improvement at Stream Crossings

PD**: Project Design (These PD projects may require minimal ground disturbance to complete planning surveys)

Appendix A



Appendix A



APPENDIX B

MITIGATION MEASURES, MONITORING AND REPORTING PROGRAM FOR THE 2025 FISHERIES RESTORATION GRANT PROGRAM'S MITIGATED NEGATIVE DECLARATION PROJECT

SECTION 1: MITIGATION

General mitigation measures are implemented for all action items. Specific mitigation measures are identified for the various species found at or near the project site. A CDFW grant manager is assigned to each action item and is responsible for ensuring the general and specific mitigation measures are implemented.

I. AESTHETICS

No specific mitigation measures are required to protect aesthetics.

II. AGRICULTURE RESOURCES

No specific mitigation measures are required to protect agricultural resources.

III. AIR QUALITY

No specific mitigation measures are required to protect air quality.

IV. BIOLOGICAL RESOURCES

A. General Measures for Protection of Biological Resources

1. **Timing.** To avoid impacts to aquatic habitat the activities carried out in the restoration program typically occur during the summer dry season where flows are low, or streams are dry.
2. Work around streams is restricted to the period of June 15 through November 1 or the first significant rainfall, whichever comes first. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Wildlife (i.e., on the Shasta River, projects must be completed between July 1 and September 15 to avoid impacts to immigrating and emigrating salmonids). This is to take advantage of low stream flow and avoid the spawning and egg/alevin incubation period of salmon and steelhead.
3. Upslope work generally occurs during the same period as stream work. Road decommissioning and other sediment reduction activities are dependent on soil moisture content. Non jurisdictional upslope projects do not have seasonal restrictions in the Incidental Take Statement, but work may be further restricted at some sites to allow soils to dry out adequately. In some areas equipment access and effectiveness is constrained by wet conditions.
4. The approved work window for individual work sites will be further constrained as necessary to avoid the nesting or breeding seasons of birds and terrestrial animals. At most sites with potential for raptor (including Northern Spotted Owls) and migratory bird nesting, if work is conditioned to start after July 9, potential impacts will be avoided, and no surveys will be required. For work sites that might contain nesting Marbled Murrelets, the starting date will be September 16 in the absence of surveys. The work window at individual work sites could be advanced if surveys determine that nesting birds will not be impacted.

5. For restoration work that may affect swallow nesting habitat (such as removal or modification of bridges, culverts or other structures that show evidence of past swallow nesting activities), construction shall occur after August 31 to avoid the swallow nesting period. Suitable nesting habitat shall be netted prior to the breeding season to prevent nesting. Netting shall be installed before any nesting activity begins, generally prior to March 1. Swallows shall be excluded from areas where construction activities cause nest damage or abandonment.
6. All project activities shall be confined to daylight hours.
7. Projects shall not dewater more than 1,000 feet of contiguous stream reach at one time.
8. During all activities at project work sites, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.
9. Staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the stream's high-water channel and associated riparian area where it cannot enter the stream channel. Stationary equipment such as motors, pumps, generators, compressors, and welders located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans. Vehicles will be moved out of the normal high-water area of the stream prior to refueling and lubricating. The grantee shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, CDFW shall ensure that the grantee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
10. The number of access routes, number and size of staging areas, and the total area of the work site activity shall be limited to the minimum necessary to complete the restoration action while minimizing riparian disturbance without affecting less stable areas, which may increase the risk of channel instability. Existing roads shall be used to access work sites as much as practicable.
11. The access and work area limits shall be identified with brightly colored flagging or fencing. Flagging and fencing shall be maintained in good repair for the duration of project activities. All areas beyond the identified work area limits shall not be disturbed.
12. Any construction debris shall be prevented from falling into the stream channel. Any material that does fall into a stream during construction shall be immediately removed in a manner that has minimal impact to the streambed and water quality.
13. Where feasible, the construction shall occur from the bank, or on a temporary pad underlain with filter fabric.
14. Any work within the stream channel shall be performed in isolation from the flowing stream and erosion protection measures shall be in place before work begins.
 - a. Prior to dewatering, the best means to bypass flow through the work area to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic invertebrates shall be determined.

- b. If there is any flow when work will be done, the grantee shall construct coffer dams upstream and downstream of the excavation site and divert all flow from upstream of the upstream dam to downstream of the downstream dam.
 - c. No heavy equipment shall operate in the live stream, except as may be necessary to construct coffer dams to divert stream flow and isolate the work site.
 - d. Cofferdams may be constructed with clean river run gravel or sandbags and may be sealed with sheet plastic. Upon project completion, sandbags and any sheet plastic shall be removed from the stream. Clean river run gravel may be left in the stream channel, provided it does not impede stream flow or fish passage and conforms to natural channel morphology without significant disturbance to natural substrate.
 - e. Dewatering shall be coordinated with a qualified fisheries biologist to perform fish and wildlife relocation activities.
 - f. The length of the dewatered stream channel and the duration of the dewatering shall be kept to a minimum and shall be expected to be less than 1,000 contiguous feet at one time.
 - g. When bypassing stream flow around work area, stream flow below the construction site shall be maintained similar to the unimpeded flow at all times.
 - h. The work area shall be periodically pumped dry of seepage. Pumps shall be placed in flat areas, away from the stream channel. Pumps shall be secured by tying off to a tree or staked in place to prevent movement by vibration. Pump intakes shall be covered with 1/8-inch mesh to prevent entrainment of fish or amphibians that failed to be removed. Pump intakes shall be periodically checked for impingement of fish or amphibians and shall be relocated according to the approved measured outlined for each species below.
 - i. If necessary, flow shall be diverted around the work site, either by pump or by gravity flow, the suction end of the intake pipe shall be fitted with fish screens meeting CDFW and NOAA criteria to prevent entrainment or impingement of small fish. Any turbid water pumped from the work site itself to maintain it in a dewatered state shall be disposed of in an upland location where it will not drain directly into any stream channel.
 - j. Fish shall be excluded from the work area by blocking the stream channel above and below the work area with fine-meshed net or screen. Mesh shall be no greater than 1/8-inch diameter. The bottom edge of the net or screen shall be completely secured to the channel bed to prevent fish from reentering the work area. Exclusion screening shall be placed in areas of low water velocity to minimize fish impingement. Screens shall be regularly checked and cleaned of debris to permit free flow of water.
15. Where the disturbance to construct coffer dams to isolate the work site would be greater than to complete the action (for example, placement of a single boulder cluster), the action shall be carried out without dewatering and fish relocation. Furthermore, measures shall be put in place immediately downstream of the work site to capture suspended sediment. This may include installation of silt catchment fences across the stream, or placement of a filter berm of clean river gravel. Silt fences and other non-native materials will be removed from the stream following completion of the activity. Gravel berms may be left in the stream channel provided it does not impede stream flow or fish

passage and conforms to natural channel morphology without significant disturbance to natural substrate.

16. Best management practices associated with fish screens and measures to minimize effects to salmonids associated with fish screen construction, maintenance, and repair are presented below:
- a. Screening projects shall only take place on diversions with a capacity of 60 cfs or less. Screening larger diversions shall require separate consultation. Fish screens shall be operated and maintained in compliance with current law, including Fish and Game Code, and CDFW fish screening criteria.
 - b. Notwithstanding Fish and Game Code Section 6027, fish screens and bypass pipes or channels shall be in-place and maintained in working order at all times while water is being diverted.
 - c. If a screen site is dewatered for repairs or maintenance when targeted fish species are likely to be present, measures shall be taken to minimize harm and mortality to targeted species resulting from fish relocation and dewatering activities. The responsible party shall notify CDFW before the project site is de-watered and streamflow diverted. The notification shall provide a reasonable time for personnel to supervise the implementation of a water diversion plan and oversee the safe removal and relocation of salmonids and other fish life from the project area. If the project requires site dewatering and fish relocation, the responsible party shall implement the dewatering and relocation measures as described in this document to minimize harm and mortality to listed species.
 - d. If a fish screen is removed for cleaning or repair, measures shall be undertaken to ensure juvenile fish are not passively entrained into the diversion canal. The area shall be isolated, cleared of fish, and dewatered prior to screen maintenance or replacement. If dewatering the work area is infeasible, then the area in front of the screen shall be cleared of fish utilizing a seine net that remains in place until the project is complete. In the case of a damaged screen, a replacement screen shall be installed immediately, or the diversion shut down until a screen is in place.
 - e. Fish screens shall be inspected and maintained regularly (not less than two times per week) to ensure that they are functioning as designed and meet CDFW fish screening criteria. During the diversion season, screens shall be visually inspected while in operation to ensure they are performing properly. Outside the diversion season when the screening structure is dewatered, the screen and associated diversion structure shall be more thoroughly evaluated.
 - f. Existing roads shall be used to access screen sites with vehicles and/or equipment whenever possible. If it is necessary to create access to a screen site for repairs or maintenance, access points shall be identified at stable stream bank locations that minimize riparian disturbance.
 - g. Sediment and debris removal at a screen site shall take place as often as needed to ensure that screening criteria are met. Sediment and debris shall be removed and disposed of at a location where it will not re-enter the water course.
 - h. Stationary equipment used in performing screen maintenance and repairs, such as motors, pumps, generators, and welders, located within or adjacent to a stream shall be positioned over drip pans.

- i. Equipment which is used to maintain and/or repair fish screens shall be in good condition and checked and maintained on a daily basis to prevent leaks of materials that could be deleterious to aquatic life, wildlife, or riparian habitat.
 - j. To the extent possible repairs to a fish screen or screen site shall be made during a period of time when the target species of fish are not likely to be present (for example, in a seasonal creek, repair work should be performed when the stream is dry).
 - k. Equipment used to maintain and/or repair fish screens shall not operate in a flowing stream except as may be necessary to construct coffer dams to divert stream flow and isolate the work site.
 - l. Turbid water which is generated by screen maintenance or repair activities shall be discharged to an area where it will not re-enter the stream. If the CDFW determines that turbidity/siltation levels resulting from screen maintenance or repair activities constitute a threat to aquatic life, all activities associated with the turbidity/siltation shall cease until effective CDFW-approved sediment control devices are installed and/or abatement procedures are implemented.
17. Any equipment entering the active stream (for example, in the process of installing a coffer dam) shall be preceded by an individual on foot to displace wildlife and prevent them from being crushed.
 18. If any non-special status wildlife are encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed, and shall be flushed, hazed, or herded in a safe direction away from the project site. "Special status wildlife" is defined as any species that meets the definition of "endangered, rare, or threatened species" in § 15380, Article 20 in Title 14 of the California Code of Regulations, also known as the "CEQA Guidelines".
 19. Any red tree vole nests encountered at a work site shall be flagged and avoided during construction.
 20. For any work sites containing western pond turtles, southwestern pond turtle, salamanders, foothill yellow-legged frogs, California red-legged frogs, cascades frog, or tailed frogs, the grantee shall provide to the CDFW grant manager for review and approval, a list of the exclusion measures that will be used at their work site to prevent take or injury to any individual pond turtles, salamanders, or frogs that could occur on the site. The grantee shall ensure that the approved exclusion measures are in place prior to construction. Any turtles or frogs found within the exclusion zone shall be moved to a safe location upstream or downstream of the work site, prior to construction.
 21. All habitat improvements shall be done in accordance with techniques in the California Salmonid Stream Habitat Restoration Manual or other approved guidelines and manuals for salmon and steelhead habitat restoration. The most current version of the manual is available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=22610&inline> and other approved guidelines and manuals are available at: <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=183423>.
 22. The grantee shall have dependable radio or phone communication on-site to be able to report any accidents or fire that might occur.
 23. Installation of bridges, culverts, or other structures shall be done so that water flow is not impaired and upstream and downstream passage of fish is assured at all times. Bottoms of temporary culverts shall be placed at or below stream channel grade.

24. Temporary fill shall be removed in its entirety prior to close of work-window.

B. Specific Measures for Endangered, Rare, or Threatened Species That Could Occur at Specific Work Sites

Rare Plants

The work sites for the 2025 FRGP MND project are within the range of a variety of rare plant species. The plant species found on a State or Federal special status list that might be associated with the 2025 FRGP MND project, was determined from a search of CDFW's Natural Diversity Database. Because of the large number of widely scattered work sites proposed, it is not feasible to survey individual work sites in advance and still be able to implement the restoration projects, due to time limits on the availability of restoration funds. Lists of special status plant species that might occur at individual work sites are presented in Appendix A. Experience with grant projects from previous years has shown that the potential for adverse impacts on rare plants at salmonid restoration work sites is very low. Before a Notice to Proceed is given to the grantee to begin implementation work, all botanical surveys following the "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities" shall be completed and produced to a project's CDFW grant manager. In order to avoid impacts to rare plants during the 2025 FRGP MND project, the following mitigation measures will be implemented:

1. A qualified biological consultant shall survey all work sites for rare plants prior to any ground disturbing activities. Rare plant surveys will be conducted following the "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities" (CDFW, 2018). These guidelines are available in Appendix C or on the web at:
<https://www.wildlife.ca.gov/Conservation/Plants>.
2. If any special status plant species are identified at a work site, CDFW shall require one or more of the following protective measures to be implemented before work can proceed:
 - I. Fencing to prevent accidental disturbance of rare plants during construction,
 - II. On-site monitoring by a qualified biologist during construction to assure that rare plants are not disturbed, or
 - III. Redesign of proposed work to avoid disturbance of rare plants.
3. Plant surveys will also include any host plants for butterflies identified as occurring in the area either in the CNDDDB or the official species list. These host plants are as follows for each butterfly:

Butterfly	Host Plant
Mission Blue Butterfly (<i>Icaricia icarioides missionensis</i>) - Endangered	Silver Bush Lupine (<i>Lupinus albifrons</i>)
San Bruno Elfin Butterfly (<i>Callophrys mossii bayensis</i>) - Endangered	Stonecrop (<i>Sedum spathulifolium</i>)
Callippe Silverspot Butterfly (<i>Speyeria callippe callippe</i>) - Endangered	Johnny Jump Up/ California golden violet (<i>Viola pedunculata</i>)
Myrtle's Silverspot Butterfly (<i>Speyeria zerene myrtleae</i>) - Endangered	Hookedspur Violet (<i>Viola adunca</i>)
Behren's Silverspot Butterfly (<i>Speyeria zerene behrensii</i>) - Endangered	Early Blue Violet (<i>Viola adunca</i>)
Oregon Silverspot Butterfly (<i>Speyeria zerene hippolyta</i>) - Threatened	Early Blue Violet (<i>Viola adunca</i>)
Bay Checkerspot Butterfly (<i>Euphydryas editha bayensis</i>) - Threatened	Native Plantain (<i>Plantago erecta</i>)
Smith's Blue Butterfly (<i>Euphilotes enptes smithi</i>)- Endangered	Buckwheat (<i>Eriogonum latifolium</i>) and Seacliff Buckwheat (<i>Eriogonum parvifolium</i>)

4. If any host plant species are identified at a work site, CDFW shall require one or more of the following protective measures to be implemented before work can proceed:

- Fencing to prevent accidental disturbance of larval host plants during construction,
- On-site monitoring by a qualified biologist during construction to assure that larval host plants are not disturbed, and
- Redesign of proposed work to avoid disturbance of larval host plants.
- If it becomes impossible to implement the project at a work site without impacts to larval host plants, then activity at that work site shall not proceed. If it becomes impossible to implement the project at a work site without potentially significant impacts to rare plants, then activity at that work site shall be discontinued.
- CDFW shall ensure that the grantee or responsible party is aware of these site-specific conditions, and shall inspect the work site before, during, and after completion of the action item.

Arroyo Toad (Anaxyrus californicus)

Arroyo Toad has been listed as federally endangered since 1995. Historically Arroyo Toad was abundant from Monterey to San Diego and northern Baja California. Due to loss of habitat and predation from the non-native American Bullfrog (*Litholbates castesbeianus*) the species currently only occupies 65% of its historic range. Zero (0) of the 18 projects proposed as part of the 2025 FRGP MND project occurs within the range of arroyo toad. Precautions will still be taken to avoid potentially significant impacts to the arroyo toad habitat while using heavy equipment. The potential for impacts to arroyo toads will be mitigated by complying with the terms and conditions set forth in this section. Measures for minimization and avoidance of incidental take of arroyo toads must be

developed on a site and project-specific basis. CDFW shall implement the additional following measures to minimize adverse effects to the arroyo toad and its habitat:

1. The proponent shall retain a biologist who is familiar with arroyo toads to monitor all construction activities and assist the proponent in the implementation of the monitoring program. This person will be approved by the USFWS prior to the onset of ground-disturbing activities. The authorized biologist will be present during all dewatering and relocation efforts.
2. Prior to the onset of construction activities, the proponent shall provide all personnel who will be present on work areas within or adjacent to the project area the following information:
 - i. A detailed description of the arroyo toad's physical characteristics and life history, including color photographs.
 - ii. The protection the arroyo toad receives under the Endangered Species Act and possible legal action that may be incurred for violation of the act.
 - iii. The protective measures being implemented to conserve the arroyo toad and other species during construction activities associated with the proposed project; and
 - iv. A point of contact if arroyo toads are observed.
3. All trash that may attract predators of the arroyo toad, e.g., food scraps, will be removed from work sites or completely secured at the end of each workday.
4. USFWS-approved biologist(s) who handle arroyo toads shall ensure that their activities do not transmit diseases. To ensure that diseases are not conveyed between work sites by the USFWS-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force (<http://www.fws.gov/ventura/docs/species/protocols/DAFTA.pdf>) shall be followed at all times.
5. A USFWS-approved biologist shall survey the project site at least two weeks before the onset of activities. If arroyo toads are found in the project area and these individuals are likely to be killed or injured by work activities, the USFWS-approved biologist will allow sufficient time to move them from the site before work activities resume. Only USFWS-approved biologists will participate in activities with the capture, handling, and monitoring of arroyo toads.
6. Before any project-related activities, the approved biologist must identify appropriate areas to receive arroyo toads' adults and tadpoles from the project areas. These areas must be in proximity to the capture site, contain suitable habitat, not be affected by project activities, and be free of exotic predatory species (e.g., bullfrogs, crayfish) to the best of the approved biologist's knowledge.
7. A USFWS-approved biologist shall be present at the work site until such time as removal of arroyo toads, instruction of workers, and habitat disturbance has been completed. The USFWS-approved biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the USACE and USFWS during review of the proposed action. If work is stopped, the USACE and the USFWS shall be notified immediately by the USFWS-approved biologist or on-site biological monitor.
8. If arroyo toads are found during construction and these individuals are likely to be killed or injured by work activities, the USFWS-approved biologists must be allowed sufficient time to move them from

the site before work activities resume. The USFWS-approved biologist must relocate the arroyo toads the shortest distance possible to one of the predetermined areas. The USFWS-approved biologist must maintain detailed records of any individuals that are moved (e.g., size, coloration, any distinguishing features, photographs (digital preferred) to assist in determining whether translocated animals are returning to the point of capture. Only arroyo toads that are at risk of injury or death by project activities may be moved.

9. If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 0.125-inch to prevent arroyo toads from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain down stream flows during construction activities and eliminate the possibility of ponded water. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.
10. Ponded areas shall be monitored for arroyo toads that may become entrapped. Any entrapped arroyo toad shall be relocated to a pre-determined receiving area by a USFWS-approved biologist.
11. A USFWS-approved biologist will permanently remove, exotic species, such as bullfrogs (*Rana catesbiana*), centrarchid fishes, and non-native crayfish from the project area to the maximum extent possible. The biologist will have the responsibility to ensure that their activities are in compliance with the Fish and Game Code.
12. The CDFW or USACE shall report any observation of arroyo toad incidental take associated with the implementation of the Restoration Program projects in accordance with RGP-78. The USFWS and the USACE must review the circumstances surrounding the incident to determine whether any patterns of repeated authorized or unauthorized activities are occurring that may indicate that additional protective measures are required. If, after completion of the review, the USACE and the USFWS agree that additional protective measures are required and can be implemented within the existing scope of the action, the USACE must require the CDFW to implement the agreed-upon measures within a reasonable time frame; if the corrective actions cannot be implemented with the scope of the existing action, the USACE and USFWS will determine whether re-initiation of consultation is appropriate.
13. Despite term and condition “I)” of this section (above), the USACE must immediately re-initiate formal consultation with the USFWS, pursuant to 7(a) (2) of the Endangered Species Act, if arroyo toads are taken within the action area at or in excess of the incidental take anticipated in the Incidental Take Statement section of the U.S. Fish and Wildlife biological opinion (file no. 2008-F-0441), whether by project or by year.
14. If these mitigation measures cannot be implemented or the project activities proposed at a specific work site cannot be modified to prevent or avoid potential impacts to arroyo toads or their habitat, then project activity at that work site shall be discontinued.

California Freshwater Shrimp (Syncaris pacifica)

California Freshwater Shrimp was State and Federally listed as endangered starting in 1980 and 1988, respectively. The California Freshwater Shrimp is found in low elevation, low gradient, freshwater streams in Marin, Napa, and Sonoma counties. Two (2) of the 18 projects proposed as part of the 2025 FRGP MND project occurs within the range of California freshwater shrimp (CFS). Activities proposed for the site (1734145 Process-Based Floodplain Restoration of Lower Lagunitas Creek,

1734344 Green Valley Creek Off-Channel Habitat Enhancement Implementation at Sweetwater Nursery) (Appendix A) will not remove, degrade, or downgrade suitable California Freshwater Shrimp habitat. CDFW shall implement all of the mandatory terms and conditions associated with incidental take authorized by the U.S. Fish and Wildlife Service (USFWS), Biological Opinion (file no. 08ESMF00-2016-F-0874) to avoid any potential impact to habitat within project sites. Additionally, CDFW proposes to implement the following measures to minimize adverse effects to the CFS and its habitat if found onsite:

1. Project activities in potential shrimp habitat shall be restricted to the period between July 1 and November 1.
2. At least 15 days prior to the onset of activities, CDFW shall submit the name(s) and credentials of biologists who will conduct activities specified in the following measures to the USFWS. The grantee shall implement any additional conservation measures requested by CDFW and/or the USFWS.
3. CDFW shall be notified at least one week in advance of the date on which work will start in the stream, so that a qualified CDFW biologist can monitor activities at the work site. All work in the stream shall be stopped immediately if it is determined by CDFW that the work has the potential to adversely impact shrimp or its habitat. Work shall not recommence until CDFW is satisfied that there will be no impact on the shrimp.
4. Where appropriate, a USFWS-approved CDFW biologist will survey each site for shrimp before allowing work to proceed and prior to issuance of a Streambed Alteration Agreement. All overhanging vegetation, undercut banks, and tree roots will be surveyed with a butterfly net or fish net.
5. Prior to the onset of work at a work site that may contain shrimp, the USFWS-approved CDFW biologist shall conduct a training session for all construction personnel. At a minimum the training shall include a description of the shrimp and its habitat, the importance of the shrimp and its habitat, the general measures that are being implemented to conserve the shrimp as they relate to the work site, and the work site boundaries where construction may occur.
6. Only USFWS-approved biologists shall participate in the capture, handling, and monitoring of shrimp. CDFW shall report annually on the number of captures, release and injuries/mortality and agrees to modify capture/release strategy with USFWS staff as needed to prevent adverse effects.
7. In site locations where shrimp are present, CDFW will require the grantee to implement the mitigation measures listed:
 - i. Equipment work shall be performed only in riffle, shallow run, or dry habitats, avoiding low velocity pool, and run habitats occupied by shrimp, unless shrimp are relocated according to the protocol described below. "Shallow" run habitat is defined as a run with a maximum water depth, at any point, less than 12-inches, and without undercut banks or vegetation overhanging into the water.
 - ii. Hand placement of logs or rocks shall be permitted in pool or run habitat in stream reaches where shrimp are known to be present, only if the placement will not adversely affect shrimp or their habitat.
 - iii. Care shall be taken during placement or movement of materials in the stream to prevent any damage to undercut stream banks and to minimize damage to any

streamside vegetation. Streamside vegetation overhanging into pools or runs shall not be removed, trimmed, or otherwise modified.

- iv. No log or rock weirs (including vortex rock weirs), or check dams shall be constructed that would span the full width of the low flow stream channel. Vegetation shall be incorporated with any structures involving rocks or logs to enhance migration potential for shrimp.
 - v. No dumping of dead trees, yard waste or brush shall occur in shrimp streams, which may result in oxygen depletion of aquatic systems.
8. If in the opinion of the USFWS-approved biologist, adverse effects to shrimp would be further minimized by moving shrimp away from the project site, the following procedure shall be used:
- i. A second survey shall be conducted within 24 hours of any construction activity and shrimp shall be relocated to the nearest suitable habitat. Shrimp shall be moved while in the net or placed in buckets containing stream water. Stress and temperature monitoring of shrimp shall be performed by the USFWS-approved biologist. Numbers of shrimp and any mortalities or injuries shall be identified and recorded. Shrimp habitat is defined as reaches in low elevation (less than 116 m) and low gradient (less than one percent) streams where banks are structurally diverse with undercut banks, exposed fine root systems, overhanging woody debris or overhanging vegetation.
 - ii. When no other habitat exists on a landowner's property, the shrimp shall be held in suitable containers with site water and released as soon as possible. Containers shall be placed in the shade.
9. If moving the shrimp out of the work area cannot be accomplished, and other avoidance measures have been deemed inappropriate, CDFW shall drop activities at the work site from the project.
10. A USFWS-approved CDFW biologist shall be present at the work site until such time as all removal of shrimp, instruction of workers, and habitat disturbance associated with the restoration project have been completed. The USFWS-approved biologist shall have the authority to halt any action that might result in the loss of any shrimp or its habitat. If work is stopped, the USFWS-approved biologist shall immediately notify CDFW and the USFWS.
11. If a work site is temporarily dewatered by pumping, intakes shall be completely screened with wire mesh no larger than 0.2-inch to prevent shrimp from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow with the least disturbance to the substrate.
12. A USFWS-approved biologist shall permanently remove from within the project work site, any individuals of exotic species, such as bullfrogs, centrarchid fishes, and non-native crayfish, to the maximum extent possible. The grantee shall have the responsibility that such removals are done in compliance with the California Department of Fish and Wildlife.
13. Invasive non-native vegetation that provides shrimp habitat and is removed as a result of Program activities shall be replaced with native vegetation that provides comparable habitat for the shrimp. Re-vegetated sites shall be irrigated as necessary until vegetation is established. Re-vegetated sites shall

be monitored until shading and cover achieves 80% of pre-project shading and cover and for a minimum of five years.

*California Red-Legged Frog (*Rana draytonii*)*

California Red-Legged frog was listed as federally threatened as of 1996. More than 90% of the California Red-Legged frog's habitat has been lost due to urban and agriculture development. Historically the frog was found from southern Mendocino county, inland to Shasta county, and south to Baja California, Mexico. Seven (7) of the 18 projects proposed as part of the 2025 FRGP MND project occur within the range of the California red-legged frog (CRLF). Activities proposed for the sites (1734122 2025 Mainstem Buckeye Creek Instream Enhancement Project, 1734137 Bouverie Dam Removal for Fish Passage , 1734145 Process-Based Floodplain Restoration of Lower Lagunitas Creek, 1734185 Cachagua Creek Fish Passage Alternative Plan/Design Project – Quevedo, 1734307 Arroyo Seco River Fish Passage Project - Sycamore Flats, 1334314 Lower SLO Creek Floodplain Preserve Steelhead Habitat Enhancement Project, 1734344 Green Valley Creek Off-Channel Habitat Enhancement Implementation at Sweetwater Nursery) (Appendix A) will not remove, degrade, or downgrade suitable CRLF habitat. Precautions will still be taken to avoid potentially significant impacts to the CRLF while using heavy equipment. The potential for impacts to CRLF will be mitigated by complying with all of the mandatory terms and conditions associated with incidental take authorized by the USFWS, Biological Opinion to avoid any potential impact to habitat within project sites. Additionally, CDFW proposes to implement the following measures to minimize adverse effects to the CRLF and its habitat:

1. Project activities in potential red-legged frog habitat shall be restricted to the period between July 1 and October 15.
2. At least 15 days prior to the onset of project activities, CDFW shall submit the names(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities shall begin until CDFW has received written approval from the USFWS that the biologist(s) is qualified to conduct the work.
3. USFWS-approved biologist(s) who handle red-legged frogs shall ensure that their activities do not transmit diseases. To ensure that diseases are not conveyed between work sites by the USFWS-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force (<https://www.fws.gov/sites/default/files/documents/declining-amphibian-task-force-fieldwork-code-of-practice.PDF>) shall be followed at all times.
4. A CDFW monitoring plan shall be developed to determine the level of incidental take of red-legged frogs associated with the Restoration Program funded activities in the area. The monitoring plan must include a standardized mechanism to report any observations of dead or injured red-legged frogs to the appropriate USACE and USFWS offices.
5. A USFWS-approved biologist shall survey the project site at least two weeks before the onset of activities. If red-legged frogs are found in the project area and these individuals are likely to be killed or injured by work activities, the USFWS-approved biologist will allow sufficient time to move them from the site before work activities resume. Only USFWS-approved biologists will participate in activities with the capture, handling, and monitoring of red-legged frogs.
6. Before any project-related activities, the approved biologist must identify appropriate areas to receive red-legged frog adults and tadpoles from the project areas. These areas must be in proximity to the

capture site, contain suitable habitat, not be affected by project activities, and be free of exotic predatory species (e.g., bullfrogs and crayfish) to the best of the approved biologist's knowledge.

7. Prior to the onset of project activities, a USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the red-legged frog and its habitat, the importance of the red-legged frog and its habitat, the general measures that are being implemented to conserve the red-legged frog as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.
8. A USFWS-approved biologist shall be present at the work site until such time as removal of red-legged frogs, instruction of workers, and habitat disturbance has been completed. The USFWS-approved biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the USACE and USFWS during review of the proposed action. If work is stopped, the USACE and the USFWS shall be notified immediately by the USFWS-approved biologist or on-site biological monitor.
9. If red-legged frogs are found and these individuals are likely to be killed or injured by work activities, the USFWS-approved biologists must be allowed sufficient time to move them from the site before work activities resume. The USFWS-approved biologist must relocate the red-legged frogs the shortest distance possible to one of the predetermined areas. The USFWS-approved biologist must maintain detailed records of any individuals that are moved (e.g., size, coloration, any distinguishing features, photographs (digital preferred) to assist in determining whether translocated animals are returning to the point of capture. Only red-legged frogs that are at risk of injury or death by project activities may be moved.
10. If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 0.125-inch to prevent red-legged frogs from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain down stream flows during construction activities and eliminate the possibility of ponded water. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.
11. Ponded areas shall be monitored for red-legged frogs that may become entrapped. Any entrapped red-legged frog shall be relocated to a pre-determined receiving area by a USFWS-approved biologist.
12. A USFWS-approved biologist will permanently remove from the project area, any individuals of exotic species, such as bullfrogs (*Rana catesbiana*), centrarchid fishes, and non-native crayfish to the maximum extent possible. The biologist will have the responsibility to ensure that their activities are in compliance with the Fish and Game Code.
13. The CDFW or USACE shall report any observation of the incidental take of red-legged frogs associated with the implementation of the Restoration Program projects in accordance with RGP78. The USFWS and the USACE must review the circumstances surrounding the incident to determine whether any patterns of repeated authorized or unauthorized activities are occurring that may indicate that additional protective measures are required. If, after completion of the review, the USACE and the USFWS agree that additional protective measures are required and can be implemented within the existing scope of the action, the USACE must require the CDFW to implement the agreed-upon measures within a reasonable time frame; if the corrective actions cannot be implemented with the

scope of the existing action, the USACE and USFWS will determine whether re-initiation of consultation is appropriate.

14. Despite term and condition “i)” of this section (above), the USACE must immediately re-initiate formal consultation with the USFWS, pursuant to 7(a) (2) of the Endangered Species Act, if red-legged frogs are taken within the action area at or in excess of the incidental take anticipated in the Incidental Take Statement section of the U.S. Fish and Wildlife biological opinion (file no. 2008-F-0441), whether by project or by year.
15. If these mitigation measures cannot be implemented or the project activities proposed at a specific work site cannot be modified to prevent or avoid potential impacts to CRLF or its habitat, then project activity at that work site shall be discontinued.

California Tiger Salamander (Ambystoma californiense)

The California Tiger Salamander is listed as state threatened throughout its range and is listed as federally endangered or threatened for specific distinct populations. Six populations of the salamander are categorized in California including: Sonoma county, Santa Barbera County, The Bay Area, Central Valley, Southern San Joaquin Valley, and the Central Coast Range. The segments listed as federally endangered are located in Sonoma county, Santa Barbara County, and Central California. One (1) of the 18 proposed projects in the 2025 FRGP MND project are within the range of the California tiger salamander. Impacts to the species, however, are unlikely in the project site (1734145 Process-Based Floodplain Restoration of Lower Lagunitas Creek) (Appendix A), due to implementation projects occurring in or near stream and riparian corridors. California tiger salamanders primarily use ponds and vernal pools for breeding and grassland habitat for estivation, both of which are not usually in proximity to anadromous fish-bearing streams. If it is determined that an individual project could adversely affect Central California or Sonoma County California tiger salamanders or their critical habitat, the project proponents will consult with the Sacramento Fish and Wildlife Office to determine appropriate avoidance and minimization measures and determine if additional consultation is needed.

Foothill Yellow-Legged Frog (Rana boylei)

The Foothill Yellow-Legged Frog CESA status varies by clade; listing of the Northwest/North Coast clade is not warranted. The Feather River DPS is state threatened and federally proposed-threatened. The north Sierra DPS is state threatened, the Central Coast DPS is state endangered and federally proposed-threatened. The South Sierra DPS and South Coast DPS are both state endangered and federally proposed-endangered. Six (6) of the proposed 18 projects proposed as part of the 2025 FRGP MND project occur within the range of FYLF habitat. Activities proposed for the project sites (1734133 Windler Floodplain Habitat Enhancement Phase 2, 1734137 Bouverie Dam Removal for Fish Passage, 1734145 Process-Based Floodplain Restoration of Lower Lagunitas Creek, 1734185 Cachagua Creek Fish Passage Alternative Plan/Design Project – Quevedo, 1734307 Arroyo Seco River Fish Passage Project - Sycamore Flats, 1734344 Green Valley Creek Off-Channel Habitat Enhancement Implementation at Sweetwater Nursery) (Appendix A) will not remove, degrade, or downgrade suitable FYLF habitat. Precautions will still be taken to avoid potentially significant impacts to the FYLF while using heavy equipment. The potential for impacts to FYLF will be mitigated by complying with all of the mandatory terms and conditions associated with incidental take authorized by the USFWS, Biological Opinion to avoid any potential impact to habitat within project sites. Precautions may still be taken in other project sites to avoid potentially significant impacts to the FYLF while using heavy equipment. The potential for impacts to FYLFs will be mitigated by complying with the terms and conditions set forth in this section. Measures for minimization and avoidance of incidental take of FYLF must be developed on a site and project-specific basis. CDFW's [*Considerations for Conserving the Foothill Yellow-Legged Frog*](#) (May 2018) provides guidance and examples of avoidance and minimization measures, invasive non-native control and eradication, and a riparian enhancement plan for the species. CDFW shall implement the additional following measures to minimize adverse effects to the FYLF and its habitat:

1. Prior to start of work, all permits necessary to survey, handle, and relocate FYLFs shall be obtained. All best management practices, special conditions, mitigation, and avoidance measures of any take permit obtained shall be complied with.
2. Within 3-5 days prior to entering or working near stream/riparian habitat within the foothill yellow-legged frog range, a qualified biologist shall examine the project site to determine the

presence and/or the potential for presence of FYLF adults, juveniles, tadpoles, or egg masses within the project area and 300 feet upstream and downstream.

3. The biologist must be able to recognize all potential age classes of FYLFs relative to other amphibians in the project area.
4. The CDFW approved biologist(s) shall ensure that their activities do not transmit diseases. To ensure that diseases are not conveyed between work sites by the approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force (<http://www.fws.gov/ventura/docs/species/protocols/DAFTA.pdf>) shall be followed at all times.
5. If any life stage of FYLFs are found, the biologist must consult with CDFW immediately by either telephone, facsimile, or e-mail, and provide a short description of existing conditions and observations, and a list of all species observed during the examination.
6. Site-specific mitigation measures to avoid or minimize take and to avoid or minimize disturbance to FYLF habitat shall be developed and approved by the CDFW. Work shall not commence until the CDFW has provided written approval of the proposed mitigation measures and any permit to relocate FYLFs have been obtained
7. The approved biologist will dispatch and remove from the project area, any individuals of exotic species, such as bullfrogs (*Lithobates catesbeianus*), centrarchid fishes, and non-native crayfish to the maximum extent possible. The biologist will have the responsibility to ensure that their activities are in compliance with the Fish and Game Code.
8. If these mitigation measures cannot be implemented or the project activities proposed at a specific work site cannot be modified to prevent or avoid potential impacts to FYLF or its habitat, then project activity at that work site shall be discontinued.

Least Bell's Vireo (Vireo bellii pusillus)

The Least Bell's Vireo is listed as state and federally endangered in 1980 and 1986, respectively. Least Bell's Vireo is believed or known to occur in the following counties: Imperial, Inyo, Kern, Los Angeles, Monterey, Orange, Riverside, Sacramento, San Benito, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Santa Clara, Santa Cruz, Stanislaus, Tulare, Ventura, and Yolo. Zero (0) of the 18 projects proposed as part of the 2025 FRGP MND project are within the range of the Least Bell's Vireo. The potential does exist however for noise from heavy equipment work and the harvesting of willow branches for revegetation at these sites to disrupt Least Bell's Vireo nesting. To avoid this potential impact, the following mitigation measures will be implemented, if observed:

1. Work shall not begin within one quarter mile of any site with known or potential habitat for the Least Bell's Vireo until after September 15.
2. Harvest of willow branches at any site with potential habitat for the Least Bell's Vireo will not occur between March 1 and September 15.
3. The work window at individual work sites may be modified, if protocol surveys determine that nesting birds do not occur within 0.25-miles of the site during the breeding season.

4. CDFW shall ensure that the grantee or responsible party is aware of this site-specific condition, and will inspect the work site before, during, and after completion of the action item.
5. If for some reason these mitigation measures cannot be implemented or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to Least Bell's Vireo or their habitat, then activity at that work site will be discontinued.

*Marbled Murrelet (*Brachyrampus marmoratus*)*

Marbled Murrelet is listed as state endangered and federally threatened as of 1992. Marbled Murrelet is a sea bird located along the northern pacific coast and bays. Nesting habitats include mountains near the coast. Most of the foraging is done in shallow water and is sometimes found in lakes near the coast. Marbled Murrelet has experienced serious population declines in recent years. Two (2) of the 18 projects proposed as part of the 2025 FRGP MND project are in potentially suitable habitat for the Marbled Murrelet. Activities proposed for the sites (1734339 Mattole Headwaters Habitat Enhancement Project, 1734345 Elk Creek Fish Passage and Sediment Reduction Project, Crossing 1) (Appendix A) will not remove, degrade, or downgrade suitable Marbled Murrelet habitat. As a result, direct injury or mortality of Marbled Murrelets is not an issue. The potential exists for noise from heavy equipment work at these sites to disrupt Marbled Murrelet nesting. To avoid this potential impact, the following mitigation measures shall be implemented:

1. Restoration work in areas considered by the Arcata and Ventura USFWS offices shall not be conducted within 0.25-mile of occupied or un-surveyed suitable Marbled Murrelet habitat between March 24 and September 15. Restoration work in areas considered by the Sacramento USFWS Office shall not be conducted within 0.25-mile of any occupied or un-surveyed suitable Marbled Murrelet habitat between November 1 and September 15.
2. The work window at individual work sites near suitable habitat may be modified, if protocol surveys determine that habitat quality is low, and occupancy is very unlikely.
3. If these mitigation measures cannot be implemented or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential adverse effects to Marbled Murrelet or their habitat, then activity at that work site shall be discontinued.
4. For projects contained in streams and watersheds included in a USFWS Habitat Conservation Plan the mitigation measures contained within those Habitat Conservation Plans shall be followed.

*Western Burrowing Owl (*Athene cunicularia hypugaea*)*

The Western Burrowing Owl (BUOW) was State listed as a candidate species under the California Endangered Species Act on October 10, 2024. Project activities are not expected to cause take of or significant impact to BUOW or potential BUOW habitat.

A USFWS approved biologist will conduct preconstruction surveys and monitor for BUOW and potential BUOW habitat prior to implementation of project activities. At least one preconstruction survey for BUOW and potential BUOW habitat shall be completed no more than 48 hours prior to implementation of project activities, as BUOW are quick to inhabit burrows. CDFW's [Staff Report on Burrowing Owl Mitigation](#) (March 2012) provides guidance and examples of BUOW survey and habitat assessment methods.

If BUOW presence is detected on site during project work, the construction contractor shall stop work and contact the CDFW Regulatory Coordinator by phone or email within 24 hours of the observation to consult on the appropriate measures to avoid or minimize impacts of the project to BUOW.

Western Yellow-Billed Cuckoo

One (1) of the 18 projects proposed as part of the 2025 FRGP MND project are in potentially suitable habitat for the Western Yellow-Billed Cuckoo. Activities proposed for the sites (1334314 Lower SLO Creek Floodplain Preserve Steelhead Habitat Enhancement Project) (Appendix A) will not remove, degrade, or downgrade suitable western yellow-billed cuckoo habitat or result in direct injury or mortality.

Effects to western yellow-billed cuckoos from project activities could include noise disturbances during the breeding season, and disturbance from harvesting of revegetation material. Noise from heavy equipment has the potential to cause nesting birds to abandon nests, and harvesting revegetation material could reduce habitat quality during the breeding season. Limiting this type of work to the fall and winter months would reduce the potential adverse effects.

Projects may affect yellow-billed cuckoo, but it is not likely to adversely affect yellow-billed cuckoo. The following measures will be applied based on the low likelihood of disturbance to yellow-billed cuckoo.

1. Program activities that occur in known suitable breeding habitat (contiguous riparian habitat covering 50 acres or more) will not be conducted from June 1 to August 31.
2. If protocol surveys determine that no nesting western yellow-billed cuckoos occur within 0.25 mile of a specific project site, project activities at that site may commence prior to August 31.
3. Project activities will not remove or degrade suitable habitat for western yellow-billed cuckoo.

Northern Spotted Owl (Strix occidentalis caurina)

Nine (7) of the 18 proposed projects as part of the 2025 FRGP MND project occur within the range of Northern Spotted Owl. Activities proposed for the sites (1734145 Process-Based Floodplain Restoration of Lower Lagunitas Creek, 1734167 Cox Creek Coho Habitat Improvement Project, 1734177 Lower SF Cottaneva Instream Habitat Improvement Project, 1734187 Bridge Creek - CCC Large Wood Coho Habitat Enhancement Project, 1734188 Chamberlain Creek Instream Habitat Enhancement Project, 1734303 Upper SF Eel River Instream Habitat Improvement Project, 1734339 Mattole Headwaters Habitat Enhancement Project) (Appendix A) will not remove, degrade, or downgrade suitable Northern Spotted owl habitat or result in direct injury or mortality. The potential exists for noise from heavy equipment work at these sites to disrupt Northern Spotted Owl nesting. To avoid this potential effect, the following mitigation measures will be implemented:

1. Work with heavy equipment at any site within 0.25 miles of suitable habitat for the Northern Spotted Owl shall not occur from November 1 to July 31 for projects in areas under the jurisdiction of the Sacramento USFWS Office and from November 1 to July 9 for projects in areas under the jurisdiction of the Arcata USFWS Office.
2. The work window at individual work sites may be advanced prior to July 9 or July 31 (corresponding to the different time constraints of the Sacramento and Arcata USFWS office), if protocol surveys determine that suitable habitat is unoccupied.
3. If these mitigation measures cannot be implemented or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to northern spotted owls or their habitat, then activity at that work site shall be discontinued and CDFW must reinitiate consultation with USFWS.
4. For projects contained within streams and watersheds included in a USFWS Habitat Conservation Plan the mitigation measures contained within those Habitat Conservation Plans shall be followed.

Point Arena Mountain Beaver (Aplodontia rufa nigra)

Zero (0) of the 18 projects proposed in the 2025 FRGP MND project are within the range of the Point Arena Mountain Beaver. To avoid this potential effect, the following mitigation measures will be implemented, if observed:

1. Within 500 feet of occupied habitat during the breeding season from December 15 through June 15 the following restrictions are in place:
 - a. Action and related activities shall be greater than 100 feet from occupied habitat
 - b. Noise-generating activities shall be limited to the use of hand tools and light power-tools (e.g., chainsaw, axe, etc.).
 - c. No tools shall be used that require an air compressor.
 - d. No power tools shall be operated while in direct contact with the ground.

San Francisco Garter Snake (Thamnophis sirtalis tetrataenia)

Of the 18 projects proposed in the 2025 FRGP MND project, none are within the range of the San Francisco Garter Snake. Precautions shall be required at these sites to avoid the potential for take of

garter snakes while using heavy equipment. The potential for impacts to San Francisco garter snakes will be mitigated by complying with all of the mandatory terms and conditions associated with incidental take authorized by the Service, Biological Opinions. CDFW shall implement the following measures to minimize adverse effects to the San Francisco garter snake and its habitat:

1. A USFWS approved biologist will conduct preconstruction surveys and monitor for San Francisco garter snakes prior to implementation of project activities. If San Francisco garter snakes are identified at a project site, work will be halted. If the identified animal(s) do not leave the project area of their own volition, the USFWS and CDFW will be contacted to determine appropriate actions. Only Service-approved biologists will participate in activities associated with the capture, handling, or relocation of San Francisco garter snakes.
2. Exclusion fencing shall be established around staging areas and soil stockpile areas. Exclusion fencing shall include escape funnels and the lower edge of the fence shall be buried at least for (4) inches to prevent burrowing animals from tunneling under the fence. Exclusion fence posts will be placed on the inside to prevent snakes from being able to climb into the project site.
3. The USFWS approved biologist will conduct daily inspections of the project work area, staging area, and the perimeter of any exclusion fencing prior to the commencement of construction activities. Upon completion equipment or materials may be moved onto the work site and project activities may commence with a USFWS approved monitor.
4. The exclusion fencing will remain in operating conditions for the duration of the project. The biological monitor shall daily inspect the integrity of the exclusion fencing to ensure there are no gaps, tears, or damage. Maintenance of the fencing shall be conducted as needed. Any necessary repairs to the fencing shall be completed within 24 hours of the initial observance of the damage.
5. A USFWS approved biological monitor will be on-site while project activities are being conducted. The monitor will walk in from of equipment to ensure San Francisco garter snakes are not crushed.
6. Vegetation removed shall be kept within the exclusion fencing or placed into a disposal vehicle and removed from the project site. Vegetation will not be piled on the ground outside fencing unless it is later transferred, piece by piece, under the direct supervision of the USFWS-approved biologist.
7. Soil will not be stockpiled unless it is on a paved surface or an area where burrows are absent. The USFWS- approved biologist will approve such locations within the defined work area.
8. If San Francisco garter snakes are found on site, the construction contractor shall stop work and contact the Service immediately and allow the San Francisco garter snakes to leave on its own volition.
9. Prior to work, all burrows will be flagged and avoided to prevent their collapse.
10. All workers will check stockpiled construction materials, and under equipment to be moved for presence of wildlife sheltering within them prior to use.

11. Any vehicle parked on site for more than 15 minutes will be inspected before it is moved to ensure that San Francisco garter snakes have not moved under the vehicle.
12. The USFWS-approved biological monitor shall have the responsibility and authority of stopping the project if any crews or personnel are not complying with the above measures.

Willow Flycatcher (Empidonax traillii), Southwestern Willow Flycatcher (Empidonax traillii extimus), and Little Willow Flycatcher (Empidonax traillii brewsteri)

Of the 18 projects proposed in the 2025 FRGP MND project, four (4) is within the range of the Little Willow Flycatcher. Activities proposed for the site (1734167 Cox Creek Coho Habitat Improvement Project, 1734247 Ryan and Freshwater Slough Tidal Wetland Reconnection Project, 1734338 Upper Tryon Creek Restoration Project, Phase 1, 1734345 Elk Creek Fish Passage and Sediment Reduction Project, Crossing 1) (Appendix A) will not remove, degrade, or downgrade suitable Willow Flycatcher habitat or result in direct injury or mortality. The potential exists for the noise from heavy equipment work or harvesting of re-vegetation material at these sites to disrupt Willow Flycatcher nesting if present. To avoid this potential impact, the following mitigation measures shall be implemented:

1. Heavy equipment work shall not begin within one quarter mile of any site with known or potential habitat for the Willow Flycatcher until after September 15.
2. Prior to any work in areas where riparian habitat is present, a qualified biologist shall do a habitat assessment and determine whether the area within 500-feet of the project site is suitable for nesting by Willow Flycatchers. If not, work may proceed without further surveys. If the biologist determines that the area is suitable, a qualified biologist must monitor before and during the project to determine the status of the Willow Flycatchers within 500-feet of the project site.
3. The work window at individual work sites may be modified, if protocol surveys determine that nesting birds do not occur within 0.25-miles of the site during the breeding season.
4. Harvest of willow branches at any site with potential habitat for the Willow Flycatcher shall not occur between May 1 and September 15.
5. No more than 1/3 of any willow plant shall be harvested annually. Care shall be taken during harvest not to trample or over harvest the willow sources.
6. If any Willow Flycatchers are observed nesting within 500-feet of the project activities, work shall cease temporarily until it is determined that either the birds are not nesting, or young have fledged.
7. CDFW shall ensure that the grantee or responsible party is aware of this site-specific condition, and shall inspect the work site pre-, during, and post-completion of the action item.

If these mitigation measures cannot be implemented or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to Willow Flycatcher or their habitat, then activity at that work shall be discontinued.

Chinook Salmon (Oncorhynchus tshawytscha), Coho Salmon (Oncorhynchus kisutch), Steelhead Trout (Oncorhynchus mykiss), and Coast Cutthroat Trout (Oncorhynchus clarkii clarkii)

While all of the work proposed under this program will enhance habitat for one or more of these species, all of the projects proposed as part of the 2025 FRGP MND project could involve instream work in their habitat (Appendix A). In order to avoid any potential for negative impacts to these species, the following measures will be implemented:

1. Project work within the wetted stream shall be limited to the period between June 15 and November 1, or the first significant rainfall, or whichever comes first. This is to take advantage of low stream flows and to avoid the spawning and egg/alevin incubation period of salmon and steelhead. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Wildlife (i.e., on the Shasta River projects must be completed between July 1 and September 15 to avoid impacts to immigrating and emigrating salmonids). Whenever possible, the work period at individual sites shall be further limited to entirely avoid periods when salmonids are present (for example, in a seasonal creek, work will be confined to the period when the stream is dry).
2. Suitable large woody debris removed from fish passage barriers that is not used for habitat enhancement, shall be left within the riparian zone to provide a source for future recruitment of wood into the stream, reduce surface erosion, contribute to amounts of organic debris in the soil, encourage fungi, provide immediate cover for small terrestrial species and to speed recovery of native vegetation.
3. A maximum of 1,000 contiguous feet of that stream reach may be dewatered at any given time. Other sections of stream within the same project area may be dewatered in up to 1,000 contiguous foot increments, as long as listed fish that were handled during the initial dewatering event are not handled during subsequent dewatering events during the same year. To avoid handling the same fish multiple times during sequenced dewatering events, fish must be relocated to suitable habitat conditions outside of the zone that could be dewatered during that season. In addition, for each dewatering and relocation event, sufficient field staff must be available to efficiently move and care for relocated fish. The fish relocation plan submitted prior to the event must describe this sufficiency.
4. Staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the stream's high-water channel and associated riparian area where it cannot enter the stream channel. Stationary equipment such as motors, pumps, generators, compressors, and welders located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans. Vehicles will be moved out of the normal high-water area of the stream prior to refueling and lubricating. Prior to the onset of work, CDFW shall ensure that the grantee has prepared a plan to allow a prompt and effective response to any accidental spills.
5. The number of access routes and footpaths, number and size of staging areas, and the total area of the work site activity shall be limited to the minimum necessary. All access routes, footpaths, and staging areas created during the project shall be replanted with native vegetation.
6. Any construction debris shall be prevented from falling into the stream channel. Any material that does fall into a stream during construction shall be immediately removed in a manner that has minimal impact to the streambed and water quality.

7. Prior to dewatering a construction site, fish and amphibian species shall be captured and relocated by CDFW personnel (or designated agents). The following measures shall be taken to minimize harm and mortality to listed salmonids resulting from fish relocation and dewatering activities:
8. Fish relocation and dewatering activities shall only occur between June 15 and November 1 of each year and shall be performed by a qualified fisheries biologist.
9. Fish relocation shall be performed by a qualified fisheries biologist, with all necessary State and Federal permits. Captured fish shall be moved to the nearest appropriate site outside of the work area. A record shall be maintained of all fish rescued and moved. The record shall include the date of capture and relocation, the method of capture, the location of the relocation site in relation to the project site, and the number and species of fish captured and relocated. The record shall be provided to CDFW within two weeks of the completion of the work season or project, whichever comes first.
10. Electrofishing shall be conducted by properly trained personnel following NOAA *Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act*, June 2000.
11. Prior to capturing fish, the most appropriate release location(s) shall be determined. The following shall be determined:
 - i. Temperature: Water temperature shall be similar as the capture location.
 - ii. Habitat: There shall be ample habitat for the captured fish.
 - iii. Exclusions from work site: There shall be a low likelihood for the fish to reenter the work site or become impinged on exclusion net or screen.
12. The most efficient method for capturing fish shall be determined by the biologist. Complex stream habitat generally requires the use of electrofishing equipment, whereas in outlet pools, fish may be concentrated by pumping-down the pool and then seining or dip netting fish.
13. Handling of salmonids shall be minimized. However, when handling is necessary, always wet hands or nets prior to touching fish.
14. Temporarily hold fish in cool, shaded, aerated water in a container with a lid. Provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from this container until time of release.
15. Air and water temperatures shall be measured periodically. A thermometer shall be placed in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds 18°C, fish shall be released, and rescue operations ceased.
16. Overcrowding in containers shall be avoided by having at least two containers and segregating young-of-year (YOY) fish from larger age-classes to avoid predation. Larger amphibians, such as Pacific giant salamanders, shall be placed in the container with larger fish. If fish are abundant, the capturing of fish and amphibians shall cease periodically and shall be released at the predetermined locations.
17. Species and year-class of fish shall be visually estimated at time of release. The number of fish captured shall be counted and recorded. Anesthetization or measuring fish shall be avoided.

18. If feasible, initial fish relocation efforts shall be performed several days prior to the start of construction. This provides the fisheries biologist an opportunity to return to the work area and perform additional electrofishing passes immediately prior to construction. In many instances, additional fish will be captured that eluded the previous day's efforts.
19. If mortality during relocation exceeds three percent, capturing efforts shall be stopped and the appropriate agencies shall be contacted immediately.
20. In regions of California with high summer temperatures, relocation activities shall be performed in the morning when the temperatures are cooler.
21. CDFW shall minimize the amount of wetted stream channel that is dewatered at each individual project site to the fullest extent possible.
22. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Volume II, Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.
23. If these mitigation measures cannot be implemented, or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to anadromous salmonids or their habitat, then activity at that work site shall be discontinued.

Crotch's Bumble Bee (Bombus crotchii), Franklin's Bumble Bee (Bombus franklini), Suckley's Cuckoo Bumble Bee (Bombus suckleyi), and Western Bumble Bee (Bombus occidentalis)

Sixteen (16) of the 18 work sites proposed as part of the 2025 FRGP MND project are listed on the corresponding species lists as in potentially suitable habitat for one or more of these species. The project site activities (1734133 Windler Floodplain Habitat Enhancement Phase 2, 1734137 Bouverie Dam Removal for Fish Passage, 1734140 Soda Creek Habitat Enhancement Project (Phase II), 1734145 Process-Based Floodplain Restoration of Lower Lagunitas Creek, 1734167 Cox Creek Coho Habitat Improvement Project, 1734177 Lower SF Cottaneva Instream Habitat Improvement Project, 1734185 Cachagua Creek Fish Passage Alternative Plan/Design Project – Quevedo, 1734187 Bridge Creek - CCC Large Wood Coho Habitat Enhancement Project, 1734188 Chamberlain Creek Instream Habitat Enhancement Project, 1734303 Upper SF Eel River Instream Habitat Improvement Project, 1734307 Arroyo Seco River Fish Passage Project - Sycamore Flats, 1334314 Lower SLO Creek Floodplain Preserve Steelhead Habitat Enhancement Project, 1734338 Upper Tryon Creek Restoration Project, Phase 1, 1734339 Mattole Headwaters Habitat Enhancement Project, 1734344 Green Valley Creek Off-Channel Habitat Enhancement Implementation at Sweetwater Nursery, 1734345 Elk Creek Fish Passage and Sediment Reduction Project, Crossing 1) (Appendix A) will not significantly degrade existing bumble bee habitat; however, the potential exists for project work to disrupt bumble bee nesting and foraging if present. To avoid this potential effect, the following mitigation measures will be implemented:

1. Prior to the initiation of ground disturbing activities, a qualified biologist shall do a habitat assessment evaluating the likelihood of bumble bees occurring within and adjacent to the project area, and results should be submitted to CDFW. Multiple on-site surveys should be developed to detect foraging bumble bees and potential nesting sites (nesting surveys) each year that project activities will occur and results should be submitted to CDFW. The survey shall follow guidelines outlined in CDFW's June 2024 Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species

(<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline>). In lieu of conducting surveys (e.g., if conducting a valid survey is not feasible), the potential presence of protected bumble bees in the project area would be assumed.

2. If no protected bumble bees are found during the multiple rounds of focused surveys, but the habitat assessment identified suitable nesting, foraging, or overwintering habitat within the project site, a qualified biologist should be onsite during vegetation or ground disturbing activities that take place during any of the Queen and Gyne Flight Period and Colony Active Period (Table 1). If protected bumble bees are observed, site-specific measures to avoid take shall be determined by the biologist, or CDFW shall be consulted with to obtain an Incidental Take Permit (ITP) if take of protected bumble bees may occur during project activities. Even if surveys from a particular project site failed to detect bumble bees one year, a full round of surveys shall be performed each year that project activities will occur or assume presence.

Common Name	Species Name	Queen Flight Season	Colony Active Period (highest detection probability)	Gyne Flight Season
Franklin's bumble bee	<i>Bombus franklini</i>	Late April-early June	Late June-August	September-October
Western bumble bee	<i>Bombus occidentalis</i>	February-March	April-September	October-November
Crotch's bumble bee	<i>Bombus crotchii</i>	February-March	April-August	September-October

Table 1: Approximate Queen and Gyne Flight Seasons and Colony Active Periods of three candidate bumble bee species (taken and adapted from seasonality charts in Williams et al. 2014). The highest detection probability for each species is during the Colony Active Period. Suckley's cuckoo bumble bee is not included because there is high potential the species would not be detected if surveys were conducted outside of the queen's flight season, which is typically late spring through mid-summer.

3. The removal of any native or non-native flowering vegetation should occur prior to bloom and before the active period for Bumble bee colonies (April through August). If project activities cannot be avoided during the active period or prior to the blooming period, and vegetation is removed, flowering vegetation shall be removed in a patched manner, leaving areas of floral resources as refugia, or shall wait until bloom has ceased.
4. The disturbance or removal of vegetation shall be kept to the minimum necessary to complete project activities. Vegetation marked for protection may only be trimmed with hand tools to the extent necessary to gain access to the project area. If mowing is planned, mower blade heights shall be set no lower than four inches, unless otherwise approved by CDFW in writing.
5. The application of herbicides will be limited during the bumble bee flight and nesting season (March through September) as feasible. When herbicide applications cannot be avoided during project activities, treatments will be conducted in a patchy pattern to retain floral resources and provide refuge for bumble bees, where feasible.

6. If active bumble bee nests are observed in the surveyed area or during project activities, work will be halted and the qualified biologist shall be contacted for approval to delineate a 50-foot no-activity buffer around the nest until the nest senesces, as determined by the qualified biologist. Delineation methods may include posted signs, posting stakes, flags, and/or rope or cord, and fencing as necessary to minimize the disturbance of the nest. The nest location shall be recorded with a GPS (including datum and horizontal accuracy in feet) and the qualified biologist shall report the nest location to the CDFW within 24 hours of finding the nest.
7. CDFW shall ensure that the grantee or responsible party is aware of this site-specific condition, and shall inspect the work site pre-, during, and post-completion of the action item.

If these mitigation measures cannot be implemented or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to Bumble Bees or their habitat, then activity at that work shall be discontinued.

*Tidewater Goby (*Eucyclogobius newberryi*)*

Two (2) of the 18 work sites proposed as part of the 2025 FRGP MND project are listed on the corresponding species lists as in potentially suitable habitat for tidewater goby. Activities proposed for the project sites (1734145 Process-Based Floodplain Restoration of Lower Lagunitas Creek, 1334314 Lower SLO Creek Floodplain Preserve Steelhead Habitat Enhancement Project) (Appendix A) will not remove, degrade, or downgrade suitable tidewater goby habitat. Work under FRGP will enhance habitat for tidewater goby. To avoid any potential for negative impacts to this species, the following measures will be implemented:

1. Construction activities at stream crossings will only occur between June 15 and November 1 to avoid or minimize adversely affecting tidewater goby and to minimize soil compaction and sediment transport.
2. Equipment will not be operated directly within tidal waters or stream channels of flowing streams.
3. Work will be done during low tide when no water or fish are present, to temporarily prevent tidewater goby from gaining access to the vicinity of the work area. If water is present, the work area will be seined, and a fish barrier installed to isolate the work area. At this time, gobies are susceptible to being injured or crushed by workers while they are entangled in or being removed from netting. In order to minimize potentially adverse effects to gobies, all translocation/removal of tidewater gobies will be conducted by qualified biologists under a scientific recovery permit pursuant to section 10(a)(1)(A) of the Act.
4. The temporary fish barrier will be removed after work is completed.
5. Silt fences will be deployed at culvert removal areas to prevent any sediment from flowing into the creek or wetted channels. If the silt fences are not adequately containing sediment, construction activity will cease until remedial measures are implemented that prevents sediment from entering the waters below.
6. All exposed surfaces will be slash-packed with native vegetation and planted with willow sprigging when the work has been completed.

7. Construction materials, debris, or waste will not be placed or stored where it may be allowed to enter into or be placed where it may be washed by rainfall into waters of the U.S./State.
8. Turbid water will be contained and prevented from being transported in amounts that are deleterious to fish, or in amounts that could violate state pollution laws. Silt fences or water diversion structures will be used to contain sediment. If sediment is not being contained adequately, as determined by visual observation, the activity will cease.
9. Designated areas will be used for equipment refueling. If equipment must be washed, washing will occur where wash water cannot flow into wetlands or waters of the U.S./State.
10. Best Management Practices (BMPs) will be implemented to prevent entry of storm water runoff into the project 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 materials.

Pacific Lamprey (Entosphenus tridentatus)

Thirteen (13) of the 18 work sites proposed as part of the 2025 FRGP MND project (1734133 Windler Floodplain Habitat Enhancement Phase 2, 1734137 Bouverie Dam Removal for Fish Passage, 1734145 Process-Based Floodplain Restoration of Lower Lagunitas Creek, 1734167 Cox Creek Coho Habitat Improvement Project, 1734177 Lower SF Cottaneva Instream Habitat Improvement Project, 1734185 Cachagua Creek Fish Passage Alternative Plan/Design Project – Quevedo, 1734247 Ryan and Freshwater Slough Tidal Wetland Reconnection Project, 1734303 Upper SF Eel River Instream Habitat Improvement Project, 1734307 Arroyo Seco River Fish Passage Project - Sycamore Flats, 1734338 Upper Tryon Creek Restoration Project, Phase 1, 1734339 Mattole Headwaters Habitat Enhancement Project, 1734344 Green Valley Creek Off-Channel Habitat Enhancement Implementation at Sweetwater Nursery, 1734345 Elk Creek Fish Passage and Sediment Reduction Project, Crossing 1) (Appendix A) are located in potential suitable habitat for the Pacific lamprey. While most the activities proposed will require instream in their habitat the following documents by the Pacific Lamprey Conservation Initiative and their minimization measures shall be implemented and followed by project proponents in order to avoid any potential for negative impacts to the species:

1. [Best Management Guidelines for Native Lampreys During In-water Work Living document, Original Version 1.0](#) (May 2020)
2. [Practical guidelines for Incorporating Adult Pacific Lamprey at Fishways](#) (June 2017)
3. [Best Management Practices to Minimize Adverse Effects to Pacific Lamprey](#) (April 2010)

Riparian and re-vegetation

1. Planting of seedlings shall begin after December 1, or when sufficient rainfall has occurred to ensure the best chance of survival of the seedlings, but in no case after April 1.
2. Any disturbed banks shall be fully restored upon completion of construction. Revegetation shall be done using native species. Planting techniques can include seed casting, hydroseeding, or live planting methods using the techniques in Volume II, Part XI of the *California Salmonid Stream Habitat Restoration Manual*.

3. Disturbed and compacted areas shall be re-vegetated with native plant species. The species shall be comprised of a diverse community structure that mimics the native riparian corridor. Planting ratio shall be 2:1 (two plants to every one removed).
4. Unless otherwise specified, the standard for success is 80 percent survival of plantings or 80 percent ground cover for broadcast planting of seed after a period of three years.
5. To ensure that the spread or introduction of invasive exotic plants shall be avoided to the maximum extent possible, equipment shall be cleaned of all dirt, mud, and plant material prior to entering a work site. When possible, invasive exotic plants at the work site shall be removed. Areas disturbed by project activities will be restored and planted with native plants.
6. Mulching and seeding shall be done on all exposed soil which may deliver sediment to a stream. Soils exposed by project operations shall be mulched to prevent sediment runoff and transport. Mulches shall be applied so that not less than 90% of the disturbed areas are covered. All mulches, except hydro-mulch, shall be applied in a layer not less than two (2) inches deep. Where feasible, all mulches shall be kneaded or tracked-in with track marks parallel to the contour, and tackified as necessary to prevent excessive movement. All exposed soils and fills, including the downstream face of the road prism adjacent to the outlet of culverts, shall be reseeded with a mix of native grasses common to the area, free from seeds of noxious or invasive weed species, and applied at a rate which will ensure establishment.
7. If erosion control mats are used in re-vegetation, they shall be made of material that decomposes. Erosion control mats made of nylon plastic, or other non-decomposing material shall not be used.
8. CDFW shall retain as many trees and brush as feasible, emphasizing shade producing and bank stabilizing trees and brush to minimize impacts to the riparian corridor.
9. If riparian vegetation is to be removed with chainsaws, the grantee shall use saws that operate with vegetable-based bar oil when possible.
10. Disturbed and decompact areas shall be re-vegetated with native species specific to the project location that comprise a diverse community of woody and herbaceous species.

V.CULTURAL RESOURCES

Ground-disturbance will be required to implement the project at certain locations that, despite efforts to identify cultural resources, have the potential to affect these resources. The procedure for a programmatic evaluation of archeological resources is provided in Appendix E. Potential for inadvertent impacts will be avoided through implementation of the following mitigation measures:

1. The Grantee shall contract with an archaeologist(s) or other historic preservation professional that meets The Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61, and 48 FR 44716) to complete cultural resource surveys at any sites with the potential to be impacted prior to any ground disturbing activities. This work may be augmented with the aid of a Native American cultural resources specialist that is culturally affiliated with the project area. Cultural and paleontological resource surveys shall be conducted using standard protocols to meet CEQA Guideline requirements. Paleontological survey protocols are listed in Appendix D.

2. If cultural and/or paleontological resource sites are identified at a project location, CDFW will require one or more of the following protective measures to be implemented before work can proceed: a) fencing to prevent accidental disturbance of cultural resources during construction, b) on-site monitoring by cultural and/or paleontological resource professionals during construction to assure that cultural resources are not disturbed, c) redesign of proposed work to avoid disturbance of cultural resources.
3. The Grantee shall report any previously unknown historic, archeological, and paleontological remains discovered at a project location to CDFW for reporting to the USACE as required in the FRGP Regional General Permits.
4. CDFW shall ensure that the grantee or responsible party is aware of these site-specific conditions, and shall inspect the work site before, during, and after completion of the action item.
5. Inadvertent Discovery of Cultural Resources - If cultural resources, such as lithic debitage, ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbance activities, work shall be stopped within 20 meters (66 feet) of the discovery, per the requirements of CEQA (January 1999 Revised Guidelines, Title 14 CCR § 15064.5 (f)). Work near the archaeological finds shall not resume until an archaeologist that meets the Secretary of the Interior's Standards and Guidelines suited to the discovery, has evaluated the materials, and offered recommendations for further action. Cultural materials not associated with human interments shall be documented and curated in place.
6. Inadvertent Discovery of Human Remains - If human remains are discovered during project construction, work shall stop at the discovery location, within 20 meters (66 feet), and any nearby area reasonably suspected to overlie adjacent to human remains (Public Resources Code, § 7050.5). The county coroner shall be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American heritage Commission (NAHC) (Public Resources Code, § 5097). The coroner will contact the NAHC. The descendants or most likely descendants of the deceased will be contacted, and work shall not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, § 5097.98.
7. Procedures for treatment of an inadvertent discovery of human remains:
 - a. Immediately following discovery of known or potential human remains all ground-disturbing activities at the point of discovery shall be halted.
 - b. No material remains shall be removed from the discovery site, and a reasonable exclusion zone shall be cordoned off.
 - c. The CDFW Grant Manager and property owner shall be notified and the CDFW Grant Manager shall contact the county coroner.
 - d. The Grantee shall retain the services of a professional archaeologist to immediately examine the finds and assist the process.

- e. All ground-disturbing construction activities in the discovery site exclusion area shall be suspended.
- f. The discovery site shall be secured to protect the remains from desecration or disturbance, with 24-hour surveillance, if prudent.
- g. Discovery of Native American remains is a very sensitive issue, and all project personnel shall hold any information about such a discovery in confidence and divulge it only on a need-to-know basis, as determined by the CDFW.
- h. The coroner has two working days to examine the remains after being notified. If the remains are Native American, the coroner has 24 hours to notify the NAHC in Sacramento (telephone 916-373-3710).
- i. The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) of the deceased Native American.
- j. The MLD may, with the permission of the landowner, or their representative, inspect the site of the discovered Native American remains and may recommend to the landowner and CDFW Grant Manager means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make recommendations or preferences for treatment with 48 hours of being granted access to the site (Public Resource Code, § 5097.98(a)). The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials.
- k. Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his/her authorized representative rejects the recommendation of the MLD and mediation between the parties by the NAHC fails to provide measures acceptable to the landowner, the landowner or his/her authorized representatives shall re-inter the human remains and associated grave offerings with appropriate dignity on the property in a location not subject to further subsurface disturbance in accordance with Public Resource Code, § 5097.98(e).
- l. Following final treatment measures, the CDFW shall ensure that a report is prepared that describes the circumstances, nature and location of the discovery, its treatment, including results of analysis (if permitted), and final disposition, including a confidential map showing the reburial location. Appended to the report shall be a formal record about the discovery site prepared to current California standards on DPR 523 form(s). CDFW shall ensure that report copies are distributed to the appropriate California Historic Information Center, NAHC, and MLD.
- m. Pursuant to RGP78 and in accordance with 36 C.F.R. § 800.13, in the event of any discovery during construction of human remains, archeological deposits, or any other type of historic property, the CDFW shall notify the USACE archeological staff (Steve Dibble at 213-452-3849 or John Killeen at 213-452-3861) within 24 hours. Construction work shall be suspended immediately and shall not resume until USACE re-authorizes project construction.

- n. If it becomes impossible to implement the project at a work site without disturbing cultural or paleontological resources, then activity at that work site shall be discontinued.

VI. ENERGY

No specific mitigation measures are required to protect energy.

VII. GEOLOGY AND SOILS

There is no potential for a significant adverse impact to geology and soils; implementation of the restoration project will contribute to an overall reduction in erosion and sedimentation. Existing roads will be used to access work sites. Ground disturbance at most work sites will be minimal, except for road improvements or decommissioning. Road improvements and decommissioning will involve moving large quantities of soil from road fills and stream crossings to restore historic land surface profiles and prevent chronic erosion and sediment delivery to streams. In order to avoid temporary increases in surface erosion, the following mitigation measures will be implemented:

1. CDFW will implement the following measures to minimize harm to listed salmonids resulting from culvert replacement activities and other instream construction work:
 - a. All stream crossing replacement or modification designs, involving fish passage, shall be reviewed, and approved by NOAA (and/or CDFW) engineers prior to onset of work.
 - b. If the stream in the project location was not passable to, or was not utilized by all life stages of, all covered salmonids prior to the existence of the road crossing, the project shall pass the life stages and covered salmonid species that historically did pass there. Retrofit culverts shall meet the fish passage criteria for the passage needs of the listed species and life stages historically passing through the site prior to the existence of the road crossing.
2. CDFW shall implement the following measures to minimize harm to listed salmonids resulting from road decommissioning activities:
 - a. Woody debris will be concentrated on finished slopes of decommissioned roads adjacent to stream crossings to reduce surface erosion; contribute to amounts of organic debris in the soil; encourage fungi; provide immediate cover for small terrestrial species; and to speed recovery of native forest vegetation.
 - b. Work sites shall be winterized at the end of each day to minimize the eroding of unfinished excavations when significant rains are forecasted. Winterization procedures shall be supervised by a professional trained in erosion control techniques and involve taking necessary measures to minimize erosion on unfinished work surfaces. Winterization includes the following: grading unfinished surfaces to allow water to freely drain across them without causing water concentration or ponding; compacting unfinished surfaces where concentrated runoff may flow with an excavator bucket or similar tool, to minimize surface erosion and the formation of rills; and installation of culverts, silt fences, and other erosion control devices where necessary to convey concentrated water across unfinished surfaces, and trap exposed sediment before it leaves the work site.
3. Effective erosion control measures shall be in-place at all times during construction. Construction within the 5-year floodplain shall not begin until all temporary erosion controls (i.e., straw bales or silt

fences that are effectively keyed-in) are in place down slope or down stream of project activities within the riparian area. Erosion control measures shall be maintained throughout the construction period. If continued erosion is likely to occur after construction is completed, then appropriate erosion prevention measures shall be implemented and maintained until erosion has subsided.

4. An adequate supply of erosion control materials (gravel, straw bales, shovels, etc.) shall be maintained onsite to facilitate a quick response to unanticipated storm events or emergencies.
5. Use erosion controls that protect and stabilize stockpiles and exposed soils to prevent movement of materials. Use devices such as plastic sheeting held down with rocks or sandbags over stockpiles, silt fences, or berms of hay bales, to minimize movement of exposed or stockpiled soils.
6. When needed, instream grade control structures shall be utilized to control channel scour, sediment routing, and headwall cutting.
7. Temporary stockpiling of excavated material shall be minimized. However, excavated material shall be stockpiled in areas where it cannot enter the stream channel. Available sites at or near the project location shall be determined prior to the start of construction. If feasible, topsoil shall be conserved for reuse at project location or use in other areas.
8. Upon project completion, all exposed soil present in and around the project site shall be stabilized within seven days. Soils exposed by project operations shall be mulched to prevent sediment runoff and transport. Mulches shall be applied so that not less than 90% of the disturbed areas are covered. All mulches, except hydro-mulch, shall be applied in a layer not less than two (2) inches deep. Where feasible, all mulches shall be kneaded or tracked-in with track marks parallel to the contour, and tackified as necessary to prevent excessive movement. All exposed soils and fills, including the downstream face of the road prism adjacent to the outlet of culverts, shall be reseeded with a mix of native grasses common to the area, free from seeds of noxious or invasive weed species, and applied at a rate which will ensure establishment.
9. Soil compaction shall be minimized by using equipment with a greater reach or that exerts less pressure per square inch on the ground, resulting in less overall area disturbed and less compaction of disturbed areas.
10. Disturbed soils shall be decompacted at project completion as heavy equipment exits the construction area.
11. At the completion of the project, soil compaction that is not an integral element of the design of a crossing should be de-compacted.

VIII. GREENHOUSE GAS EMISSIONS

No specific mitigation measures are required. Re-vegetation practices will help offset the short term, less than significant, greenhouse gas emissions.

IX. HAZARDS AND HAZARDOUS MATERIALS

The project will not create a significant hazard to the public or the environment. At work sites requiring the use of heavy equipment, there is a small risk of an accident upsetting the machine and releasing fuel, oil, and coolant, or of an accidental spark from equipment igniting a fire. The potential for these impacts

will be reduced to a less than significant level through implementation of the following mitigation measures:

1. Heavy equipment that will be used in these activities will be in good condition and will be inspected for leakage of coolant and petroleum products and repaired, if necessary, before work is started.
2. When operating vehicles in wetted portions of the stream channel, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, the responsible party shall, at a minimum, do the following:
 - a. Check and maintain on a daily basis any vehicles to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life, wildlife, or riparian habitat.
 - b. Take precautions to minimize the number of passes through the stream and to avoid increasing the turbidity of the water to a level that is deleterious to aquatic life; and
 - c. Allow the work area to “rest” to allow the water to clear after each individual pass of the vehicle that causes a plume of turbidity above background levels, resuming work only after the stream has reached the original background turbidity levels.
3. All equipment operators shall be trained in the procedures to be taken should an accident occur. Prior to the onset of work, CDFW shall ensure that the grantee has prepared a Spill Prevention/Response plan to help avoid spills and allow a prompt and effective response should an accidental spill occur. All workers shall be informed of the importance of preventing spills. Operators shall have spill clean-up supplies on site and be knowledgeable in their proper deployment.
4. All activities performed in or near a stream will have absorbent materials designed for spill containment and cleanup at the activity site for use in case of an accidental spill. In an event of a spill, work shall cease immediately. Clean-up of all spills shall begin immediately. The responsible party shall notify the State Office of Emergency Services at 1-800-852-7550 and the CDFW immediately after any spill occurs and shall consult with the CDFW regarding clean-up procedures.
5. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 65 feet (20 meters) from any riparian habitat or water body and place fuel absorbent mats under pump while fueling. The USACE and the CDFW will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the CDFW will ensure that the grantee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
6. Location of staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the stream’s high-water channel and associated riparian area. The number of access routes, number and size of staging areas, and the total area of the work site activity shall be limited to the minimum necessary to complete the restoration action. To avoid contamination of habitat during restoration activities, trash will be contained, removed, and disposed of throughout the project.
7. Petroleum products, fresh cement, and other deleterious materials shall not enter the stream channel.
8. Stationary equipment such as motors, pumps, generators, compressors, and welders, located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans.

9. No debris, soil, silt, sand, bark, slash, spoils, sawdust, rubbish, cement, concrete, or washings thereof, asphalt, paint, or other coating material; oil or petroleum products; or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into or placed where it may be washed by rainfall or runoff into, waters of the state. When operations are completed, any excess materials or debris shall be removed from the work area and disposed of in a lawful manner.
10. All internal combustion engines shall be fitted with spark arrestors.
11. The grantee shall have an appropriate fire extinguisher(s) and firefighting tools (shovel and axe at a minimum) present at all times when there is a risk of fire.
12. Vehicles shall not be parked in tall grass or any other location where heat from the exhaust system could ignite a fire.
13. The grantee shall follow any additional rules the landowner has for fire prevention.
14. The potential for mercury contamination is largely predicted by the presence of historic hydraulic gold mines and mercury (cinnabar) mines (California's Abandoned Mines: A Report on the Magnitude and Scope of the Issue in the State, DOC 2000). Therefore, only a few limited areas within the geographic scope of this grant program have any potential for gravels contaminated with elemental mercury, they are: Middle Klamath River, Salmon River, Scott River, and the Lower Middle and Upper Trinity River. Though studies by the USGS failed to find significant levels of methyl mercury near these mines.
 - a. Given the limited geographical potential for encountering mercury contamination (from historic mining) within the geographic scope, and the limited number of projects within these areas that will either disturb the channel bottom or import gravels for instream restoration; the following avoidance and mitigation measure will be adhered to: any gravel imported from offsite shall be from a source known to not contain historic hydraulic gold mine tailings, dredger tailings, or mercury mine waste or tailings.

X. HYDROLOGY AND WATER QUALITY

1. Instream work shall be conducted during the period of lowest flow.
2. Before work is allowed to proceed at a site, CDFW shall inspect the site to assure that turbidity control measures are in place.
3. The wastewater from construction area shall be discharged to an upland location where it will not drain sediment-laden water back to stream channel.
4. For projects within the USACE San Francisco District, if instream work liberates a sediment wedge, 80% of the wedge shall be removed before the sediment is liberated. The required amount can be modified if NOAA or CDFW hydrologists or hydraulic engineers agree that removing a smaller amount will better protect and enhance fish habitat in the area of the project (e.g., leaving some sediment to replenish areas downstream that lack suitable substrate volume or quality).
5. To control erosion during and after project implementation, CDFW shall implement best management practices, as identified by the appropriate Regional Water Quality Control Board.
6. Sediment-laden water caused by construction activity shall be filtered before it leaves the right-of-way or enters the stream network or an aquatic resource area. Silt fences or other detention methods shall

be installed as close as possible to culvert outlets to reduce the amount of sediment entering aquatic systems.

7. If CDFW determines that turbidity/siltation levels resulting from an activity or activities constitute a threat to aquatic life, all activities associated with the turbidity/siltation shall cease until effective CDFW approved sediment control devices are installed and/or abatement procedures are implemented.
8. Poured concrete shall be excluded from the wetted channel for a period of two weeks after it is poured. During that time, the poured concrete shall be kept moist, and runoff shall not be allowed to enter flowing stream. Commercial sealants shall be applied to the poured concrete surface where concrete cannot be excluded from the stream flow for two weeks. If sealant is used, water shall be excluded from the site until the sealant is dry.
9. Prior to use, all equipment shall be cleaned to remove external oil, grease, dirt, or mud. Wash sites shall be located in upland locations so that dirty wash water does not flow into the stream channel or adjacent wetlands.
10. Water conservation projects that include water storage tanks and a Forbearance Agreement, for the purpose of storing winter water for summer use, require registration of water use pursuant to the Water Code §1228.3, and require consultation with CDFW and compliance with all lawful conditions required by CDFW. Diversions to fill storage facilities during the winter and spring months shall be made pursuant to a Small Domestic Use Appropriation (SDU) filed with the State Water Resources Control Board (SWRCB). CDFW will review the appropriation of water to ensure fish and wildlife resources are protected. The following conditions shall then be applied:
 - a. Seasonal Restriction: No pumping is allowed when stream flow drops below 0.7 cubic feet per second (cfs) except as permitted by CDFW in the event of an emergency.
 - b. Bypass Flows: Pumping withdrawal rates shall not exceed 5% of stream flow. If CDFW determines that the streamflow monitoring data indicate that fisheries are not adequately protected, then the bypass flows are subject to revision by CDFW.
 - c. Cumulative Impacts: Pumping days shall be assigned to participating landowner(s) when stream flows drop below 1.0 cfs to prevent cumulative impacts from multiple pumps operating simultaneously.
 - d. Pump Intake Screens: Pump intake screens shall comply with the "2000 California Department of Fish and Game Screening Criteria" * for California streams that provide habitat for juvenile Coho Salmon, Chinook Salmon, and steelhead trout. The landowner shall be responsible for annual inspection and maintenance of screens. Additionally, the landowner shall be responsible for cleaning screens as needed to keep them free of debris and ensure that screen function complies with the criteria specifications.
 - e. These conditions do not authorize incidental take of any species, removal of riparian vegetation, or bed, bank, or channel alteration.
 - f. CDFW shall be granted access to inspect the pump system. Access is limited to the portion of the landowner's real property where the pump is located and those additional portions of the real property which must be traversed to gain access to the pump site. Landowners shall be given reasonable notice and any necessary arrangements will be made prior to requested access including a mutually-agreed-upon time and date. Notice may be given by mail or by telephone with the landowner or an authorized representative of the landowner. The landowner shall agree to cooperate in good faith to accommodate CDFW access.

*Fish Screening Criteria are from "State of California Resources Agency Department of Fish and Game Fish Screening Criteria, June 19, 2000." The "approach velocity" shall be calculated according to Section 2C "Screens which are not Self Cleaning."

XI. LAND USE AND PLANNING

No specific mitigation measures are required for land use and planning

XII. MINERAL RESOURCES

No specific mitigation measures are required for mineral resources.

XIII. NOISE

Personnel shall wear hearing protection while operating or working near noisy equipment (producing noise levels ≥ 85 dB, including chain saws, excavators, and back hoes). No other specific mitigation measures are required for noise.

XIV. POPULATION AND HOUSING

No specific mitigation measures are required for population and housing.

XV. PUBLIC SERVICES

No specific mitigation measures are required for public services.

XVI. RECREATION

No specific mitigation measures are required for recreation.

XVII. TRANSPORTATION

The project will not affect transportation/traffic, because erosion control and culvert replacement projects will occur in wildland/rural sites with very little use. There is a potential that culvert replacement at some work sites could temporarily interfere with emergency access. This potential impact will be avoided through implementation of the following mitigation measure at any sites where emergency access might be necessary:

- 1) During excavation for culvert replacement, the grantee shall provide a route for traffic around or through the construction site.

XVIII. TRIBAL CULTURAL RESOURCES

Ground-disturbance will be required to implement the project at certain locations that, despite efforts to identify cultural resources, have the potential to affect these resources. The procedure for a programmatic evaluation of archeological resources is provided in Appendix E. Potential for inadvertent impacts will be avoided through implementation of the following mitigation measures:

1. The Grantee shall contract with an archaeologist(s) or other historic preservation professional that meets The Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61, and 48 FR

44716) to complete cultural resource surveys at any sites with the potential to be impacted prior to any ground disturbing activities. This work may be augmented with the aid of a Native American cultural resources specialist that is culturally affiliated with the project area. Cultural resource surveys shall be conducted using standard protocols to meet CEQA Guideline requirements.

2. If cultural resource sites are identified at a project location, CDFW will require one or more of the following protective measures to be implemented before work can proceed: a) fencing to prevent accidental disturbance of cultural resources during construction, b) on-site monitoring by cultural resource professionals during construction to assure that cultural resources are not disturbed, c) redesign of proposed work to avoid disturbance of cultural resources.
3. The Grantee shall report any previously unknown historic, archeological, and paleontological remains discovered at a project location to CDFW for reporting to the USACE as required in the RGP.
4. CDFW shall ensure that the grantee or responsible party is aware of these site-specific conditions, and shall inspect the work site before, during, and after completion of the action item.
5. Inadvertent Discovery of Cultural Resources - If cultural resources, such as lithic debitage, ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbance activities, work shall be stopped within 20 meters (66 feet) of the discovery, per the requirements of CEQA (January 1999 Revised Guidelines, Title 14 CCR § 15064.5 (f)). Work near the archaeological finds shall not resume until an archaeologist that meets the Secretary of the Interior's Standards and Guidelines suited to the discovery, has evaluated the materials, and offered recommendations for further action. Cultural materials not associated with human interments shall be documented and curated in place.
6. Inadvertent Discovery of Human Remains - If human remains are discovered during project construction, work shall stop at the discovery location, within 20 meters (66 feet), and any nearby area reasonably suspected to overlie adjacent to human remains (Public Resources Code, § 7050.5). The county coroner shall be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American heritage Commission (NAHC) (Public Resources Code, § 5097). The coroner will contact the NAHC. The descendants or most likely descendants of the deceased will be contacted, and work shall not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, § 5097.98.
7. Procedures for treatment of an inadvertent discovery of human remains:
 - a. Immediately following discovery of known or potential human remains all ground-disturbing activities at the point of discovery shall be halted.
 - b. No material remains shall be removed from the discovery site, and a reasonable exclusion zone shall be cordoned off.
 - c. The CDFW Grant Manager and property owner shall be notified and the CDFW Grant Manager shall contact the county coroner.

- d. The Grantee shall retain the services of a professional archaeologist to immediately examine the finds and assist the process.
 - e. All ground-disturbing construction activities in the discovery site exclusion area shall be suspended.
 - f. The discovery site shall be secured to protect the remains from desecration or disturbance, with 24-hour surveillance, if prudent.
 - g. Discovery of Native American remains is a very sensitive issue, and all project personnel shall hold any information about such a discovery in confidence and divulge it only on a need-to-know basis, as determined by the CDFW.
 - h. The coroner has two working days to examine the remains after being notified. If the remains are Native American, the coroner has 24 hours to notify the NAHC in Sacramento (telephone 916-653-4082).
 - i. The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) of the deceased Native American.
 - j. The MLD may, with the permission of the landowner, or their representative, inspect the site of the discovered Native American remains and may recommend to the landowner and CDFW Grant Manager means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make recommendations or preferences for treatment with 48 hours of being granted access to the site (Public Resource Code, § 5097.98(a)). The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials.
 - k. Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his/her authorized representative rejects the recommendation of the MLD and mediation between the parties by the NAHC fails to provide measures acceptable to the landowner, the landowner or his/her authorized representatives shall re-enter the human remains and associated grave offerings with appropriate dignity on the property in a location not subject to further subsurface disturbance in accordance with Public Resource Code, § 5097.98(e).
 - l. Following final treatment measures, the CDFW shall ensure that a report is prepared that describes the circumstances, nature and location of the discovery, its treatment, including results of analysis (if permitted), and final disposition, including a confidential map showing the reburial location. Appended to the report shall be a formal record about the discovery site prepared to current California standards on DPR 523 form(s). CDFW shall ensure that report copies are distributed to the appropriate California Historic Information Center, NAHC, and MLD.
8. Pursuant to RGP78 and in accordance with 36 C.F.R. § 800.13, in the event of any discovery during construction of human remains, archeological deposits, or any other type of historic property, the CDFW shall notify the appropriate USACE archeological staff within 24 hours. Construction work shall be suspended immediately and shall not resume until USACE re-authorizes project construction.

9. If it becomes impossible to implement the project at a work site without disturbing cultural resources, then activity at that work site shall be discontinued.

XIX. UTILITIES AND SERVICE SYSTEMS

No specific mitigation measures are required for utilities and service systems.

XX. WILDFIRE

No specific mitigation measures are required for wildfire due to majority of project activities being conducted within instream and riparian habitats. However, the projects will still implement minimization measures as an added safety precaution to further decrease any wildfire risks.

1. Project proponents using mechanized hand tools (e.g., chainsaws) shall have federal- and/or state-approved spark arrestors.
2. Project proponents shall require tree cutting crews to carry one fire extinguisher per chainsaw.
3. Project proponents shall require each vehicle to be equipped with one long-handled shovel and one axe or Pulaski.
4. Parking areas shall be designated and kept free of dry vegetation both before and during construction. Where heavy equipment or generators are used, fire extinguishers shall be made available on, or near such equipment.
5. Smoking shall only be permitted in designated areas that are barren or cleared to mineral soil at least three feet in diameter.

SECTION 2: MONITORING AND REPORTING

CDFW shall implement the following measures to ensure that individual restoration projects authorized annually through the RGP (RGP-12 and RGP-78) will minimize take of listed salmonids, monitor and report take of listed salmonids, and to obtain specific information to account for the effects and benefits of salmonid restoration projects authorized through the RGP.

1. CDFW shall provide USACE, NOAA, and USFWS notification of projects that are authorized through the RGP. The notification shall be submitted at least 90 days prior to project implementation and must contain specific project information including name of project, type of project, location of project including hydrologic unit code (HUC), creek, watershed, city or town, and county.
2. CDFW Grant Managers shall inspect the work site before, during, and after completion of the action item, to ensure that all necessary mitigation measures to avoid impacts are properly implemented.
3. CDFW shall perform implementation monitoring immediately after the restoration activity is completed to ensure that projects are completed as designed.
4. CDFW shall perform effectiveness/validation monitoring on at least 10 percent of restoration projects funded annually. A random sample, stratified by project type and region, shall be chosen from the pool of new restoration projects approved for funding each year. Pre-treatment monitoring shall be

performed for newly selected projects, and post-treatment monitoring will be performed within three years following project completion.

5. Current monitoring forms and instructions used by CDFW for the implementation monitoring and effectiveness monitoring are found in the *California Salmonid Stream Habitat Restoration Manual*. CDFW shall submit a copy of the annual report, no later than March 1 annually to NOAA.
6. The CDFW annual report to NOAA shall include a summary of all restoration action items completed during the previous year. The annual report shall include a summary of the specific type and location of each project, stratified by individual project, 5th field HUC and affected species and evolutionary significant unit (ESU)/Distinct Population Segment (DPS). The report shall include the following project-specific summaries, stratified at the individual project, 5th field HUC, and ESU level:
 - a. A summary detailing fishes relocation activities; including the number and species of fish relocated and the number and species injured or killed. Any capture, injury, or mortality of adult salmonids or half-pounder steelhead shall be noted in the monitoring data and report. Any injuries or mortality from a fish relocation site that exceeds three percent of the affected listed species shall have an explanation describing why.
 - b. The number and type of instream structures implemented within the stream channel.
 - c. The length of stream bank (feet) stabilized or planted with riparian species.
 - d. The number of culverts replaced or repaired, including the number of miles of restored access to unoccupied salmonid habitat.
 - e. The distance (miles) of road decommissioned.
 - f. The distance (feet) of aquatic habitat disturbed at each project site.
7. CDFW shall incorporate project data into a format compatible with the CDFW/NOAA/Pacific Fisheries Management Council Geographic Information System (GIS) database, allowing scanned project-specific reports and documents to be linked graphically within the GIS database.
8. For counties within the jurisdiction of RGP-12, CDFW shall submit an annual report due by January 31 of each year of implemented projects to the U.S. Fish and Wildlife Service Office, 2800 Cottage Way, Sacramento, California 95825. The report must include:
 - a. A table documenting the number of California red-legged frogs killed, injured, and handled during each FRGP project that utilizes the USACE authorization.
 - b. A summary of how the terms and conditions of the biological opinions (file no. 08ESMF00-2016-F-0874) and the protective measures by the USACE and CDFW worked.
 - c. Any suggestions of how the protective measures could be revised to improve conservation of this species while facilitating compliance with the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

9. For Santa Barbara County, CDFW shall submit an annual report due by February 28 (RGP-78) of each year of implemented projects to the U.S. Fish and Wildlife Service Office, 2493 Portola Road, Suite B, Ventura, California 93003. The report must include:
 - a. A table documenting the number of California red-legged frogs killed, injured, and handled during each FRGP project that utilizes the USACE authorization.
 - b. A summary of how the terms and conditions of the biological opinions (file no. 08EVEN00-2016-F-0093 and 2008-F-0441) and the protective measures by the USACE and CDFW worked.
 - c. Any suggestions of how these protective measures could be revised to improve conservation of this species while facilitating compliance with the Act.
10. CDFW shall submit annual reports on July 1 of each year to the 401 Program Managers of the State Water Resources Control Board and the appropriate Regional Water Quality Control Boards documenting work undertaken during the preceding year and identifying for all such work:
 - a. Project name and grant number.
 - b. Project purpose and brief description.
 - c. Name(s) of affected water body(ies).
 - d. Latitude/longitude in decimal degrees to at least four decimals.
 - e. For ongoing projects:
 - i. Project progress and schedule including initial ground disturbance, site clearing and grubbing, road construction, site construction, and the implementation status of construction storm water best management practices (BMPs).
 1. If construction has not started, provide estimated start date and reasons for delay.
 - ii. Map showing general project progress.
 - iii. Mitigation for temporary impact status
 1. Planned date of initiation and map showing locations of mitigation for temporary impacts to waters of the state and all upland areas of temporary disturbance which could result in a discharge to waters of the state.
 2. If mitigation for temporary impacts has already commenced, provide a map and information concerning attainment of performance standards contained in the restoration plan.
 - iv. Restoration and enhancement status
 1. Planned date of initiation of vegetation installation.
 2. If installation is in progress, a map of what has been completed to date.

3. If the restoration site has been installed, provide a final map and information concerning attainment of performance standards contained in the individual project specifications.
- f. For projects completed during the year:
 - i. The type(s) of receiving (affected) water body(ies) (e.g., at minimum: river/streambed, lake/reservoir, ocean/estuary/bay, riparian area, or wetland type); and
 - ii. The total quantity in acres of each type of receiving water body temporarily impacted, and permanently impacted.
 - iii. Pre- and post-photo documentation of all restoration sites, including revegetation sites.
 - iv. A report establishing that the performance standards outlined in the individual project specifications have been met.
 - v. Final map of all restoration areas.
 - vi. A report establishing that the performance standards outlined in the restoration plan have been met for each project site upland areas and/or waters of temporary disturbance.
 - g. For each water body type affected, the quantity of waters of the U.S. temporarily and permanently impacted. Fill/excavation discharges shall be reported in acres and fill/excavations discharges for channels, shorelines, riparian corridors, and other linear habitat shall also be reported in linear feet.
 - h. Actual construction start and end-dates.
 - i. Whether the project is on-going or completed.
 - j. Copies of reports documenting the following monitoring activities:
 - i. Post-project monitoring immediately after the activity is completed to ensure that projects are completed as designed; and
 - ii. Effectiveness monitoring on a random subset of 10% of the projects, within one to three years after project completion.
11. The Grantee shall notify CDFW so it can report any previously unknown historic archeological and paleontological remains discovered at a site to the USACE as required in the RGP. This information will also be provided to the Native American Heritage Commission, 915 Capitol Mall, Sacramento, CA 95814.
 12. Pursuant to RGP-78, CDFW shall monitor and maintain the structures or work conducted at a given site for at least three years after construction to ensure the integrity of the structure and successful growth of the planted vegetation.

13. CDFW shall allow representatives of USACE to inspect the authorized activities at any time deemed necessary to ensure that they are being or have been accomplished with the terms and conditions of the RGP.
- 2) Pursuant to RGP-78, CDFW shall notify the USACE annually of the year's projects. If the USACE has not issued a Notice to Proceed (NTP) or identified any issues (verbal or written) within 60 days of receive the notifications, CDFW can proceed with project. The NTP may include site specific special conditions to avoid and minimize adverse impacts to waters of the U.S and shall be valid for the duration of the RGP78 unless there is a change in the project's scope of work.

Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities

STATE OF CALIFORNIA
CALIFORNIA NATURAL RESOURCES AGENCY
DEPARTMENT OF FISH AND WILDLIFE

DATE: March 20, 2018

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1. INTRODUCTION AND PURPOSE

The conservation of special status native plants and their habitats, as well as sensitive natural communities, is integral to maintaining biological diversity. The purpose of these protocols is to facilitate a consistent and systematic approach to botanical field surveys and assessments of special status plants and sensitive natural communities so that reliable information is produced and the potential for locating special status plants and sensitive natural communities is maximized. These protocols may also help those who prepare and review environmental documents determine when botanical field surveys are needed, how botanical field surveys may be conducted, what information to include in a botanical survey report, and what qualifications to consider for botanical field surveyors. These protocols are meant to help people meet California Environmental Quality Act (CEQA)¹ requirements for adequate disclosure of potential impacts to plants and sensitive natural communities. These protocols may be used in conjunction with protocols formulated by other agencies, for example, those developed by the U.S. Army Corps of Engineers to delineate jurisdictional wetlands² or by the U.S. Fish and Wildlife Service to survey for the presence of special status plants³.

¹ Available at: <http://resources.ca.gov/ceqa>

² Available at: <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/techbio.aspx>

³ U.S. Fish and Wildlife Service Survey Guidelines: <https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/>

Department of Fish and Wildlife Trustee and Responsible Agency Mission

The mission of the California Department of Fish and Wildlife (CDFW) is to manage California's diverse wildlife and native plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. CDFW has jurisdiction over the conservation, protection, and management of wildlife, native plants, and habitat necessary to maintain biologically sustainable populations (Fish & G. Code, § 1802). CDFW, as trustee agency under CEQA Guidelines section 15386, provides expertise in reviewing and commenting on environmental documents and provides protocols regarding potential negative impacts to those resources held in trust for the people of California.

Certain species are in danger of extinction because their habitats have been severely reduced in acreage, are threatened with destruction or adverse modification, or because of a combination of these and other factors. The California Endangered Species Act (CESA) and Native Plant Protection Act (NPPA) provide additional protections for such species, including take prohibitions (Fish & G. Code, § 2050 *et seq.*; Fish & G. Code, § 1908). As a responsible agency, CDFW has the authority to issue permits for the take of species listed under CESA and NPPA if the take is incidental to an otherwise lawful activity; CDFW has determined that the impacts of the take have been minimized and fully mitigated; and the take would not jeopardize the continued existence of the species (Fish & G. Code, § 2081, subd. (b); Cal. Code Regs., tit. 14 § 786.9, subd. (b)). Botanical field surveys are one of the preliminary steps to detect special status plant species and sensitive natural communities that may be impacted by a project.

Definitions

Botanical field surveys provide information used to determine the potential environmental effects of proposed projects on special status plants and sensitive natural communities as required by law (e.g., CEQA, CESA, and federal Endangered Species Act (ESA)).

Special status plants, for the purposes of this document, include all plants that meet one or more of the following criteria:

- Listed or proposed for listing as threatened or endangered under the ESA or candidates for possible future listing as threatened or endangered under the ESA (50 C.F.R., § 17.12).
- Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish & G. Code, § 2050 *et seq.*)⁴. In CESA, “endangered species” means a native species or subspecies of plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish & G. Code, § 2062). “Threatened species” means a native species or subspecies of plant that,

⁴ Refer to current online published lists available at:
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline>

although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by CESA (Fish & G. Code, § 2067). “Candidate species” means a native species or subspecies of plant that the California Fish and Game Commission has formally noticed as being under review by CDFW for addition to either the list of endangered species or the list of threatened species, or a species for which the California Fish and Game Commission has published a notice of proposed regulation to add the species to either list (Fish & G. Code, § 2068).

- Listed as rare under the California Native Plant Protection Act (Fish & G. Code, § 1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish & G. Code, § 1901).
- Meet the definition of rare or endangered under CEQA Guidelines section 15380, subdivisions (b) and (d), including:
 - Plants considered by CDFW to be “rare, threatened or endangered in California.” This includes plants tracked by the California Natural Diversity Database (CNDDDB) and the California Native Plant Society (CNPS) as California Rare Plant Rank (CRPR) 1 or 2⁵;
 - Plants that may warrant consideration on the basis of declining trends, recent taxonomic information, or other factors. This may include plants tracked by the CNDDDB and CNPS as CRPR 3 or 4⁶.
- Considered locally significant plants, that is, plants that are not rare from a statewide perspective but are rare or uncommon in a local context such as within a county or region (CEQA Guidelines, § 15125, subd. (c)), or as designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include plants that are at the outer limits of their known geographic range or plants occurring on an atypical soil type.

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status plants or their

⁵ See CNDDDB’s Special Vascular Plants, Bryophytes, and Lichens List for plant taxa with a CRPR of 1 or 2: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline>

⁶ CRPR 3 plants (plants about which more information is needed) and CRPR 4 plants (plants of limited distribution) may warrant consideration under CEQA Guidelines section 15380. Impacts to CRPR 3 plants may warrant consideration under CEQA if sufficient information is available to assess potential impacts to such plants. Impacts to CRPR 4 plants may warrant consideration under CEQA if cumulative impacts to such plants are significant enough to affect their overall rarity. Data on CRPR 3 and 4 plants should be submitted to CNDDDB. Such data aids in determining and revising the CRPR of plants. See CNDDDB’s Special Vascular Plants, Bryophytes, and Lichens List for plant taxa with a CRPR of 3 or 4: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline>

habitat. CDFW's *List of California Terrestrial Natural Communities*⁷ is based on the best available information, and indicates which natural communities are considered sensitive at the current stage of the California vegetation classification effort. See the Vegetation Classification and Mapping Program (VegCAMP) website for additional information on natural communities and vegetation classification⁸.

2. BOTANICAL FIELD SURVEYS

Evaluate the need for botanical field surveys prior to the commencement of any activities that may modify vegetation, such as clearing, mowing, or ground-breaking activities. It is appropriate to conduct a botanical field survey when:

- Natural (or naturalized) vegetation occurs in an area that may be directly or indirectly affected by a project (project area), and it is unknown whether or not special status plants or sensitive natural communities occur in the project area;
- Special status plants or sensitive natural communities have historically been identified in a project area; or
- Special status plants or sensitive natural communities occur in areas with similar physical and biological properties as a project area.

Survey Objectives

Conduct botanical field surveys in a manner which maximizes the likelihood of locating special status plants and sensitive natural communities that may be present. Botanical field surveys should be floristic in nature, meaning that every plant taxon that occurs in the project area is identified to the taxonomic level necessary to determine rarity and listing status. "Focused surveys" that are limited to habitats known to support special status plants or that are restricted to lists of likely potential special status plants are not considered floristic in nature and are not adequate to identify all plants in a project area to the level necessary to determine if they are special status plants.

For each botanical field survey conducted, include a list of all plants and natural communities detected in the project area. More than one field visit is usually necessary to adequately capture the floristic diversity of a project area. An indication of the prevalence (estimated total numbers, percent cover, density, etc.) of the special status plants and sensitive natural communities in the project area is also useful to assess the significance of a particular plant population or natural community.

Survey Preparation

Before botanical field surveys are conducted, the botanical field surveyors should compile relevant botanical information in the general project area to provide a regional

⁷ Available at: <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities#natural%20communities%20lists>

⁸ Available at: <https://www.wildlife.ca.gov/Data/VegCAMP>

context. Consult the CNDDB⁹ and BIOS¹⁰ for known occurrences of special status plants and sensitive natural communities in the project area prior to botanical field surveys. Generally, identify vegetation and habitat types potentially occurring in the project area based on biological and physical properties (e.g. soils) of the project area and surrounding ecoregion¹¹. Then, develop a list of special status plants and sensitive natural communities with the potential to occur within the vegetation and habitat types identified. The list of special status plants with the potential to occur in the project area can be created with the help of the CNDDB QuickView Tool¹² which allows the user to generate lists of CNDDB-tracked elements that occur within a particular U.S. Geological Survey 7.5' topographic quad, surrounding quads, and counties within California. Resulting lists should only be used as a tool to facilitate the use of reference sites, with the understanding that special status plants and sensitive natural communities in a project area may not be limited to those on the list. Botanical field surveys and subsequent reporting should be comprehensive and floristic in nature and not restricted to or focused only on a list. Include in the botanical survey report the list of potential special status plants and sensitive natural communities that was created, and the list of references used to compile the background botanical information for the project area.

Survey Extent

Botanical field surveys should be comprehensive over the entire project area, including areas that will be directly or indirectly impacted by the project. Adjoining properties should also be surveyed where direct or indirect project effects could occur, such as those from fuel modification, herbicide application, invasive species, and altered hydrology. Surveys restricted to known locations of special status plants may not identify all special status plants and sensitive natural communities present, and therefore do not provide a sufficient level of information to determine potential impacts.

Field Survey Method

Conduct botanical field surveys using systematic field techniques in all habitats of the project area to ensure thorough coverage. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified. Conduct botanical field surveys by traversing the entire project area to ensure thorough coverage, documenting all plant taxa observed. Parallel survey transects may be necessary to ensure thorough survey coverage in some habitats. The level of effort should be sufficient to provide comprehensive reporting. Additional time should be allocated for plant identification in the field.

⁹ Available at: <https://www.wildlife.ca.gov/Data/CNDDB>

¹⁰ Available at: <https://www.wildlife.ca.gov/Data/BIOS>

¹¹ Ecological Subregions of the United States, available at: <http://www.fs.fed.us/land/pubs/ecoregions/toc.html>

¹² Available at: <https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data>. When creating a list of special status plants with the potential to occur in a project area, special care should be taken to search all quads with similar geology, habitats, and vegetation to those found in the project area.

Timing and Number of Visits

Conduct botanical field surveys in the field at the times of year when plants will be both evident and identifiable. Usually this is during flowering or fruiting. Space botanical field survey visits throughout the growing season to accurately determine what plants exist in the project area. This usually involves multiple visits to the project area (e.g. in early, mid, and late-season) to capture the floristic diversity at a level necessary to determine if special status plants are present¹³. The timing and number of visits necessary to determine if special status plants are present is determined by geographic location, the natural communities present, and the weather patterns of the year(s) in which botanical field surveys are conducted.

Reference Sites

When special status plants are known to occur in the type(s) of habitat present in a project area, observe reference sites (nearby accessible occurrences of the plants) to determine whether those special status plants are identifiable at the times of year the botanical field surveys take place and to obtain a visual image of the special status plants, associated habitat, and associated natural communities.

Use of Existing Surveys

For some project areas, floristic inventories or botanical survey reports may already exist. Additional botanical field surveys may be necessary for one or more of the following reasons:

- Botanical field surveys are not current¹⁴;
- Botanical field surveys were conducted in natural systems that commonly experience year to year fluctuations such as periods of drought or flooding (e.g. vernal pool habitats or riverine systems);
- Botanical field surveys did not cover the entire project area;
- Botanical field surveys did not occur at the appropriate times of year;
- Botanical field surveys were not conducted for a sufficient number of years to detect plants that are not evident and identifiable every year (e.g. geophytes, annuals and some short-lived plants);

¹³ U.S. Fish and Wildlife Service Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants available at: <https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/>

¹⁴ Habitats, such as grasslands or desert plant communities that have annual and short-lived perennial plants as major floristic components may require yearly surveys to accurately document baseline conditions for purposes of impact assessment. In forested areas, however, surveys at intervals of five years may adequately represent current conditions. For forested areas, refer to “Guidelines for Conservation of Sensitive Plant Resources Within the Timber Harvest Review Process and During Timber Harvesting Operations”, available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=116396&inline>

- Botanical field surveys did not identify all plants in the project area to the taxonomic level necessary to determine rarity and listing status;
- Fire history, land use, or the physical or climatic conditions of the project area have changed since the last botanical field survey was conducted;
- Changes in vegetation or plant distribution have occurred since the last botanical field surveys were conducted, such as those related to habitat alteration, fluctuations in abundance, invasive species, seed bank dynamics, or other factors; or
- Recent taxonomic studies, status reviews or other scientific information has resulted in a revised understanding of the special status plants with potential to occur in the project area.

Negative Surveys

Adverse conditions from yearly weather patterns may prevent botanical field surveyor from determining the presence of, or accurately identifying, some special status plants in the project area. Disease, drought, predation, fire, herbivory or other disturbance may also preclude the presence or identification of special status plants in any given year. Discuss all adverse conditions in the botanical survey report¹⁵.

The failure to locate a known special status plant occurrence during one field season does not constitute evidence that the plant occurrence no longer exists at a location, particularly if adverse conditions are present. For example, botanical field surveys over a number of years may be necessary if the special status plant is an annual or short-lived plant having a persistent, long-lived seed bank and populations of the plant are known to not germinate every year. Visiting the project area in more than one year increases the likelihood of detecting special status plants, particularly if conditions change. To further substantiate negative findings for a known occurrence, a visit to a nearby reference site may help ensure that the timing of botanical field surveys was appropriate.

3. REPORTING AND DATA COLLECTION

Adequate information about special status plants and sensitive natural communities present in a project area will enable reviewing agencies and the public to effectively assess potential impacts to special status plants and sensitive natural communities and will guide the development of avoidance, minimization, and mitigation measures. The information necessary to assess impacts to special status plants and sensitive natural communities is described below. For comprehensive, systematic botanical field surveys where no special status plants or sensitive natural communities were found, reporting

and data collection responsibilities for botanical field surveyor remain as described

¹⁵ U.S. Fish and Wildlife Service Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants available at: <https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/>

below, excluding specific occurrence information.

Special Status Plant and Sensitive Natural Community Observations

Record the following information for locations of each special status plant and sensitive natural community detected during a botanical field survey of a project area.

- The specific geographic locations where the special status plants and sensitive natural communities were found. Preferably this will be done by use of global positioning system (GPS) and include the datum¹⁶ in which the spatial data was collected and any uncertainty or error associated with the data. If GPS is not available, a detailed map (1:24,000 or larger) showing locations and boundaries of each special status plant population and sensitive natural community in relation to the project area is acceptable. Mark occurrences and boundaries as accurately as possible;
- The site-specific characteristics of occurrences, such as associated species, habitat and microhabitat, structure of vegetation, topographic features, soil type, texture, and soil parent material. If a special status plant is associated with a wetland, provide a description of the direction of flow and integrity of surface or subsurface hydrology and adjacent off-site hydrological influences as appropriate;
- The number of individuals in each special status plant population as counted (if population is small) or estimated (if population is large);
- If applicable, information about the percentage of each special status plant in each life stage such as seedling, vegetative, flowering and fruiting;
- The density of special status plants, identifying areas of relatively high, medium and low density of each special status plant in the project area; and
- Digital images of special status plants and sensitive natural communities in the project area, with diagnostic features.

Special Status Plant and Sensitive Natural Community Documentation

When a special status plant is located, data must be submitted to the CNDDDB. Data may be submitted in a variety of formats depending on the amount and type of data that is collected¹⁷. The most common way to submit data is the Online CNDDDB Field Survey Form¹⁸, or equivalent written report, accompanied by geographic locality information (GPS coordinates, GIS shapefiles, KML files, topographic map, etc.). Data submitted in digital form must include the datum¹⁹ in which it was collected.

If a sensitive natural community is found in a project area, document it with a Combined

¹⁶ NAD83, NAD27 or WGS84

¹⁷ See <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data> for information on acceptable data submission formats.

¹⁸ Available at: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>

¹⁹ NAD83, NAD27 or WGS84

Vegetation Rapid Assessment and Relevé Field Form²⁰ and submit the form to VegCAMP²¹.

Voucher Collection

Voucher specimens provide verifiable documentation of special status plant presence and identification and a scientific record. This information is vital to conservation efforts and valuable for scientific research. Collection of voucher specimens should be conducted in a manner that is consistent with conservation ethics, and in accordance with applicable state and federal permit requirements (e.g. scientific, educational, or management permits pursuant to Fish & G. Code, § 2081, subd. (a)). Voucher collections of special status plants (or possible special status plants) should only be made when such actions would not jeopardize the continued existence of the population. A plant voucher collecting permit²² is required from CDFW prior to the take or possession of a state-listed plant for voucher collection purposes, and the permittee must comply with all permit conditions.

Voucher specimens should be deposited in herbaria that are members of the Consortium of California Herbaria²³ no later than 120 days after the collections have been made. Digital imagery can be used to supplement plant identification and document habitat. Record all relevant collector names and permit numbers on specimen labels (if applicable).

Botanical Survey Reports

Botanical survey reports provide an important record of botanical field survey results and project area conditions. Botanical survey reports containing the following information should be prepared whenever botanical field surveys take place, and should also be submitted with project environmental documents:

Project and location description

- A description of the proposed project;
- A detailed map of the project area that identifies topographic and landscape features and includes a north arrow and bar scale;
- A vegetation map of the project area using Survey of California Vegetation Classification and Mapping Standards²⁴ at a thematic and spatial scale that allows the display of all sensitive natural communities;
- A soil map of the project area; and

²⁰ Available at: <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Submit>

²¹ Combined Vegetation Rapid Assessment and Releve Field Forms can be emailed to VegCAMP staff. Contact information available at: <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Other-Info>

²² Applications available at: <https://www.wildlife.ca.gov/Conservation/Plants/Permits>

²³ A list of Consortium of California Herbaria participants is available at: <http://ucjeps.berkeley.edu/consortium/participants.html>

²⁴ Available at: <https://www.wildlife.ca.gov/data/vegcamp/publications-and-protocols>

- A written description of the biological setting, including all natural communities; geological and hydrological characteristics; and land use or management history.

Detailed description of survey methodology and results

- Names and qualifications of botanical field surveyor(s);
- Dates of botanical field surveys (indicating the botanical field surveyor(s) that surveyed each area on each survey date), and total person-hours spent;
- A discussion of the survey preparation methodology;
- A list of special status plants and sensitive natural communities with potential to occur in the region;
- Description(s) of reference site(s), if visited, and the phenological development of special status plant(s) at those reference sites;
- A description and map of the area surveyed relative to the project area;
- A list of all plant taxa occurring in the project area, with all taxa identified to the taxonomic level necessary to determine whether or not they are a special status plant;
- Detailed data and maps for all special status plants and sensitive natural communities detected. Information specified above under the headings “Special Status Plant and Sensitive Natural Community Observations,” and “Special Status Plant and Sensitive Natural Community Documentation,” should be provided for the locations of each special status plant and sensitive natural community detected. Copies of all California Native Species Field Survey Forms and Combined Vegetation Rapid Assessment and Relevé Field Forms should be sent to the CNDDB and VegCAMP, respectively, and included in the project environmental document as an Appendix²⁵;
- A discussion of the potential for a false negative botanical field survey;
- A discussion of how climatic conditions may have affected the botanical field survey results;
- A discussion of how the timing of botanical field surveys may affect the comprehensiveness of botanical field surveys;
- Any use of existing botanical field surveys and a discussion of their applicability to the project;
- The deposition locations of voucher specimens, if collected; and
- A list of references used, including persons contacted and herbaria visited.

²⁵ It is not necessary to submit entire environmental documents to the CNDDB

Assessment of potential project impacts

- A discussion of the significance of special status plant populations in the project area considering nearby populations and total range and distribution;
- A discussion of the significance of sensitive natural communities in the project area considering nearby occurrences and natural community distribution;
- A discussion of project related direct, indirect, and cumulative impacts to special status plants and sensitive natural communities;
- A discussion of the degree and immediacy of all threats to special status plants and sensitive natural communities, including those from invasive species;
- A discussion of the degree of impact, if any, of the project on unoccupied, potential habitat for special status plants; and
- Recommended measures to avoid, minimize, or mitigate impacts to special status plants and sensitive natural communities.

4. BOTANICAL FIELD SURVEYOR QUALIFICATIONS

Botanical field surveyors should possess the following qualifications:

- Knowledge of plant taxonomy and natural community ecology;
- Familiarity with plants of the region, including special status plants;
- Familiarity with natural communities of the region, including sensitive natural communities;
- Experience with the CNDDDB, BIOS, and Survey of California Vegetation Classification and Mapping Standards;
- Experience conducting floristic botanical field surveys as described in this document, or experience conducting such botanical field surveys under the direction of an experienced botanical field surveyor;
- Familiarity with federal, state, and local statutes and regulations related to plants and plant collecting; and
- Experience analyzing the impacts of projects on native plant species and sensitive natural communities.

5. SUGGESTED REFERENCES

Bonham, C.D. 1988. Measurements for terrestrial vegetation. John Wiley and Sons, Inc., New York, NY.

California Native Plant Society, Rare Plant Program. Most recent version. Inventory of rare and endangered plants (online edition). California Native Plant Society. Sacramento, CA. Available at: <http://www.rareplants.cnps.org/>.

- California Native Plant Society. Most recent version. A manual of California vegetation. California Native Plant Society. Sacramento, CA. Available at: <http://www.cnps.org/cnps/vegetation/manual.php>.
- California Department of Fish and Wildlife, California Natural Diversity Database. Most recent version. Special vascular plants, bryophytes and lichens list. Updated quarterly. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline>.
- Elzinga, C.L., D.W. Salzer, and J. Willoughby. 1998. Measuring and monitoring plant populations. BLM Technical Reference 1730-1. U.S. Dept. of the Interior, Bureau of Land Management. Denver, Colorado. Available at: <https://www.blm.gov/nstc/library/pdf/MeasAndMon.pdf>.
- Jepson Flora Project (eds.) Most recent version. Jepson eFlora. Available at: <http://ucjeps.berkeley.edu/eflora/>.
- Leppig, G. and J.W. White. 2006. Conservation of peripheral plant populations in California. *Madroño*. 53:264-274.
- Mueller-Dombois, D. and H. Ellenberg. 1974. Aims and methods of vegetation ecology. John Wiley and Sons, Inc. New York, NY.
- U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed plants on the Santa Rosa Plain. Sacramento, CA.
- U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Sacramento, CA.
- Van der Maarel, E. 2005. Vegetation Ecology. Blackwell Science Ltd. Malden, MA.

This document is available online at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>

APPENDIX D

Procedure for the Programmatic Evaluation of Paleontological Resources for the 2025 Fisheries Restoration Grant Program Mitigated Negative Declaration Project

There shall be three phases to the process of investigating paleontological resources:

1) project initiation where basic data will be compiled, reviewed, and sorted to determine the next steps that need to be taken on any given project; 2) evaluation of individual projects that may encounter paleontological resources; and 3) mitigation planning to develop mitigation strategies for projects that have identified paleontological resources. The three phases are summarized below.

Project Initiation

The logistics and time needed for conducting paleontological evaluations shall be assessed in the project initiation phase. The guidelines outlined below will facilitate rapid evaluation of individual projects and ensure cooperation among evaluators, pertinent agencies, and landowners. Landowner cooperation is through property access and local area information. The evaluation procedure generally follows standards implemented by other agencies conducting ground disturbance activities such as CalTrans.

Evaluation of the likelihood of encountering paleontological resources and land management issues shall be assessed by adhering to the following guidelines and the corresponding actions:

1. If the project does not involve ground disturbing work, then a negative declaration report shall be prepared.
2. If the project involves ground disturbing work and there is no likelihood of encountering paleontological resources, then a negative declaration report shall be prepared. However, if there is a likelihood of encountering paleontological resources at the project site, then the evaluator schedules a field investigation by contacting the CDFW grant manager and having them arrange landowner access for the paleontological resource field staff; and if necessary, arrange a meeting with the landowners and the paleontological resources investigation field staff.
3. If the project involves land administered by the US Forest Service, the Bureau of Land Management, the National Park Service, the US Army Corps of Engineers, the Native American tribal lands, or the California Department of Parks and Recreation, then the paleontology report containing site forms, site significance, and mitigation measures shall be coordinated with the involved entities. However, if those agencies are not involved, then the paleontology report with all pertinent information (site forms, site significance, mitigation measures or negative declarations) shall be provided to the CDFW and to the CDFW grant manager.

Individual Project Evaluation

The appropriate regional archaeological information center shall be contacted for a record search and the Native American Heritage Commission shall also be contacted for a Sacred Lands File Check. If paleontological resources are likely to be present, then qualified staff shall evaluate the paleontological resources in coordination with any affected agencies including any affected Native American tribe. If paleontological resources are present, then the evaluator will (1) delineate the extent and type of resources present, (2) discuss any issues with pertinent agencies, Native American tribes, project managers, and local experts with regards to potential mitigation planning, and (3) develop a mitigation plan designed to protect sensitive paleontological resources. However, if no resources are present, then a negative declaration report shall be prepared.

Mitigation Planning

Mitigation plans shall be developed to avoid or lessen impacts to the resource if paleontological resources are discovered at any project site. These mitigation plans shall be consistent with current mitigation strategies employed by other entities conducting CEQA investigations. The initial investigation report, along with mitigation recommendations, shall be compiled and delivered to the appropriate CDFW grant/contract manager and the project manager of the proposed project in question. Minimum report elements shall include:

1. Project description and location.
2. Results of the investigation.
3. Mitigation recommendations and plans.
4. Maps depicting project location and paleontological resource locations.

APPENDIX E

Procedure for the Programmatic Evaluation of Archeological Resources for the 2025 Fisheries Restoration Grant Program's Mitigated Negative Declaration Project

Cultural resource investigations are used to identify archaeological resources in the California Department of Fish and Wildlife's (CDFW) funded action items 2025 Fisheries Restoration Grant Program's Mitigated Negative Declaration project areas. When archaeological resources are found, measures are implemented to protect these resources. The purpose of the investigations described below are to: 1) locate and record cultural resources within the project area; 2) evaluate the significance of cultural resources in the study area; 3) assess potential impacts to cultural resources resulting from implementation of the project and; 4) recommend appropriate mitigation measures when necessary.

Investigative Methods

Background research for each project shall include an examination of historical maps, aerial photographs, archaeological site records and a survey at the appropriate regional information center of the Historical Resources Information System. The background research shall also include a review of pertinent ethnographic literature. For all action items, an intensive archaeological field survey that covers the entire project area will be completed.

The California Office of Historical Preservation has established regional information centers as local repositories for all archaeological reports that are prepared under cultural resource management regulations. For each of the action items, a background literature search shall be conducted at the appropriate regional information center as required by state guidelines and current professional standards. Following completion of the archeological studies, a report shall be prepared summarizing the findings of the research. A copy of the report shall be deposited with the California Office of Historical Preservation. The literature review will determine if there are any previously recorded archeological resources or historic structures within the project area, and whether the area has been included within any previous archaeological research or reconnaissance project.

Project notification letters shall be sent to the Native American Heritage Commission along with a request for a Sacred Lands File search of the project areas and appropriate Native American contacts for the action items as soon as funding and contracts are fully routed. In addition, letters shall be sent to local Native American Tribes stating that archaeological surveys are being conducted in areas that may be of interest to them. The letters shall request any additional information and shall ask specifically if the Tribe(s) have any concerns regarding the project.

In addition to a records search at the Northwest Information Center, pertinent published ethnographic literature and various inventories shall be reviewed including but not limited to: 1) California Athabascan Groups (Baumhoff 1958); 2) California Inventory of Historic Resources; 3) California Historic Property Inventory and; 4) Government Land Office Land Plot Map.

Intensive surveys are conducted instream and along the bank of the areas included in the project area. All locations of exposed soil along road cuts, skid trails and creek banks are

inspected. In areas where mineral soil is visibly obscured, a geology pick shall be used to scrape the surface vegetation and expose the mineral soil to inspect for cultural resources.

- 1) Any archaeological sites identified during an investigation shall be recorded in a manner consistent with the Office of Historic Preservations Manual titled Instructions for Recording Historic Resources 1955. The Grantee shall report any previously unknown historic, archeological, and paleontological remains discovered at a site to CDFW which will then report to the US Army Corps of Engineers as required in the Regional General Permit (RGP). This information will also be provided to the Native American Heritage Commission, 915 Capitol Mall, Sacramento, CA 95814.
- 2) An accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the process stated in Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 shall be followed.

In the event of a discovery of archeological or historic resource within the jurisdiction of the California State Lands Commission (CSLC), grantees will be responsible for reporting and submitting any required information to the CSLC.

Summary Form for Electronic Document Submittal

Form F

Lead agencies may include 15 hardcopies of this document when submitting electronic copies of Environmental Impact Reports, Negative Declarations, Mitigated Negative Declarations, or Notices of Preparation to the State Clearinghouse (SCH). The SCH also accepts other summaries, such as EIR Executive Summaries prepared pursuant to CEQA Guidelines Section 15123. Please include one copy of the Notice of Completion Form (NOC) with your submission and attach the summary to each electronic copy of the document.

SCH #: _____

Project Title: The 2025 Fisheries Restoration Grant Program's Mitigated Negative Declaration Project

Lead Agency: California Department of Fish and Wildlife

Contact Name: Timothy Chorey

Email: timothy.chorey@wildlife.ca.gov

Phone Number: 916-838-0760

Project Location: Various coastal cities and counties

City

County

Project Description (Proposed actions, location, and/or consequences).

This project uses grant funds approved by the California Legislature to initiate activities that are designed to restore salmon and steelhead habitat in coastal and Central Valley streams and watersheds. The 2025 Fisheries Restoration Grant Program's Mitigated Negative Declaration Project activities occur in watersheds that have been subjected to significant levels of logging, road building, mining, grazing, and other activities that have reduced the quality and quantity of stream habitat available for native anadromous fish. Restoration activities include fish passage improvement at stream crossings, instream barrier modification for fish passage, instream habitat restoration, riparian restoration, upslope watershed restoration, cooperative rearing, and water conservation measures. The techniques used for these restoration activities have proven successful for many years on many river systems streams and are detailed within this MND.

Identify the project's significant or potentially significant effects and briefly describe any proposed mitigation measures that would reduce or avoid that effect.

It is the California Department of Fish and Wildlife's objective to implement this project while not causing a significant adverse effect on the environment, or reducing the number or restricting the range of an endangered, threatened, or rare species. The project, however, does have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. However, the potential is reduced to less than significant by implementing the mitigation measures in Appendix B: Mitigation Measures, Monitoring, and Reporting Program. The project shall be implemented in a manner that will avoid short-term adverse impacts to rare plants and animals, and cultural resources during construction. The project activities are designed to improve and restore stream habitat; thereby providing long-term benefits to both anadromous salmonids and other fish and wildlife.

If applicable, describe any of the project's areas of controversy known to the Lead Agency, including issues raised by agencies and the public.

N/A

Provide a list of the responsible or trustee agencies for the project.

N/A

NOTICE OF INTENT TO ADOPT MITIGATED NEGATIVE DECLARATION

As required by the California Environmental Quality Act, the California Department of Fish and Wildlife's Fisheries Restoration Grant Program is providing notice to inform the public and interested agencies of the Mitigated Negative Declaration for its proposed project to enhance the capability of streams to produce anadromous salmonids by maintaining, restoring, and improving stream habitat essential to salmonid production.

Implementation Project Locations: Various streams in Del Norte, Humboldt, Marin, Mendocino, Monterey, San Luis Obispo, Siskiyou, and Sonoma counties.

Description of Project: This project will use grant funds approved by the California Legislature to initiate activities that are designed to restore salmon and steelhead habitat in coastal streams and watersheds that historically produced large populations of salmon and steelhead. The replacement of barrier culverts with bridges or natural stream bottom culverts will allow adult and juvenile salmonids access to additional spawning and rearing habitat. The installation of instream structures will recruit and sort spawning gravel for adult salmon and steelhead and create summer rearing pools and over-wintering habitat for juveniles.

Document Availability: The mitigated negative declaration can be accessed online at <https://www.wildlife.ca.gov/Grants/FRGP/MND>. It is also available for review upon request at California Department of Fish and Wildlife offices: 1010 Riverside Drive, West Sacramento, CA 95691; the Northern Regional office: 1455 Sandy Prairie Ct, Suite J, Fortuna, CA 95540; the Bay Delta Regional office: 3633 Westwind Blvd., Santa Rosa, CA 95403; the Central Regional office: 20 Lower Ragsdale Dr., Suite 100, Monterey, CA 93940; and the South Coast Regional office: 4556 Lampson Ave., Los Alamitos, CA 90720. Please contact Mr. Timothy Chorey at (916) 838-0760 to arrange a viewing.

Comments: The review period for the mitigated negative declaration starts September 26, 2025 and ends on November 10, 2025. Please submit comments via email to FRGP@wildlife.ca.gov or via regular mail to: Mr. Timothy Chorey, Department of Fish and Wildlife, Watershed Restoration Grants Branch, Fisheries Restoration Grant Program, P.O. Box 944209, Sacramento, CA 94244-2090. Comments must be received by November 25, 2024. For additional information contact: Mr. Trevor Tollefson, Senior Environmental Scientist at (707) 834-0626 (Northern Region); Mr. Matt Erickson, Environmental Scientist, at (707) 210-7007 (Bay Delta Region); Ms. Kristine Aktinson, Senior Environmental Scientist, at (559) 907-9416 (Central

Region); or, Ms. Deena Hansen, Senior Environmental Scientist, at (562) 338-5885 (South Coast Region).



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Director's Office
P.O. Box 944209
Sacramento, CA 94244-2090
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



September 26, 2025

SUBJECT: EXTEND REVIEW PERIOD OF THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE'S FISHERIES RESTORATION GRANT PROGRAM'S 2025 MITIGATED NEGATIVE DECLARATION PURSUANT TO CCR TITLE 14 §763

To State Clearinghouse.:

The California Department of Fish and Wildlife (CDFW) is requesting to extend our review period of the Fisheries Restoration Grant Program's Mitigated Negative Declaration (MND) titled: The 2025 Fisheries Restoration Grant Program's MND Project pursuant to the California Code of Regulations Title 14 §763. The Section requires CDFW to have a 45-day review period for Negative Declarations instead of the standard 30 day.

Sincerely,

DocuSigned by:
X Matt Wells
613C2E6C80TC4EB...

Matt Wells
Branch Chief
Watershed Restoration Grants Branch
California Department of Fish and Wildlife

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613

For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #**Project Title:** The 2025 Fisheries Restoration Grant Program Mitigated Negative Declaration Project

Lead Agency: California Department of Fish and Wildlife

Contact Person: Timothy Chorey

Mailing Address: P.O. Box 944209

Phone: 916-838-0760

City: Sacramento

Zip: 94244-2090

County: Sacramento

Project Location: County: Various Coastal Counties City/Nearest Community: Various Coastal Communities

Cross Streets: _____ Zip Code: _____

Longitude/Latitude (degrees, minutes and seconds): ____° ____' ____" N / ____° ____' ____" W Total Acres: _____

Assessor's Parcel No.: _____ Section: _____ Twp.: _____ Range: _____ Base: _____

Within 2 Miles: State Hwy #: _____ Waterways: _____

Airports: _____ Railways: _____ Schools: _____

Document Type:

CEQA: ☐ NOP ☐ Draft EIR NEPA: ☐ NOI Other: ☐ Joint Document
☐ Early Cons ☐ Supplement/Subsequent EIR ☐ EA ☐ Final Document
☐ Neg Dec (Prior SCH No.) _____ ☐ Draft EIS ☐ Other: _____
☒ Mit Neg Dec Other: _____ ☐ FONSI _____

Local Action Type:

☐ General Plan Update ☐ Specific Plan ☐ Rezone ☐ Annexation
☐ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☐ Site Plan ☐ Land Division (Subdivision, etc.) ☒ Other: Restoration

Development Type:

☐ Residential: Units _____ Acres _____
☐ Office: Sq.ft. _____ Acres _____ Employees _____
☐ Commercial: Sq.ft. _____ Acres _____ Employees _____
☐ Industrial: Sq.ft. _____ Acres _____ Employees _____
☐ Educational: _____
☐ Recreational: _____
☐ Water Facilities: Type _____ MGD _____
☐ Transportation: Type _____
☐ Mining: Mineral _____
☐ Power: Type _____ MW _____
☐ Waste Treatment: Type _____ MGD _____
☐ Hazardous Waste: Type _____
☐ Other: _____

Project Issues Discussed in Document:

☐ Aesthetic/Visual ☐ Fiscal ☐ Recreation/Parks ☐ Vegetation
☐ Agricultural Land ☐ Flood Plain/Flooding ☐ Schools/Universities ☐ Water Quality
☐ Air Quality ☐ Forest Land/Fire Hazard ☐ Septic Systems ☐ Water Supply/Groundwater
☐ Archeological/Historical ☐ Geologic/Seismic ☐ Sewer Capacity ☒ Wetland/Riparian
☐ Biological Resources ☐ Minerals ☐ Soil Erosion/Compaction/Grading ☐ Growth Inducement
☐ Coastal Zone ☐ Noise ☐ Solid Waste ☐ Land Use
☐ Drainage/Absorption ☐ Population/Housing Balance ☐ Toxic/Hazardous ☐ Cumulative Effects
☐ Economic/Jobs ☐ Public Services/Facilities ☐ Traffic/Circulation ☒ Other: Watershed

Present Land Use/Zoning/General Plan Designation:**Project Description:** (please use a separate page if necessary)

This project uses grant funds approved by the California Legislature to initiate activities that are designed to restore salmon and steelhead trout habitat. The 2025 Fisheries Restoration Grant Program MND project activities occur in watersheds that have been subjected to significant levels of logging, road building, mining, grazing, and other activities that have reduced the quality and quantity of stream habitat available for native anadromous fish.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an "X".
If you have already sent your document to the agency please denote that with an "S".

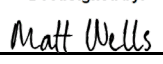
☐ Air Resources Board	☐ Office of Historic Preservation
☐ Boating & Waterways, Department of	☐ Office of Public School Construction
☐ California Emergency Management Agency	☒ Parks & Recreation, Department of
☐ California Highway Patrol	☐ Pesticide Regulation, Department of
☒ Caltrans District # 1245	☐ Public Utilities Commission
☐ Caltrans Division of Aeronautics	☒ Regional WQCB # 1234
☐ Caltrans Planning	☐ Resources Agency
☐ Central Valley Flood Protection Board	☐ Resources Recycling and Recovery, Department of
☐ Coachella Valley Mtns. Conservancy	☐ S.F. Bay Conservation & Development Comm.
☒ Coastal Commission	☐ San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
☐ Colorado River Board	☐ San Joaquin River Conservancy
☐ Conservation, Department of	☐ Santa Monica Mtns. Conservancy
☐ Corrections, Department of	☐ State Lands Commission
☐ Delta Protection Commission	☐ SWRCB: Clean Water Grants
☐ Education, Department of	☒ SWRCB: Water Quality
☐ Energy Commission	☐ SWRCB: Water Rights
☐ Fish & Game Region # _____	☐ Tahoe Regional Planning Agency
☐ Food & Agriculture, Department of	☐ Toxic Substances Control, Department of
☒ Forestry and Fire Protection, Department of	☐ Water Resources, Department of
☐ General Services, Department of	
☐ Health Services, Department of	☐ Other: _____
☐ Housing & Community Development	☐ Other: _____
☐ Native American Heritage Commission	

Local Public Review Period (to be filled in by lead agency)

Starting Date 09/26/2025 Ending Date 11/10/2025

Lead Agency (Complete if applicable):

Consulting Firm: _____ Applicant: CDFW; Watershed Restoration Grants Branch
Address: _____ Address: P.O. Box 944209
City/State/Zip: _____ City/State/Zip: Sacramento, CA 94244-2090
Contact: _____ Phone: 916-327-8842
Phone: _____

Signature of Lead Agency Representative:  Date: 9/18/2025
613C2E6C801C4EB...

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

2025 Mainstem Buckeye Creek Instream Enhancement Project (Project ID: 1734122)

2025

Introduction:

The Conservation Fund (Grantee) will improve salmonid habitat by constructing 21 large wood features consisting of 55 pieces of large wood over a 4,340 foot section of Buckeye Creek in Sonoma County, CA. The addition of large wood (LW) will improve overall habitat complexity by increasing pool depth and frequency, shelter, and high-flow refugia. LW features will promote pool formation by increasing scour and sorting gravels for spawning. Additional small woody debris will be added to features to increase the complexity of individual structures and encourage retention of instream debris. The goal of the Project is to improve summer rearing habitat for juveniles, as well as spawning habitat in Buckeye Creek. This project is necessary to address impacts from historic timber practices and stream cleaning efforts that left the watershed lacking in adequate salmonid habitat complexity.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#), Volume 1, Section VII.

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The project is located in Sonoma County in the Buckeye Creek watershed (Map 1). Buckeye Creek is a tributary to the Gualala River. The project is approximately 15 miles upstream of the confluence of Buckeye Creek and the Gualala River. To access the project from the town of Gualala take Hwy 1 south approximately 8 miles. Turn left onto Annapolis Road for approximately 7 miles, then turn left onto Soda Springs Rd and travel approximately 1 mile to the end of the county road. Follow Kelly Rd through Soda Springs Reserve onto the gated logging road. The

road parallels Buckeye Creek from this point forward. Travel east (upstream on Buckeye Creek) about 2 miles. The project starts where Kelly Road crosses Buckeye Creek (map 2). The seasonal road to access the project area on the south side of Buckeye Creek begins here. Project central coordinates: 38.75363, -123.32061

Project Description:

This project will add 21 structures containing 55 key pieces of large wood (LW) over a 4,340 foot reach of Mainstem Buckeye Creek, Sonoma County, CA. All project wood shall be generated onsite from the adjacent non-riparian upslope timberstand. A tracked full sized excavator will be used for digging up trees with root wads and for placing wood at individual features. Logs without a root wad will be felled by the chainsaw operator. Project logs will consist of Douglas-fir, and coastal redwood. A Skidder will be used for the transportation/skidding of all wood from their generation location to their individual placement location. A Skidder will also be used for winching and adjusting project logs during placement as necessary. Where applicable, LW will be anchored to adjacent stream side trees using all thread rod to provide feature stability and counteract buoyancy. The goal of LW placement is to improve rearing and spawning habitat. Habitat improvements consist of increased pool frequency and depth, potential side channel development, sorting of substrate, high flow refugia, cover and shelter, and improved habitat complexity and diversity. Additional small wood will be added to the LW features to promote racking of debris, thereby increasing the effectiveness of features. This project will meet instream wood loading targets for key pieces described in the Central California Coast Coho Recovery plan (NMFS 2012, Volume III, Appendix B, pages 18-- 19). Per the NOAA coho recovery plan a rating of 'Very Good' for wood density requires $4.2 < \text{key pieces of large wood per } 100 \text{ M for larger channels} > 10\text{m bankfull width}$.

Materials:

TCF Permit Fees: 1600 LSAA.

TCF LWD: The landowner will contribute 55 pieces of large wood required for implementation (in-kind cost share).

BWM Mileage: travel to and from project site.

BWM Lodging and per diem: hotel and travel costs.

BWM Straw: for erosion control.

BWM Earplugs: personal protective equipment.

BWM Gloves: personal protective equipment.

BWM Metal tags: identification of individual LW.

BWM Nails: attach metal tags to individual LW.

BWM Braided metal choker: placement of LW.

BWM 1 all thread: bolting LW.

BWM Flat washers: bolting LW.

BWM Nyloc nuts: bolting LW.

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
Task 1: Contract Oversight and Project Management	04/01/26	TCF Program Manager & TCF Forester will provide all grant and contract oversight and administration tasks including obtaining permits, securing contracts, scheduling, implementation oversight, agency communications, reporting and invoicing. All reporting and billing will be pursuant to the guidelines.	Project deliverables are the implementation of the project and all documentation required to CDFW including Final Landowner Access Agreement, subcontractor agreements, invoices and progress reports.
Task 2: Environmental Compliance and CEQA Assessments	04/01/26	CEQA assessments and reports required for this project will be completed by subcontractors, including cultural resource by Alta Archaeology, botanical by Salix Natural Resource Management, and paleontological by Pacific Watershed Associates.	Cultural resource, botanical, biological and paleontological reports. CDFW LSAA 1600 Agreement Application
Task 3: Pre-Implementation Survey and Design	06/15/27	Following CDWF notice to proceed, BWM will complete final site layout and flagging of access routes. Pre-implementation surveys will be completed.	Final site layout plans, if needed. Pre-project longitudinal profile, cross sections, etc as required by FRGP HI guidelines
Task 4: Implementation	07/15/27	At least 55 key pieces of large wood will be installed throughout the project reach. LWD project implementation will be directed by the BWM Project Manager and Technician. The BWM Chainsaw Operator will conduct all bucking and associated	Construction of 21 structures with a minimum of 55 key pieces of large wood.

Task Name	Start Date	Activity Description	Deliverables
		chainsaw work throughout the wood generation and placement process, in addition to operating the drill for bolting. A subcontracted tracked full sized excavator (BWM Excavator with Operator sub-contractor in budget) will be used for digging up trees with root wads and the wood placement. BWM Skidder with Operator will be used for the transportation/skidding of all wood from their generation location adjacent the project site to their individual placement location. Skidder will also be used for winching and adjusting project logs during placement as necessary. All project wood shall be generated onsite from adjacent non-riparian upslope timber.	
Task 5 - Post-Implementation Surveys	11/01/27	Post-construction surveys, including photographic monitoring, wood inventory, documentation of as-built conditions, cross-sections, and post-project longitudinal profile assessments will be performed by BWM.	Actual performance measures by site, as-built drawings, before and after photographs, post-project longitudinal profile and cross sections.
Task 6: Invoicing and Reporting	11/01/26	Project information will be compiled and analyzed per the requirements of the CDFW Grant Agreement. Annual Progress Report(s) and a Final Report will be provided. The TCF will compile, format, and submit invoices, reports, and a final budget to CDFW according to grant timelines. BWM Project Manager will assist with final reporting tasks	Progress Reports (pdf format); Annual Report (pdf format); and Final Grant Report (pdf format), including all pre-and post-project data produced as a part of the project; Final Invoice and Final Budget.

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

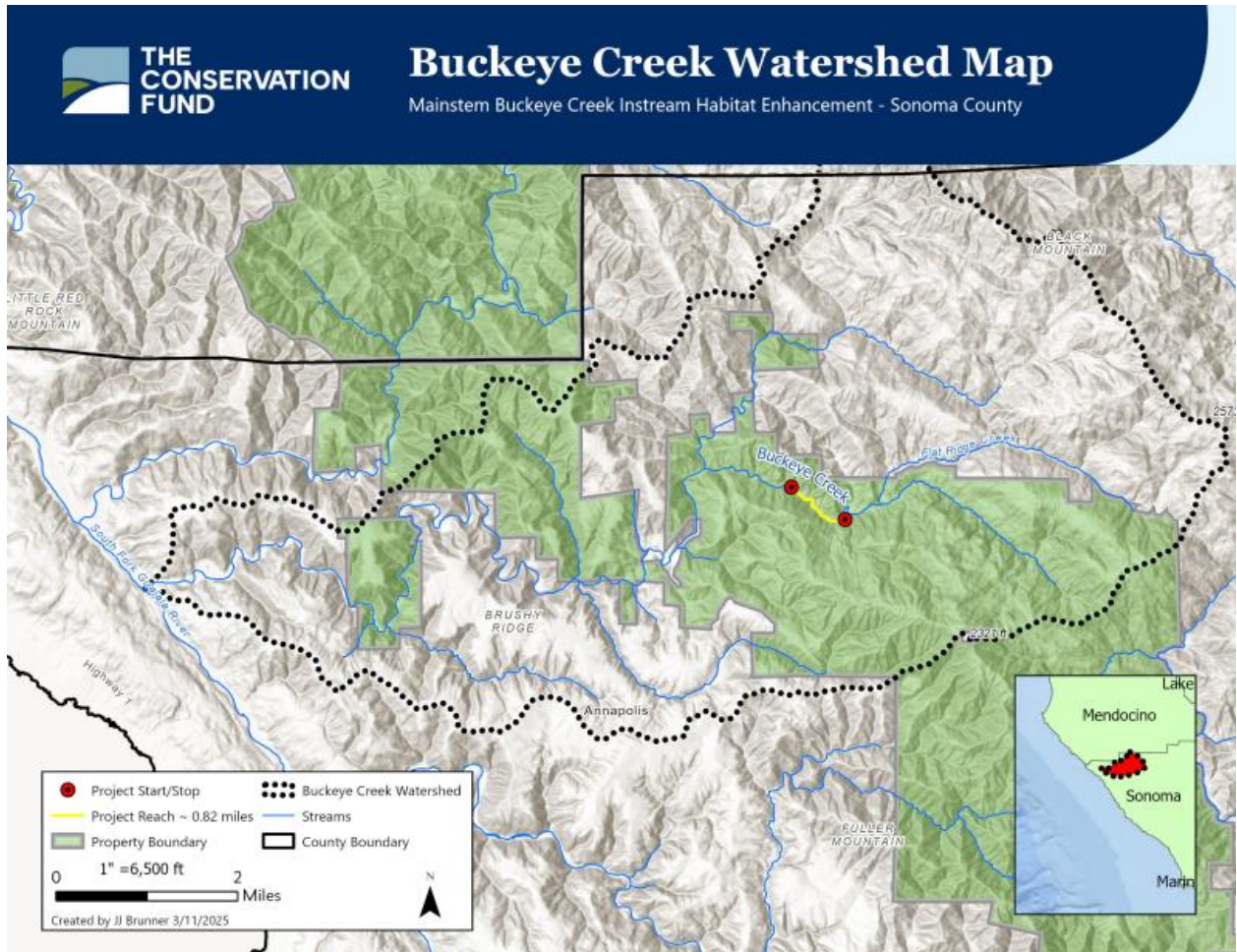
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

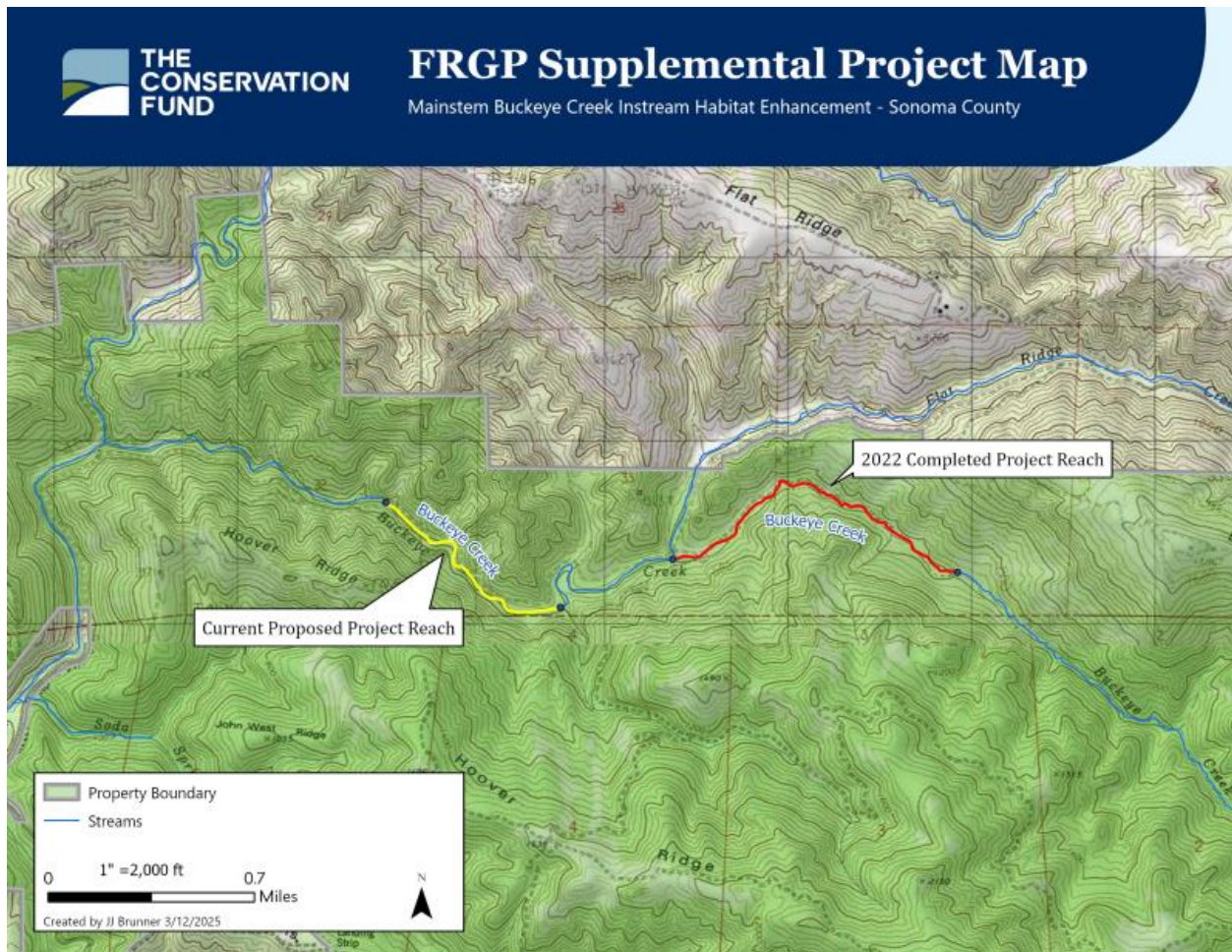
All habitat improvements will follow techniques described in the California Salmonid Stream Habitat Restoration Manual, 4th Edition (CA Restoration Manual) or other approved guidelines and manuals for salmon and steelhead habitat restoration.

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

Map 1.



Map 2.



California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734122 2025 Mainstem Buckeye Creek
Instream Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Dicamptodon ensatus	California giant salamander	AAAAH01020	None	None	SSC
Rana boylei pop. 1	foothill yellow-legged frog -	AAABH01051	None	None	SSC
Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC
Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC
Accipiter atricapillus	American goshawk	ABNKC12061	None	None	SSC
Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC
Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP
Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-
Ardea herodias	great blue heron	ABNGA04010	None	None	-
Progne subis	purple martin	ABPAU01010	None	None	SSC
Pandion haliaetus	osprey	ABNKC01010	None	None	WL
Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC
Passerculus sandwichensis alaudinus	Bryants savannah sparrow	ABPBX99011	None	None	SSC
Asio flammeus	short-eared owl	ABNSB13040	None	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734122 2025 Mainstem Buckeye Creek
Instream Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
<i>Contopus cooperi</i>	olive-sided flycatcher	ABPAE32010	None	None	SSC
<i>Hesperoleucus parvipinnis</i>	Gualala roach	AFCJB19025	None	None	SSC
<i>Hesperoleucus venustus</i>	northern coastal roach	AFCJB19031	None	None	SSC
<i>Hysterocarpus traskii</i> pomo	Russian River tule perch	AFCQK02011	None	None	SSC
<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC
<i>Oncorhynchus kisutch</i> pop. 4	coho salmon - central California	AFCHA02034	Endangered	Endangered	-
<i>Oncorhynchus mykiss irideus</i>	steelhead - northern	AFCHA0213Q	Threatened	None	SSC
<i>Oncorhynchus mykiss irideus</i>	steelhead - central California	AFCHA0209G	Threatened	None	SSC
<i>Oncorhynchus tshawytscha</i> pop.	chinook salmon - California coastal	AFCHA0205S	Threatened	None	SSC
<i>Bombus caliginosus</i>	obscure bumble bee	IIHYM24380	None	None	-
<i>Danaus plexippus</i> pop. 1	monarch - California	IILEPP2012	Proposed Threatened	None	-
<i>Speyeria zerene behrensii</i>	Behrens silverspot butterfly	IILEPJ6088	Endangered	None	-
<i>Arborimus pomo</i>	Sonoma tree vole	AMAFF23030	None	None	SSC
<i>Taxidea taxus</i>	American badger	AMAJF04010	None	None	SSC
<i>Bassariscus astutus</i> raptor	northern California ringtail	AMAJE01014	None	None	FP

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734122 2025 Mainstem Buckeye Creek
Instream Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Antrozous pallidus</i>	pallid bat	AMACC10010	None	None	SSC
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	AMACC08010	None	None	SSC
<i>Lasiurus cinereus</i>	hoary bat	AMACC05032	None	None	-
<i>Lasiurus frantzii</i>	western red bat	AMACC05080	None	None	SSC
<i>Myotis thysanodes</i>	fringed myotis	AMACC01090	None	None	-
<i>Myotis yumanensis</i>	Yuma myotis	AMACC01020	None	None	-
<i>Actinemys marmorata</i>	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
<i>Sulcaria spiralifera</i>	twisted horsehair lichen	NLT0042560	None	None	-
<i>Usnea longissima</i>	Methuselahs	NLLEC5P420	None	None	-
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	PMLIL021R1	None	None	-
<i>Erigeron biolettii</i>	streamside daisy	PDAST3M5H0	None	None	-
<i>Erigeron serpentinus</i>	serpentine daisy	PDAST3M5M0	None	None	-
<i>Erigeron supplex</i>	supple daisy	PDAST3M3Z0	None	None	-
<i>Harmonia guggolziorum</i>	Guggolz's harmonia	PDAST650M0	None	None	-
<i>Hemizonia congesta</i> ssp. <i>tracyi</i>	Tracy's tarplant	PDAST4R067	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734122 2025 Mainstem Buckeye Creek
Instream Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Hesperevax sparsiflora var. brevifolia	short-leaved evax	PDASTE5011	None	None	-
Lasthenia californica ssp. macrantha	perennial goldfields	PDAST5L0C5	None	None	-
Tracyina rostrata	beaked tracyina	PDAST9D010	None	None	-
Cryptantha dissita	serpentine cryptantha	PDBOR0A0H2	None	None	-
Streptanthus barbiger	bearded jewelflower	PDBRA2G040	None	None	-
Streptanthus glandulosus ssp. hoffmanii	Hoffmans bristly jewelflower	PDBRA2G0J4	None	None	-
Streptanthus morrisonii ssp.	Morrisons jewelflower	PDBRA2G0S3	None	None	-
Brasenia schreberi	watershield	PDCAB01010	None	None	-
Eastwoodiella californica	swamp harebell	PDCAM02060	None	None	-
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	PDCON04032	None	None	-
Calystegia purpurata ssp.	coastal bluff morning-glory	PDCON040D2	None	None	-
Carex saliniformis	deceiving sedge	PMCYP03BY0	None	None	-
Arctostaphylos bakeri ssp. sublaevis	Cedars manzanita	PDERI04222	None	Rare	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734122 2025 Mainstem Buckeye Creek
Instream Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Arctostaphylos hispidula	Howells manzanita	PDERI04230	None	None	-
Arctostaphylos stanfordiana ssp. raichei	Raiches manzanita	PDERI041G2	None	None	-
Astragalus agnicidus	Humboldt County milk-vetch	PDFAB0F080	None	Endangered	-
Astragalus breweri	Brewers milk-vetch	PDFAB0F1J0	None	None	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Lathyrus palustris	marsh pea	PDFAB250P0	None	None	-
Lupinus sericatus	Cobb Mountain lupine	PDFAB2B3J0	None	None	-
Trifolium buckwestiorum	Santa Cruz clover	PDFAB402W0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734122 2025 Mainstem Buckeye Creek
Instream Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Monardella viridis</i>	green monardella	PDLAM180Q2	None	None	-
<i>Calochortus raichei</i>	Cedars fairy-lantern	PMLIL0D1L0	None	None	-
<i>Calochortus uniflorus</i>	pink star-tulip	PMLIL0D1F0	None	None	-
<i>Lilium maritimum</i>	coast lily	PMLIL1A0C0	None	None	-
<i>Lilium rubescens</i>	redwood lily	PMLIL1A0N0	None	None	-
<i>Lycopodium clavatum</i>	running-pine	PPLYC01080	None	None	-
<i>Sidalcea calycosa</i> ssp. <i>rhizomata</i>	Point Reyes checkerbloom	PDMAL11012	None	None	-
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	PDMAL110E0	None	None	-
<i>Sidalcea malviflora</i> ssp.	purple-stemmed checkerbloom	PDMAL110FL	None	None	-
<i>Veratrum fimbriatum</i>	fringed false-hellebore	PMLIL25030	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734122 2025 Mainstem Buckeye Creek
Instream Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Epilobium septentrionale	Humboldt County fuchsia	PDONA06110	None	None	-
Cypripedium californicum	California lady-slipper	PMORC0Q040	None	None	-
Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-
Castilleja ambigua var.	johnny-nip	PDSCR0D401	None	None	-
Agrostis blasdalei	Blasdales bent grass	PMPOA04060	None	None	-
Calamagrostis bolanderi	Bolanders reed grass	PMPOA17010	None	None	-
Gilia capitata ssp. pacifica	Pacific gilia	PDPLM040B6	None	None	-
Gilia capitata ssp. tomentosa	woolly-headed gilia	PDPLM040B9	None	None	-
Leptosiphon aureus	bristly leptosiphon	PDPLM09010	None	None	-
Leptosiphon rattanii	Rattans leptosiphon	PDPLM09110	None	None	-
Eriogonum cedrorum	Cedars buckwheat	PDPGN087A0	None	None	-
Eriogonum ternatum	ternate buckwheat	PDPGN085R0	None	None	-
Ceanothus confusus	Rincon Ridge ceanothus	PDRHA04220	None	None	-
Ceanothus gloriosus var.	glory brush	PDRHA040F4	None	None	-
Ceanothus gloriosus var.	Point Reyes ceanothus	PDRHA040F5	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734122 2025 Mainstem Buckeye Creek
Instream Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Holodiscus discolor var.	Cedars oceanspray	PDROS0V041	None	None	-
Horkelia tenuiloba	thin-lobed horkelia	PDROS0W0E0	None	None	-

Windler Floodplain Habitat Enhancement Phase 2 (Project ID: 1734133) 2025

Introduction:

The Salmon River Restoration Council (Grantee) will implement Phase 2 of 100% final engineered designs based on established restoration methods, consistent with the CA Restoration Manual. Objectives include: 1) lower the floodplain, 2) increase connectivity and 3) enhance salmonid rearing habitat at the Windler riverbar. Additionally, riparian revegetation will be implemented across the riverbar.

The Windler Bar complex has been completely altered through decades of historic mining adjacent to the bar followed by the historic 1964 flood which mobilized the excess of mining related cobbles into the system, creating perched cobble bars out of reach of regular winter flows. The Windler Bar is one of the largest on the North Fork Salmon River and shows little natural recovery, being characterized by infrequently engaged side channels and degraded riparian habitat. The overall site also includes areas of denuded mine tailings, which provide no wildlife habitat and are a heat sink, resulting in increased riparian corridor temperatures. The Grantee selected the project for restoration due to its location along a low-gradient reach known to host spawning and year-round rearing of juvenile salmonids, including coho (see attached coho presence map). Recent juvenile Chinook monitoring efforts have clearly shown that this reach is a hotbed for juvenile spring Chinook rearing. The site also includes the mouth of Cronan Gulch, a perennial cold-water tributary with documented juvenile coho and spring Chinook use, and Gallia Pond, a historic mining pond.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#) (Volume I, Section VII and Volume II, Section XI).

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The project area is located on the North Fork of the Salmon River, and starts approximately 10.5 miles upstream from its confluence with the South Fork of the Salmon River and continues upstream approximately 3,220 feet. The project is located in Township 40 North, Range 12 West, Section 23 of the Sawyers Bar 7.5 Minute U.S. Geological Survey Quadrangle.

Project central coordinates: 41.31292, -123.19165

Project Description:

1. Overview - The Salmon River Restoration Council (SRRC), with the U.S. Forest Service (USFS), Michael Love & Associates (MLA), and Pacific Watershed Associates (PWA) proposes to implement off-channel fisheries and riparian habitat enhancement at Windler riverbar on the North Fork Salmon River (NFSR). Project components include lowering the floodplain, side channel and alcove excavation, increasing side channel habitat complexity, riverbar revegetation, and tributary cold water refugia enhancement. The project will re-initiate geomorphic processes on the bar and create high quality winter rearing habitat and cold-water summer refugia for coho and other anadromous salmonids. The project design was funded by FRGP in 2019. 100% designs developed by MLA are consistent with the CA Restoration Manual. See attached Project Description Map for general project layout.

2. Goals - The goals of the project are: 1) lower the perched riverbar to reconnect the floodplain with the river more frequently and at lower flows, creating conditions and 2) develop more complex, year-round, off-channel habitat along a section of the NFSR with high intrinsic potential habitat for coho, spring Chinook, and other anadromous species, including Pacific lamprey. This project addresses six critical elements of long-term restoration, maintenance of water quality and coho habitat on the NFSR: 1) restore fluvial geomorphic processes on bar tops; 2) provide access to, and increase the area of slow water habitat for juvenile salmonids and out-migrating smolts to provide refuge from winter high velocities; 3) provide in-channel and off-channel coolwater refugia for juvenile salmon summer rearing; 4) enhance low-gradient spawning habitat in the main river channels; 5) restore riparian vegetation to provide shade and future large woody debris (LWD) recruitment; 6) augment LWD to diversify channel bed topography through scour, sorting, and filling, slow velocities, and provide cover for rearing salmonids. This project will be implemented in multiple phases.

Phase 2 includes construction of Far Side Channels, Middle Channel/Alcove, North Channel; installation of LWD structures in the existing Side Channel; construction of Torrent Sedge Shelf; enlargement of Cronan Gulch Alcove and step-pools; removing invasive species from Gallia Pond, and filling in portions of

the pond to eliminate bullfrogs while enhancing wetland habitat; and revegetation of mine tailings adjacent to the pond.

Phase 3 is the riparian revegetation funded by SVRCD CalTrans and Karuk Tribe CFLRP, and provides matching funds for this proposal. Phase 3 will be implemented with Phase 1 and 2 and includes revegetation on the Main Bar, Cronan Gulch and the upslope spoils area.

Materials:

Provided By SRRC:

Field Supplies - include but not limited to waders, fisheries and water monitoring supplies, write in-the-rain paper, measuring tapes.

Office Supplies – include but not limited to copy paper, toner, report binding materials, pens.

Hobo Temperature and Level loggers - Onset Hobo pressure transducers (10 total) and temperature loggers (10 total) to perform the water level and water quality monitoring.

Computer, Field Tablet - Grantee will rent a computer/field tablet for 36 months to support implementation and monitoring activities.

Water Quality Multimeter - Necessary to conduct water quality monitoring as required to meet 401 certification requirements.

UAV Rental - SRRC will rent a UAV to acquire aerial images of the project sites during high water events. This imagery will be used to monitor changes to the project area over time. A consultant will be hired to process and georeference the images.

Software Licenses - for GIS computer software required to perform mapping necessary to complete the project.

Garmin InReach Subscription - Garmin InReach service subscription for 36 months to be used in the field for emergency safety and communication during project implementation and monitoring.

Logs for Log Structures - A total of 350, 30-foot long, ~18 diameter logs (Douglas fir or incense cedar)with rootwads to construct the log structures. Log structures for the project will include 1 Large Apex Jam, 7 Habitat Logs, 28 Log Deflectors, 8 Small Apex Jams, and 68 Rootwad Cover Structures. The structures will be used to create scour pools, low-velocity zones, pocket alcoves, and complex edge habitat.

Slash material for Log Structures and Enhanced Planting Areas (EPA) - 1,500 CY will be incorporated into all log structures and EPAs to increase channel bank complexity and provide vegetation microsites.

Nursery Plants - 2,460 locally adapted, native nursery plants will be planted throughout the project to increase riparian shade and diversity.

Willow stakes - 2,400 live, native, willow (and cottonwood if available), harvested locally will be incorporated into each of the Log Structures and brush baffles.

Provided by Subcontractor Michael Love and Associates, Inc

Rent Trimble Robotic Total Station/RTK Rental for 10 days that will be used for project implementation.

UAV Rental to acquire images to develop a georeferenced orthomosaic of the project area that will be used to document before and after conditions of the project site.

Provided by Heavy Equipment Subcontractor (TBD)

A temporary bridge crossing will be needed to cross the NF Salmon River to access the Windler riverbar. The bridged crossing will consist of a minimum 50-foot span temporary bridge crossing furnished by the contractor.

Fish Exclusion Screen - approximately 200 feet of temporary fish exclusion screening, stakes, and connecting materials necessary to install and maintain screens.

Rock Materials for Log Structures - About 20 tons of ½ ton rock will be purchased by the contractor to ballast the Abutment Jams.

Planting Areas will be excavate backfilled with salvaged soil and incorporate live stakes and top with woody mulch.

1,172 CY of mulch, irrigation materials, nursery plant staging materials.

Adapted native seed, certified weed-free straw, and woody mulch (2.5 acres).

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
Task 1.1 Project Management and Administration	04/01/26	SRRC will oversee the entire project. SRRC will provide technical and administrative services associated with performing and completing the work for this project, including managing the Grant Agreement, assuring all permits are acquired, administering subcontracts, invoicing and payments, completing all reports, data management, and qualified off-channel restoration Heavy Equipment Contractor selection through a Request for Proposals (RFP) process. SRRC will provide daily construction guidance and resolution of contractual issues, as necessary. SRRC will photo-document all aspects of the project. SRRC will deliver a Final Grant Report upon completion of the project. SRRC will photograph the constructed project and develop a written final completion report for submission to CDFW. SRRC will provide a summary of actual performance metrics per site. SRRC will provide before and after photos of individual feature locations. A representative sample of up to 10 features will be supplied in the final report with a complete set of before and after photos delivered on a CD. The final report will contain: 1) general grant information, 2) location of work, 3) project access, 4) participating landowners contact information, 5) a description and analysis of the restoration and planning techniques used, 6) a description of the results of the project, 7)	Final Grant Report with Water Quality Monitoring Report 03/31/2030

Task Name	Start Date	Activity Description	Deliverables
		dates of work and the number of person hours expended, 8) labeled before and after photos of selected restoration activities and techniques, and 9) grant dollars spent and contributed and/or in kind services used to complete the project.	
Task 1.2 Subcontracting	05/01/26	SRRC will contract with MLA for construction oversight, PWA for SWPPP oversight, and Karuk Tribe Fisheries Department for fish relocation oversight (in accordance with CDFW stream dewatering and fish relocation requirements), specific implementation guidance, and post implementation guidance and assistance. SRRC will contract a qualified off-channel restoration Heavy Equipment Contractor and coordinate construction of the project. SRRC and subcontractors will track their work during this project and prepare invoices and progress reports to be submitted to CDFW during the course of this project.	Subcontracts. 02/28/2030
Task 2.1 Materials Procurement	07/01/26	SRRC will procure large wood materials, slash, and native plant materials in preparation for project implementation. Plant materials include locally adapted, diverse, native nursery plants and live, native, willow stakes, locally collected by SRRC. Phase 2 represents requested funding. Phases 1 and 3 funding is secured. Harvest and Deliver Slash to Site (all phases): SRRC will coordinate harvesting and delivery of 4,000 CY of brush (slash) to the project area (1500 CY in phase 2).	Materials purchase receipts 12/01/2028

Task Name	Start Date	Activity Description	Deliverables
		The Heavy Equipment Contractor will incorporate this volume of slash in brush baffles, EPAs and log structures. Order and Deliver logs to the Site (all phases): SRRC will coordinate the order and delivery of 388 logs with rootwads to the project area (350 in phase 2). Of these 388 logs, 168 logs for deflectors could be cut logs or rootwads logs depending on material availability. The Heavy Equipment Contractor will incorporate this number of logs into the log structures, baffles, and planting Areas. Harvest Live Stakes (all phases): SRRC will coordinate harvesting and delivery of 4,496 live, native willow (and cottonwood if available) stakes to the project area (2,400 in phase 2). Contractor will incorporate live stakes into planting areas, brush baffles, and large wood structures. Order and Deliver Nursery Plants (cost share and requested funding): SRRC will order 5,045 locally adapted, diverse, native nursery plants from local suppliers (2,460 in phase 2). SRRC will pick-up and deliver plants to the project area, stockpile and maintain the plants on-site until appropriate weather conditions occur.	
Task 2.2 Implementation Oversight	07/01/27	SRRC will oversee all aspects of Implementation, including permit, SWPPP, and BMP compliance, off-channel and riparian habitat enhancement, and revegetation. SRRC will provide daily construction	As-Built Plans 12/01/2027 and Technical Memorandum 2/28/2029

Task Name	Start Date	Activity Description	Deliverables
		guidance and resolution of implementation issues, as necessary. MLA will update the design plans to conform to permit and environmental document requirements, assist SRRC with the preparation of RFP documents and addenda, and review applications. MLA will provide part-time oversight of construction, including working with the contractor during excavation and backfill, installation of large wood and rock structures, coarsened riffles, microtopography, and grade checks to verify constructed elevations. The MLA oversight will be for a total of 40 days. MLA will attend one RFP onsite review and one construction kickoff meeting and up to seven (7) weekly construction progress meetings. MLA will be available to make recommendations for addressing unforeseen conditions or field changes, if necessary. MLA will survey the constructed project and prepare As-Built Plans. MLA assumes that the work will be prevailing wage work performed by MLA staff for an average of 8 hours a day. Work not subject to prevailing wage will be at standard rates. MLA will prepare As-Built Plans after construction using red-line markups of the construction documents. The As-Built Plans will include surveyed alignments, longitudinal profiles and cross sections (as appropriate), feature locations, design changes where applicable, and size and quantity of material added if it differs from the construction documents. A brief As-	

Task Name	Start Date	Activity Description	Deliverables
		Built technical memorandum will accompany the As-Built Plans. As part of the as-built survey, MLA will prepare a georeferenced orthomosaic of the project area using UAV flights and image processing software. This imagery will be used as a baseline to monitor changes to the project area over time. The survey effort by MLA staff is assumed to be subject to prevailing wage. Changes to the project area will be documented in the First Winter Observations Summary Memorandum (Task 3.2) and in the second annual Monitoring Memorandum (Task 4.2) The Karuk Tribe's lead fisheries biologist will be available for fisheries based implementation guidance as needed.	
Task 2.3 Implementation Monitoring	06/01/27	SRRC and PWA will oversee BMP monitoring and inspections for the Construction General Permit Stormwater Pollution Prevention Plan (SWPPP). Qualified SWPPP Water Pollution Control Inspectors from SRRC and PWA will be the primary on-site staff available to conduct the required stormwater sampling, pre- and post- rain event inspections, daily rain event inspections, as well as the required weekly and quarterly SWPPP monitoring, and reporting to the State Water Board. Actual stormwater BMP implementation and maintenance will be the responsibility of the contractor. Additionally, SRRC will implement and oversee water quality monitoring and report as required by Part V permitting guidelines of the 2025 FRGP solicitation to meet 401 certification	Water Quality Reports submitted with Final Grant Report (Task 1.1) 12/31/2027

Task Name	Start Date	Activity Description	Deliverables
		requirements (see attached Water Quality Monitoring Plan). SRRC and Karuk Tribe Fisheries Biologists will survey the project area prior to construction for presence of sensitive fish species that may be disturbed by the project and they will be available as necessary for fish exclusion and relocation. If needed, fish will be removed from work areas by a qualified biologist (Karuk Tribe) assisted by SRRC staff. SRRC will monitor the site weekly to ensure fish exclusion BMPs are maintained.	
Task 2.4 Implementation	06/01/27	SRRC and MLA will oversee implementation of 100% Engineered Designs. TBD Contractor will provide necessary personnel and equipment, including, but not limited to, excavators, bulldozers, loaders, water trucks, and incidentals such as pumps, chainsaws, etc. to complete specified work. Wages will be paid in accordance with Prevailing Wage requirements. Phase 2 represents requested funding. Phases 1 and 3 funding is secured. Mobilization/Demobilization/(BMPs) (phases 1 and 2): Contractor will provide certifications, schedules, and required documents, procure/deliver specified materials and equipment to site, finalize contracts and insurance requirements, and obtain required bonding. Contractor will implement specified BMPs. At project completion, contractor will remove all equipment and excess materials.	Implementation Photos submitted with Final Grant Report (Task 1.1) 03/31/2030

Task Name	Start Date	Activity Description	Deliverables
		Clearing/Grubbing/Construction Access (phases 1 and 2): Contractor will clear/grub vegetation for access, equipment storage, re-fueling and maintenance (~3 days). The contractor will harvest approximately 40 trees along the access route. The trees will be incorporated into project wood structures or EPA's. Fish Exclusion (phases 1 and 2): Fish exclusion screens will be placed by the Contractor as specified by SRRC and Karuk Tribe Fish Biologist, upstream and downstream of construction areas. Screens will be maintained by the Contractor. Temporary Crossings (phases 1 and 2): Contractor will furnish materials and install 1 minimum 50-ft span bridge across the NFSR, salvage materials, construct bridge approaches, and fill a portion of the channel to create the approach. Contractor will furnish materials and install 1 minimum 36-in culvert for a temporary Cronan Gulch crossing. Crossings will be removed at construction season end. Water Management (phases 1 and 2): Contractor will employ appropriate measures to divert perennial flows around construction areas and dewater as needed. Contractor will provide pumps, pipes, hoses, dikes, cofferdams, or other specified measures. 60 days of water management (40 days requested funding and 20 days phase 1 funds) is expected. Excavation/Spoil Placement (phases 1 and 2): Contractor will perform 22,500 CY of excavation to	

Task Name	Start Date	Activity Description	Deliverables
		construct the floodplain, Primary Channel/Alcove and Secondary Alcove (phase 1) and 8,900 CY of excavation to construct the Far Side Channel/Backwaters, Back/Mid-Bar Channels/Alcoves and North Channel/Alcove (phase 2). Contractor will fill in the pond and excavate 1,400 CY of mine tailings (phase 2). Suitable material will be stockpiled. 1,150 CY of material will be screened for use in planting areas (phase 1) and 8,500 CY for use in Baffles (5,000 CY in phase 1, and 3,500 CY in phase 2). Excess materials will be trucked to spoils area. Log Structure Installation (phases 1 and 2): Contractor will install 68 Rootwad Cover Structures (8 in phase 1, 60 in phase 2), 8 Small Apex Jams (phase 2), 7 Bank logs (phase 2), 28 Deflectors (phase 2) and 2 Large Apex Jams (1 in phase 1, 1 in phase 2) using logs and rootwads, slash, and live stakes provided by SRRC, 200 tons of ½ -Ton rock (60 in phase 1, 140 in phase 2) furnished by contractor, and salvaged ballast material. Install Coarsened Riffles (phases 1 and 2): Contractor will install 760 CY (470 CY in phase 1 and 290 in phase 2) of Coarsened Riffles using imported rock and salvaged sands and gravels, spanning channel width to the floodplain to minimize flanking. Riffles will be installed at 3-feet depth to allow for channel adjustment. Install Brush Baffles (phases 1 and 2): Contractor will install 750 LF of brush baffles (375 in phase 1 and 375 in phase 2), including excavation and placement of	

Task Name	Start Date	Activity Description	Deliverables
		slash/live stakes. Materials will be obtained and delivered by SRRC. 7 baffles will include habitat logs to create scour holes. Live Stakes (all phases): Contractor will install 7,200 live stakes (3,700 in phase 2) within Brush Baffles and Wood Structures. SRRC will supply Live Stakes. Contractor will water installed live stakes once per week through construction. Enhanced Planting Areas (EPA) (all phases): Contractor will install 33 small (400 sf) EPAs (20 in phase 1, 13 in phase 2), 22 deflector EPAs (2 in phase 2, 20 in phase 3) and 14 large (1,600 sf) EPA's (9 in phase 2, 5 in phase 3). EPA's are excavated to below groundwater, backfilled with large wood, mulch, salvaged soil and brush, and topped with mulch. SRRC will manually plant 5,045 native containerized plants (2,460 in phase 2, 2,585 in phase 3). (See SRRC Revegetation Plan.) Site Stabilization (all phases): Site will be stabilized, trash/excess material removed, final erosion control BMPs placed on the bar and in Hydraulic Cut Area. Contractor will furnish/install 4 acres of locally adapted native seed, certified weed-free straw mulch, and hydroseed/hydro-compost 3 acres of spoils placed in hydraulic Cut area. (See SRRC Revegetation Plan.)	
Task 3.1 First Winter Observations	11/01/27	SRRC and MLA will evaluate the project in early summer following implementation. Evaluations will include photos of high flow events (if they can safely be obtained), project photos, observations of the	First Winter photo observations, included in First Winter Observations

Task Name	Start Date	Activity Description	Deliverables
		project trend toward meeting objectives and goals, changes from storm damage, missing key pieces, and observations of large and small wood catchment in structures. MLA will prepare a georeferenced orthomosaic of the project area using UAV flights and image processing software. This imagery will be used to monitor changes to the project area over time. Changes to the project area will be documented in the First Winter Observations Summary.	Summary Report (Task 3.2) 6/30/2028
Task 3.2 First Winter Observations Summary	06/01/28	SRRC will develop a summary of observations for the project through the first winter following implementation. MLA will assist SRRC with interpretation of monitoring results, and development of the First Winter Monitoring Observation Summary Report. The summary will include the largest flow event that occurred in the project area, photos, evaluations of whether or not the project is trending toward meeting the objectives and goals of the project, how features have changed from the As-Builts, and any lessons learned.	First Winter Observations Summary Report, including First Winter Technical Memo 7/31/2028
Task 4.1 Post-Implementation Monitoring	11/01/27	SRRC coordinates the bulk of monitoring, assessment and restoration in the Salmon River for anadromous fisheries. SRRC has been surveying anadromous fish and priority noxious weeds (including treatment) in the project area for over 25 years, which provides long-term baseline conditions for comparison to post-implementation conditions. Since the Habitat Restoration Program was initiated in 2015 to implement	Photo monitoring photos, included in Annual Monitoring Memorandums (Task 4.2) 03/31/2029 and 02/28/2030

Task Name	Start Date	Activity Description	Deliverables
		off-channel and tributary restoration projects, SRRC has successfully provided a full suite of pre- and post-implementation monitoring methods to evaluate the effectiveness of restored sites. Monitoring techniques have evaluated water quality and flow, fisheries use, specifically at-risk salmonids, avian use, native vegetation establishment, noxious weeds, and other invasive species impacts, physical change, and functionality of implemented features. SRRC will conduct fisheries, water, photo, physical, and vegetation monitoring for two full years following implementation to meet Part V - 159 of the FRGP Guidelines (see attached Windler Monitoring Plan). A Monitoring and Maintenance Plan will be developed in partnership with CDFW and the USFS, it will describe in detail all the methods and protocols which will be used to evaluate the post-implementation results of this project and include a Quality Assurance/Quality Control Plan. Standardized methods will be used for all protocols. SRRC has already completed pre-implementation monitoring for fisheries, water quality, physical, and avian resources through funding from CDFW and the State Coastal Conservancy. SRRC is planning on the following monitoring: Post-implementation annual inspections of project features will occur at the beginning of the summer after high spring flows have subsided. Inspections will be conducted through visual observation to evaluate project effectiveness and identify any issues. Observed	

Task Name	Start Date	Activity Description	Deliverables
		feature changes will be noted in the annual memoranda, with particular focus on: channel functionality and stability of log structures; sedimentation patterns; natural regeneration of native vegetation; overall revegetation plant success; and invasive encroachment into the project area. Monthly surveys will be conducted for fish occurrence, use, and migration patterns. Presence/absence snorkel surveys will be used to evaluate when juvenile salmonids are present and could potentially utilize the project area. Water monitoring data will be used to determine how long conditions are adequate (seasonality) for fish. Spawning surveys will be conducted fall through early winter. Fisheries and water monitoring data will assess restoration techniques to meet project goals, inform future restoration design, and adaptive management. Monitoring will be conducted only when it is safe and feasible to do so; for example, snorkel surveys within the main channel will likely be limited to May through November. Karuk Tribe fisheries program will provide fisheries monitoring guidance and assistance as needed. Temperature, water levels, and dissolved oxygen will be monitored monthly throughout the project. Conditions permitting, depth and flow measurements will be taken in alcoves during the time of survey. Notable river flows will be tracked at the site, tracking	

Task Name	Start Date	Activity Description	Deliverables
		at what flows the features engage and when they disconnect. Photo monitoring will be conducted to document physical and vegetative response to all features and identify any issues of concern that may require maintenance. SRRC will complete leaf-off and leaf-on monitoring in the year prior to implementation, and for the two years following. Additional photos will be taken during notable flow events. Inspection of revegetation measures will include the condition of streambank erosion control measures, numeric survival by species and overall qualitative health and vigor of revegetation and natural recruitment. If revegetation efforts fail and natural regeneration is inadequate, remedial actions will be recommended. If target non-native invasive species, such as spotted knapweed, begin growing within the project area, the vegetation will be treated by SRRC, either manually or mechanically prior to seed set. After two winters post-implementation, MLA will perform an inspection of the project area and a topographic survey of any changes that occurred within the project area due to high flows. As part of this survey, MLA will also obtain a georeferenced Orthomosaic aerial photograph of the project areas using a UAV. MLA will document changes to the project area in a Technical Memorandum (Task 4.2).	

Task Name	Start Date	Activity Description	Deliverables
Task 4.2 Post-Implementation Monitoring Memorandums	01/01/28	An annual Monitoring Memorandum will be prepared each year for the two years following construction and will be provided to CDFW and USFS by May 30th of the following year. The report will summarize monitoring activities, findings, and recommendations. The annual report will also identify any issues that may warrant maintenance or other types of treatment. In the event that items of concern arise, the report will recommend actions to be initiated to further characterize its impact on project objectives and/or consultation with the appropriate resource agencies, including CDFW and USFS, to determine if a maintenance action is warranted. MLA will assist SRRC with interpretation of monitoring results, and development of the Annual Monitoring Memorandum. The summary will include the largest flow event that occurred in the project area, photos, evaluations of whether or not the project is trending toward meeting the objectives and goals of the project, and any lessons learned. In the Year Two Monitoring Memorandum, a discussion of how features have changed from the As-Built will be included.	Annual Monitoring Memorandums due 03/31/2029 and 02/28/2030

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

All habitat improvements will follow techniques described in the [*California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)*](#) or [*other approved guidelines and manuals for salmon and steelhead habitat restoration*](#).

The Grantee shall notify CDFW at least five working days before the project site is de-watered and the stream flow diverted and submit a Water Quality Monitoring Plan and Dewatering Plan to CDFW for State Water Resources Control Board approval at least 30 days before the activity. The notification will provide a

reasonable time for CDFW personnel to oversee the implementation of the water diversion plan and the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:

- a. Fish dewatering and relocation activities shall only occur between June 15 and October 31 of each year.
- b. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.
- c. The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible as approved by the CDFW Grant Manager and pursuant to conditions in the USACE Regional General Permit and National Marine Fisheries Service (NMFS) Biological Opinion.
- d. All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the NMFS, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
- e. USFWS Approved fisheries biologists will provide fish relocation data via the Grantee to the CDFW personnel on a form provided by CDFW.

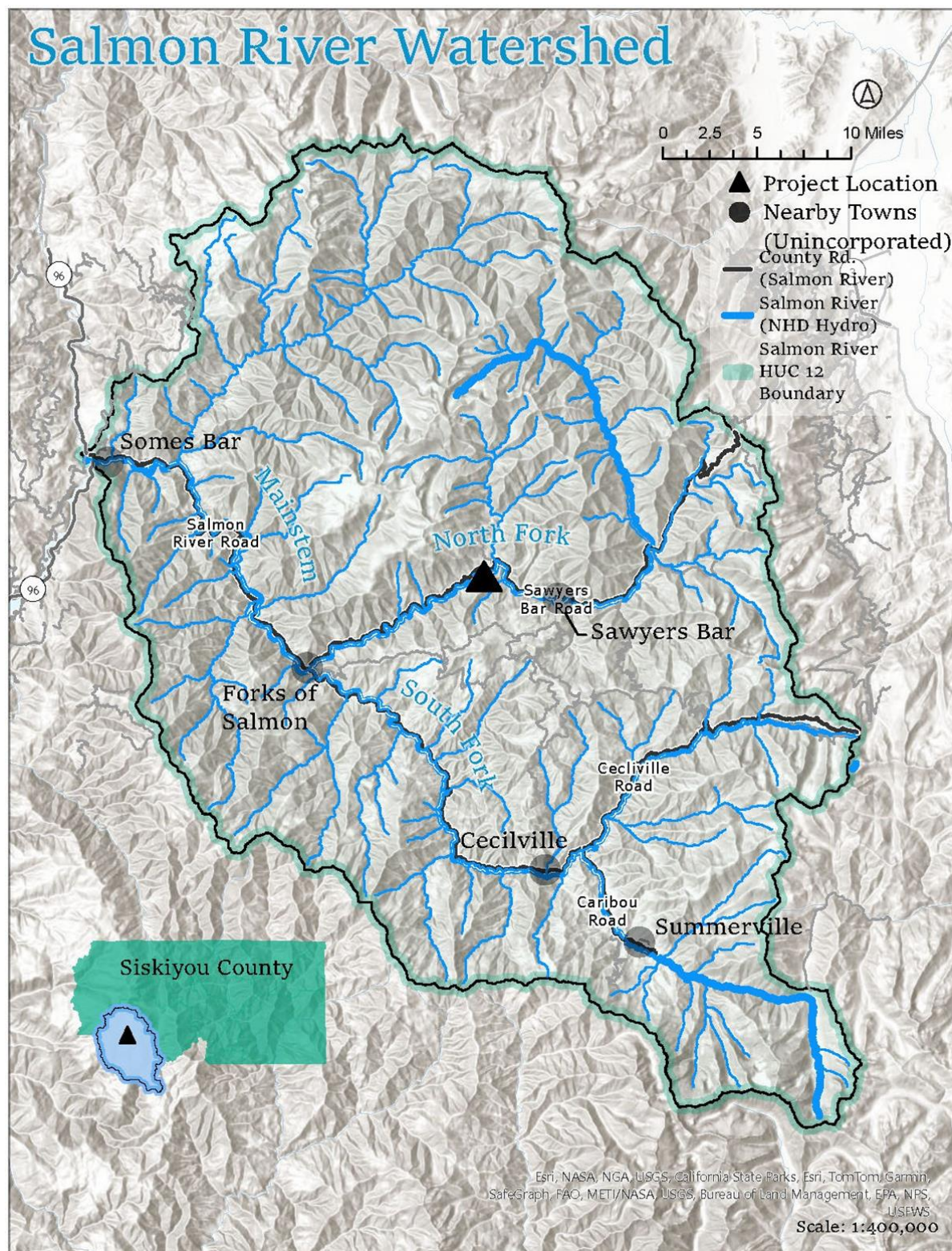
The bridge (culvert) design and installation will meet flow carrying capacity required for a 100-year flood event as identified by specifications determined by National Oceanic and Atmospheric Administration (NOAA) Fisheries and the CDFW, for adult and juvenile salmonid fish passage. The project will follow the National Marine Fisheries Service (NMFS 2001) Guidelines for Salmonid Passage at Stream Crossings and criteria for fish passage as described in Volume II, Part IX, of the *California Salmonid Stream Habitat Restoration Manual*. The engineered plans for the bridge (culvert) installation shall be visually reviewed and authorized by NOAA Fisheries or CDFW engineers prior to commencement of work.

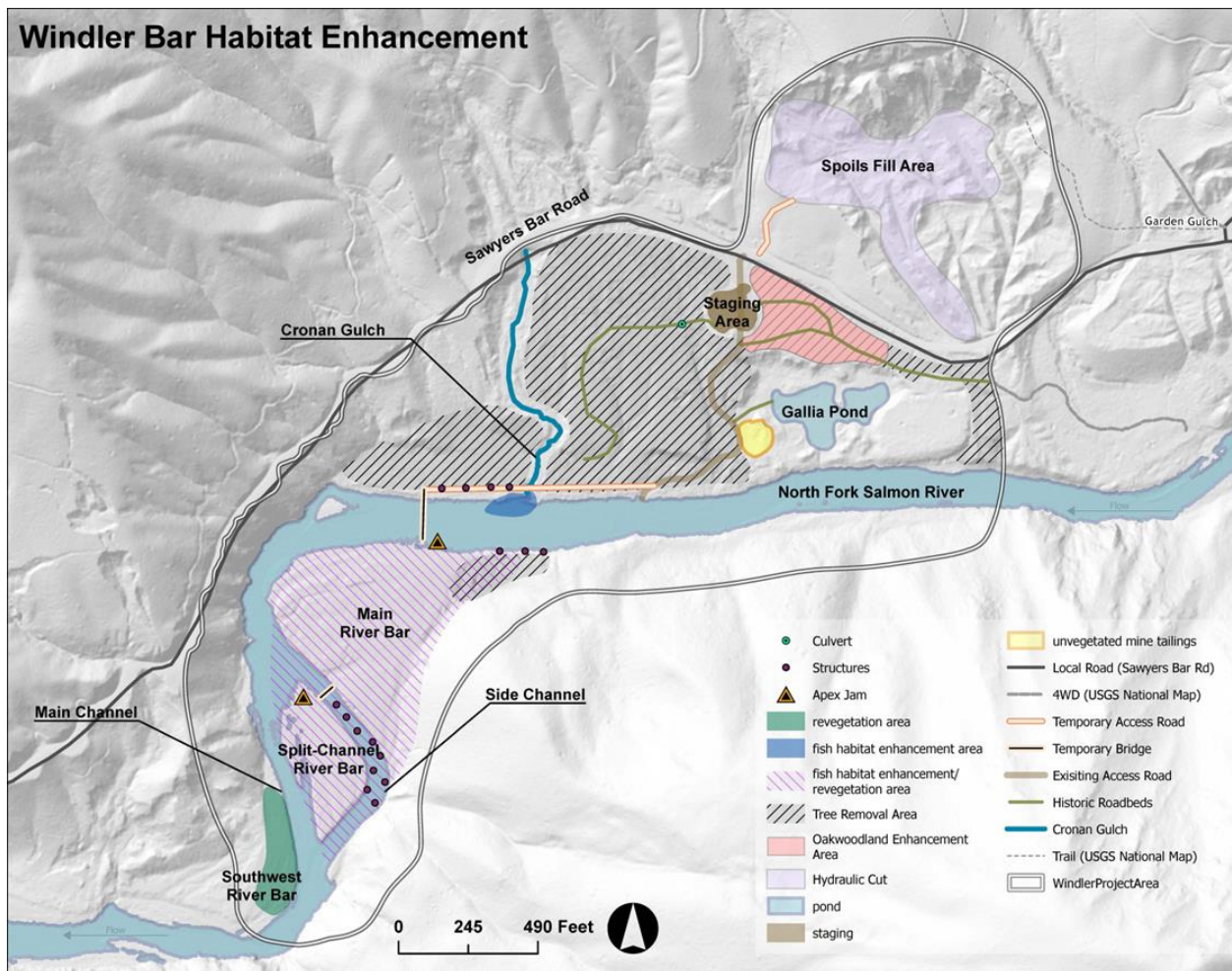
The Grantee/landowner will maintain the new crossing, inspect the crossing in a timely manner and remove debris as necessary during the storm season.

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

Planting of tree seedlings should take place after December 1 or when sufficient rainfall has occurred to insure the best chance of survival of the seedlings.

The Grantee/landowner will maintain the livestock exclusion fence(s) for a period of 10 years and totally exclude livestock from the riparian zone. Maintenance will include repair of fences to a level that will effectively exclude livestock from the livestock exclusion project area. Maintenance will not include damage that exceeds 50 percent of the fence due to natural disaster.





California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734133 Windler Floodplain Habitat
Enhancement Phase 2

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Ascaphus truei</i>	Pacific tailed frog	AAABA01010	None	None	SSC
<i>Plethodon elongatus</i>	Del Norte salamander	AAAAD12050	None	None	WL
<i>Rana boylei</i> pop. 1	foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	SSC
<i>Rana cascadae</i>	Cascades frog	AAABH01060	None	Candidate Endangered	SSC
<i>Accipiter atricapillus</i>	American goshawk	ABNKC12061	None	None	SSC
<i>Falco peregrinus anatum</i>	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
<i>Pandion haliaetus</i>	osprey	ABNKC01010	None	None	WL
<i>Psiloscops flammeolus</i>	flamulated owl	ABNSB01020	None	None	-
<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
<i>Pacifastacus leniusculus klamathensis</i>	Klamath crayfish	ICMAL31042	None	None	-
<i>Oncorhynchus kisutch</i> pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-
<i>Oncorhynchus mykiss irideus</i> pop. 1	steelhead - Klamath Mountains Province DPS	AFCHA0209D	None	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734133 Windler Floodplain Habitat
Enhancement Phase 2

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Oncorhynchus tshawytscha pop. 30	chinook salmon - upper Klamath and Trinity Rivers ESU	AFCHA02056	Candidate	Threatened	SSC
Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-
Atractelmis wawona	Wawona riffle beetle	IICOL58010	None	None	-
Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC
Gulo gulo	wolverine	AMAJF03010	Threatened	Threatened	FP
Martes caurina humboldtensis	Humboldt marten	AMAJF01017	Threatened	Endangered	SSC
Pekania pennanti	Fisher	AMAJF01020	None	None	SSC
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Myotis ciliolabrum	western small-footed myotis	AMACC01230	None	None	-
Myotis evotis	long-eared myotis	AMACC01070	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Monadenia cristulata	crested sideband	IMGASC7120	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734133 Windler Floodplain Habitat
Enhancement Phase 2

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Monadenia infumata ochromphalus	yellow-based sideband	IMGASC7051	None	None	-
Ancotrema voyanum	hooded lancetooth	IMGAS36130	None	None	-
Helminthoglypta talmadgei	Trinity shoulderband	IMGASC2630	None	None	-
Punctum hannai	Trinity Spot	IMGAS47080	None	None	-
Actinemys marmorata	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Klamath/No Coast Spring Run Chinook/Summer Steelhead Stream	Klamath/No Coast Spring Run Chinook/Summer Steelhead Stream	CARB2333CA	None	None	-
Klamath/North Coast Rainbow Trout Stream	Klamath/North Coast Rainbow Trout Stream	CARB2312CA	None	None	-
Mielichhoferia elongata	elongate copper moss	NBMUS4Q022	None	None	-
Ptilidium californicum	Pacific fuzzwort	NBHEP2U010	None	None	-
Perideridia leptocarpa	narrow-seeded yampah	PDAP11N0A0	None	None	-
Tauschia howellii	Howells tauschia	PDAP127050	None	None	-
Arnica viscosa	Mt. Shasta arnica	PDAST0Q0R0	None	None	-
Chaenactis suffrutescens	Shasta chaenactis	PDAST200H0	None	None	-
Doellingeria glabrata	Siskiyou aster	PDASTEC030	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734133 Windler Floodplain Habitat
Enhancement Phase 2

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Erigeron cervinus</i>	Siskiyou daisy	PDAST3M0U0	None	None	-
<i>Eurybia merita</i>	subalpine aster	PDASTEB030	None	None	-
<i>Arabis modesta</i>	modest rockcress	PDBRA06180	None	None	-
<i>Arabis oregana</i>	Oregon rockcress	PDBRA061A0	None	None	-
<i>Arabis rigidissima</i> var. <i>rigidissima</i>	Trinity Mountains rockcress	PDBRA061R2	None	None	-
<i>Draba howellii</i>	Howells draba	PDBRA11150	None	None	-
<i>Draba pterosperma</i>	winged-seed draba	PDBRA11230	None	None	-
<i>Silene hookeri</i>	Hookers catchfly	PDCAR0U2M0	None	None	-
<i>Silene marmorensis</i>	Marble Mountain campion	PDCAR0U0Z0	None	None	-
<i>Sedum laxum</i> ssp. <i>heckneri</i>	Heckners stonecrop	PDCRA0A0L3	None	None	-
<i>Vaccinium scoparium</i>	little-leaved huckleberry	PDERI180Y0	None	None	-
<i>Gentiana plurisetosa</i>	Klamath gentian	PDGEN060V0	None	None	-
<i>Iris tenax</i> ssp. <i>klamathensis</i>	Orleans iris	PMIRI090Z2	None	None	-
<i>Erythronium citrinum</i> var. <i>citrinum</i>	lemon-colored fawn lily	PMLILOU041	None	None	-
<i>Erythronium hendersonii</i>	Hendersons fawn lily	PMLILOU070	None	None	-
<i>Erythronium oregonum</i>	giant fawn lily	PMLILOU0C0	None	None	-
<i>Fritillaria glauca</i>	Siskiyou fritillaria	PMLILOV090	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734133 Windler Floodplain Habitat
Enhancement Phase 2

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Lilium pardalinum</i> ssp. <i>wigginsii</i>	Wiggins lily	PMLIL1A0S0	None	None	-
<i>Lilium rubescens</i>	redwood lily	PMLIL1A0N0	None	None	-
<i>Lilium washingtonianum</i> ssp. <i>purpurascens</i>	purple-flowered Washington lily	PMLIL1A0R2	None	None	-
<i>Iliamna bakeri</i>	Bakers globe mallow	PDMAL0K010	None	None	-
<i>Lewisia cotyledon</i> var. <i>howellii</i>	Howells lewisia	PDPOR04053	None	None	-
<i>Cypripedium fasciculatum</i>	clustered ladys- slipper	PMORC0Q060	None	None	-
<i>Cypripedium montanum</i>	mountain ladys- slipper	PMORC0Q080	None	None	-
<i>Piperia candida</i>	white-flowered rein orchid	PMORC1X050	None	None	-
<i>Castilleja schizotricha</i>	split-hair paintbrush	PDSCR0D2Y0	None	None	-
<i>Pedicularis contorta</i>	curved-beak lousewort	PDSCR1K090	None	None	-
<i>Abies amabilis</i>	Pacific silver fir	PGPIN01010	None	None	-
<i>Abies lasiocarpa</i> var. <i>lasiocarpa</i>	subalpine fir	PGPIN01072	None	None	-
<i>Collomia tracyi</i>	Tracys collomia	PDPLM020B0	None	None	-
<i>Eriogonum diclinum</i>	Jaynes Canyon buckwheat	PDPGN081S0	None	None	-
<i>Eriogonum umbellatum</i> var. <i>humistratum</i>	Mt. Eddy buckwheat	PDPGN086U4	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734133 Windler Floodplain Habitat
Enhancement Phase 2

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Potamogeton robbinsii	Robbins pondweed	PMPOT030Z0	None	None	-
Adiantum shastense	Shasta maidenhair fern	PPADI030W0	None	None	-
Rubus nivalis	snow dwarf bramble	PDROS1K4S0	None	None	-
Hemieva ranunculifolia	buttercup-leaf hemieva	PDSAX0W010	None	None	-
Micranthes marshallii	Marshalls saxifrage	PDSAX0U0X0	None	None	-
Selaginella scopulorum	Rocky Mountain spike-moss	PPSEL010C2	None	None	-
Smilax jamesii	English Peak greenbrier	PMSMI010D0	None	None	-

Bouverie Dam Removal for Fish Passage

(Project ID: 1734137) 2025

Introduction:

The Audubon Canyon Ranch (Grantee) will implement removal of Bouverie Dam, the final man-made barrier to fish passage on Stuart Creek, a major tributary to Sonoma Creek known historically for a large steelhead run. This project implements 100% design plans, replacing the dam with a stream simulation reach that mimics the passage conditions of the adjacent stream. The dam is a depth, velocity, and leap barrier, and its removal improves access to high quality rearing habitat and cool climate refugia for juvenile salmonids.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#) (Volume I, Appendix B, Appendix H; Volume II, sections(s) X-XII).

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

Bouverie Dam is located on Upper Stuart Creek, a tributary of Calabazas Creek in the Sonoma Creek watershed, on the Bouverie Preserve, owned and managed by the nonprofit Audubon Canyon Ranch (Figure 1; Figure 2). The Preserve lies just south of the town of Glen Ellen in Sonoma County. Stuart Creek flows five miles from its headwaters in the Mayacamas Mountains through the Preserve to Calabazas Creek, which ultimately drains to San Pablo Bay. The dam site is 1.5 miles upstream of the Stuart Creek crossing at Highway 12 and about 10 miles upstream of tidal influence. The surrounding landscape includes oak woodland and riparian forest and supports habitat for threatened Central California Coast steelhead. The Preserve is permanently protected and closed to the public

except for school field trips and occasional guided hikes, providing a secure setting for ecological restoration and long-term monitoring.

Project central coordinates: 38.37218, -122.49500

Project Description:

This project restores access to .68 mi high-quality rearing habitat for federally endangered steelhead trout by removing Bouverie Dam, the final human-made barrier to fish passage in Stuart Creek, a tributary to Sonoma Creek in the San Pablo Bay watershed. Located on Audubon Canyon Ranch's Bouverie Preserve, the decommissioned 45-foot concrete diversion dam is a complete barrier to juvenile salmonids and a substantial impediment to adult passage. The project will remove the dam and construct a stream simulation channel to reestablish natural hydraulic connectivity, support fish movement, and restore critical stream function.

Design for the project was completed in 2024 with support from FRGP (Grant #1727718). By fall 2028, the project will:

1. Remove one concrete fish passage barrier (PAD_ID: 714955)
2. Construct 232 linear feet of restored stream channel using stream simulation design
3. Reconnect 0.68 miles (3621 feet) of high-quality upstream habitat for rearing and potential spawning habitat
4. Treat 4,200 square feet of instream channel habitat to meet passage conditions for all salmonid life stages
5. Implement 3 acres of native revegetation and erosion control using locally sourced materials

Removal is necessary to re-establish full anadromous access from Stuart Creek headwaters to San Pablo Bay. Downstream barriers were removed in 2014, making Bouverie Dam the final fish passage impediment on this tributary - once a key contributor to the region's second-largest steelhead run. Stuart Creek remains one of only three tributaries to Sonoma Creek with intact habitat that supports recovery of this federally threatened species. Habitat upstream of the dam includes deep, cool pools and high flow refugia critical to climate resilience. The stream corridor also supports a diversity of benthic macroinvertebrates and riparian vegetation communities, further enhancing the ecological value of restored connectivity.

The selected stream simulation approach mimics the slope, bedform, and sediment transport characteristics of adjacent reference reaches, ensuring long-term channel stability and fish passage under a broad range of flows. This

approach also improves passage for other native species, including lamprey, and maintains sediment continuity to benefit downstream reaches.

Construction and monitoring will be led by Prunuske Chatham, Inc., with project management, outreach, and long-term stewardship led by Audubon Canyon Ranch. The Preserve hosts more than 3,000 students, teachers, and families annually, many from historically underserved communities. Interpretive signage, docent-led walks, and school field trips will integrate salmonid recovery themes, expanding public awareness of fish passage, stream health, and climate resilience.

The project is also supported by ongoing collaboration with the Federated Indians of Graton Rancheria, who will provide cultural monitoring and input throughout implementation. The project will be completed by winter 2028 and directly advances FRGP and NOAA recovery goals for steelhead in the Central California Coast DPS, while contributing to State Priorities 1, 2, and 6 of the 2024 California Salmon Strategy for a Hotter, Drier Future.

The goal is to deconstruct the dam in late-summer, 2026. To stay on this schedule, the grantee will begin the permit process in spring 2025 (see Permit Memo, in Additional Attachments), using funds contributed by Holdfast Collective (Patagonia Inc.). Holdfast is also contributing 40% of construction costs. The Tasks and Budget reflect this timeline. If all permits are not complete, the grantee will expect to remove the dam during the low-water period in late summer 2027. Regardless of deconstruction date, all project deliverables will be completed by the end of the project period (December 2028).

Materials:

Most materials will be purchased and installed by the subcontractor (Prunuske Chatham, Inc.), with select items (e.g. native seed or signage) provided or sourced by Audubon Canyon Ranch.

1. Site Access and Best Management Practices (BMPs) - These materials will be used to construct and protect temporary access routes to the dam site, reduce sediment delivery during construction, and safeguard adjacent sensitive riparian and aquatic habitat. BMPs are required to comply with the project's Lake and Streambed Alteration Agreement, erosion control plan, and environmental permits. Materials will be purchased by the subcontractor and installed on site prior to construction and removed post-project.

- Pressure-treated timbers, Class 2 aggregate base (gravel), silt fencing, straw wattles, biodegradable erosion control fabric, T-posts

2. Dewatering and Species Protection - These materials will be used to temporarily dewater the project reach, safely capture and relocate aquatic species (including steelhead and lamprey), and prevent species from entering active

work areas. Safety fencing and signage will also restrict public access during work. These items are essential to minimize impacts to protected species and ensure compliance with CDFW and NOAA biological protocols. Materials will be procured and installed by the subcontractor.

- Pipe fittings, flexible hoses, sandbags, fish-safe mesh screens, submersible pumps (rented), spill kits, orange safety fencing, and wildlife exclusion materials

3. Channel Construction Materials - Boulders and gravel will be used to stabilize the stream simulation channel and to secure large wood in place during construction. These materials are essential for achieving stream form and function goals, including restoring sediment transport, channel complexity, and grade control. Boulders will be delivered to the site by subcontractor trucks. Large wood will be salvaged on-site or sourced regionally to reduce environmental footprint.

- 2-ton boulders (Keystone and Anchor Boulders), native large wood, compacted gravel base

4. Erosion Control and Riparian Revegetation - Following construction, the disturbed area will be stabilized with native plantings and natural erosion control materials. Some seed will be harvested from Bouverie Preserve and grown out at a local nursery specializing in native ecotypes. Hydroseeding will be used to apply seed and mulch uniformly across regraded slopes. All materials support the project's goal of restoring a self-sustaining riparian plant community while avoiding erosion and sediment delivery downstream.

- Locally sourced native grass and forb seed, straw mulch, hydroseeder rental, biodegradable weed-free straw, erosion control matting (natural fiber, no plastic netting)

5. Public Engagement and Interpretation - Audubon Canyon Ranch plans to install a small interpretive panel along a public trail near the project site. The signage will describe the project's goals, steelhead habitat restoration, Tribal collaboration, and the ecological benefits of dam removal. Materials will be purchased by the applicant and fabricated with support from local artists and educators. This element supports the project's public education and long-term stewardship goals.

- Interpretive signage materials (wood or recycled plastic sign frames, weather-resistant panels), educational graphics, protective post-installation coating

6. Equipment

No permanent equipment purchases are proposed under this project. All heavy equipment (e.g., excavators, loaders, trucks, water pumps) will be rented by the subcontractor for temporary use during the construction window. Equipment will be maintained and operated by licensed contractors and will be subject to daily

inspections for leaks, compliance with spill prevention protocols, and safe operation in sensitive habitat areas.

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
1. Project Management (Ongoing)	04/01/26	1. ACR Admin I: a. Project oversight; b. Grant agreements, contract administration and review with CEO; c. Oversee budgeting and financial reporting with CFO; d. Landowner communication; e. Tribal liaison; Project Manager oversight. 2. ACR Admin II: a. Support for invoicing, payment processing, permit application development, quarterly and final report 3. ACR Project Manager: a. grant requirements and management and monitoring elements into property management plan; b. Oversight for all biological and cultural monitoring, photo monitoring, and erosion control and revegetation work; c. Liaison to the contractor/s; d. Support for invoicing, permits. 4. ACR Communications Specialist a. Oversee public and media outreach and assist with report development.	Finalize subcontracts – 6/31/2026 Progress Reports – with invoices Invoices – at least quarterly, no more frequently than monthly Annual reports (Nov. 15 of each year) Final Report & Entry of final data into Clearinghouse for Dam Removal Information – 12/31/2028

Task Name	Start Date	Activity Description	Deliverables
2. Construction-Related Consulting (Ongoing)	04/01/26	Contractor PCI will undertake or oversee all construction-related consulting activities including: 1. Special Studies: Cultural Resources Assessments; Biological and Aquatic Resources Evaluations. 2. Permitting: All permits not procured prior to project start date including LSAA and Incidental Take Permit; SHPO consultation, Native American site visits; Sonoma County Permits (Minor Use, Grading, Roiling). 3. Construction-period Services: Conform Plans, Fish Rescue, Tribal Monitor, Engineering Inspections and coordination, construction project management. 4. FRGP Requirements: As-built Plans; Time-lapse camera monitoring, post-implementation test at design flows, entering project information into Clearinghouse (CDRI); First Winters. 5. Observations Summary; Water Quality Monitoring and Reporting; Collection and Submission of Biological and Cultural Resources surveys.	6/31/2026 Project Permits Cultural Resources Assessment Biological and Aquatic Resources Evaluations 12/31/2028 Photo documentation Conformed Plans/As-built Plans Post-implementation test results Observations Summary Water Quality Monitoring Report Biological and Cultural Resources Summary.
3. Construction (Year 1-2)	06/15/26	PCI will provide or oversee all construction activities including: - Mobilization; Site Preparation, Access, and BMPs; - Dewater and Fish Rescue; - Clear and Grub; - Demolition; - Rough Grading; - Channel Construction;	Task 3 deliverables include completion and submission of all FRGP construction-related requirements and all contract agreement requirements. All will be completed by final project date 12/31/28.

Task Name	Start Date	Activity Description	Deliverables
		- Log Placement; - Erosion Control Equipment and Materials; - Pebble Counts	
4. Monitoring - ACR and PCI (Ongoing)	04/01/26	ACR Program Manager and ACR staff will perform or assist with all required biological surveys and assist with dewatering and species relocation, water quality monitoring, and other monitoring as required with assistance from PCI and ACR Staff. Project Manager will support monitoring and reporting for the following activities: - Revegetation - Erosion Control - Time-lapse Camera - Bird Surveys - Fish Rescue Support - Water Quality Monitoring - On-Site Biological Monitor - Rare Plant Surveys.	Task 4 deliverables include all reporting requirements for monitoring activities. All reporting requirements will be due on the reporting cycle selected (quarterly) or by the end of the project 12/31/28.

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

All habitat improvements will follow techniques described in the [California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)](#) or [other approved guidelines and manuals for salmon and steelhead habitat restoration](#).

The Grantee shall notify CDFW at least five working days before the project site is de-watered and the stream flow diverted and submit a Water Quality Monitoring Plan and Dewatering Plan to CDFW for State Water Resources Control Board approval at least 30 days before the activity. The notification will provide a reasonable time for CDFW personnel to oversee the implementation of the water diversion plan and the safe removal and relocation of salmonids and other fish

life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:

- a. Fish dewatering and relocation activities shall only occur between June 15 and October 31 of each year.
- b. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.
- c. The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible as approved by the CDFW Grant Manager and pursuant to conditions in the USACE Regional General Permit and National Marine Fisheries Service (NMFS) Biological Opinion.
- d. All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the NMFS, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
- e. USFWS Approved fisheries biologists will provide fish relocation data via the Grantee to the CDFW personnel on a form provided by CDFW.

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

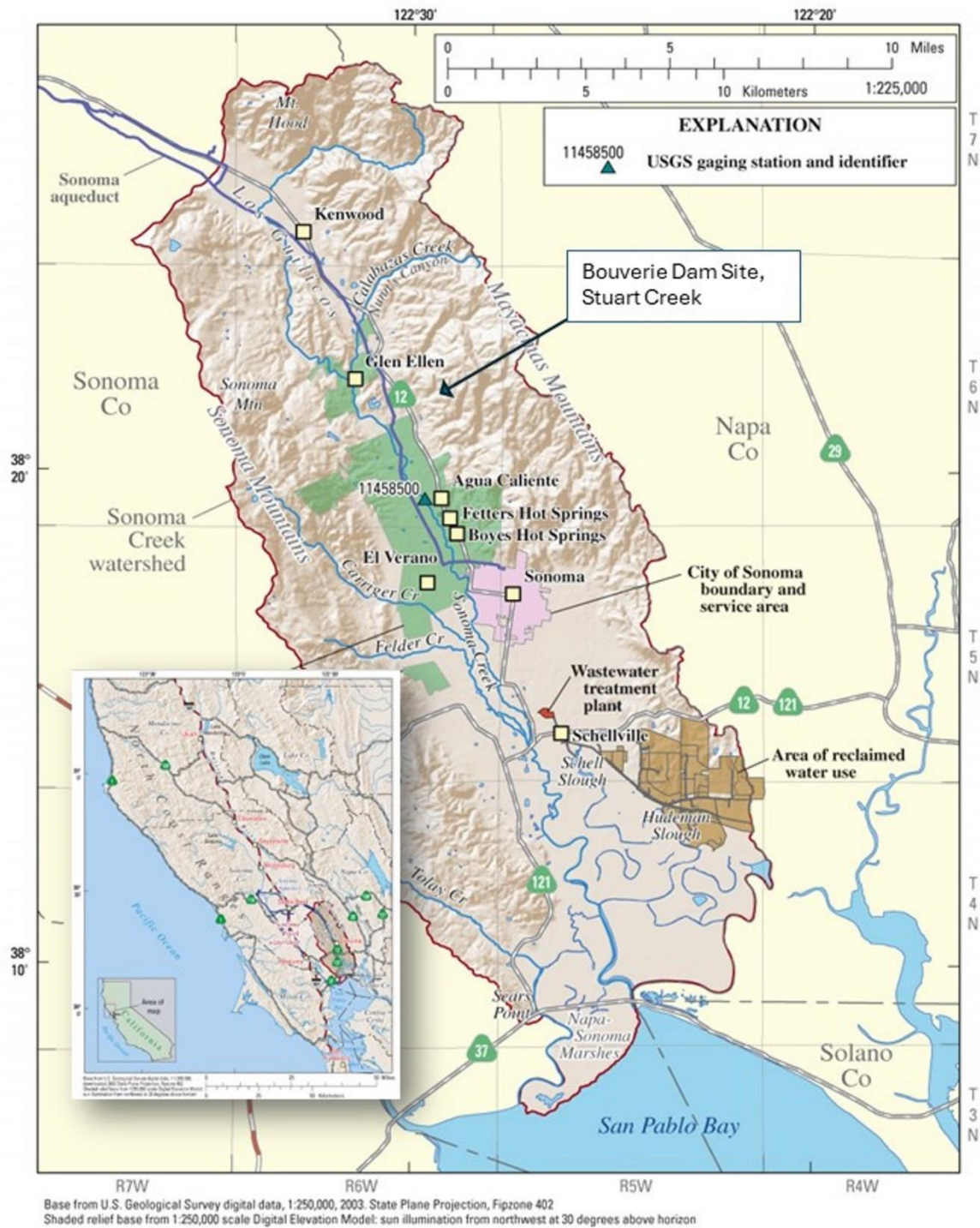


Figure 1. Sonoma Creek Watershed and County Map - USGS 2025. FRGP Proposal 1734137 Audubon Canyon Ranch.

Project Title: BOUVERIE PRESERVE FISH PASSAGE PROJECT
Applicant: Audubon Canyon Ranch Proposal # 1734137
USGS quad name: Glen Ellen, Sonoma, Rutherford
Stream name: Stuart Creek

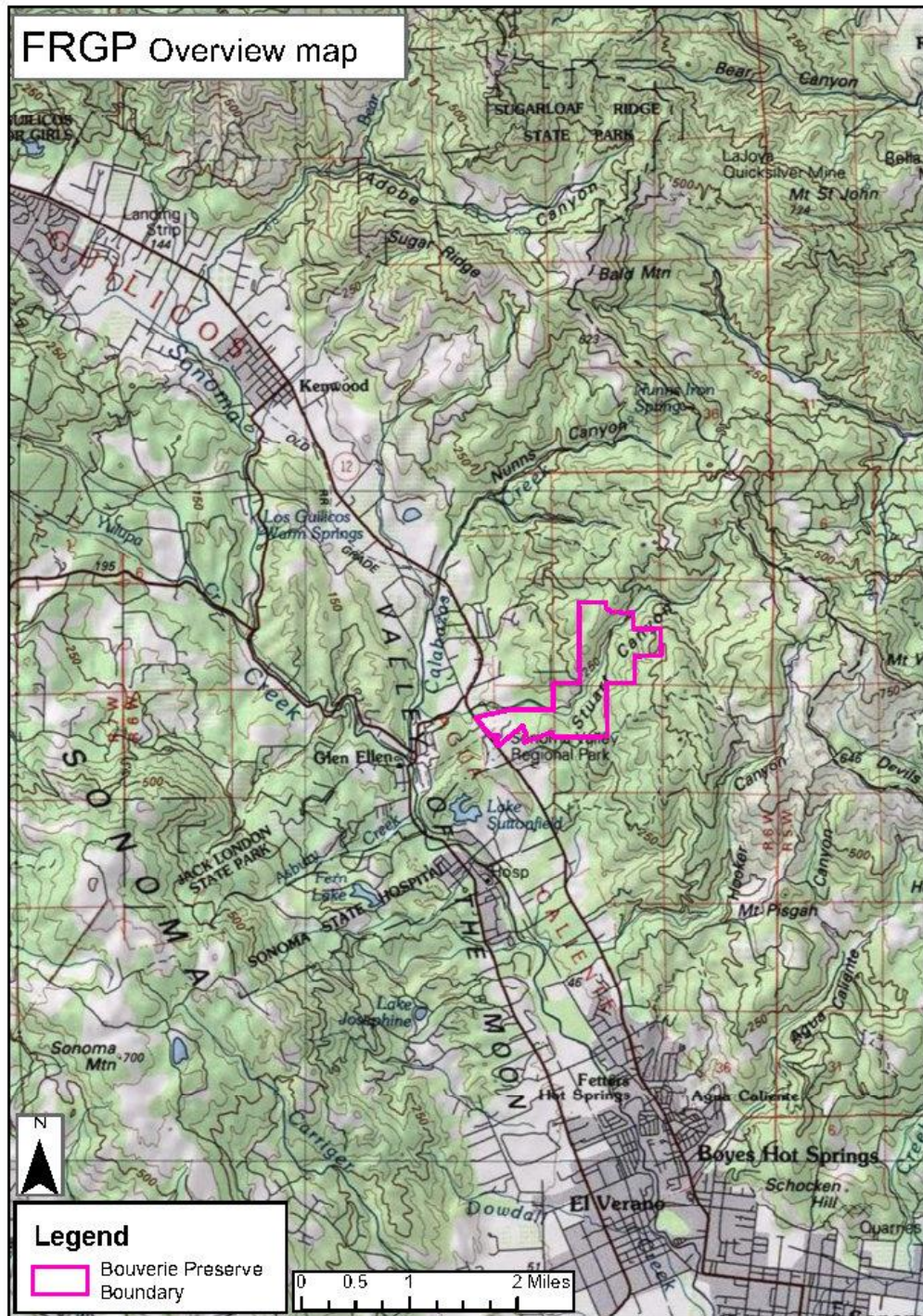


Figure 2. Project Location Topographic Map.

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
Passage

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Accipiter cooperii	Coopers hawk	ABNKC12040	None	None	WL
Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL
Acipenser medirostris pop. 1	green sturgeon - southern DPS	AFCAA01031	Threatened	None	SSC
Acipenser transmontanus	white sturgeon	AFCAA01050	None	Candidate Threatened	SSC
Actinemys marmorata	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Adela oplerella	Oplers longhorn moth	IILEE0G040	None	None	-
Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC
Allium peninsulare var. franciscanum	Franciscan onion	PMLIL021R1	None	None	-
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	PMPOA07012	Endangered	None	-
Ambystoma californiense pop. 3	California tiger salamander - Sonoma County DPS	AAAAA01183	Endangered	Threatened	WL
Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC
Amorpha californica var. napensis	Napa false indigo	PDFAB08012	None	None	-
Amsinckia lunaris	bent-flowered fiddleneck	PDBOR01070	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Andrena blennospermatis</i>	Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	-
<i>Antigone canadensis canadensis</i>	lesser sandhill crane	ABNMK01011	None	None	SSC
<i>Antigone canadensis tabida</i>	greater sandhill crane	ABNMK01014	None	Threatened	FP
<i>Antirrhinum virga</i>	twig-like snapdragon	PDSCR2S090	None	None	-
<i>Antrozous pallidus</i>	pallid bat	AMACC10010	None	None	SSC
<i>Aquila chrysaetos</i>	golden eagle	ABNKC22010	None	None	FP WL
<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	Rincon Ridge manzanita	PDERI041G4	None	None	-
<i>Ardea alba</i>	great egret	ABNGA04040	None	None	-
<i>Ardea herodias</i>	great blue heron	ABNGA04010	None	None	-
<i>Asio flammeus</i>	short-eared owl	ABNSB13040	None	None	SSC
<i>Asio otus</i>	long-eared owl	ABNSB13010	None	None	SSC
<i>Astragalus claranus</i>	Clara Hunts milk-vetch	PDFAB0F240	Endangered	Endangered	-
<i>Astragalus clevelandii</i>	Clevelands milk-vetch	PDFAB0F250	None	None	-
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	PDFAB0F8R1	None	None	-
<i>Athene cunicularia</i>	burrowing owl	ABNSB10010	None	Candidate Endangered	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Aythya valisineria	canvasback	ABNJB11020	None	None	-
Balsamorhiza macrolepis	big-scale balsamroot	PDAST11061	None	None	-
Bassariscus astutus raptor	northern California ringtail	AMAJE01014	None	None	FP
Blennosperma bakeri	Sonoma sunshine	PDAST1A010	Endangered	Endangered	-
Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-
Bombus crotchii	Crotchs bumble bee	IIHYM24480	None	Candidate Endangered	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-
Brodiaea leptandra	narrow-anthered brodiaea	PMLILO0022	None	None	-
Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL
Buteo swainsoni	Swainsons hawk	ABNKC19070	None	Threatened	-
Caecidotea tomalensis	Tomales isopod	ICMAL01220	None	None	-
Calamagrostis ophitidis	serpentine reed grass	PMPOA170V0	None	None	-
Calandrinia breweri	Brewers calandrinia	PDPOR01020	None	None	-
Calasellus californicus	An isopod	ICMAL34010	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Calicina diminua</i>	Marin blind harvestman	ILARAU8040	None	None	-
<i>Calochortus uniflorus</i>	pink star-tulip	PMLIL0D1F0	None	None	-
<i>Calystegia collina</i> ssp. <i>oxyphylla</i>	Mt. Saint Helena morning-glory	PDCON04032	None	None	-
<i>Carex lyngbyei</i>	Lyngbyes sedge	PMCYP037Y0	None	None	-
<i>Castilleja ambigua</i> var. <i>ambigua</i>	johnny-nip	PDSCR0D401	None	None	-
<i>Castilleja ambigua</i> var. <i>meadii</i>	Meads owls-clover	PDSCR0D404	None	None	-
<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	PDRHA04220	None	None	-
<i>Ceanothus divergens</i>	Calistoga ceanothus	PDRHA04240	None	None	-
<i>Ceanothus gloriosus</i> var. <i>exaltatus</i>	glory brush	PDRHA040F4	None	None	-
<i>Ceanothus purpureus</i>	holly-leaved ceanothus	PDRHA04160	None	None	-
<i>Ceanothus sonomensis</i>	Sonoma ceanothus	PDRHA04420	None	None	-
<i>Centromadia parryi</i> ssp. <i>parryi</i>	pappose tarplant	PDAST4R0P2	None	None	-
<i>Charadrius montanus</i>	mountain plover	ABNNB03100	None	None	SSC
<i>Charadrius nivosus nivosus</i>	western snowy plover	ABNNB03031	Threatened	None	SSC
<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Point Reyes salty birds-beak	PDSCR0J0C3	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Chloropyron molle ssp. molle	soft salty birds-beak	PDSCR0J0D2	Endangered	Rare	-
Chorizanthe valida	Sonoma spineflower	PDPGN040V0	Endangered	Endangered	-
Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC
Clarkia breweri	Brewers clarkia	PDONA05080	None	None	-
Clarkia gracilis ssp. tracyi	Tracys clarkia	PDONA050J4	None	None	-
Coastal Brackish Marsh	Coastal Brackish Marsh	CTT52200CA	None	None	-
Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-
Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC
Cordylanthus tenuis ssp. brunneus	serpentine birds-beak	PDSCR0J0S1	None	None	-
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Coturnicops noveboracensis	yellow rail	ABNME01010	None	None	SSC
Cypseloides niger	black swift	ABNUA01010	None	None	SSC
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	IILEPP2012	Proposed Threatened	None	-
Dicamptodon ensatus	California giant salamander	AAAAH01020	None	None	SSC
Downingia pusilla	dwarf downingia	PDCAM060C0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Egretta thula</i>	snowy egret	ABNGA06030	None	None	-
<i>Elanus leucurus</i>	white-tailed kite	ABNKC06010	None	None	FP
<i>Eleocharis parvula</i>	small spikerush	PMCYP091G0	None	None	-
<i>Elymus californicus</i>	California bottle-brush grass	PMPOA2H0W0	None	None	-
<i>Empidonax traillii</i>	willow flycatcher	ABPAE33040	None	Endangered	-
<i>Enhydra lutris nereis</i>	southern sea otter	AMAJF09012	Threatened	None	FP
<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC
<i>Eremophila alpestris actia</i>	California horned lark	ABPAT02011	None	None	WL
<i>Erethizon dorsatum</i>	North American porcupine	AMAFJ01010	None	None	-
<i>Erigeron biolettii</i>	streamside daisy	PDAST3M5H0	None	None	-
<i>Erigeron greenei</i>	Greenes narrow-leaved daisy	PDAST3M5G0	None	None	-
<i>Eriogonum luteolum</i> var. <i>caninum</i>	Tiburon buckwheat	PDPGN083S1	None	None	-
<i>Eryngium jepsonii</i>	Jepsons coyote-thistle	PDAPI0Z130	None	None	-
<i>Erythronium helenae</i>	St. Helena fawn lily	PMLIL0U060	None	None	-
<i>Extriplex joaquinana</i>	San Joaquin spearscale	PDCHE041F3	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Falco columbarius	merlin	ABNKD06030	None	None	WL
Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Fritillaria liliacea	fragrant fritillary	PMLILOV0C0	None	None	-
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	ABPBX1201A	None	None	SSC
Gonidea angulata	western ridged mussel	IMBIV19010	None	None	-
Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP
Harmonia nutans	nodding harmonia	PDAST650D0	None	None	-
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	PDAST4R0W1	None	None	-
Hesperoleucus venustus subditus	southern coastal roach	AFCJB19032	None	None	SSC
Hesperolinon congestum	Marin western flax	PDLIN01060	Threatened	Threatened	-
Hesperolinon sharsmithiae	Sharsmiths western flax	PDLIN010E0	None	None	-
Horkelia tenuiloba	thin-lobed horkelia	PDROS0W0E0	None	None	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
Passage

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Hydrochara rickseckeri	Rickseckers water scavenger beetle	IICOL5V010	None	None	-
Hydroporus leechi	Leechs skyline diving beetle	IICOL55040	None	None	-
Hydroprogne caspia	Caspian tern	ABNNM08020	None	None	-
Hypomesus transpacificus	Delta smelt	AFCHB01040	Threatened	Endangered	-
Hysterocarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC
Hysterocarpus traskii traskii	Sacramento-San Joaquin tule perch	AFCQK02012	None	None	-
Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC
Iris longipetala	coast iris	PMIRI092E0	None	None	-
Lampetra ayresii	western river lamprey	AFBAA02030	None	None	SSC
Lampetra richardsoni	western brook lamprey	AFBAA02180	None	None	SSC
Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC
Larus californicus	California gull	ABNNM03110	None	None	WL
Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Lasthenia conjugens	Contra Costa goldfields	PDAST5L040	Endangered	None	-
Laterallus jamaicensis coturniculus	California black rail	ABNME03041	None	Threatened	FP

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
Passage

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	PDFAB250D2	None	None	-
<i>Lavinia exilicauda</i> <i>exilicauda</i>	Sacramento hitch	AFCJB19012	None	None	SSC
<i>Layia septentrionalis</i>	Colusa layia	PDAST5N0F0	None	None	-
<i>Legenere limosa</i>	legenere	PDCAM0C010	None	None	-
<i>Leptosiphon ambiguus</i>	serpentine leptosiphon	PDPLM09020	None	None	-
<i>Leptosiphon aureus</i>	bristly leptosiphon	PDPLM09010	None	None	-
<i>Leptosiphon jepsonii</i>	Jepsons leptosiphon	PDPLM09140	None	None	-
<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	PDPLM09150	None	None	-
<i>Lessingia hololeuca</i>	woolly-headed lessingia	PDAST5S030	None	None	-
<i>Lilaeopsis masonii</i>	Masons lilaeopsis	PDAP119030	None	Rare	-
<i>Lilium pardalinum</i> ssp. <i>pitkinense</i>	Pitkin Marsh lily	PMLIL1A0H3	Endangered	Endangered	-
<i>Lilium rubescens</i>	redwood lily	PMLIL1A0N0	None	None	-
<i>Limnanthes vinculans</i>	Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	-
<i>Linderiella occidentalis</i>	California linderiella	ICBRA06010	None	None	-
<i>Lomatium repostum</i>	Napa lomatium	PDAP11B1M0	None	None	-
<i>Lupinus sericatus</i>	Cobb Mountain lupine	PDFAB2B3J0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Melospiza melodia samuelis	San Pablo song sparrow	ABPBXA301W	None	None	SSC
Micropus amphibolus	Mt. Diablo cottonweed	PDAST6D030	None	None	-
Monardella viridis	green monardella	PDLAM180Q2	None	None	-
Mylopharodon conocephalus	hardhead	AFCJB25010	None	None	SSC
Myotis evotis	long-eared myotis	AMACC01070	None	None	-
Myotis thysanodes	fringed myotis	AMACC01090	None	None	-
Myotis volans	long-legged myotis	AMACC01110	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Nannopterum auritum	double-crested cormorant	ABNFD01020	None	None	WL
Navarretia cotulifolia	cotula navarretia	PDPLM0C040	None	None	-
Navarretia heterandra	Tehama navarretia	PDPLM0C0A0	None	None	-
Navarretia leucocephala ssp. bakeri	Bakers navarretia	PDPLM0C0E1	None	None	-
Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	-
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	CTT52110CA	None	None	-
Northern Vernal Pool	Northern Vernal Pool	CTT44100CA	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
Passage

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Numenius americanus	long-billed curlew	ABNNF07070	None	None	WL
Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-
Oncorhynchus keta	chum salmon	AFCHA02020	None	None	-
Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	SSC
Oncorhynchus tshawytscha pop. 11	chinook salmon - Central Valley spring-run ESU	AFCHA0205L	Threatened	Threatened	-
Oncorhynchus tshawytscha pop. 13	chinook salmon - Central Valley fall / late fall-run ESU	AFCHA0205N	None	None	SSC
Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	SSC
Pandion haliaetus	osprey	ABNKC01010	None	None	WL
Passerculus sandwichensis alaudinus	Bryants savannah sparrow	ABPBX99011	None	None	SSC
Pelecanus erythrorhynchos	American white pelican	ABNFC01010	None	None	SSC
Penstemon newberryi var. sonomensis	Sonoma beardtongue	PDSCR1L483	None	None	-
Plagiobothrys mollis var. vestitus	Petaluma popcornflower	PDBOR0V0Q2	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
Passage

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Pogonichthys macrolepidotus	Sacramento splittail	AFCJB34020	None	None	SSC
Polygonum marinense	Marin knotweed	PDPGN0L1C0	None	None	-
Progne subis	purple martin	ABPAU01010	None	None	SSC
Rallus obsoletus obsoletus	California Ridgways rail	ABNME05011	Endangered	Endangered	FP
Rana boylei pop. 1	foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	SSC
Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC
Ranunculus lobbii	Lobbs aquatic buttercup	PDRAN0L1J0	None	None	-
Reithrodontomys raviventris	salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	FP
Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-
Sagittaria sanfordii	Sanfords arrowhead	PMALI040Q0	None	None	-
Selasphorus rufus	rufous hummingbird	ABNUC51020	None	None	-
Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC
Sidalcea calycosa ssp. rhizomata	Point Reyes checkerbloom	PDMALI1012	None	None	-
Sidalcea hickmanii ssp. napensis	Napa checkerbloom	PDMALI10A6	None	None	-
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	PDMALI10K5	Endangered	Endangered	-
Sorex ornatus sinuosus	Suisun shrew	AMABA01103	None	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
Passage

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Speyeria callippe callippe	callippe silverspot butterfly	IILEPJ6091	Endangered	None	-
Speyeria zerene sonomensis	Sonoma zerene fritillary	IILEPJ6083	None	None	-
Spinus lawrencei	Lawrences goldfinch	ABPBY06100	None	None	-
Spirinchus thaleichthys	longfin smelt	AFCHB03010	None	Threatened	-
Spirinchus thaleichthys pop. 2	longfin smelt - San Francisco Bay-Delta DPS	AFCHB03040	Endangered	Threatened	-
Sternula antillarum browni	California least tern	ABNNM08103	Endangered	Endangered	FP
Streptanthus anomalus	Mount Burdell jewelflower	PDBRA2G520	None	None	-
Streptanthus barbiger	bearded jewelflower	PDBRA2G040	None	None	-
Streptanthus hesperidis	green jewelflower	PDBRA2G510	None	None	-
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Stygobromus cowani	Cowans amphipod	ICMAL05D70	None	None	-
Symphyotrichum lentum	Suisun Marsh aster	PDASTE8470	None	None	-
Syncaris pacifica	California freshwater shrimp	ICMAL27010	Endangered	Endangered	-
Talanites ubicki	Ubicks gnaphosid spider	ILARA98030	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734137 Bouverie Dam Removal for Fish
Passage

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Taricha rivularis</i>	red-bellied newt	AAAAF02020	None	None	SSC
<i>Taricha torosa</i>	Coast Range newt	AAAAF02032	None	None	SSC
<i>Taxidea taxus</i>	American badger	AMAJF04010	None	None	SSC
<i>Trachusa gummifera</i>	San Francisco Bay Area leaf-cutter bee	IIHYM80010	None	None	-
<i>Trichostema ruygtii</i>	Napa bluecurls	PDLAM220H0	None	None	-
<i>Trifolium amoenum</i>	two-fork clover	PDFAB40040	Endangered	None	-
<i>Trifolium hydrophilum</i>	saline clover	PDFAB400R5	None	None	-
<i>Trifolium polyodon</i>	Pacific Grove clover	PDFAB402H0	None	Rare	-
<i>Triteleia lugens</i>	dark-mouthed triteleia	PMLIL210D0	None	None	-
<i>Tryonia imitator</i>	mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	-
Valley Needlegrass Grassland	Valley Needlegrass Grassland	CTT42110CA	None	None	-
<i>Viburnum ellipticum</i>	oval-leaved viburnum	PDCPR07080	None	None	-

Soda Creek Habitat Enhancement Project

(Phase II) (Project ID: 1734140) 2025

Introduction:

Trout Unlimited, Inc. (Grantee) will install at least 69 pieces of large wood (LW) in 28 locations along a 0.37 mile reach of Soda Creek. This project will improve habitat conditions by stabilizing erosion knickpoints and enhancing pool shelter and LW density. Large wood will be placed downstream of knickpoints to capture sediment, reducing drop heights into smaller, navigable steps. The result will be increased LW density, improved juvenile fish passage, and enhanced rearing habitat for salmonids. The project is necessary because the lack of LW in the stream channel has negatively affected the quality and quantity of salmonid habitat within Soda Creek by reducing the amount of large channel forming features and limiting complex cover for salmonids.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#), Volume I, Part VII.

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The project is located on Soda Creek, tributary to North Fork Navarro River, near the town of Navarro, CA. The project begins 500 feet upstream from the confluence of Soda Creek and North Fork Navarro River, and extends upstream for approximately 2,000 feet. The project central coordinates are 39.16044, -123.56288 as depicted in the project location maps.

Project Description:

The goal of this project is to improve habitat for rearing salmonids by adding large wood to the 0.37 miles of stream channel to stabilize eight active knickpoints, capture sediment, reduce drop heights, improve habitat complexity, and create cover in pools. This process-based approach will include building 28 structures using at least 69 pieces of LW to specific bed control elevations to step-up the channel downstream of each knickpoint. This project will provide improved access to spring-fed coldwater habitat for juvenile salmonids, and enhance instream juvenile rearing habitat with large wood features.

Materials:

- Large wood including 69 logs, roots and roots with stumps
- Rebar (27 pieces)
- Nuts/washers (27 pieces)
- Native straw mulch
- Interpretive sign and mounting materials

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
1-Project Management	04/01/26	Grantee will provide technical and administrative services associated with completing the work for this Project. Project management includes grant management, contracting oversight and administration, obtaining permits, landowner and agency communication, securing landowner access agreements, executing and administering subcontracts, scheduling and meeting coordination, tracking project costs and accomplishments, and preparing invoices and reports. All reporting and billing will be pursuant to grant requirements and regulatory guidelines. Grantee will track the project budget and develop and submit invoices to the grantor. This task will occur throughout the life of the project. Grantee staff will assist with processing invoices, financial tracking, and reporting, and provide oversight.	Progress reports (quarterly) Annual reports (Nov. 15 of each year) Invoices (at least quarterly, no more frequently than monthly) Copies of executed subcontracts (July 9, 2027) Landowner access agreements (Dec. 1, 2026) Project data (March 31, 2029) Build America Buy America certification (March 31, 2029) Final Report (March 31, 2029) Final Invoice (April 30, 2029)
2- Environmental Compliance	04/01/26	Grantee will follow the CEQA MND, Regional General Permit 12, and 401 Water Quality Certification for the project and all its conditions. A botanical survey, wetland delineation, and cultural resources survey were previously conducted at the site during the	Copies of permit authorizations (July 9, 2027) Water quality monitoring plan (April 1, 2027)

Task Name	Start Date	Activity Description	Deliverables
		design phase. Grantee will be responsible for securing the CDFW 1600 agreement. Grantee will conduct nesting migratory bird surveys if construction begins before August 1. CEQA reports and biotic survey results will be provided to the CDFW Grant Manager with the 1600 notification as required. No equipment work shall occur in advance of the final Notice to Proceed. Grantee will provide proof that any required threatened and endangered species surveys, biological resources (including native species and their habitat), and paleontological resources surveys have occurred. This will be accomplished through written memos that: 1. Identify and record significant cultural/biotic resources within the project area, 2. Offer a preliminary significance evaluation of the identified cultural/biotic resources, 3. Assess the potential impacts to cultural/biotic resources resulting from the implementation of proposed project activities, and 4. Offer recommendations designed to protect resource integrity, as warranted. Grantee will conduct nesting bird surveys if the project will begin prior to August. Grantee will work with landowner to collect northern spotted owl activity data prior to the initiation of construction activities. Grantee will provide a draft plan for water quality monitoring. Parameters such as, but not limited to, dissolved oxygen, temperature, and turbidity shall be	Water quality data (November 15, 2028)

Task Name	Start Date	Activity Description	Deliverables
		reported. Grantee will submit a monitoring report within one week of initiation of in-water construction and every week thereafter.	
3- Construction	07/10/27	Grantee will stakeout and flag the 28 individual feature construction locations along 1939 feet of channel, flag the heavy equipment access paths, material staging locations, and areas determined to require protection from disturbance. Grantee and landowner will flag trees that will be procured for construction materials. Subcontracted engineer will carry survey control to each structure location and install survey stakes marking the design crest elevation along the channel bank. During this survey effort, temporary survey controls will be installed along the project reach for use during construction and post-construction monitoring. Engineer will use a Trimble Robotic Total Station to conduct the work. Prior to construction, the project team will attend a project kickoff meeting to assure all aspects of the project are understood, review permit conditions, design plans, logistics, and establish clear lines of communication. Construction may occur any time after July 9, 2027. A final Notice to Proceed will be secured prior to construction. All habitat improvement will follow the techniques described in the California Salmonids Stream Habitat Restoration Manual Volume I, and CDFW Fish Bulletin 184. No water management or fish relocation is necessary for this project. Construction of	Project Performance Measures for HI Projects (November 15, 2028) Weekly WQ Data (October 31, 2028)

Task Name	Start Date	Activity Description	Deliverables
		the project and water quality monitoring will be conducted by Grantee in accordance with the plans. Construction activities will include site preparation and mobilization, tree removal, construction of large wood structures, and erosion control. Grantee will record water quality data and report weekly. Engineer will be available during construction to address any requests for information and field changes. Engineer will provide part-time oversight during the construction of the large wood structures. The oversight will focus on ensuring the controlling crest elevation of each structure is built per plan and that the structures built for adequate stability and backed with brush sufficiently to reduce flow-through conditions during high stream flows. Daily field logs will be prepared. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the Grantee's AIS Prevention Plan and the CDFW Aquatic Invasive Species Decontamination Protocol.	
4- Monitoring	11/01/27	Grantee will develop as-built drawings that include feature placement, design changes where applicable, alignment, sizes, and quantity of material added. Before and after photos will be taken of individual feature locations. Engineer will use a Trimble Robotic Total Station to survey a longitudinal profile of the channel bed, extending from downstream to upstream through each series of large wood structures. Engineer will also survey a cross section across the crest of each large wood structure and a section	Monitoring Memorandum and First Year Observations Summary presenting as-builts, before and after photos, long profiles and cross sections (March 1, 2029)

Task Name	Start Date	Activity Description	Deliverables
		immediately upstream of the structure. The survey data will be post-processed, and the post-project longitudinal channel profiles will be plotted against the pre-project data collected during the design phase. The channel cross sections will also be plotted for each large wood structure. A brief memorandum will be supplied summarizing the methods, results, and findings from the monitoring efforts, this will serve as the First-Year Observations Summary.	
5- Interpretive Sign	11/01/27	Grantee will work with landowner and a graphic designer to develop an interpretive sign highlighting both phases of restoration at the site. The interpretive sign will describe both phases of the project, highlight benefits to salmonids, and credit funders. The project site is located in a place with high visibility to the public.	Pdf of interpretive sign (March 1, 2029) Photo of installed sign (March 1, 2029)

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

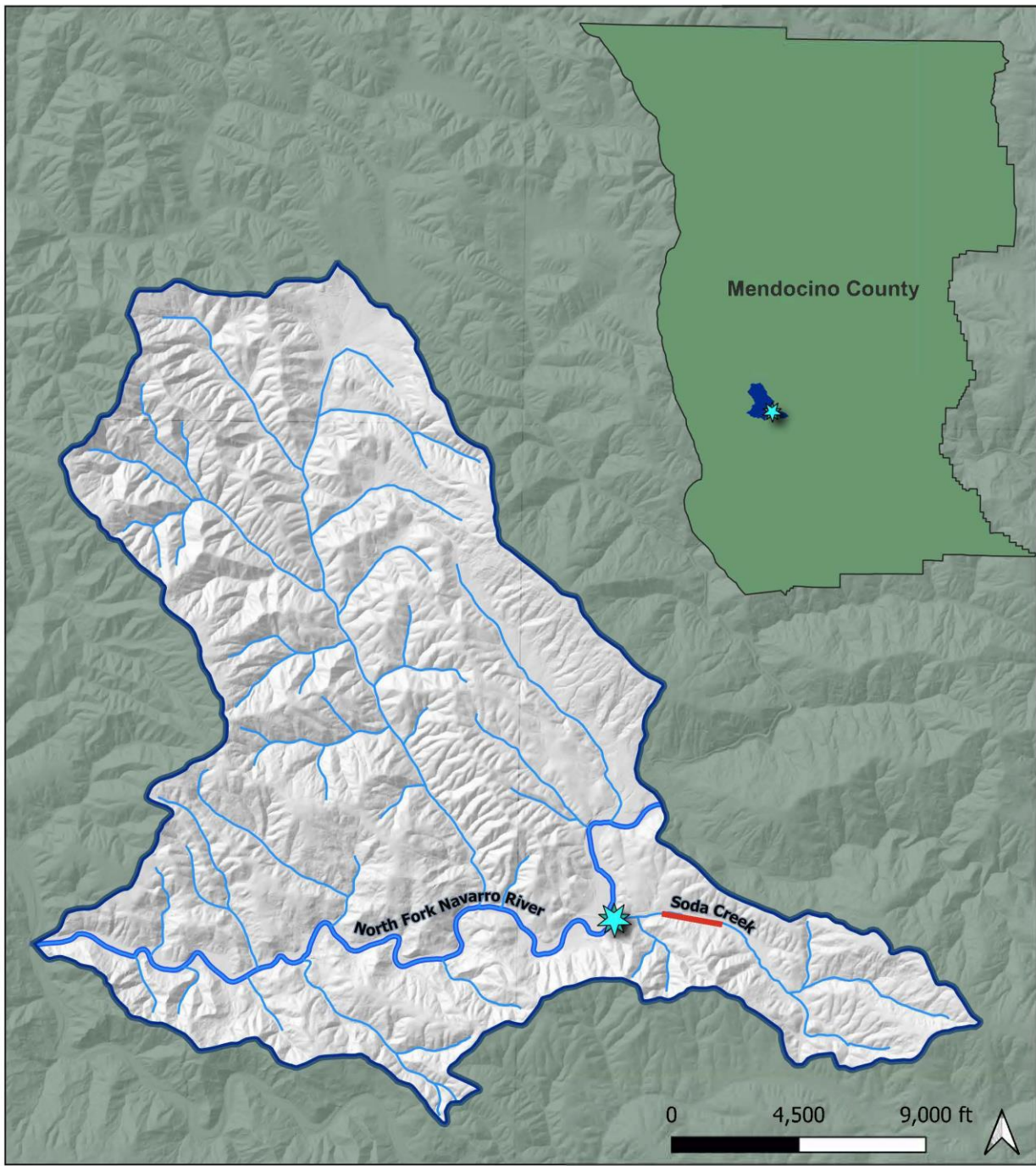
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

All habitat improvements will follow techniques described in the [*California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)*](#) or [*other approved guidelines and manuals for salmon and steelhead habitat restoration*](#).

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

Mulching and seeding will take place as sites are completed to avoid unforeseen erosion.



Datums:
Horizontal: NAD83 State Plane CA Zone 2
Vertical: NAVD88

Sources:
Elevation: 2017 USGS CA FEMA R9 Mendocino

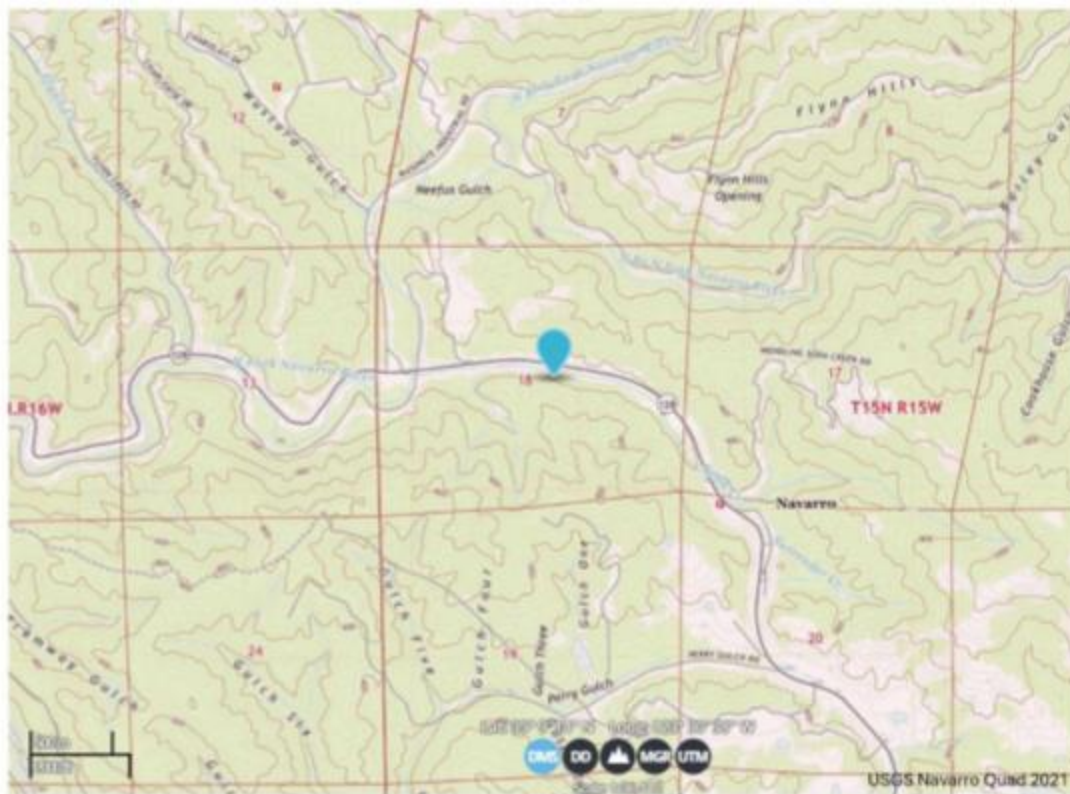
 **Michael Love & Associates**
Hydrologic Solutions

North Fork Navarro River Watershed Map — Phase II Project Location Phase I Project Location

**Project:
Soda Creek Fish Passage and
Habitat Enhancement Project**

Filepath: Q:\SodaCreek\7_CAD-GIS\QGIS\Working\SodaCreek.qgs

Michael Love & Associates, Inc. P.O. Box 4477, Arcata, CA 95521 (707) 822-2411



Soda Creek Habitat Enhancement Project (Phase II) Project Location
FRGP Application 1734140



California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734140 Soda Creek Habitat Enhancement
Project (Phase II)

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC
Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC
Rana boylei pop. 1	foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	SSC
Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC
Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC
Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC
Calileptoneta wapiti	Mendocino leptonetid spider	ILARAU6040	None	None	-
Accipiter atricapillus	American goshawk	ABNKC12061	None	None	SSC
Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP
Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-
Chaetura vauxi	Vauxs swift	ABNUA03020	None	None	SSC
Ardea herodias	great blue heron	ABNGA04010	None	None	-
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Progne subis	purple martin	ABPAU01010	None	None	SSC
Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC
Pandion haliaetus	osprey	ABNKC01010	None	None	WL

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734140 Soda Creek Habitat Enhancement
Project (Phase II)

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Pelecanus occidentalis californicus</i>	California brown pelican	ABNFC01021	Delisted	Delisted	-
<i>Asio flammeus</i>	short-eared owl	ABNSB13040	None	None	SSC
<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
<i>Contopus cooperi</i>	olive-sided flycatcher	ABPAE32010	None	None	SSC
<i>Hesperoleucus venustus navarroensis</i>	northern coastal roach	AFCJB19031	None	None	SSC
<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC
<i>Oncorhynchus kisutch</i> pop. 4	coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	-
<i>Oncorhynchus mykiss irideus</i> pop. 49	steelhead - northern California DPS winter-run	AFCHA0213Q	Threatened	None	SSC
<i>Oncorhynchus mykiss irideus</i> pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	SSC
<i>Oncorhynchus tshawytscha</i> pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	SSC
<i>Bombus caliginosus</i>	obscure bumble bee	IIHYM24380	None	None	-
<i>Bombus occidentalis</i>	western bumble bee	IIHYM24252	None	Candidate Endangered	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734140 Soda Creek Habitat Enhancement
Project (Phase II)

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Atractelmis wawona	Wawona riffle beetle	IICOL58010	None	None	-
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	IILEPP2012	Proposed Threatened	None	-
Speyeria zerene behrensii	Behrens silverspot butterfly	IILEPJ6088	Endangered	None	-
Aplodontia rufa nigra	Point Arena mountain beaver	AMAF01011	Endangered	None	SSC
Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC
Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Myotis thysanodes	fringed myotis	AMACC01090	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Helminthoglypta arrosa pomoensis	Pomo bronze shoulderband	IMGASC2033	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734140 Soda Creek Habitat Enhancement
Project (Phase II)

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Margaritifera falcata	western pearlshell	IMBIV27020	None	None	-
Actinemys marmorata	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-
Coastal Brackish Marsh	Coastal Brackish Marsh	CTT52200CA	None	None	-
Grand Fir Forest	Grand Fir Forest	CTT82120CA	None	None	-
Mendocino Pygmy Cypress Forest	Mendocino Pygmy Cypress Forest	CTT83161CA	None	None	-
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	CTT52110CA	None	None	-
Sphagnum Bog	Sphagnum Bog	CTT51110CA	None	None	-
Buxbaumia viridis	green shield-moss	NBMUS1B040	None	None	-
Fissidens pauperculus	minute pocket moss	NBMUS2W0U0	None	None	-
Sulcaria spiralifera	twisted horsehair lichen	NLT0042560	None	None	-
Usnea longissima	Methuselahs beard lichen	NLLEC5P420	None	None	-
Ramalina thrausta	angels hair lichen	NLLEC3S340	None	None	-
Angelica lucida	sea-watch	PDAP1070G0	None	None	-
Erigeron biolettii	streamside daisy	PDAST3M5H0	None	None	-
Hemizonia congesta ssp. calyculata	Mendocino tarplant	PDAST4R063	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734140 Soda Creek Habitat Enhancement
Project (Phase II)

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Hemizonia congesta ssp. tracyi	Tracys tarplant	PDAST4R067	None	None	-
Hesperevax sparsiflora var. brevifolia	short-leaved evax	PDASTE5011	None	None	-
Lasthenia californica ssp. bakeri	Bakers goldfields	PDAST5L0C4	None	None	-
Lasthenia californica ssp. macrantha	perennial goldfields	PDAST5L0C5	None	None	-
Packera bolanderi var. bolanderi	seacoast ragwort	PDAST8H0H1	None	None	-
Erysimum concinnum	bluff wallflower	PDBRA160E3	None	None	-
Streptanthus glandulosus ssp. hoffmanii	Hoffmans bristly jewelflower	PDBRA2G0J4	None	None	-
Eastwoodiella californica	swamp harebell	PDCAM02060	None	None	-
Calystegia purpurata ssp. saxicola	coastal bluff morning-glory	PDCON040D2	None	None	-
Hesperocyparis pygmaea	pygmy cypress	PGCUP04032	None	None	-
Carex californica	California sedge	PMCYP032D0	None	None	-
Carex saliniformis	deceiving sedge	PMCYP03BY0	None	None	-
Rhynchospora alba	white beaked-rush	PMCYP0N010	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734140 Soda Creek Habitat Enhancement
Project (Phase II)

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Arctostaphylos nummularia ssp. mendocinoensis	pygmy manzanita	PDERI04280	None	None	-
Astragalus agnicidus	Humboldt County milk-vetch	PDFAB0F080	None	Endangered	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Trifolium buckwestiorum	Santa Cruz clover	PDFAB402W0	None	None	-
Trifolium trichocalyx	Monterey clover	PDFAB402J0	Endangered	Endangered	-
Erythronium revolutum	coast fawn lily	PMLILOU0F0	None	None	-
Fritillaria roderickii	Rodericks fritillary	PMLILOV0M0	None	Endangered	-
Lilium maritimum	coast lily	PMLIL1A0C0	None	None	-
Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-
Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-
Lycopodium clavatum	running-pine	PPLYC01080	None	None	-
Sidalcea calycosa ssp. rhizomata	Point Reyes checkerbloom	PDMAL11012	None	None	-
Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-
Sidalcea malviflora ssp. purpurea	purple-stemmed checkerbloom	PDMAL110FL	None	None	-
Veratrum fimbriatum	fringed false-hellebore	PMLIL25030	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734140 Soda Creek Habitat Enhancement
Project (Phase II)

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Pityopus californicus</i>	California pinefoot	PDMON05010	None	None	-
<i>Cypripedium montanum</i>	mountain ladys-slipper	PMORC0Q080	None	None	-
<i>Piperia candida</i>	white-flowered rein orchid	PMORC1X050	None	None	-
<i>Castilleja mendocinensis</i>	Mendocino Coast paintbrush	PDSCR0D3N0	None	None	-
<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine birds-beak	PDSCR0J0S1	None	None	-
<i>Kopsiopsis hookeri</i>	small groundcone	PDORO01010	None	None	-
<i>Pinus contorta</i> ssp. <i>bolanderi</i>	Bolanders beach pine	PGPIN04081	None	None	-
<i>Agrostis blasdalei</i>	Blasdales bent grass	PMPOA04060	None	None	-
<i>Calamagrostis bolanderi</i>	Bolanders reed grass	PMPOA17010	None	None	-
<i>Pleuropogon hooverianus</i>	North Coast semaphore grass	PMPOA4Y070	None	Threatened	-
<i>Pleuropogon refractus</i>	nodding semaphore grass	PMPOA4Y080	None	None	-
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	PDPLM040B6	None	None	-
<i>Leptosiphon aureus</i>	bristly leptosiphon	PDPLM09010	None	None	-
<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	PDPLM09150	None	None	-
<i>Coptis laciniata</i>	Oregon goldthread	PDRAN0A020	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734140 Soda Creek Habitat Enhancement
Project (Phase II)

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ceanothus gloriosus var. exaltatus	glory brush	PDRHA040F4	None	None	-
Ceanothus gloriosus var. gloriosus	Point Reyes ceanothus	PDRHA040F5	None	None	-
Sanguisorba officinalis	great burnet	PDROS1L060	None	None	-
Darlingtonia californica	California pitcherplant	PDSAR01010	None	None	-
Chrysosplenium glechomifolium	Pacific golden saxifrage	PDSAX07020	None	None	-
Mitellastra caulescens	leafy-stemmed mitrewort	PDSAX0N020	None	None	-

Process-Based Floodplain Restoration of Lower Lagunitas Creek (Project ID: 1734145) 2025

Introduction:

The Turtle Island Restoration Network (Grantee) will design a process-based restoration approach to the lower 3.5 miles of Lagunitas Creek. This design will address objectives such as: 1.) Identify floodplain restoration options and opportunities in the lower reach to restore; 2.) Designate 4 sites of targeted floodplain restoration using alcove/ corridor widening, LWD loading, and floodplain benches, and 3.) Advance plans to Conceptual (30%), Intermediate (65%), and Final (100%) designs with specifications.

The project is needed because the Lagunitas Creek Watershed is near the southern terminus of coho salmon distribution and this population has genetic and environmental traits that are critical to the species as climate change warms and drives populations north. This project addresses the limiting factors for salmonids while meeting objectives of the Lagunitas creek sediment TMDL, and will be designed to reverse the chronic structural and biological problems that have plagued lower Lagunitas. With the threat of a changing climate, there is extreme urgency to address these limiting factors to ensure the survival of CCC salmonids.

The 2022 Lagunitas Creek SHaRP (Salmon Habitat Restoration Priorities) Action Plan provides a focused list of recommendations that stakeholders and agency staff agree are the highest priority restoration actions to recover Coho Salmon and steelhead in the watershed. This project and the restoration goals presented align with the SHaRP Action Plan, which recommends expanding off-channel and floodplain habitat in the lower Lagunitas project area. SHaRP is identified as a key initiative in Governor Newsom's 2024 Salmon Strategy, underscoring its importance in statewide salmon recovery efforts. By aligning with SHaRP and broader federal and state recovery goals, this project demonstrates strong regional relevance and contributes to coordinated, high-priority salmonid restoration.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#) Volume 1, Appendix H. *The Manning Roughness Coefficient, PART I. Salmon and Steelhead Habitat Restoration in California, PART II. Preliminary Watershed Assessment, PART III. Habitat Inventory Methods, PART V. Working With the Data, PART VI. Project Planning and Organization, PART XI. Riparian Habitat Restoration, PART XII. Fish Passage Design and Implementation.*

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☒ or No ☐

Project Description:

Location:

This project covers the 3.5 mile stretch of Lower Lagunitas Creek from Point Reyes Station, upstream to the confluence of Lagunitas and Nicasio Creeks. The work areas are broken into 4 sub-reaches within the lower reach where alcove/floodplain expansions will be located.

Project central coordinates: 38.07107, -122.77000

Project Description:

Lagunitas Creek supports (20%) of the remaining wild Central CA Coast Coho Salmon and is arguably the most important watershed for wild coho salmon south of Mendocino County. The Lagunitas population is an anchor for the recovery of the species through the central coast range.

This project focuses on the lower 3.5 miles of Lagunitas Creek, upstream of Point Reyes Station, and downstream of the confluence of Nicasio and Lagunitas creek. This stretch is extremely incised, lacks floodplain connectivity, and consists of simplified featureless glides. These glides host non-native fish that may compete or prey on salmonids, and are plagued by excessive amounts of fine sediments.

Informed by a previous study of floodplain activation and restoration potential (2019 Lagunitas Creek Floodplain Activation Flow Assessment, SPAWN, ESA), major opportunities for off-channel habitat restoration have been identified that offer potential to address the limiting factors for salmonid's survival while meeting objectives of the Lagunitas Sediment TMDL- to reverse the chronic structural and biological problems that have plagued the lower watershed.

The goal of the project is to address the limiting factors and improve habitat conditions for all life cycle stages of CCC salmon by performing needed surveys and assessments to identify priority locations, with modeling for design, following agency consultation to produce final design. This project will consist of four 300ft long sections of wood/alcoves/channel widening/floodplain bench features and creating 1200ft of connected floodplain. These features aim to promote instream habitat complexity, allow for a more inundated floodplain, encourage sediment

deposition and riffle formation, elevate the channel profile, help reverse channel incision through self-creation of complex streambed morphology, increase shade with streamside vegetation, reducing water temperatures, and attracting insects as food for salmonids.

Due to the presence of nonnative fish already in the lower reach, further assessment of the project area will allow for informed decisions to produce final project design. By maintaining cold water temperatures, increasing food availability, improving water quality, bolstering the riparian corridor and floodplain with native revegetation planning in order to create more beneficial salmonid habitat, habitat favorable for invasive species will be discouraged.

This project will develop final design plans, specifications, construction costs, and complete permitting applications necessary to accelerate additional phases of this project for implementation.

Materials:

Biological and Geomorphic Field Supplies: These supplies include (survey stadia rods, meter tapes) These supplies are being used to map, measure, track, and evaluate the conditions for design. The purpose of the supplies are to accurately collect locations of existing conditions and conduct thorough data on site conditions required for permitting and design. These materials are required in order to accurately carry out field investigations and analysis. These materials will be provided and/or purchased by SPAWN.

Waders: Waders will be used to access field sites in the water. The purpose of the waders is to effectively collect field data and report existing conditions in a safe and comfortable way. These are required in order to accurately carry out project monitoring and analysis. These materials will be provided by SPAWN.

Field Vehicle Rental: This includes a biological vehicle rental. Which is required to haul equipment to field sites. The purpose of this vehicle rental is to provide means of transport of needed supplies, equipment, and personnel in order to conduct the field investigations in a thorough and efficient manner. This is required to haul equipment efficiently, and provide access to the 5 mile reach of the study area. This will be provided/ procured by SPAWN.

Field Cameras: These include time-lapse cameras and fixed station cameras, which are required to collect accurate conditions of storm events, floodplain inundation patterns, and site conditions. The purpose of these field cameras is to evaluate real time field conditions and document site conditions to assist in hydraulic modeling and design. These are required to prepare project Basis of Design documents and test hypotheses. These materials will be provided by SPAWN.

Mileage: Mileage includes miles for the applicant and subcontractor to travel to the sites. Mileage is used to cover the cost of transportation using personal vehicles to and from the restoration design sites. The purpose of mileage is to reimburse travel in personal vehicles through the area, to and from the sites, for work covered under this grant. This will be required in order to allow the applicant and subcontractor personnel the ability to carry out the field investigations and assessments efficiently with use of their personal vehicles. This will be purchased by the subcontractor and SPAWN.

Printing and Duplicating: This is used to provide information and details, including, project plans, reports, and findings to stakeholders. This is needed for grant reports and submitting materials for review and comments. The purpose is to provide these reports, permits, and plans to stakeholders. These materials are required to provide information about the project so people can make accurate decisions about impacts, results, and suggest input and give feedback. SPAWN will purchase these materials.

Direct Mailings: These are newsletters mailed to SPAWN partners and members. These will be used to advertise the project and provide updates to SPAWN partners and members. The purpose is to gain support for SPAWN programs and the public funding sources in order to gain additional membership, match funding, and continued support from the community and greater salmonid recovery community in California. These are required because this work needs to be supported by broader members of the environmental community. SPAWN has thousands of members and to gain support, direct mailings are needed to showcase the work and highlight the positive aspects of the project. SPAWN will purchase these.

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window

Task Name	Start Date	Activity Description	Deliverables
#1 Project Management and Administration	05/01/26	This task supports project management activities throughout the course of the project, including tracking the work, budget, schedule, and deliverables, contracting and management of project subconsultants, and invoicing. SPAWN will perform all project management tasks related to direct coordination with the California Department of Fish and Wildlife (CFDW) grant administrators. ESA will provide SPAWN with monthly progress reports that provide bulleted details/summaries of the project progress on distinct tasks, along with monthly invoices. SPAWN will lead a stakeholder coordination and outreach tasks focused on convening a Technical Working Group, made up of members of the Lagunitas Technical Advisory Committee to create a forum for project oversight, tracking, input, and design. SPAWN will also provide coordination in partnership with the Marin Resource Conservation District, to local stakeholders of Point Reyes Station and environmental groups including Marin Agricultural Land Trust, NRCS, Native American Tribal Engagement, and others that are also involved with concerns of the ranch and riparian corridor. Both SPAWN and MRCD have a long history at the ranch within this project area and are collaborating regularly on other projects at the ranch, therefore it fits within this framework to center a	Copies of Executed Subcontracts Submit Project Description Data to EcoAtlas Project Tracker Submit Data Management Plan Quarterly Progress Reports Quarterly Invoices Project Partner Outreach Agenda/Presentation Tribal Engagement Log Submit Project Data Draft Final Report Final Report Final Invoice

Task Name	Start Date	Activity Description	Deliverables
		coordination and outreach task around the existing environmental stakeholders with added input from the Point Reyes Station community. This task will also involve targeted direct mailing to stakeholders and nearby landowners in the community informing them of the project and opportunities for providing input and Q/A. SPAWN will retain a bookkeeper to assist with invoicing, budget tracking, payroll, and compliance. This will include a bookkeeping assistant and accountant. SPAWN staff included in this task include Project Supervisor, Project Manager, Project Foreman, Project Associate, Communications Manager, and two Interns. This task includes ESA staff: Project Manager/Lead Designer, Project Director/Senior Designer, Engineer of Record, Lead Design Engineer, and Design Hydraulic Engineer.	
#2 Restoration Options Analysis	03/05/26	The restoration options analysis will include field and desktop studies to identify potential restoration site options within the Lower Reach of Lagunitas Creek (Highway 1 to Nicasio Valley Drive). Up to four (4) restoration sites totaling up to approximately 1,200 feet will be identified and selected to be advanced from Conceptual (30%) Design through Final (100%) Design. ESA will compile, review, and synthesize relevant existing conditions information related to the site selection and design in the Lower Reach of Lagunitas Creek. ESA, with SPAWN's assistance, will perform a field assessment to identify and generally map restoration site opportunities and constraints within the	Project Area Prioritization Map

Task Name	Start Date	Activity Description	Deliverables
		3.5-mile project reach and select restoration sites. This task includes SPAWN Project Manager, Project Foreman, and Interns I and II. This task includes ESA staff: Project Manager/Lead Designer, Project Director/Senior Designer, Engineer of Record, Lead Design Engineer, and Design Hydraulic Engineer.	
#3 Conceptual (30%) Design	09/15/26	ESA will prepare Conceptual (30%) Design plans for up to three (3) restoration sites selected from the Lower Reach of Lagunitas Creek as part of the Restoration Options Analysis. The Conceptual (30%) Design will be informed by input from SPAWN and project partners. ESA will submit the Conceptual (30%) Design Plans for review and comment by SPAWN, the landowner, and the CDFW grant manager and engineer. ESA assumes reviews will be complete within 30 days of submission. ESA will consolidate and address comments for approval by SPAWN, the landowner, and the CDFW grant manager and engineer prior to advancing to Intermediate (65%) Designs Plans. This task includes SPAWN Project Manager, and Project Foreman. This task includes ESA staff: Project Manager/Lead Designer, Project Director/Senior Designer, Engineer of Record, Lead Design Engineer, and Design Hydraulic Engineer.	Conceptual 30% designs plans
#4 Detailed Design Studies	02/15/27	ESA will perform detailed design studies to advance the project from Conceptual (30%) Design to Intermediate (65%) Design. Such studies include topographic mapping, tree survey, base map survey, geotechnical investigation, hydraulic analyses and	Topo Data Compilation Arborist Memo Existing Conditions base map

Task Name	Start Date	Activity Description	Deliverables
		geomorphic analyses. These studies will be performed to support the completion of all design-related work for the Intermediate (65%) Design plans, leaving only construction-related details for the Draft (90%) Design plans. All detailed design studies will be documented in the Basis of Design report. ESA will develop topographic data compilation, tree surveys, base map surveys, hydraulic modeling, off-channel habitat design, and large wood and constructed Riffle design. ESA will hire a Geotechnical Consultant, A3GEO, who will perform a site reconnaissance, observe surface conditions, map exposed bedrock, identify areas of geotechnical/geologic concerns, and evaluate site accessibility for subsurface exploration. ESA will synthesize and document a design work from Tasks 2 and 4 into a Basis of Design Report (BoD) sufficient for the review required by CDFW/NOAA Fisheries geotechnical/engineering staff. SPAWN staff include Project Manager, Project Foreman, and Project Associate. This task includes ESA staff: Project Manager/Lead Designer, Project Director/Senior Designer, Engineer of Record, Lead Design Engineer, and Design Hydraulic Engineer, Lead Field Technician, and Lead Hydraulic Engineer.	Hydrology and hydraulic modeling memo Biology and geomorphology section of BOD Large wood and Constructed riffle sections of BOD Geotechnical Data report Draft BOD Final BOD
#5 Final Design Documents	02/15/27	ESA will progress the Conceptual (30%) Design by incorporating the technical analyses, surveys and project partner input to develop and refine restoration grading, enhancement, seeding, erosion control into Final (100%) Design documents (drawings, technical	Intermediate 65% design drawings, technical specs, Opinion of probable costs

Task Name	Start Date	Activity Description	Deliverables
		specifications and cost estimate) for up to three (3) sites. ESA will provide Intermediate (65%), Draft (90%) and Final (100%) Design document submittals for review and comment by SPAWN, the landowner and CDFW. We understand that SPAWN will coordinate document review and consolidate comments from project landowners and CDFW. Each submittal will include drawings, specifications and an Opinion of Probable Costs developed to appropriate levels of completion. SPAWN staff included are Project Manager, Project Foreman, and Interns I and II. This task includes ESA staff: Project Manager/Lead Designer, Project Director/Senior Designer, Senior Design Engineer, Engineer of Record, Lead Design Engineer, and Design Hydraulic Engineer.	Draft 90% design drawings, technical specs, Opinion of probable costs Final 100% drawings, technical specs, Opinion of probable costs
#6 Resource Surveys and Technical Reports	04/15/26	This task will include resource surveys and technical reports about the areas being designed for restoration projects. Surveys will include: Habitat Assessment, Botanical Survey, Aquatic Resource Delineation, Archaeological and Architectural Resources Inventory Report. In addition, a Monitoring and Adaptive Management Plan containing performance metrics for project success will be prepared under this task. The survey area is assumed to be less than 20 acres and does not contain previously unrecorded archaeological or architectural resources. It is assumed documentation in support of USFWS and NMFS consultation will be prepared by CDFW and support information provided by ESA would be sufficient for	Habitat assessment report Aquatic Resource delineation report Archaeological and Architectural Resources Inventory Report Botanical survey Monitoring and Adaptive Management plan

Task Name	Start Date	Activity Description	Deliverables
		CDFW's needs. SPAWN also contacted the Federated Indians of Graton Rancheria and the Marin Miwok Tribal Council to determine if there are sacred sites or Native American concerns about the project area and invite both groups to participate in project planning and provide input into restoration options. SPAWN staff include: Project Supervisor and Project Manager. This task includes ESA staff: Project Manager/Lead Designer, Project Director/Senior Designer, Senior Design Engineer, Engineer of Record, Lead Design Engineer, Senior Resource Specialist, Lead Permitting Specialist, Lead Biologist, Botanist, Arborist, Lead Archaeologist, Archaeologist, and GIS analyst.	
#7 Project Permitting Support	04/15/28	ESA will lead the preparation of the permit applications listed below. Agency permit applications will be based on 65% complete designs, revised once based on consolidated comments, and submitted to the regulatory agencies on SPAWN's behalf. This scope also includes preparation of permits/environmental compliance that are not provided under the FRGP, including preparation of the appropriate permit applications. Based on the 65% design plans, ESA will evaluate the project to determine whether project activities could be covered under one of the various streamlined/programmatic restoration pathways, including the Restoration Consistency Determination or Restoration Management Permit. ESA will coordinate with the regulatory agencies and the grant manager to set up and host a pre-application meeting with the	CDFW 1602 Application submitted CDFW RMP/RDC application submitted

Task Name	Start Date	Activity Description	Deliverables
		regulatory agencies. As part of this meeting, ESA will prepare a presentation summarizing the project elements, describing existing conditions and the studies completed, and identifying the proposed regulatory permits and approaches. SPAWN staff includes: Project Supervisor, Project Manager, Project Foreman, Project Associate. This task includes ESA staff: Project Manager/Lead Designer, Project Director/Senior Designer, Senior Design Engineer, Engineer of Record, Lead Design Engineer, Lead Permitting Specialist, Botanist, Arborist, Lead Archaeologist, and GIS Specialist.	
#8 Marin County Permitting Support	04/15/28	ESA will support SPAWN with their applications for Marin County permits (Creek, Tree, etc.). ESA assumes SPAWN will lead coordination with Marin County to determine needed County permits, as well as complete and submit the needed permits. ESA will provide support through participation in meetings with Marin County, development needed materials from work completed by ESA, and presentation/delivery of needed materials. SPAWN staff include: Project Supervisor, Project Manager, Project Foreman, and Project Associate. This task includes ESA staff: Project Manager/Lead Designer, Project Director/Senior Designer, Engineer of Record, Lead Design Engineer, and Lead Permitting Specialist.	County permit application submitted

Additional Requirements:

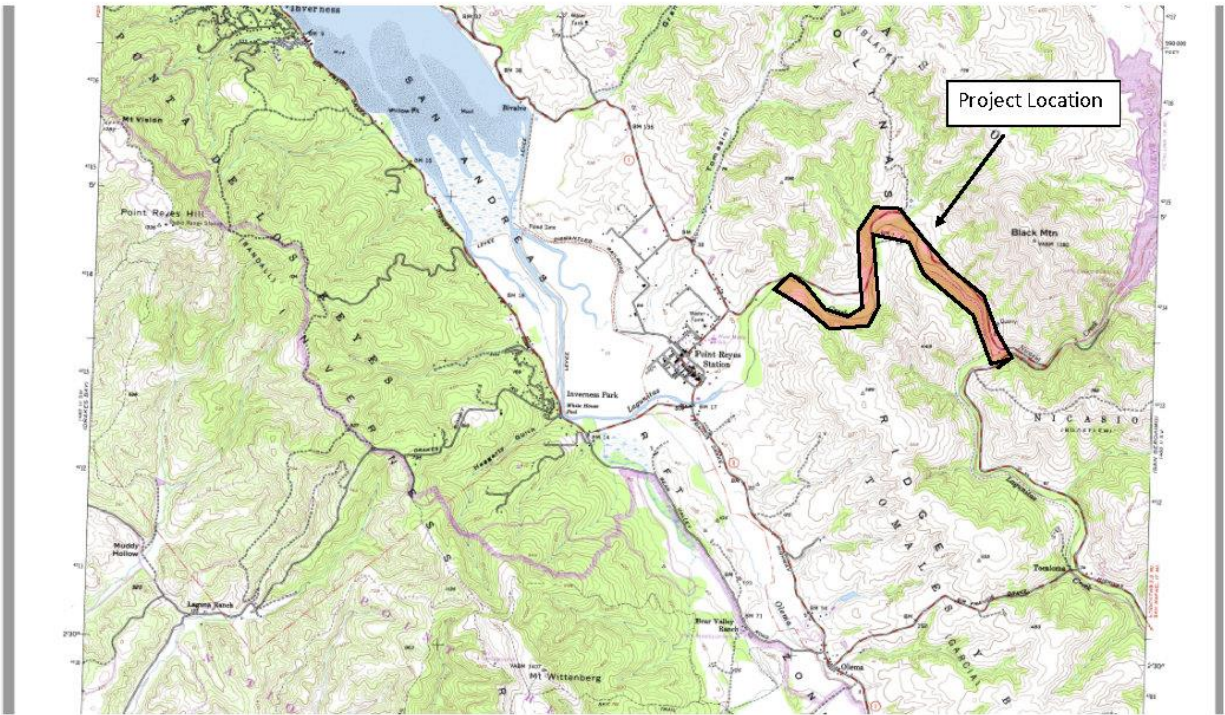
The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

Applicant: Salmon Protection and Watershed Network
Topographic Map

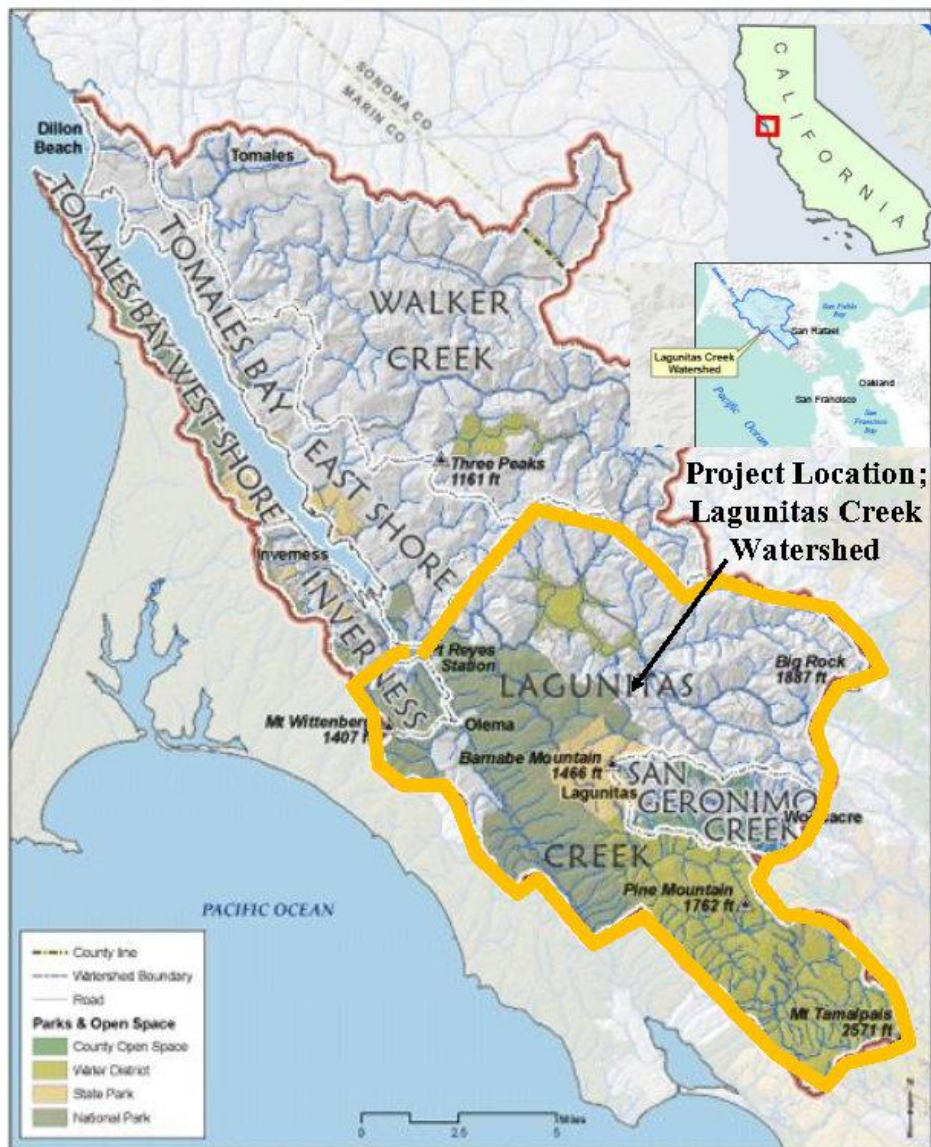


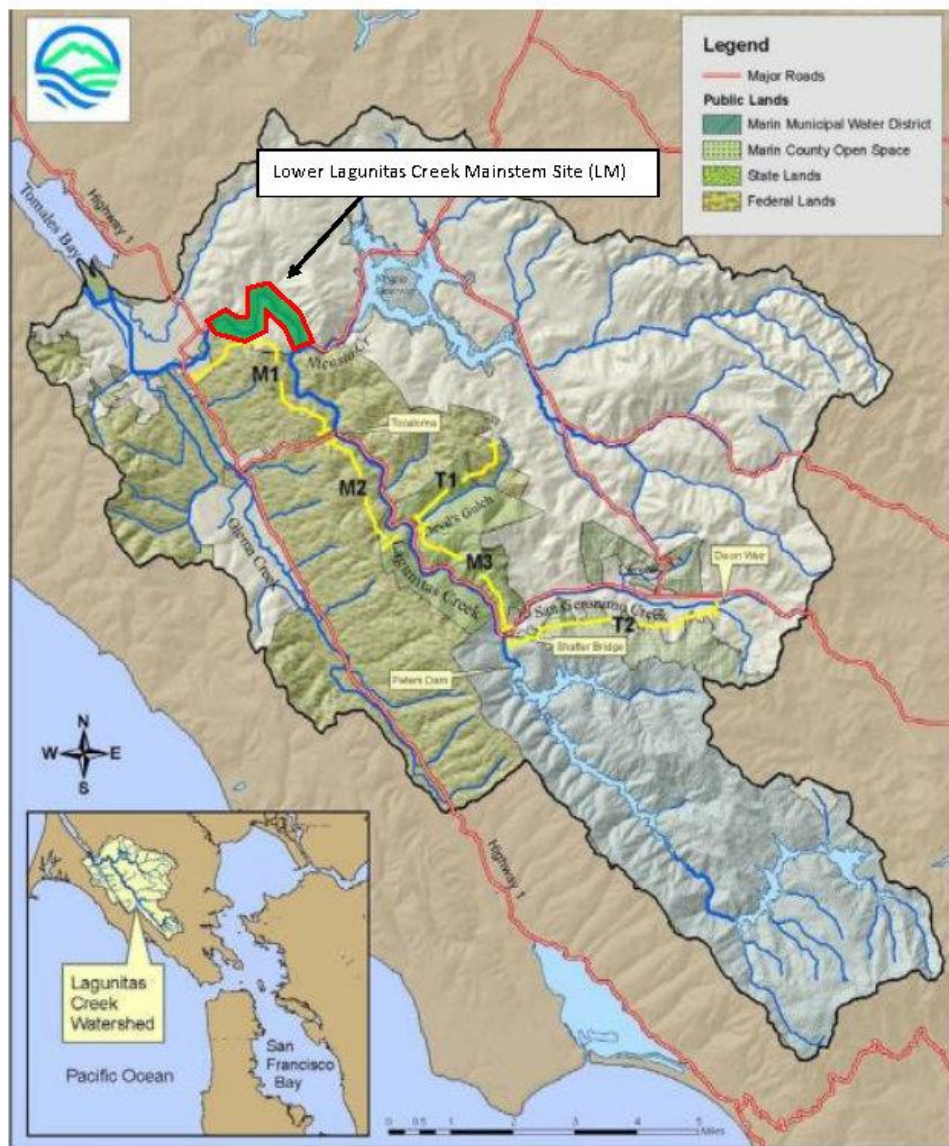
Fisheries Restoration Grant Program

Applicant: Turtle Island Restoration Network - Salmon Protection and Watershed Network

Project: Process-Based Floodplain Restoration of Lower Lagunitas Creek

Project Watershed & County Map





Lower Lagunitas Creek Mainstem Site



This project covers the 3.5 mile stretch of Lower Lagunitas Creek from Point Reyes Station, upstream to the confluence of Lagunitas and Nicasio Creeks.

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734145 Process-Based Floodplain Restoration
of Lower Lagunitas Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ambystoma californiense pop. 3	California tiger salamander - Sonoma County DPS	AAAAA01183	Endangered	Threatened	WL
Dicamptodon ensatus	California giant salamander	AAAAH01020	None	None	SSC
Rana boylei pop. 1	foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	SSC
Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC
Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC
Accipiter cooperii	Coopers hawk	ABNKC12040	None	None	WL
Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL
Buteo swainsoni	Swainsons hawk	ABNKC19070	None	Threatened	-
Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC
Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP
Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP
Fratercula cirrhata	tufted puffin	ABNNN12010	None	None	SSC
Cypseloides niger	black swift	ABNUA01010	None	None	SSC
Ardea alba	great egret	ABNGA04040	None	None	-
Ardea herodias	great blue heron	ABNGA04010	None	None	-
Egretta thula	snowy egret	ABNGA06030	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734145 Process-Based Floodplain Restoration
of Lower Lagunitas Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-
Charadrius montanus	mountain plover	ABNNB03100	None	None	SSC
Charadrius nivosus nivosus	western snowy plover	ABNNB03031	Threatened	None	SSC
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Gavia immer	common loon	ABNBA01030	None	None	SSC
Antigone canadensis canadensis	lesser sandhill crane	ABNMK01011	None	None	SSC
Antigone canadensis tabida	greater sandhill crane	ABNMK01014	None	Threatened	FP
Progne subis	purple martin	ABPAU01010	None	None	SSC
Hydrobates homochroa	ashy storm-petrel	ABNDC04030	None	None	SSC
Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC
Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC
Sternula antillarum browni	California least tern	ABNNM08103	Endangered	Endangered	FP
Thalasseus elegans	elegant tern	ABNNM08040	None	None	WL
Pandion haliaetus	osprey	ABNKCC01010	None	None	WL
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	ABPBX1201A	None	None	SSC
Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734145 Process-Based Floodplain Restoration
of Lower Lagunitas Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Artemisiospiza belli belli	Bells sparrow	ABPBX97021	None	None	WL
Melospiza melodia samuelis	San Pablo song sparrow	ABPBXA301W	None	None	SSC
Passerculus sandwichensis alaudinus	Bryants savannah sparrow	ABPBX99011	None	None	SSC
Pelecanus occidentalis californicus	California brown pelican	ABNFC01021	Delisted	Delisted	-
Nannopterum auritum	double-crested cormorant	ABNFD01020	None	None	WL
Coturnicops noveboracensis	yellow rail	ABNME01010	None	None	SSC
Laterallus jamaicensis coturniculus	California black rail	ABNME03041	None	Threatened	FP
Rallus obsoletus obsoletus	California Ridgways rail	ABNME05011	Endangered	Endangered	FP
Numenius americanus	long-billed curlew	ABNNF07070	None	None	WL
Asio flammeus	short-eared owl	ABNSB13040	None	None	SSC
Athene cunicularia	burrowing owl	ABNSB10010	None	Candidate Endangered	SSC
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Selasphorus rufus	rufous hummingbird	ABNUC51020	None	None	-
Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC
Empidonax traillii	willow flycatcher	ABPAE33040	None	Endangered	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734145 Process-Based Floodplain Restoration
of Lower Lagunitas Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Caecidotea tomalensis	Tomales isopod	ICMAL01220	None	None	-
Calasellus californicus	An isopod	ICMAL34010	None	None	-
Syncaris pacifica	California freshwater shrimp	ICMAL27010	Endangered	Endangered	-
Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-
Stygobromus hyporheicus	hyporheic amphipod	ICMAL05D80	None	None	-
Hesperoleucus venustus subditus	southern coastal roach	AFCJB19032	None	None	SSC
Pogonichthys macrolepidotus	Sacramento splittail	AFCJB34020	None	None	SSC
Eucyclogobius newberryi	tidewater goby	AFCQN04010	Endangered	None	SSC
Spirinchus thaleichthys	longfin smelt	AFCHB03010	None	Threatened	-
Spirinchus thaleichthys pop. 2	longfin smelt - San Francisco Bay-Delta DPS	AFCHB03040	Endangered	Threatened	-
Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC
Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	-
Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	SSC
Adela oplerella	Oplers longhorn moth	IILEE0G040	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734145 Process-Based Floodplain Restoration
of Lower Lagunitas Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Bombus caliginosus</i>	obscure bumble bee	IIHYM24380	None	None	-
<i>Bombus occidentalis</i>	western bumble bee	IIHYM24252	None	Candidate Endangered	-
<i>Bombus pensylvanicus</i>	American bumble bee	IIHYM24260	None	None	-
<i>Cicindela hirticollis gravida</i>	sandy beach tiger beetle	IICOL02101	None	None	-
<i>Ischnura gemina</i>	San Francisco forktail damselfly	IIODO72010	None	None	-
<i>Lichnanthe ursina</i>	bumblebee scarab beetle	IICOL67020	None	None	-
<i>Hydrochara rickseckeri</i>	Rickseckers water scavenger beetle	IICOL5V010	None	None	-
<i>Callophrys mossii marinensis</i>	Marin elfin butterfly	IILEPE2207	None	None	-
<i>Icaricia icarioides parapheres</i>	Point Reyes blue butterfly	IILEPG801D	None	None	-
<i>Trachusa gummifera</i>	San Francisco Bay Area leaf-cutter bee	IIHYM80010	None	None	-
<i>Danaus plexippus plexippus</i> pop. 1	monarch - California overwintering population	IILEPP2012	Proposed Threatened	None	-
<i>Speyeria zerene myrtleae</i>	Myrtles silverspot butterfly	IILEPJ608C	Endangered	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734145 Process-Based Floodplain Restoration
of Lower Lagunitas Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Coelus globosus	globose dune beetle	IICOL4A010	None	None	-
Aplodontia rufa phaea	Point Reyes mountain beaver	AMAF01012	None	None	SSC
Cervus canadensis nannodes	tule elk	AMALC01011	None	None	-
Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-
Enhydra lutris nereis	southern sea otter	AMAJF09012	Threatened	None	FP
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Arctocephalus townsendi	Guadalupe fur-seal	AMAJC02010	Threatened	Threatened	FP
Eumetopias jubatus	Steller sea lion	AMAJC03010	Delisted	None	-
Bassariscus astutus raptor	northern California ringtail	AMAJE01014	None	None	FP
Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Lasiurus frantzii	western red bat	AMACC05080	None	None	SSC
Myotis ciliolabrum	western small-footed myotis	AMACC01230	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Myotis volans</i>	long-legged myotis	AMACC01110	None	None	-
<i>Myotis yumanensis</i>	Yuma myotis	AMACC01020	None	None	-
<i>Helminthoglypta nickliniana awania</i>	Peninsula coast range shoulderband	IMGASC2361	None	None	-
<i>Helminthoglypta stiversiana williamsi</i>	Williams bronze shoulderband	IMGASC2034	None	None	-
<i>Margaritifera falcata</i>	western pearlshell	IMBIV27020	None	None	-
<i>Vespericola marinensis</i>	Marin hesperian	IMGASA4140	None	None	-
<i>Pomatiopsis binneyi</i>	robust walker	IMGASJ9010	None	None	-
<i>Pomatiopsis californica</i>	Pacific walker	IMGASJ9020	None	None	-
<i>Anodonta californiensis</i>	California floater	IMBIV04220	None	None	-
<i>Actinemys marmorata</i>	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Central Dune Scrub	Central Dune Scrub	CTT21320CA	None	None	-
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-
Coastal Terrace Prairie	Coastal Terrace Prairie	CTT41100CA	None	None	-
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	CTT52110CA	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Northern Maritime Chaparral	Northern Maritime Chaparral	CTT37C10CA	None	None	-
Northern Vernal Pool	Northern Vernal Pool	CTT44100CA	None	None	-
Serpentine Bunchgrass	Serpentine Bunchgrass	CTT42130CA	None	None	-
Entosthodon kochii	Kochs cord moss	NBMUS2P050	None	None	-
Mielichhoferia elongata	elongate copper moss	NBMUS4Q022	None	None	-
Triquetrella californica	coastal triquetrella	NBMUS7S010	None	None	-
Thamnomia vermicularis	whiteworm lichen	NLTES43860	None	None	-
Hypogymnia schizidiata	island tube lichen	NLT0032640	None	None	-
Sagittaria sanfordii	Sanfords arrowhead	PMALI040Q0	None	None	-
Allium peninsulare var. franciscanum	Franciscan onion	PMLIL021R1	None	None	-
Cicuta maculata var. bolanderi	Bolanders water-hemlock	PDAPI0M051	None	None	-
Lilaeopsis masonii	Masons lilaeopsis	PDAPI19030	None	Rare	-
Perideridia gairdneri ssp. gairdneri	California Gairdners yampah	PDAPI1N062	None	None	-
Blennosperma nanum var. robustum	Point Reyes blennosperma	PDAST1A022	None	Rare	-
Cirsium andrewsii	Franciscan thistle	PDAST2E050	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Cirsium hydrophilum var. vaseyi	Mt. Tamalpais thistle	PDAST2E1G2	None	None	-
Erigeron biolettii	streamside daisy	PDAST3M5H0	None	None	-
Erigeron supplex	supple daisy	PDAST3M3Z0	None	None	-
Grindelia hirsutula var. maritima	San Francisco gumplant	PDAST470D3	None	None	-
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	PDAST4R0W1	None	None	-
Hesperervax sparsiflora var. brevifolia	short-leaved evax	PDASTE5011	None	None	-
Lasthenia californica ssp. bakeri	Bakers goldfields	PDAST5L0C4	None	None	-
Lasthenia californica ssp. macrantha	perennial goldfields	PDAST5L0C5	None	None	-
Layia carnosa	beach layia	PDAST5N010	Threatened	Endangered	-
Lessingia hololeuca	woolly-headed lessingia	PDAST5S030	None	None	-
Lessingia micradenia var. micradenia	Tamalpais lessingia	PDAST5S063	None	None	-
Microseris paludosa	marsh microseris	PDAST6E0D0	None	None	-
Stebbinsoseris decipiens	Santa Cruz microseris	PDAST6E050	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	PDBOR01070	None	None	-
<i>Plagiobothrys mollis</i> var. <i>vestitus</i>	Petaluma popcornflower	PDBOR0V0Q2	None	None	-
<i>Arabis blepharophylla</i>	coast rockcress	PDBRA06040	None	None	-
<i>Cardamine angulata</i>	seaside bittercress	PDBRA0K010	None	None	-
<i>Erysimum concinnum</i>	bluff wallflower	PDBRA160E3	None	None	-
<i>Erysimum franciscanum</i>	San Francisco wallflower	PDBRA160A0	None	None	-
<i>Streptanthus anomalus</i>	Mount Burdell jewelflower	PDBRA2G520	None	None	-
<i>Streptanthus batrachopus</i>	Tamalpais jewelflower	PDBRA2G050	None	None	-
<i>Streptanthus glandulosus</i> ssp. <i>pulchellus</i>	Mt. Tamalpais bristly jewelflower	PDBRA2G0J2	None	None	-
<i>Eastwoodiella californica</i>	swamp harebell	PDCAM02060	None	None	-
<i>Silene scouleri</i> ssp. <i>scouleri</i>	Scoulers catchfly	PDCAR0U1MC	None	None	-
<i>Stellaria littoralis</i>	beach starwort	PDCAR0X0L0	None	None	-
<i>Calystegia purpurata</i> ssp. <i>saxicola</i>	coastal bluff morning-glory	PDCON040D2	None	None	-
<i>Dichondra occidentalis</i>	western dichondra	PDCON08060	None	None	-
<i>Carex buxbaumii</i>	Buxbaums sedge	PMCYP032B0	None	None	-
<i>Carex leptalea</i>	bristle-stalked sedge	PMCYP037E0	None	None	-

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of Lower Lagunitas Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Carex lyngbyei	Lyngbyes sedge	PMCYP037Y0	None	None	-
Rhynchospora californica	California beaked-rush	PMCYP0N060	None	None	-
Arctostaphylos densiflora	Vine Hill manzanita	PDERI040C0	None	Endangered	-
Arctostaphylos montana ssp. montana	Mt. Tamalpais manzanita	PDERI040J5	None	None	-
Arctostaphylos virgata	Marin manzanita	PDERI041K0	None	None	-
Amorpha californica var. napensis	Napa false indigo	PDFAB08012	None	None	-
Astragalus breweri	Brewers milk-vetch	PDFAB0F1J0	None	None	-
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	PDFAB0F7B2	None	None	-
Astragalus tener var. tener	alkali milk-vetch	PDFAB0F8R1	None	None	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Lupinus tidestromii	Tidestroms lupine	PDFAB2B3Y0	Endangered	Endangered	-
Trifolium amoenum	two-fork clover	PDFAB40040	Endangered	None	-
Trifolium polyodon	Pacific Grove clover	PDFAB402H0	None	Rare	-
Quercus parvula var. tamalpaisensis	Tamalpais oak	PDFAG051Q3	None	None	-

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of Lower Lagunitas Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Phacelia insularis var. continentis	North Coast phacelia	PDHYD0C2B1	None	None	-
Iris longipetala	coast iris	PMIRI092E0	None	None	-
Monardella sinuata ssp. nigrescens	northern curly- leaved monardella	PDLAM18162	None	None	-
Calochortus umbellatus	Oakland star-tulip	PMLIL0D1E0	None	None	-
Fritillaria lanceolata var. tristulis	Marin checker lily	PMLILOV0P1	None	None	-
Fritillaria liliacea	fragrant fritillary	PMLILOV0C0	None	None	-
Lilium maritimum	coast lily	PMLIL1A0C0	None	None	-
Lilium pardalinum ssp. pitkinense	Pitkin Marsh lily	PMLIL1A0H3	Endangered	Endangered	-
Limnanthes douglasii ssp. sulphurea	Point Reyes meadowfoam	PDLIM02038	None	Endangered	-
Hesperolinon congestum	Marin western flax	PDLIN01060	Threatened	Threatened	-
Sidalcea calycosa ssp. rhizomata	Point Reyes checkerbloom	PDMAL11012	None	None	-
Sidalcea hickmanii ssp. viridis	Marin checkerbloom	PDMAL110A4	None	None	-
Sidalcea malviflora ssp. purpurea	purple-stemmed checkerbloom	PDMAL110FL	None	None	-
Toxicoscordion fontanum	marsh zigadenus	PMLIL28050	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Calandrinia breweri	Brewers calandrinia	PDPOR01020	None	None	-
Abronia umbellata var. breviflora	pink sand-verbena	PDNYC010N4	None	None	-
Clarkia concinna ssp. raichei	Raiches red ribbons	PDONA050A2	None	None	-
Piperia elegans ssp. decurtata	Point Reyes rein orchid	PMORC1X011	None	None	-
Piperia michaelii	Michaels rein orchid	PMORC1X110	None	None	-
Castilleja affinis var. neglecta	Tiburon paintbrush	PDSCR0D013	Endangered	Threatened	-
Castilleja ambigua var. ambigua	johnny-nip	PDSCR0D401	None	None	-
Castilleja ambigua var. humboldtiensis	Humboldt Bay owls-clover	PDSCR0D402	None	None	-
Castilleja leschkeana	Point Reyes paintbrush	PDSCR0D1R0	None	None	-
Chloropyron maritimum ssp. palustre	Point Reyes salty birds-beak	PDSCR0J0C3	None	None	-
Triphysaria floribunda	San Francisco owls-clover	PDSCR2T010	None	None	-
Collinsia corymbosa	round-headed collinsia	PDSCR0H060	None	None	-
Agrostis blasdalei	Blasdales bent grass	PMPOA04060	None	None	-
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	PMPOA07012	Endangered	None	-

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of Lower Lagunitas Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Calamagrostis crassiglumis</i>	Thurbers reed grass	PMPOA17070	None	None	-
<i>Calamagrostis ophitidis</i>	serpentine reed grass	PMPOA170V0	None	None	-
<i>Elymus californicus</i>	California bottle-brush grass	PMPOA2H0W0	None	None	-
<i>Pleuropogon hooverianus</i>	North Coast semaphore grass	PMPOA4Y070	None	Threatened	-
<i>Pleuropogon refractus</i>	nodding semaphore grass	PMPOA4Y080	None	None	-
<i>Gilia capitata</i> ssp. <i>chamissonis</i>	blue coast gilia	PDPLM040B3	None	None	-
<i>Gilia capitata</i> ssp. <i>tomentosa</i>	woolly-headed gilia	PDPLM040B9	None	None	-
<i>Gilia millefoliata</i>	dark-eyed gilia	PDPLM04130	None	None	-
<i>Leptosiphon aureus</i>	bristly leptosiphon	PDPLM09010	None	None	-
<i>Leptosiphon grandiflorus</i>	large-flowered leptosiphon	PDPLM090K0	None	None	-
<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	PDPLM09150	None	None	-
<i>Leptosiphon rosaceus</i>	rose leptosiphon	PDPLM09180	None	None	-
<i>Navarretia rosulata</i>	Marin County navarretia	PDPLM0C0Z0	None	None	-
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	San Francisco Bay spineflower	PDPGN04081	None	None	-
<i>Chorizanthe cuspidata</i> var. <i>villosa</i>	woolly-headed spineflower	PDPGN04082	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Chorizanthe valida	Sonoma spineflower	PDPGN040V0	Endangered	Endangered	-
Eriogonum luteolum var. caninum	Tiburon buckwheat	PDPGN083S1	None	None	-
Polygonum marinense	Marin knotweed	PDPGN0L1C0	None	None	-
Heteranthera dubia	water star-grass	PMPON03010	None	None	-
Aspidotis carlotta-halliae	Carlotta Halls lace fern	PPADI07020	None	None	-
Delphinium bakeri	Bakers larkspur	PDRAN0B050	Endangered	Endangered	-
Delphinium luteum	golden larkspur	PDRAN0B0Z0	Endangered	Rare	-
Ranunculus lobbii	Lobbs aquatic buttercup	PDRAN0L1J0	None	None	-
Ceanothus decornutus	Nicasio ceanothus	PDRHA04440	None	None	-
Ceanothus gloriosus var. exaltatus	glory brush	PDRHA040F4	None	None	-
Ceanothus gloriosus var. gloriosus	Point Reyes ceanothus	PDRHA040F5	None	None	-
Ceanothus gloriosus var. porrectus	Mt. Vision ceanothus	PDRHA040F7	None	None	-
Ceanothus masonii	Masons ceanothus	PDRHA04200	None	Rare	-
Horkelia cuneata var. sericea	Kelloggs horkelia	PDROS0W043	None	None	-
Horkelia marinensis	Point Reyes horkelia	PDROS0W0B0	None	None	-

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of Lower Lagunitas Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Horkelia tenuiloba	thin-lobed horkelia	PDROS0W0E0	None	None	-
Dirca occidentalis	western leatherwood	PDTHY03010	None	None	-

Cox Creek Coho Habitat Improvement Project (Project ID: 1734167) 2025

Introduction:

The Eel River Watershed Improvement Group (ERWIG) (Grantee) will improve the geomorphic function and ecological complexity in Cox Creek for salmonid habitat through a process-based approach. Forty large wood (LW) structures containing 130 pieces of LW will be constructed along 1.0 mile of Cox Creek. The LW added to the stream for project will increase pool area and depth, improve shelter, sort spawning substrate, increase the frequency of side channel and flood plain inundation, and provide high flow velocity refugia.

Beginning near the end of the nineteenth century, timber harvest along stream corridors and easily accessible areas reduced LW recruitment potential to streams (NMFS, 2014). Timber harvest in this region peaked in 1959, adversely affecting the natural hydrology, hillside stability, and riparian corridor function, which in turn greatly affected salmonids via habitat degradation. In addition to legacy logging practices, large storm flow events, especially those of 1955, 1964, and 1997, contributed to the further degradation of salmonid habitat.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the California Salmonid Stream Habitat Restoration Manual Volume 1, Section VII and Fish Bulletin 184.

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The project is located on Cox Creek, a first order stream, tributary to Sproul Creek, tributary to the South Fork Eel River, tributary to the Eel River. The project site is near the town of Garberville, CA and is located in Township 05 South, Range 03 East, Section 17 of the Garberville 7.5 Minute U.S. Geological Survey Quadrangle. The downstream extent of the project reach is 5.6 miles upstream from the confluence of Sproul Creek with the South Fork Eel River. The upstream end of the reach is 1.0

mile upstream from Cox Creek's confluence with Sproul Creek (Exhibit 1- Location and Watershed Maps).

Project central coordinates: 40.02762, -123.85850.

Project Description:

The objective of this project is to add 40 structures containing 130 pieces of LW to Cox Creek. LW structures will be installed along a 1.0-mile reach of Cox Creek and will be composed of redwood and Douglas fir logs and whole trees. These logs will be anchored to live trees along the stream banks when they are less than twice the bankfull width of the stream. This project will provide habitat to coho salmon and steelhead, which have been documented in the project reach. Additionally, 200 redwoods and 50 native shrubs will be planted in the riparian zone along the project reach.

The goal of this project is to improve hydrogeomorphic function and ecological complexity throughout the project reach. The project will increase Coho and steelhead reproductive success and juvenile survival by increasing pool area and depth, increasing shelter complexity, sorting substrate for spawning habitat, increasing the frequency of side channel and flood plain inundation, capturing large and small wood, and providing velocity refugia during high flows. This project was designed to meet the SONCC very good target value for pieces of LW per mile. This target value was chosen as it is an indicator of Coho habitat value. Stream reaches that meet or exceed these target values will provide high quality habitat for salmonids. Adding 130 LW pieces will increase the LW volume in the stream reach from 37 pieces per mile (below the good threshold) to 167 pieces per mile (well above the very good threshold).

Materials:

All materials will be purchased by applicant.

Gripping and Anchoring Supplies:

*1 threaded bar, nuts, and plates (washers). These items are used to anchor logs to live trees and other logs.

*Portable band saws, wood drills, chain saws, and timber bits. The band saws and wood drills are used when anchoring the structures. Wood drills and timber bits are used to drill holes in live trees and logs for rebar attachment. Portable band saws are used to cut rebar to length. Batteries or portable generators (when needed) will be used to power the power tools. Chainsaws are used to remove hazard trees, and to trim logs to length.

*Cables, chokers, cable shorteners, pulleys, griphoist, and shackles will be used to grip logs into place.

Misc Project Supplies:

- *Erosion Control Materials for preventing surface erosion
- *Band Saw Blades for trimming threaded bar
- *Laser Distance Measurer for collecting metrics
- *Shear Pins for repairing grip hoists
- *Bio Bar Oil for chainsaws
- *Markers/Pens/Pencils for collecting metrics
- *Waders and Boots for collecting metrics
- *Time-lapse Camera for documenting large wood structure performance under high flows.
- *Cable Cleaner for keeping grip hoist mainline clean.
- *Decontamination Supplies to keep gear free from invasive species.

LSAA permit: Needed for instream work.

ERWIG Mileage: Reimbursement for miles driven by ERWIG staff to and from project site in order to manage the project. Will follow California state reimbursement rate.

ERWIG Per Diem: Used to facilitate project oversight by having staff stay nearby to the project site. Per Diem reimbursement will follow California state reimbursement rate.

Conifer Logs: Will be used in the construction of the habitat structures in order to provide habitat and will be anchored together as appropriate. Logs will be redwood or Douglas fir and will be sourced from riparian trees. Donated by the landowner.

Conifer seedlings and native plants: Will be used to plant areas disturbed by project activities and areas within the project reach that are lacking canopy cover. Species will include coast redwood (*Sequoia sempervirens*), salal (*Gaultheria shallon*), evergreen huckleberry (*Vaccinium ovatum*), azalea (*Rhododendron* sp.), thimbleberry (*Rubus parviflorus*), and western sword fern (*Polystichum munitum*).

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
Task 1: Project Management and Administration	04/01/26	Grant oversight including invoicing and reporting will be conducted by Grantee Executive Director and Project Manager (Staff). Upon final execution of the Grant and prior to receiving a Notice to Proceed, Grantee shall deliver the following items to the CDFW Grant Manager: 1. Request to spend project funds in order to prepare for implementation (e.g., obtain permits, secure subcontracts, purchase supplies, apply for a Streambed Alteration Agreement, etc.). Requests shall be sent by email or telephone. 2. Access agreement that will be project specific and meet grant agreement requirements. 3. Executed subcontracts. A written copy of the sub agreement shall be submitted to the CDFW Grant Manager. The subcontract shall include specific language which establishes the rights of the auditors of the State to examine the records of the subcontractor relative to the services and materials provided under the grant. 4. CEQA survey interim reports for archaeological and botanical surveys. Interim reports shall be delivered prior to receiving notice to proceed, as part of the Notification of Lake or Streambed Alteration Application (LSAA) package. Final Archaeological, botanical, and paleontological surveys shall be delivered prior to the End Term date. 5. Send Grantor LSAA with a check for the most current permit fee. The	1600 Permit - 7/1/2027 Executed Subcontracts - 7/1/2027 Access Agreements - 7/1/2027 Invoices - 7/1/2026 Progress Reports - With every invoice Annual Report - Annually in November Project Data - 2/28/2029 Final Report - 2/28/2029 Final Invoice - 2/28/2029

Task Name	Start Date	Activity Description	Deliverables
		Grantee shall notify the CDFW Grant Manager a minimum of 10 business days prior to the beginning of project implementation. Throughout the duration of the grant agreement, ERWIG Staff will write and deliver annual reports, a draft final report, and a final report.	
Task 2. CEQA Surveys	04/01/26	Archaeological, botanical, and paleontological subcontractors will conduct research and surveys within the project reach to fulfill CEQA requirements for FRGP. Interim survey reports will be delivered to CDFW Grant Manager prior to receiving a Notice to Proceed. Botanist will note wetland habitat to avoid.	Interim Survey Report - 7/31/2027 Final Survey Report - 2/28/2029
Task 3. Site Preparation	05/03/26	The ERWIG Project Manager will finalize site-specific designs based on channel morphology, equipment access, and LW availability. They will submit designs for CDFW Project Manager approval. The ERWIG Project Manager will flag sites for wood selection, staging, and installation, clear brush as needed, and designate staging areas for wood along the project reach. Pre-project photos and metrics will be collected by ERWIG. Tools and materials will be purchased by ERWIG prior to the start of implementation and on an as-needed basis throughout the project.	Finalized design plans - 7/1/2027 Flagged equipment access routes - 7/1/2027 Pre-project photos and metrics - 7/1/2027
Task 4. Large Wood Structure Construction	07/01/27	Upon approval from the CDFW Project Manager, construction will begin on 40 LW features under the direction of the ERWIG Project Manager. Some features may involve cutting down trees, which will be accomplished by the Licensed Timber Operator. The Registered Professional Forester will sign off on all trees	40 LW structures made up of 130 logs - 10/31/2028 Water quality monitoring data sheets - 2/28/2029

Task Name	Start Date	Activity Description	Deliverables
		chosen for use in the project. With approval from the grant manager, CCC Corpsmembers will move logs into position using a grip hoist come-along. Site construction, wood placement, and anchoring will be in accordance with the CDFW California Salmonid Stream Habitat Restoration Manual, Section VII (Flosi et al. 2010). The project will utilize living riparian trees as anchors by wedging the logs between them where feasible. CCC Corpsmembers will anchor the sites according to design and anchoring specifications. Corpsmembers will use one-inch threaded rebar to anchor logs to mature riparian trees and other logs. Holes will be drilled through the logs and their anchor trees using a wood drill, timber bit, and drill bit extensions when necessary. One-inch rebar will be inserted through the log and secured with nuts and washers. Corpsmembers will be supervised by a trained Conservationist 1 (C1) and the ERWIG Project Manager. Erosion control methods will be employed by the CCC as required at each structure and along equipment corridors to eliminate the possibility of sediment transport to the stream. To address concerns over invasive species this project will follow the ERWIG Aquatic Invasive Species Decontamination Protocol, which is in line with the CDFW Aquatic Invasive Species Decontamination Protocol. ERWIG staff will monitor water quality when necessary.	
Task 5. Riparian Planting	11/01/27	ERWIG staff will return in the winter following project implementation to plant 200 redwood seedlings and	Two-hundred redwoods and 50 native plants planted

Task Name	Start Date	Activity Description	Deliverables
		50 native plants, with a primary focus in areas lacking sufficient conifer cover or riparian vegetation.	along the project reach - 2/28/2029
Task 6. Post Project Photo & Data Collection	11/01/27	Following implementation ERWIG will take post-project photos and quantitative implementation metrics will be collected which satisfy the Project Annual Progress Reports and Final Report. ERWIG will also observe the project throughout the first winter after implementation and provide a summary of how the project is performing.	Post-project metrics and photos - 2/28/2029 First Winter Observations Summary - 2/28/2029

Additional Requirements:**For all implementation projects include the following language:**

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

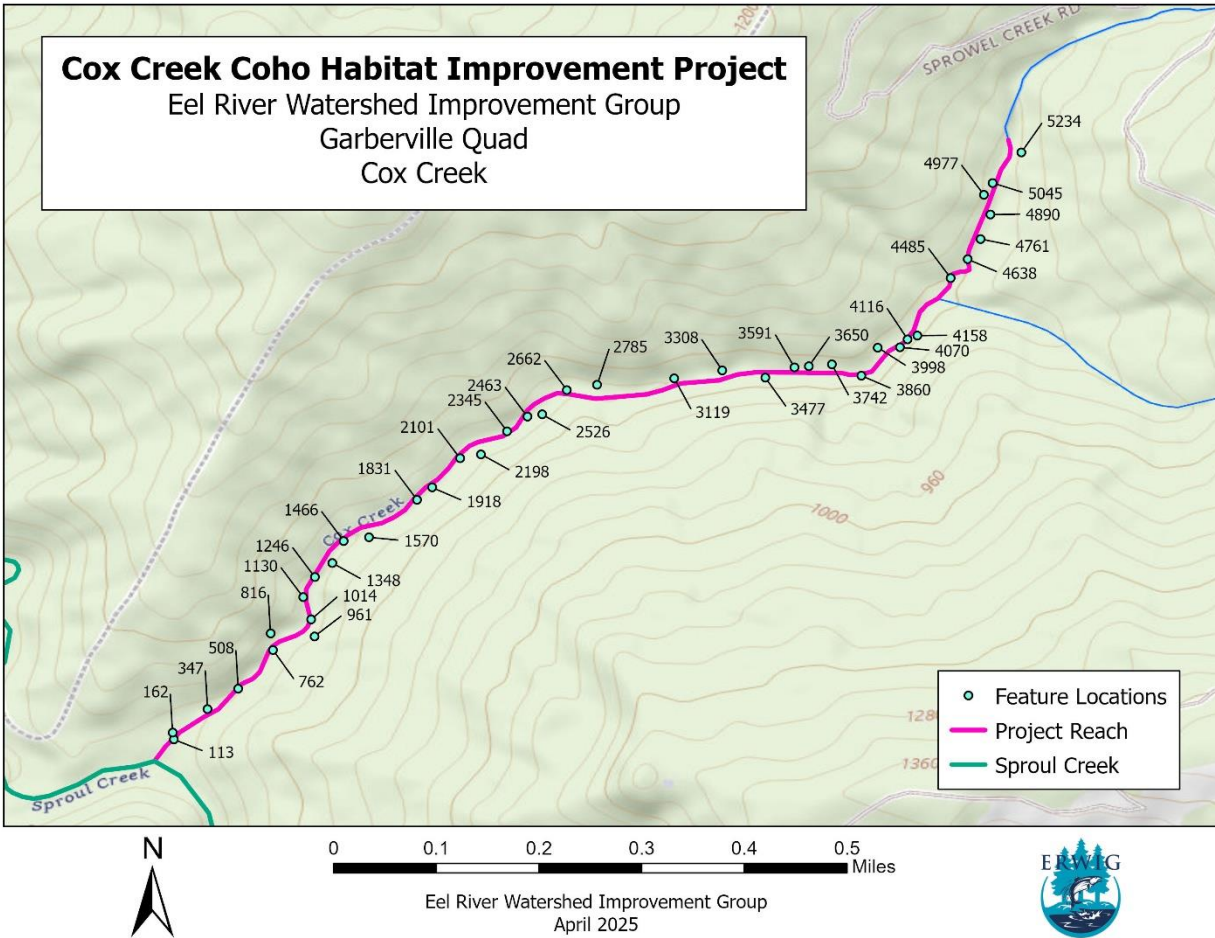
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

All habitat improvements will follow techniques described in the [*California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)*](#) or [*other approved guidelines and manuals for salmon and steelhead habitat restoration*](#).

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

Exhibit 1 Project and Watershed Maps



[illegible]

0 1 2 3 Miles
Eel River Watershed Improvement Group
April 2025



California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734167 Cox Creek Coho Habitat Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC
Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC
Rana boylei pop. 1	foothill yellow-legged frog -	AAABH01051	None	None	SSC
Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC
Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC
Accipiter cooperii	Coopers hawk	ABNKC12040	None	None	WL
Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP WL
Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Progne subis	purple martin	ABPAU01010	None	None	SSC
Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC
Pandion haliaetus	osprey	ABNKC01010	None	None	WL
Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734167 Cox Creek Coho Habitat Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Ammodramus savannarum</i>	grasshopper sparrow	ABPBXA0020	None	None	SSC
<i>Pelecanus occidentalis californicus</i>	California brown pelican	ABNFC01021	Delisted	Delisted	-
<i>Psiloscops flammeolus</i>	flamulated owl	ABNSB01020	None	None	-
<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
<i>Contopus cooperi</i>	olive-sided flycatcher	ABPAE32010	None	None	SSC
<i>Empidonax traillii brewsteri</i>	little willow flycatcher	ABPAE33041	None	Endangered	-
<i>Pacifastacus leniusculus</i>	Klamath crayfish	ICMAL31042	None	None	-
<i>Acipenser medirostris</i> pop. 2	green sturgeon - northern DPS	AFCAA01032	None	None	SSC
<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC
<i>Oncorhynchus</i>	coho salmon -	AFCHA02032	Threatened	Threatened	-
<i>Oncorhynchus mykiss irideus</i>	steelhead - northern	AFCHA0213P	Threatened	Endangered	-
<i>Oncorhynchus mykiss irideus</i>	steelhead - northern	AFCHA0213Q	Threatened	None	SSC
<i>Oncorhynchus tshawytscha</i> pop.	chinook salmon - California coastal	AFCHA0205S	Threatened	None	SSC
<i>Bombus caliginosus</i>	obscure bumble bee	IIHYM24380	None	None	-
<i>Bombus occidentalis</i>	western bumble bee	IIHYM24252	None	Candidate Endangered	-
<i>Arborimus pomo</i>	Sonoma tree vole	AMAFF23030	None	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734167 Cox Creek Coho Habitat Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-
Pekania pennanti	Fisher	AMAJF01020	None	None	SSC
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Eumetopias jubatus	Steller sea lion	AMAJC03010	Delisted	None	-
Bassariscus astutus raptor	northern California ringtail	AMAJE01014	None	None	FP
Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Myotis evotis	long-eared myotis	AMACC01070	None	None	-
Myotis thysanodes	fringed myotis	AMACC01090	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Noyo intersessa	Ten Mile shoulderband	IMGASC5070	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734167 Cox Creek Coho Habitat Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Anodonta californiensis	California floater	IMBIV04220	None	None	-
Anodonta oregonensis	Oregon floater	IMBIV04110	None	None	-
Actinemys marmorata	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Northern Interior Cypress Forest	Northern Interior Cypress Forest	CTT83220CA	None	None	-
Upland Douglas Fir Forest	Upland Douglas Fir Forest	CTT82420CA	None	None	-
Usnea longissima	Methuselahs beard lichen	NLLEC5P420	None	None	-
Lomatium engelmannii	Engelmanns lomatium	PDAP11B0K0	None	None	-
Lomatium kogholiini	Wailaki lomatium	PDAP11B310	None	None	-
Erigeron biolettii	streamside daisy	PDAST3M5H0	None	None	-
Erigeron robustior	robust daisy	PDAST3M134	None	None	-
Hemizonia congesta ssp. tracyi	Tracys tarplant	PDAST4R067	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734167 Cox Creek Coho Habitat Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Tracyina rostrata	beaked tracyina	PDAST9D010	None	None	-
Arabis mcdonaldiana	McDonalds rockcress	PDBRA06150	Endangered	Endangered	-
Howellia aquatilis	water howellia	PDCAM0A010	Delisted	None	-
Viburnum ellipticum	oval-leaved viburnum	PDCPR07080	None	None	-
Silene bolanderi	Bolanders catchfly	PDCAR0U2L0	None	None	-
Silene greenei ssp. angustifolia	Red Mountain catchfly	PDCAR0U0A2	None	Endangered	-
Sedum eastwoodiae	Red Mountain stonecrop	PDCRA0A0L1	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734167 Cox Creek Coho Habitat Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Carex arcta	northern clustered sedge	PMCYP030X0	None	None	-
Arctostaphylos stanfordiana ssp. raichei	Raiches manzanita	PDERI041G2	None	None	-
Astragalus agnicidus	Humboldt County milk-vetch	PDFAB0F080	None	Endangered	-
Astragalus rattanii var. rattanii	Rattans milk-vetch	PDFAB0F7E2	None	None	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Gentiana setigera	Mendocino gentian	PDGEN060S0	None	None	-
Lycopus uniflorus	northern bugleweed	PDLAM0X080	None	None	-
Erythronium citrinum var. citrinum	lemon-colored fawn lily	PMLIL0U041	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734167 Cox Creek Coho Habitat Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Erythronium oregonum	giant fawn lily	PMLILOU0C0	None	None	-
Erythronium revolutum	coast fawn lily	PMLILOU0F0	None	None	-
Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-
Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	PDMAL110F9	None	None	-
Pityopus californicus	California pinefoot	PDMON05010	None	None	-
Montia howellii	Howells montia	PDPOR05070	None	None	-
Epilobium septentrionale	Humboldt County fuchsia	PDONA06110	None	None	-
Cypripedium californicum	California lady-slipper	PMORC0Q040	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734167 Cox Creek Coho Habitat Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-
Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-
Castilleja litoralis	Oregon coast paintbrush	PDSCR0D012	None	None	-
Castilleja mendocinensis	Mendocino Coast paintbrush	PDSCR0D3N0	None	None	-
Kopsiopsis hookeri	small groundcone	PDORO01010	None	None	-
Calamagrostis bolanderi	Bolanders reed grass	PMPOA17010	None	None	-
Calamagrostis foliosa	leafy reed grass	PMPOA170C0	None	Rare	-
Pleuropogon hooverianus	North Coast semaphore grass	PMPOA4Y070	None	Threatened	-
Gilia capitata ssp. pacifica	Pacific gilia	PDPLM040B6	None	None	-
Leptosiphon aureus	bristly leptosiphon	PDPLM09010	None	None	-
Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-
Leptosiphon rattanii	Rattans leptosiphon	PDPLM09110	None	None	-
Eriogonum kelloggii	Kelloggs buckwheat	PDPGN083A0	None	Endangered	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734167 Cox Creek Coho Habitat Improvement
Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Coptis laciniata</i>	Oregon goldthread	PDRAN0A020	None	None	-
<i>Ceanothus foliosus</i> var. <i>vineatus</i>	Vine Hill ceanothus	PDRHA040D6	None	None	-
<i>Ceanothus gloriosus</i> var.	glory brush	PDRHA040F4	None	None	-
<i>Mitellastra caulescens</i>	leafy-stemmed mitrewort	PDSAX0N020	None	None	-
<i>Tiarella trifoliata</i> var. <i>trifoliata</i>	trifoliate laceflower	PDSAX10031	None	None	-

Lower SF Cottaneva Instream Habitat Improvement Project (Project ID: 1734177)

2025

Introduction:

The Eel River Watershed Improvement Group (ERWIG) (Grantee) will construct 38 large wood (LW) features along 1.2 miles of South Fork Cottaneva Creek, Rockport Creek, and an unnamed tributary to Rockport Creek. These features will contain 117 pieces of large wood, including 102 key pieces. This project will increase habitat complexity, capture woody debris, provide velocity refugia, increase pool and flatwater shelter, increase pool and flatwater depths, sort substrate, and capture sediment.

The legacy impacts of historical forest management practices have resulted in South Fork Cottaneva Creek lacking large wood, shelter and quality pools. The CCC (California Conservation Corps) Coho recovery plan show that habitat complexity is lacking, with large wood frequency, percent primary pools, and shelter rating in the watershed rated as "poor," and the pool/riffle/flatwater ratio, rated as "fair" (NMFS, 2012). The South Fork Cottaneva Creek and Rockport Creek Stream Inventory Reports recommend an "increase [in] woody cover in the pool and flatwater habitat units," and to "design pool enhancement structures to increase the number of pools or deepen existing pools" (CDFG, 2008, 1995). The Grantee and the CCC conducted a large wood survey in Spring of 2022 and found 1.95 key pieces per 330 feet in SF Cottaneva Creek, which falls short of the "good" target value from Fish Bulletin 184 (CDFW, 2024).

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [*California Salmonid Stream Habitat Restoration Manual*](#) (Volume 1, Section VII. And Fish Bulletin 184).

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The project is located on South Fork Cottaneva Creek, a tributary of Cottaneva Creek, as well as on Rockport Creek, a tributary of South Fork Cottaneva Creek, and an unnamed tributary to Rockport Creek (Exhibit 1). The project reach is located in Rockport, Mendocino County, CA, at Township 22 North, 18 West, Sections 24 & 25 of the Westport 7.5 Minute U.S.G.S. Quadrangle. The SF Cottaneva Reach begins approximately 0.38 miles upstream of the confluence with Cottaneva Creek and continues upstream for approximately 0.6 miles. The Rockport Creek Reach begins at the confluence with SF Cottaneva and extends upstream approximately 0.6 miles. The unnamed tributary to Rockport Creek reach begins at the confluence with Rockport Creek and extends upstream approximately 0.2 miles.

Project central coordinates: 39.73666, -123.80797

Project Description:

This project will add 38 structures containing 117 pieces of LW, including 102 key pieces, along 1.2 miles of South Fork Cottaneva Creek, Rockport Creek, and an unnamed tributary to Rockport Creek. Logs will be sourced on site from dead and down logs and live trees, as well as purchased. This project will provide habitat to Coho salmon, Chinook salmon and steelhead. Additionally, 200 redwood seedlings and 100 native plants will be planted in the riparian zone along the project reaches. The goal of this project is to increase salmonid reproductive success and juvenile survival by improving ecological complexity. This will be accomplished by increasing pool area and depth, increasing shelter complexity, sorting substrate for spawning habitat, increasing the frequency of floodplain and side channel inundation, aggrading the channel, capturing large and small wood, and providing velocity refugia during high flows. This project was designed to meet Fish Bulletin 184's very good target value of >3 key pieces of LW per 330 feet (CDFW 2024). Logs will meet the key piece definition found in Fish Bulletin 184. This target value was chosen because key pieces are among the strongest indicators of salmonid habitat value. Stream reaches that meet or exceed this target value will provide high quality habitat for salmonids. This project will improve geomorphic function and ecological complexity in the project reach.

Materials:

All materials to be purchased by Grantee.

Gripping and Anchoring Supplies:

*1 threaded bar, nuts, and plates (washers). These items are used to anchor logs to live trees and other logs.

*Portable band saws, wood drills, chain saws, and timber bits. The band saws and wood drills are used when anchoring the structures. Wood drills and timber bits are used to drill holes in live trees and logs for rebar attachment. Portable band saws are used to cut rebar to length. Batteries or portable generators (when needed) will be used to power the power tools.

*Cables, chokers, cable shorteners, pulleys, griphoist, and shackles will be used to grip logs into place.

Misc Project Supplies:

*Erosion Control Materials for preventing surface erosion

*Band Saw Blades for trimming threaded bar

*Laser Distance Measurer for collecting metrics

*Shear Pins for repairing grip hoists

*Markers/Pens/Pencils for collecting metrics

*Waders and Boots for collecting metrics

*Time-lapse Camera for documenting large wood structure performance under high flows.

*Cable Cleaner for keeping grip hoist mainline clean.

*Decontamination Supplies to keep gear free from invasive species.

*Block net materials for fish removal.

Conifer Logs: Will be used in the construction of the habitat structures in order to provide habitat and will be anchored together as appropriate. Logs will be redwood or Douglas fir and will be sourced from riparian trees and purchased.

Conifer seedlings and native plants: Will be used to plant areas disturbed by project activities and areas within the project reach that are lacking canopy cover. Species may include coast redwood (*Sequoia sempervirens*), salal (*Gaultheria shallon*), evergreen huckleberry (*Vaccinium ovatum*), thimbleberry (*Rubus parviflorus*), and western sword fern (*Polystichum munitum*).

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
Task 1 - Project Management and Administration	04/01/26	ERWIG personnel will provide all contracting and administrative oversight pursuant to grant and regulatory guidelines. Project management includes grant management, contracting oversight and administration, scheduling landowner and agency communication, landowner access agreements, subcontracting, ongoing coordination with the various stakeholders, preparing invoices and progress reports, tracking project costs, and accomplishments, and submittal of final report and final invoice. ERWIG will track the project budget and develop and submit invoices to the grantor on a regular basis. In addition, the required annual report metrics will be generated and submitted to the CDFW contract manager each year.	1600 Permit - 7/1/2027 Executed Subcontracts - 7/1/2027 Access Agreements - 7/1/2027 Invoices - as needed Progress Reports - with invoices Annual Report - Annually in November Project Data - 2/28/2029 Draft Final Report - 1/28/29 Final Report - 2/28/2029 Final Invoice - 2/28/2029
Task 2 - CEQA Surveys	04/01/26	William Rich and Associates will conduct archaeological and botanical surveys within the project reach to fulfill CEQA requirements for FRGP. Pacific Watershed Associates will conduct paleontological investigations. A Tribal Representative will be consulted for additional cultural resource knowledge and to determine areas to avoid disturbance. Interim survey reports will be delivered to	Interim Survey Report - 7/01/2027 Final Survey Report - 2/28/2029

Task Name	Start Date	Activity Description	Deliverables
		CDFW Grant Manager prior to receiving a Notice to Proceed.	
Task 3 - Site Preparation	07/10/26	The ERWIG Project Manager will finalize site specific designs based on channel morphology, equipment access, and LW availability. Any changes will be submitted for approval to MLA and CDFW Project Manager. The ERWIG Project Manager will flag sites for wood selection, staging, and installation, clear brush as needed, and designate staging areas for wood along the project reach. ERWIG will set up block nets at two stream crossing sites and ERWIG will assist a CDFW biologist in aquatic species relocation. Tools and materials will be purchased by ERWIG prior to the start of implementation and on an as-needed basis throughout the project.	Finalized design plans - 7/1/2027 Flagged equipment access routes - 7/1/2027 Pre-project photos and metrics - 7/1/2027
Task 4 - Large Wood Structure Construction	07/10/26	Upon approval from the CDFW Project Manager, construction will begin on 38 LW features under the direction of the ERWIG Project Manager and MLA staff. Edwards Excavation will cut down or uproot trees and saw them into logs for the project. An RPF will sign off on all trees chosen for use in the project and will facilitate log purchases. Edwards Excavation will place downed logs into the stream in accordance with design plans. Two stream crossings will be used by an excavator as few times as possible (2-6). When necessary, CCC Corpsmembers will move logs into position using a grip hoist come-along. Site construction, wood placement, and anchoring will be in accordance with the CDFW California Salmonid	38 LW structures made up of 117 logs - 10/31/2028

Task Name	Start Date	Activity Description	Deliverables
		Stream Habitat Restoration Manual, Section VII (Flosi et al. 2010). The project will utilize living riparian trees as anchors by wedging the logs between them where feasible. CCC Corpsmembers will anchor the sites according to design and anchoring specifications. Corpsmembers will use one-inch threaded rebar to anchor logs to mature riparian trees and other logs. Holes will be drilled through the logs and their anchor trees using a wood drill, timber bit, and drill bit extensions when necessary. One-inch rebar will be inserted through the log and secured with nuts and washers. Corpsmembers will be supervised by a trained Conservationist 1 (C1) and the ERWIG Project Manager. Edwards Excavation and ERWIG staff may assist the CCC with anchoring. Erosion control methods will be employed by the CCC and ERWIG as required at each structure and along equipment corridors to eliminate the possibility of sediment transport to the stream. Any tools that break down will be taken to a repair shop or replaced by the CCC. ERWIG and CCC staff will monitor water quality as needed. To address concerns over invasive species this project will follow the ERWIG Aquatic Invasive Species Decontamination Protocol, which is in line with the CDFW Aquatic Invasive Species Decontamination Protocol. Due to emergency response responsibilities, implementation will occur in the first summer that the CCC are available (between July and October, 2026-2028).	

Task Name	Start Date	Activity Description	Deliverables
Task 5 - Riparian Planting	12/01/27	ERWIG will return in the winter following project implementation to plant 200 redwood seedlings and 100 native plants, with a primary focus in areas disturbed by project activities and lacking sufficient conifer cover or riparian vegetation.	Two-hundred redwoods and 100 native plants planted along the project reach - 2/28/2029
Task 6 - Monitoring and Data Collection	10/30/27	ERWIG staff will collect pre and post project photos and quantitative implementation metrics. MLA and ERWIG will conduct a pre and post longitudinal survey of the SF Cottaneva project reach, with cross sections at each feature location. MLA and ERWIG will complete as-built designs. ERWIG will observe the project throughout the first winter after implementation and provide a summary of how the project is performing.	Post-project metrics and photos - 2/28/2029 First Winter Observations Summary - 2/28/2029 Pre and post longitudinal survey - 2/28/29

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

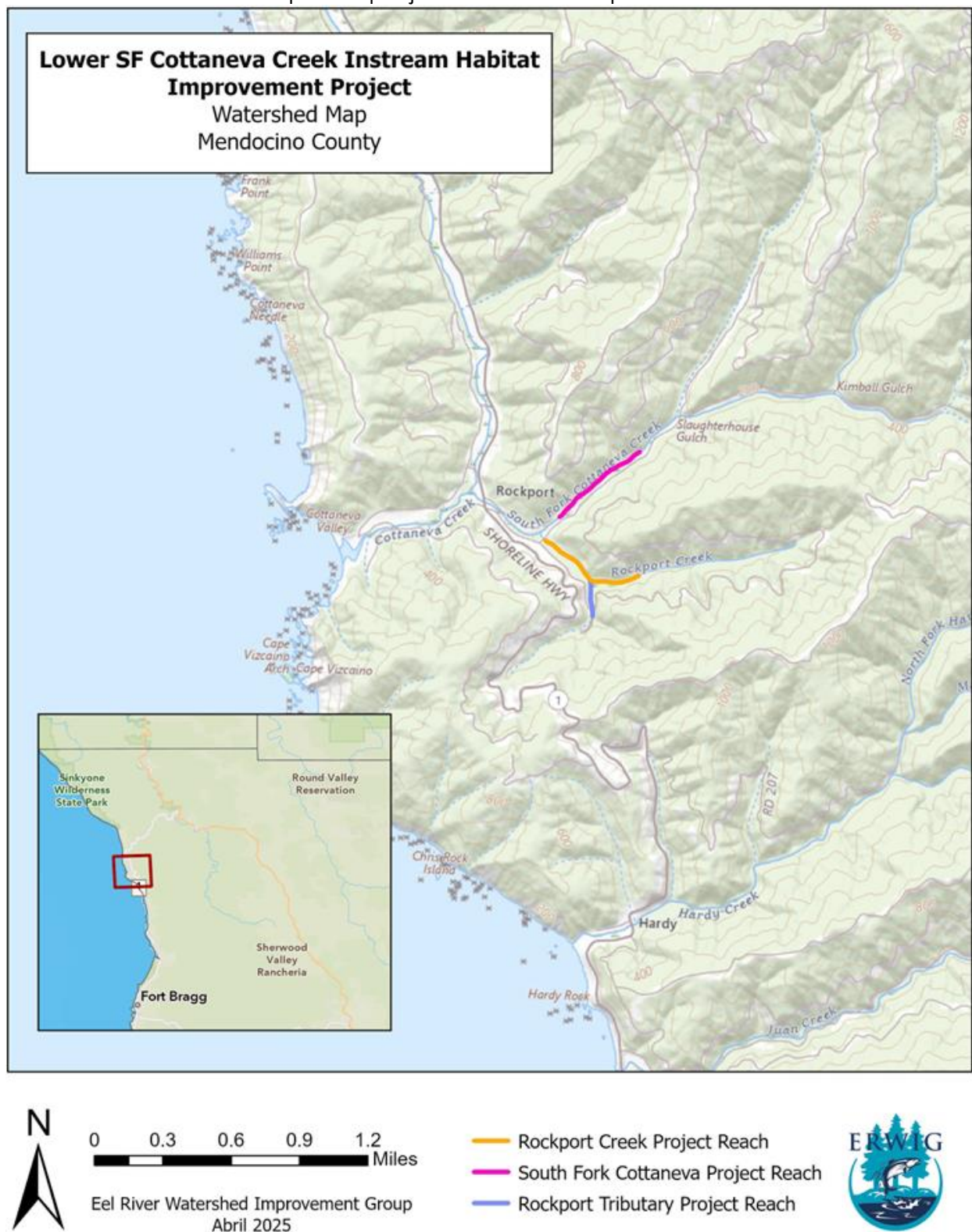
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

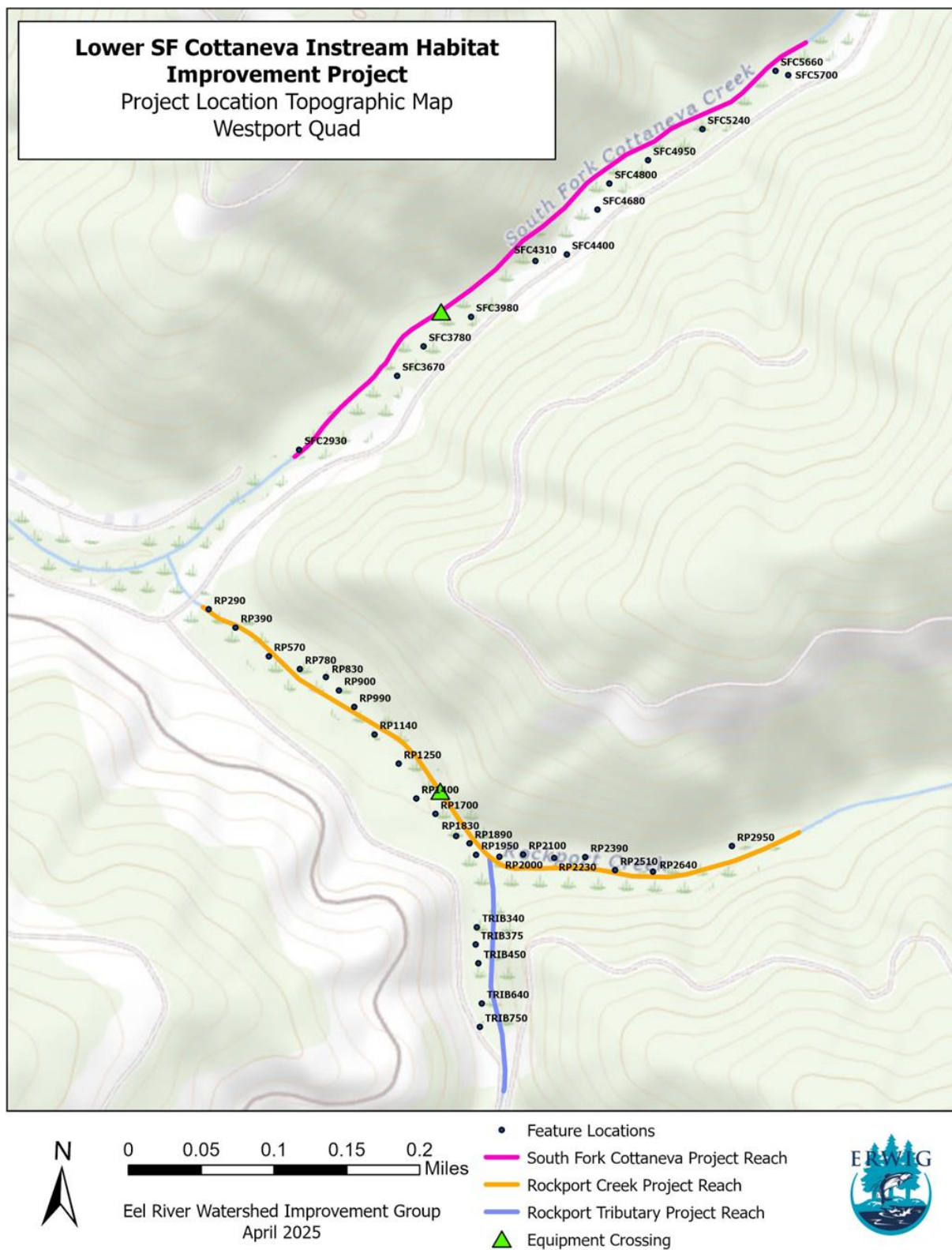
During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

All habitat improvements will follow techniques described in the [*California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)*](#) or [*other approved guidelines and manuals for salmon and steelhead habitat restoration*](#).

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

Exhibit 1 Watershed map and project location map





Cachagua Creek Fish Passage Alternative Plan/Design Project - Quevedo (Project ID: 1734185) 2025

Introduction:

Trout Unlimited, Inc. (Grantee) will design a project to remediate an existing partial migration barrier in Cachagua Creek, an important tributary to the Carmel River. The barrier is a concrete ford which provides access to a private residence. Modification or removal of this barrier will reduce energy expenditure and delays for migrating adult SCCC steelhead, improve post-spawning survival of adults, facilitate access to areas of high-quality spawning habitat and perennially watered rearing areas in the upper watershed, and provide full migration opportunities for juvenile volitional upstream and downstream migration.

The purpose of the project is to assess the barrier, prepare an analysis of alternative approaches for modification or removal of the ford, and develop the final design package for the preferred approach. The project may include geotechnical investigations (i.e., soil borings) to inform structural details for bridge abutments and bank stabilization. Grantee shall not proceed with on-the-ground geotechnical investigation until all necessary permits, consultations, and/or Notices to Proceed are secured.

When planning the design package, all habitat improvement(s) will consider techniques in the [California Salmonid Stream Habitat Restoration Manual](#) section XII. Fish Passage Design and Implementation.

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The project site is located at 20577 Cachagua Road, in the unincorporated community of Carmel Valley, in Monterey County (see Project Location Topographic Map). The project occurs on Cachagua Creek, approximately 2.5

river miles upstream of the confluence to the Carmel River (see Watershed Map). The Project is centered at approximately 36.39222, -121.61694.

Access to the site is from an existing county-maintained road (Cachagua Creek Road). The concrete ford serves as the vehicular access from the county road, across the creek, to existing rural residential homes.

Project Description:

Cachagua Creek contains 12.6 miles of steelhead habitat after which anadromy is limited by natural barriers. In 2013, the Monterey Peninsula Water District (MPWMD) completed a barrier assessment in the tributaries of the Carmel River, including Cachagua Creek. Four concrete ford barriers were identified in Cachagua and upstream in Finch Creek.

Grantee completed the first barrier project at Valley Creek Park, FRGP project P1740403. The success of Valley Creek Park resulted in three more barrier removal projects - Weston (FRGP Q2140409), Bradley-Ringer (FRGP Q2240402), and Hastings (not funded by FRGP). All 4 barriers identified in the Assessment were completed over the past 5 years. The barrier assessment by MPWMD was limited, though, because they were denied access to private lands in Cachagua in 2013. Their staff was only able to view the Cachagua barriers from the county road. Recently, the Carmel River Steelhead Association introduced Grantee to the final ford barrier in Cachagua owned by Diego Quevedo, which was excluded from the Assessment because it is not visible from the county road. This project addresses that final migration barrier in Cachagua Creek.

Project Set-up

Grantee will provide administrative services, including managing the grant, assuring all permits are finalized, securing Project Site Access, administering subcontracts, invoicing and payment, drafting and finalizing progress and final reports, and data management.

Grantee will contract with Waterways Consulting Inc., a design and engineering firm to develop a final design to remedy the Quevedo ford. Bank and channel stabilization, flood protection, riparian revegetation, and other geomorphic considerations will be incorporated into the final design. Waterways team will include Streeter Group (structural engineers), CMAG (geotechnical engineers).

If a geotechnical investigation is needed, Trout Unlimited will contract with the RCD of Monterey County to secure necessary permits. Alnus Ecological will be contracted by Grantee to conduct biological surveys. Grantee will contract with the Esselen Tribe of Monterey County for on-site cultural resource monitoring.

Materials:

This is a design project which will not require any materials.

Tasks, Deliverables, and Timelines:

The table below describes project tasks and deliverables. The due dates in the deliverables column are approximate and susceptible to change, with Grant Manager approval.

Task Name	Start Date	Activity Description	Deliverables
Task 1 Project Management and Administration	06/01/26	Trout Unlimited will provide technical and administrative services associated with implementation of the Project including managing the grant, assuring all permits are finalized, securing Project Site Access, administrating subcontracts, invoicing and payment, drafting and finalizing progress and final reports and data management. TU will develop and manage subcontracts for Waterways Consulting Inc., Alnus Ecological, Resource Conservation District of Monterey County, and Esselen Tribe of Monterey County.	Quarterly Progress Reports and Invoices - Due within 30 days following each calendar quarter (March, June, September, December) following grant execution. Copies of Executed Subcontracts - Due 8/1/26 Copy of Executed Landowner Access Agreement - Due 7/11/26 Draft Final Progress Report - Due 6/1/28 Final Progress Report - Due no later than the Grant Term end date 8/1/28
Task 2 Site Investigation	08/03/26	An investigation of existing conditions and potential alternative treatments will be conducted by subcontractor Waterways Consulting Inc. The Project Team will meet with CDFW Staff at the site to review field conditions and discuss potential alternative treatments. The meeting will include discussions of the Project's unique opportunities and constraints, and a	Site Investigation Meeting Minutes/Report - Due 11/1/26

Task Name	Start Date	Activity Description	Deliverables
		preliminary set of design objectives that will guide additional data collection.	
Task 3 Topographic Survey	09/01/26	Waterways Consulting Inc. will survey the project site and prepare a detailed topographic map and cross section survey. Cross section mapping will be performed upstream and downstream of the Project area, as necessary to construct an accurate hydraulic model of the study area. A long profile will be extended downstream to evaluate the channel slope and profile stability. High water marks of past floods will be recorded for calibration of the hydraulic model, where evident. Waterways will establish a network of permanent survey control points in the vicinity of the proposed work. Control points will be established outside of the proposed work areas to ensure they are retained for future use during construction staking, as-built mapping, and post-construction monitoring. The control network can later be used to provide ties to any existing benchmarks.	Topographic Survey - Due 12/1/26
Task 4 Hydrologic and Hydraulic Analysis	10/01/26	Waterways will perform a hydrologic analysis to determine the peak flow rates at the Project site for several return intervals of interest (e.g., 2-, 10-, and 100-year). The work will consist of a flood-frequency analysis based upon historic stream gage records or regional regression equation calculations. Waterways will prepare a hydraulic model of the channel and floodplain using the Army Corps of	Technical Memorandum - Due 12/31/26

Task Name	Start Date	Activity Description	Deliverables
		Engineer Hydrologic Engineering Center River Analysis System (HEC-RAS) modeling software. The model could be either one-dimensional (1D) or two-dimensional (2D), based on preferences of CDFW and Grantee. The hydraulic model will assist in estimating the hydraulic parameters such as velocity, depth, and shear forces experienced during design flows. The results will inform the design approach and be used to explain methods, results and conclusions to reviewers. Fish passage flows will be analyzed, and calculations will be provided to demonstrate passage conditions under existing and proposed conditions, using methodologies and design criteria approved by CDFW.	
Task 5 Investigation of Permit Conditions	08/03/26	If a geotechnical investigation is needed, the RCD of Monterey County will determine if a notification pursuant to Fish and Game Code 1602 may be necessary. Trout Unlimited, Inc. will also sub-contract with the Esselen Tribe of Monterey County to provide cultural resource monitoring. The project does not include the pursuit of permits for the future implementation phase of the project.	LSAA for Geotechnical Report (if needed) - Due prior to Geotechnical Investigation
Task 6.1 Concept Level Plans &	09/01/26	Waterways Consulting Inc. will lead the development of Concept Level Designs and Cost Estimates for two alternatives.	Deliverables include concept level drawings and Technical Memorandum with modeling results and preliminary engineer's cost

Task Name	Start Date	Activity Description	Deliverables
Alternatives Analysis		The concept level drawings will be sufficiently accurate and complete to determine project layout, impacts, opportunities, constraints and material quantities. The drawings will serve as a basis for preliminary hydraulic modeling and ranking of alternatives. A Technical Memorandum will be prepared to support the concept design submittal and ranking. The Memorandum will provide descriptions of the proposed improvements, methodology, and findings. Results of the hydraulic analysis will be presented in tabular form, with model details presented as an appendix. A fish passage assessment of existing and proposed conditions will be included, with design basis presented in accordance with CDFW published standards. An Engineer Cost Estimate will be provided for each alternative, with assumptions defined in the text of the Memorandum. The alternatives will be evaluated and ranked by the landowner, Grantee, Waterways Consulting Inc. and CDFW. The selected preferred alternative will serve as the basis for further design development.	estimate and alternatives analysis. - Due 12/31/26
Task 6.2 Geotechnical Investigation	09/01/26	If necessary, Waterways will conduct a geotechnical investigation to explore the surface and subsurface conditions at the site, to develop geotechnical recommendations for the design and construction of the proposed treatments.	Deliverables include copies of wet-stamped Geotechnical Investigations Report - Due 6/1/27

Task Name	Start Date	Activity Description	Deliverables
Task 6.3 35% Designs, Specifications and Cost Estimate	02/01/27	Once a preferred alternative is selected, Waterways will advance the selected concept alternative to a 35% level of design. The 35% drawings will be sufficiently accurate and complete to determine project layout, impacts, opportunities, constraints and quantities. Foundation details will be included based on record information and design experience. The 35% cost estimate will be in a format that represents the anticipated final bid form, with recommended units of measurement specified for individual work items.	Deliverables include 35% Design Plan, 35% design drawings in .pdf and .dwg format, cost estimate in PDF and Microsoft Excel format and a technical memo in PDF format - Due 6/1/27
Task 6.4 65% Designs, Specifications and Cost Estimate	07/01/27	Waterways will deliver a 65% design submittal package, after comments are solicited from CDFW, Trout Unlimited Inc., and the landowner. The 65% drawings will be sufficiently accurate and complete to determine project layout, impacts, opportunities, constraints and quantities. The 65% cost estimate will be in a format that represents the anticipated final bid form, with recommended units of measurement specified for individual work items. A Basis of Design (BOD) Report will be submitted along with the 65% submittal. The Report will present refined hydraulic modeling and cost estimates, along with information from the geotechnical investigation and structural engineering review. Comments received from CDFW and others on the 35% submittal will be addressed in the Report.	Deliverables include the draft and final 65% design plans, specifications and cost estimate - Due 12/1/27

Task Name	Start Date	Activity Description	Deliverables
Task 6.6 90% Designs, Specifications, and Cost Estimate	01/01/28	Waterways will deliver a 90% design submittal package, after comments are solicited from CDFW, Trout Unlimited Inc., and the landowner based on the 65% designs.	Deliverables include the draft and final 90% design plans, Basis of Design Report, specifications and cost estimate - Due 4/1/28
Task 6.7 100% Designs, Specifications and Cost Estimate	04/03/28	Waterways will review comments received from CDFW, the Grantee, and landowners on the 90% submittal and will incorporate this input into the 100% submittal. The 100% submittal will be suitable for competitive bidding and construction of the project.	Deliverables include Draft and Final 100% Design Plans, Specifications, Basis of Design Report, Cost Estimate, and any GIS data collected to develop design and associated metadata - Due 6/1/28

Additional Requirements:

As it pertains to the Geotechnical Investigation, if needed:

Grantee will not proceed until all necessary permits and authorizations are secured. Deviances to Project Tasks and implementation timeframes are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the stream at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

All project trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash will be removed from work areas.

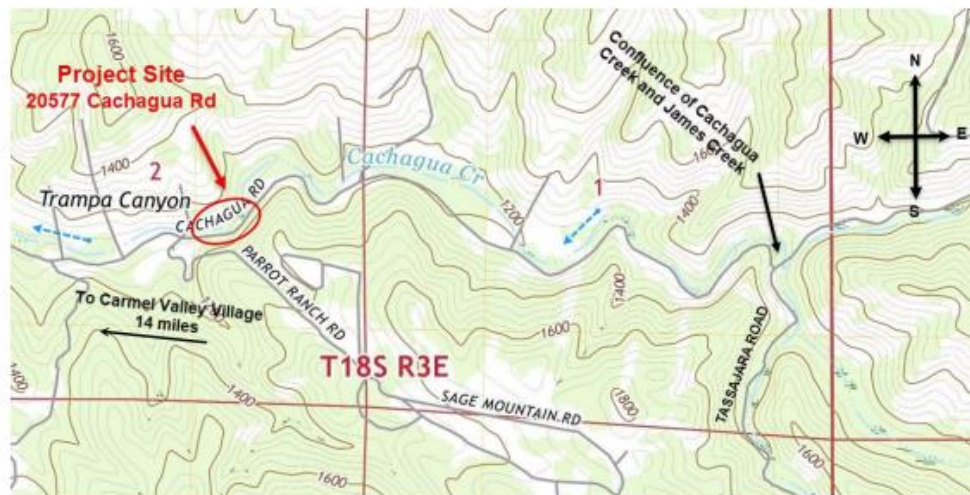
Project Location Topographic Map

CACHAGUA CREEK FISH PASSAGE ALTERNATIVE PLAN/DESIGN PROJECT - QUEVEDO

Proposal Number: 1734185 Proposal Type: P/D

Supplemental Information

Project Location Topographic Map



Taken from the **USGS 7.5-minute Ran Creek, Ca 2018 quad**. Adjoining 7.5 minute Quads include:

1	2	3	1 Spreckels
4		5	2 Chualar
6	7	8	3 Gonzales

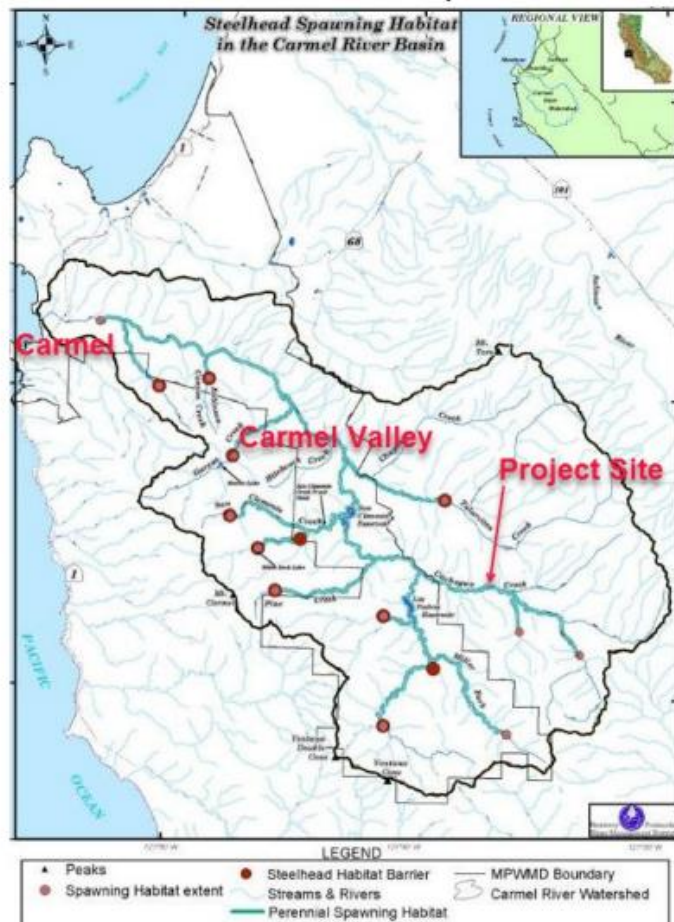
ADJOINING QUADRANGLES

- 4 Carmel Valley
- 5 Palo Escrito Peak
- 6 Ventana Cones
- 7 Chews Ridge
- 8 Sycamore Flat

Project Site is a portion of Section 2 T. 18 S R. 3 E Mount Diablo Base and Meridian

Watershed Map

CACHAGUA CREEK FISH PASSAGE
ALTERNATIVE PLAN/DESIGN PROJECT - QUEVEDO
Proposal Number: 1734185 Proposal Type: P/D
Supplemental Information
Watershed Map



Project area is approximately 2.5 river miles upstream of the confluence of Cachagua Creek and the main-stem of the Carmel River, the confluence being approximately 1.5 river miles downstream of Los Padres Dam on the Carmel River.

Access to the site is from an existing 2 lane county-maintained road at address 20577 Cachagua Creek Road.

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734185 Cachagua Creek Fish Passage
Alternative Plan/Design Project - Quevedo

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	WL
Ambystoma californiense pop. 2	California tiger salamander - Santa Barbara County DPS	AAAAA01182	Endangered	Threatened	WL
Batrachoseps luciae	Santa Lucia slender salamander	AAAAD02160	None	None	-
Rana boylei pop. 6	foothill yellow-legged frog - south coast DPS	AAABH01056	Endangered	Endangered	-
Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC
Taricha torosa	Coast Range newt	AAAAF02032	None	None	SSC
Spea hammondi	western spadefoot	AAABF02020	Proposed Threatened	None	SSC
Accipiter cooperii	Coopers hawk	ABNKC12040	None	None	WL
Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP WL
Buteo swainsoni	Swainsons hawk	ABNKC19070	None	Threatened	-
Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP
Charadrius nivosus nivosus	western snowy plover	ABNNB03031	Threatened	None	SSC
Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734185 Cachagua Creek Fish Passage
Alternative Plan/Design Project - Quevedo

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC
Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC
Athene cunicularia	burrowing owl	ABNSB10010	None	Candidate Endangered	SSC
Strix occidentalis occidentalis	California Spotted Owl	ABNSB12013	Proposed Endangered ; Proposed Threatened	None	SSC
Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC
Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-
Lavinia exilicauda harengus	Monterey hitch	AFCJB19013	None	None	SSC
Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC
Oncorhynchus mykiss irideus pop. 9	steelhead - south-central California coast DPS	AFCHA0209H	Threatened	None	SSC
Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-
Optioservus canus	Pinnacles optioservus riffle beetle	IICOL5E020	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734185 Cachagua Creek Fish Passage
Alternative Plan/Design Project - Quevedo

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Euphilotes enoptes smithi	Smiths blue butterfly	IILEPG2026	Endangered	None	-
Euphydryas editha bayensis	Bay checkerspot butterfly	IILEPK4055	Threatened	None	-
Neotoma macrotis luciana	Monterey dusky-footed woodrat	AMAFF08083	None	None	SSC
Dipodomys heermanni goldmani	Salinas kangaroo rat	AMAFD03065	None	None	-
Dipodomys venustus sanctiluciae	Santa Lucia Mountain kangaroo rat	AMAFD03043	None	None	-
Eumops perotis californicus	western mastiff bat	AMACD02011	None	None	SSC
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Sorex ornatus salarius	Monterey shrew	AMABA01105	None	None	SSC
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Lasiurus frantzii	western red bat	AMACC05080	None	None	SSC
Myotis volans	long-legged myotis	AMACC01110	None	None	-
Anniella pulchra	Northern California legless lizard	ARACC01020	None	None	SSC
Actinemys pallida	southwestern pond turtle	ARAAD02032	Proposed Threatened	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734185 Cachagua Creek Fish Passage
Alternative Plan/Design Project - Quevedo

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Thamnophis hammondi	two-striped gartersnake	ARADB36160	None	None	SSC
Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC
Central Maritime Chaparral	Central Maritime Chaparral	CTT37C20CA	None	None	-
Valley Needlegrass Grassland	Valley Needlegrass Grassland	CTT42110CA	None	None	-
Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-
Mielichhoferia elongata	elongate copper moss	NBMUS4Q022	None	None	-
Scytinium siskiyouense	Siskiyou jellyskin lichen	NLTES34580	None	None	-
Lomatium parvifolium	small-leaved lomatium	PDAP11B1F0	None	None	-
Perideridia gairdneri ssp. gairdneri	California Gairdners yampah	PDAP11N062	None	None	-
Carlquistia muirii	Muir's tarplant	PDASTDU010	None	None	-
Centromadia parryi ssp. congdonii	Congdon's tarplant	PDAST4R0P1	None	None	-
Ericameria fasciculata	Eastwoods goldenbush	PDAST3L080	None	None	-
Lessingia hololeuca	woolly-headed lessingia	PDAST5S030	None	None	-
Lessingia tenuis	spring lessingia	PDAST5S0B0	None	None	-
Malacothrix saxatilis var. arachnoidea	Carmel Valley malacothrix	PDAST660C2	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734185 Cachagua Creek Fish Passage
Alternative Plan/Design Project - Quevedo

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Micropus amphibolus	Mt. Diablo cottonweed	PDAST6D030	None	None	-
Stebbinsoseris decipiens	Santa Cruz microsaris	PDAST6E050	None	None	-
Amsinckia douglasiana	Douglas fiddleneck	PDBOR01010	None	None	-
Cryptantha rattanii	Rattans cryptantha	PDBOR0A2H0	None	None	-
Plagiobothrys uncinatus	hooked popcornflower	PDBOR0V170	None	None	-
Caulanthus lemmonii	Lemmons jewelflower	PDBRA0M0E0	None	None	-
Arctostaphylos hookeri ssp. hookeri	Hookers manzanita	PDERI040J1	None	None	-
Arctostaphylos montereyensis	Toro manzanita	PDERI040R0	None	None	-
Arctostaphylos pumila	sandmat manzanita	PDERI04180	None	None	-
Astragalus macrodon	Salinas milk-vetch	PDFAB0F520	None	None	-
Lupinus albifrons var. abramsii	Abrams lupine	PDFAB2B010	None	None	-
Lupinus cervinus	Santa Lucia lupine	PDFAB2B0X0	None	None	-
Trifolium buckwestiorum	Santa Cruz clover	PDFAB402W0	None	None	-
Trifolium polyodon	Pacific Grove clover	PDFAB402H0	None	Rare	-
Ribes sericeum	Santa Lucia gooseberry	PDGRO021F0	None	None	-
Clinopodium mimuloides	monkey-flower savory	PDLAM1T040	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734185 Cachagua Creek Fish Passage
Alternative Plan/Design Project - Quevedo

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Fritillaria falcata</i>	talus fritillary	PMLILOV070	None	None	-
<i>Malacothamnus aboriginum</i>	Indian Valley bushmallow	PDMAL0Q020	None	None	-
<i>Malacothamnus discombobulatus</i>	discombobulating bushmallow	PDMAL0Q0W0	None	None	-
<i>Malacothamnus involucratus</i>	Carmel Valley bushmallow	PDMAL0Q0B1	None	None	-
<i>Malacothamnus lucianus</i>	Arroyo Seco bushmallow	PDMAL0Q0B2	None	None	-
<i>Calyptridium parryi</i> var. <i>hesseae</i>	Santa Cruz Mountains pussypaws	PDPOR09052	None	None	-
<i>Clarkia jolonensis</i>	Jolon clarkia	PDONA050L0	None	None	-
<i>Clarkia lewisii</i>	Lewis clarkia	PDONA050N0	None	None	-
<i>Castilleja latifolia</i>	Monterey Coast paintbrush	PDSCR0D1P0	None	None	-
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i>	seaside birds-beak	PDSCR0J0P2	None	Endangered	-
<i>Eschscholzia hypocoides</i>	San Benito poppy	PDPAP0A060	None	None	-
<i>Meconella oregana</i>	Oregon meconella	PDPAP0G030	None	None	-
<i>Abies bracteata</i>	bristlecone fir	PGPIN01030	None	None	-
<i>Eriastrum virgatum</i>	virgate eriastrum	PDPLM030D0	None	None	-
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	Monterey gilia	PDPLM041P2	Endangered	Threatened	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734185 Cachagua Creek Fish Passage
Alternative Plan/Design Project - Quevedo

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Leptosiphon grandiflorus	large-flowered leptosiphon	PDPLM090K0	None	None	-
Chorizanthe douglasii	Douglas spineflower	PDPGN040A0	None	None	-
Chorizanthe pungens var. pungens	Monterey spineflower	PDPGN040M2	Threatened	None	-
Eriogonum elegans	elegant wild buckwheat	PDPGN081Y0	None	None	-
Eriogonum nortonii	Pinnacles buckwheat	PDPGN08470	None	None	-
Eriogonum nudum var. indictum	protruding buckwheat	PDPGN08494	None	None	-
Eriogonum umbellatum var. bahiiforme	bay buckwheat	PDPGN086UB	None	None	-
Aspidotis carlotta-halliae	Carlotta Halls lace fern	PPADI07020	None	None	-
Delphinium hutchinsoniae	Hutchinsons larkspur	PDRAN0B0V0	None	None	-
Delphinium umbraculorum	umbrella larkspur	PDRAN0B1W0	None	None	-
Ranunculus lobbii	Lobbs aquatic buttercup	PDRAN0L1J0	None	None	-
Ceanothus rigidus	Monterey ceanothus	PDRHA04067	None	None	-
Horkelia cuneata var. sericea	Kelloggs horkelia	PDROS0W043	None	None	-
Horkelia yadonii	Santa Lucia horkelia	PDROS0W0K0	None	None	-
Rosa pinetorum	pine rose	PDROS1J0W0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734185 Cachagua Creek Fish Passage
Alternative Plan/Design Project - Quevedo

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Galium californicum ssp. luciense	Cone Peak bedstraw	PDRUB0N0E3	None	None	-
Galium clementis	Santa Lucia bedstraw	PDRUB0N0H0	None	None	-
Galium cliftonsmithii	Santa Barbara bedstraw	PDRUB0N0J0	None	None	-

Bridge Creek - CCC Large Wood Coho Habitat Enhancement Project (Project ID: 1734187) 2025

Introduction:

The California Conservation Corps (Grantee) will improve the quantity and quality of salmonid habitat in Bridge Creek through the introduction of large wood (LW) features. LW features will be constructed by Grantee without the use of heavy machinery and per individual feature designs, and logs will be anchored to each other and to live riparian trees. The project is necessary because the lack of LW in the stream channel has negatively affected the quality and quantity of salmonid habitat within Bridge Creek by reducing the amount of large channel forming features and limiting complex cover for salmonids.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#), Volume I, Part VII.

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The project begins at Bridge Creek's confluence with the South Branch North Fork Navarro River and extends upstream approximately 4,555 feet. Bridge Creek's legal description at the confluence with the South Branch North Fork Navarro River is T15N R14W S19. The project central location is 39.15482, -123.43674 as depicted in the project location maps below.

Project Description:

The goal of the project is to improve the quality, complexity, and frequency of pools, provide flow refugia for salmonids, and sort spawning gravels in Bridge Creek by installing properly sized LW features throughout a 4,555 foot (0.86 mile) stream reach. The project will result in 46 large wood features, comprised of 151 pieces of properly sized LW. The specific objective of this Project is to increase the frequency of appropriately sized large wood in Bridge Creek to meet the highest target for LWD frequency as outlined in NMFS 2012.

To accomplish the stated goals and objective, instream LWD features, as designed and approved in the Bridge Creek LWD Feature Site Plans, will be constructed by California Conservation Corps hand crews using wire rope rigging and rebar anchoring techniques. Project methods follow guidance set forth in the California Stream Habitat Restoration Manual (DFG 2010). Pieces of large wood for the project features will be sourced using redwood and Douglas fir trees located in the riparian and upslope forested areas adjacent to the project reach. Trees will be felled by a Licensed Timber Operator prior to feature construction, and additional pieces of large wood and stumps with rootwads will be sourced from downed wood on the adjacent forest floor. Project work is managed by the Grnatee to ensure project protocol and permit adherence, perform quality assurance, and to coordinate with project partners, governing agencies, and the CDFW Grant Manager.

Materials:

- Large wood including 151 log and logs with roots
- One inch diameter Threadbar, plates and steel hex nuts

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
1. Grant Oversight	04/01/26	Contract oversight and administrative activities will be conducted by the Grantee. This task includes, but is not limited to securing permits and subcontracts, reporting, scheduling crews, coordinating and scheduling with subcontractors and landowners, and budget management. This task will be conducted throughout the life of the project.	Landowner access agreements, subcontracts, permits, annual reports, quarterly invoices and progress reports, final report. (Due Dates in Sub-Tasks below).
1a. Reports and Invoices	04/01/26	Grantee will create and submit reports and invoices, assuring adherence to requirements in grant contract. Progress reports will be submitted with every billing invoice on a quarterly basis.	(1) Submission of invoices and progress reports. (Due not more frequently than monthly for the term of the agreement; Estimated yearly Due Dates are: April 15th, July 15th, November 15th, and January 15th. (2) Annual report (Due annually on November 15).
1b. Permits and Agreements	04/01/26	Grantee will acquire appropriate agreements and permits, including but not limited to subcontractor agreements for CEQA surveys, licensed timber operator (LTO) subcontractor agreement, and the CDFW's Lake and Streambed Alteration Agreement. Documents will be submitted consistent with requirements in contract.	(1) Subcontracts with: All-in-1 Tree and Timber, William Rich and Associates, and Pacific Watershed Associates. (Due June 1, 2026).

Task Name	Start Date	Activity Description	Deliverables
			(2) Lake and Streambed Alteration Agreement with CDFW. (Due June 1, 2026 or June 1 of the first implementation year).
1c. Landowner Communications	04/01/26	Grantee will communicate with landowner to verify combinations, entry policies and procedures, road conditions, and coordinate logistics of any landowner operations that may coincide with operations.	(1) Land access (permissions, gate combinations) (Due: Ongoing through project completion, initially due 7/10/26). (2) Final Landowner Access Agreement (Due 7/10/26). (3) Spike camp license agreement (Due 7/10/2026).
2. Environmental Compliance	04/01/26	Subcontractor William Rich and Associates will conduct archeological and botanical surveys of the project reach, utilizing mileage and northwest information search findings, and per diem costs. Subcontractor Pacific Watershed Associates geologist will conduct a paleontological investigation of the project area, providing a report and invoice utilizing clerical staff hours. Landowner will conduct pre-construction surveys for foothill yellow-legged frogs and any construction monitoring resulting from initial survey findings or mid construction presence of frogs (cost share). Surveys will be conducted and interim survey reports will be delivered to CDFW Grant	(1) Reports for archeological, botanical, and paleontological resources: (1.1) Interim Reports (Due Date estimated 7/10/2026) & (1.2) Final Reports (Due 3/31/2030). (2) Written findings of FYLF presence and avoidance measures (Due 7/10/2026 and ongoing annually through project completion,

Task Name	Start Date	Activity Description	Deliverables
		Manager prior to receiving a Notice to Proceed. Final archaeological, botanical and paleontological survey reports will be delivered to the grantee for submittal with the final grant report or any time prior to the Final Report due date. Grantee will finalize water quality monitoring plan and sampling form in accordance with the 401 water quality certification associated with the project funding year.	prior to and during each implementation year). (3) Final water quality monitoring plan (Due 7/10/2026).
3. Pre-project Design and Data Collection	04/01/26	Implementation preparation will be conducted by the Grantee. Final feature locations and designs will be prepared if stream channel conditions have changed, and applicable metrics will be collected. Any necessary changes to the features will be submitted for approval to the CDFW Grant Manager.	(1) Final feature designs, pre-implementation photos, and metrics submitted to grant manager for approval. (Due 7/9/2026, and annually through project completion as necessary).
3a. Tree Identification	04/15/26	Grantee will walk the project reach with the landowner to get approval for trees to be cut at project feature locations. Trees will be selected with consideration for riparian canopy, wildlife value, and positioning once felled for efficient manipulation to feature locations. Trees will be marked and flagged in preparation of felling operations by LTO.	(1) Final approval and flagging of trees to fell for instream features (Due July 10, 2026, may occur annually through completion of Task 5a). (2) Progress report and invoice for Fish Habitat Assistant time and other materials. (Due with regular Invoice and Progress Report following task work, delivered on the 15th of

Task Name	Start Date	Activity Description	Deliverables
			April, July, November, and January).
3b. Design and Site Preparation	04/15/26	Grantee will walk the project reach and finalize feature designs based on changes in local stream conditions, salvage material availability, and access over the winter. Additionally, feature design or location changes may occur as a result of CEQA survey findings, and associated impacts to local resources. Any changes to project designs or locations will be discussed with CDFW Grant Manager. Anchor points will be painted and flags will be hung at feature locations. Any avoidance areas that may have resulted from CEQA surveys will be clearly designated with flagging. Grantee will collect pre-construction metrics at modified features and take pre-implementation photos. This task may occur annually for the duration of the contract.	(1) Final feature designs submitted to grant manager for approval. (Due June 1, 2026, may occur annually through project completion if further adjustments are needed). (2) Pre-implementation photos and metrics. (Due June 1, 2026, may occur annually through project completion if further adjustments are required.)
4. Materials and Equipment Acquisition	04/01/26	Grantee will gather quotes and requisitions for and will purchase materials (hardware), spike supplies, hand tools, drill bits, safety supplies, office supplies, decontamination chemicals, etc. Additionally, the Grantee will service drill bits to have welded fixed extensions, repair tools needed for implementation, and rent Porta - Potty. Grantee meals will be coordinated prior to each spike. Additional tools and materials may be purchased or repaired as needed throughout implementation.	(1) Tools and materials acquired to facilitate construction of instream features (Due date ongoing depending on project needs; final Due Date 12/31/2029). (2) Invoices and progress reports for materials and equipment acquisition and FHA time (Due with quarterly Progress Reports, no more

Task Name	Start Date	Activity Description	Deliverables
			frequently than every one month; expected report dates are 4/15, 7/15, 11/15, and 1/15 annually). (3) Receipts and serials numbers for equipment purchased through the agreement worth greater than \$5,000 (YSI handheld meter) (Due 10/31/2026).
5. Implementation	07/10/26	Grantee will install large wood features following the Conceptual Designs (see supplemental documents). 46 instream features consisting of 151 pieces of large wood will be installed within a 4,555 foot section of Bridge Creek. Grantee will utilize labor hours constructing instream LW features and completing site rehabilitation and erosion control. This will include travel, setting up spike camp (including Porta Potty), and breaking down of spike-camp at project completion. Grantee equipment service/repairs will be utilized during implementation.	(1) 4,555 feet of Bridge Creek treated with LW; treatment will sufficiently achieve and exceed Very Good targets identified in recovery plans so that no re-treatment will be necessary. (Due date 10/31/2029).
5a. Large Wood Acquisition	07/10/26	Subcontractor LTO will fell flagged trees near project features as specified in Conceptual Designs, with oversight from Grantee. Trees and felling position will be selected to minimize impacts on stream canopy, bank stability, and effects on wildlife. The majority of trees will be felled away from the channel and later pulled into the channel with the larger diameter end of log in the water. LW will be contributed as partner	(1) Invoice and progress report for subcontractor time and FHA time (Due with regular Invoice and Progress report following task work, delivered on the 15th of April, July, November, or January, may occur

Task Name	Start Date	Activity Description	Deliverables
		cost share. This task may occur annually for years of implementation.	annually through project completion). (2) Large wood for instream features acquired and on-site (Due 10/31/2026, may occur annually through project completion).
5b. Place Large Wood and Install Anchors	07/10/26	Before beginning construction, Landowner will conduct a site assessment for foothill yellow-legged frogs. Additionally, they will perform relocation and on-site monitoring as needed. Prior to moving logs, felled trees will be cut to length according to feature specific work plans. Logs and root-wads will be moved into place and anchored, per design, to living trees and/or stumps along the stream banks. Logs will be moved by using grip-hoist and wire rope rigging techniques. The anchoring of LW will require holes to be drilled through both LW and anchor trees requiring the use of a generator to operate electric drills. 1-1/8 wood auger bits will be used to drill holes. 1 diameter Threadbar will be inserted through the logs and anchor trees, then secured with nuts and washers. All pieces of LW to be used in feature construction are currently located in or near the riparian corridor or road and would likely not recruit naturally. All features will be built in accordance with DFG California Salmonid Stream Habitat Restoration Manual, Section VII, and will consist of redwood and Douglas-fir logs or	(1) 46 LWD features consisting of 151 pieces of LW within 4,555 feet of Bridge Creek (Due 10/31/2026, and may occur annually through completion of the contract).

Task Name	Start Date	Activity Description	Deliverables
		root wads which also meet the criteria for LW. This task may occur annually for the duration of the contract.	
5c. Install Small Wood and Conduct Site Rehabilitation	07/10/26	Available slash and small wood will be installed into features by Grantee as applicable to provide immediate cover for salmonids present at time of construction. Small wood will consist of branches and tops of felled redwoods ranging from 3 to 11 inches in diameter. Small wood will also be installed at specific features to capture additional floating debris, increasing the volume of wood in the channel and the associated geomorphic effects. In accordance with 401 certification and CDFW Lake or Streambed Alteration Agreement, exposed dirt resulting from construction of features will be covered/mulched using on-site forest materials to prevent erosion and introduction of fine sediment into the stream channel. Small wood will be contributed as partner cost share. This task will occur in years of implementation.	(1) Completion of instream features (Due 10/31/2026 and annually through completion of the contract). (2) Erosion control measures will be detailed and documented in the final Water Quality Monitoring report for the season (Task 5e) to satisfy environmental compliance with 401 certification (Due 11/5/26 and annually through completion of the contract). (3) Invoice and Progress Report for Corpsmember hours and C1 Overtime used for project implementation (Due 11/15/26 and annually through completion of the contract).
5d. Decontamination	07/10/26	To address potential spread of aquatic invasive species and Sudden Oak Death (SOD), personal gear as well as tools/equipment used in the field will be properly decontaminated before moving to a new location in order to comply with CDFW and CA Oak	(1) Decontamination sign off sheet from C1 (Crew Supervisor) which notes the date, which decontamination protocols

Task Name	Start Date	Activity Description	Deliverables
		Mortality Task Force disinfection/decontamination protocol requirements (See attached copy of Grantee Decontamination Protocols for Field Activities, in Supplemental Documents). This task will occur in years of implementation.	were followed, and a signature of completion by the C1, submitted to the FHS. (Due: ongoing June 10 through October 31 of implementation years, following a move to a new location or after each implementation spike). (2) Invoicing for decontamination materials and progress report (Due with regular Invoices and Progress Reports on November 15, annually during project implementation).
5e. Water Quality Monitoring	07/10/26	Grantee will conduct water quality sampling with a multiparameter water quality sampling device (YSI) at least three times daily during implementation. Parameters such as hazardous materials, dissolved oxygen, temperature, pH, and turbidity will be monitored every 4 hours or as directed by 401 water quality certification applied to funding year. Grantee will complete Water Quality Monitoring Reports at the end of each spike/work week and will deliver them to CDFW Grant Manager and/or CDFW Regulatory Coordinator. This task will occur in years of implementation.	(1) Biweekly water quality report produced by the FHS and delivered to the CDFW Grant Manager and/or CDFW Regulatory Coordinator (Due: Ongoing following each 8-day spike during years of implementation, 7/10-10/31).

Task Name	Start Date	Activity Description	Deliverables
6. Data Collection	08/01/26	Upon completion of the project or the summer work period, Grantee will collect photo documentation, required metrics, and any other data required for the final and annual reports. Grantee will conduct First Winter Observations survey work.	(1) Standard Invoices and Progress Reports (Due regularly throughout contract period, expected invoice and progress report dates are the 15th of April, July, November, and January, annually). (2) Compiled information, after-photos, and project metrics and performance measures for each project feature completed in the implementation year, delivered to the CDFW Grant Manager (Due with the Annual Report November 15, 2026 and annually through completion of the contract). (3) Annual Report (Due annually on November 15 through contract completion). (4) First Winter Observations and ongoing visual feature monitoring, compiled and included in Progress Report (Due 4/15/2027 and

Task Name	Start Date	Activity Description	Deliverables
			annually through completion of the contract).
7. Final Report	11/15/26	Grantee will prepare and submit the final report and invoice to CDFW Grant Manager. Report will include performance measures per site, as built drawings, before and after photos, project map, and any other additional required documents as per the contract.	(1) Final Report (Due 3/31/2030)

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

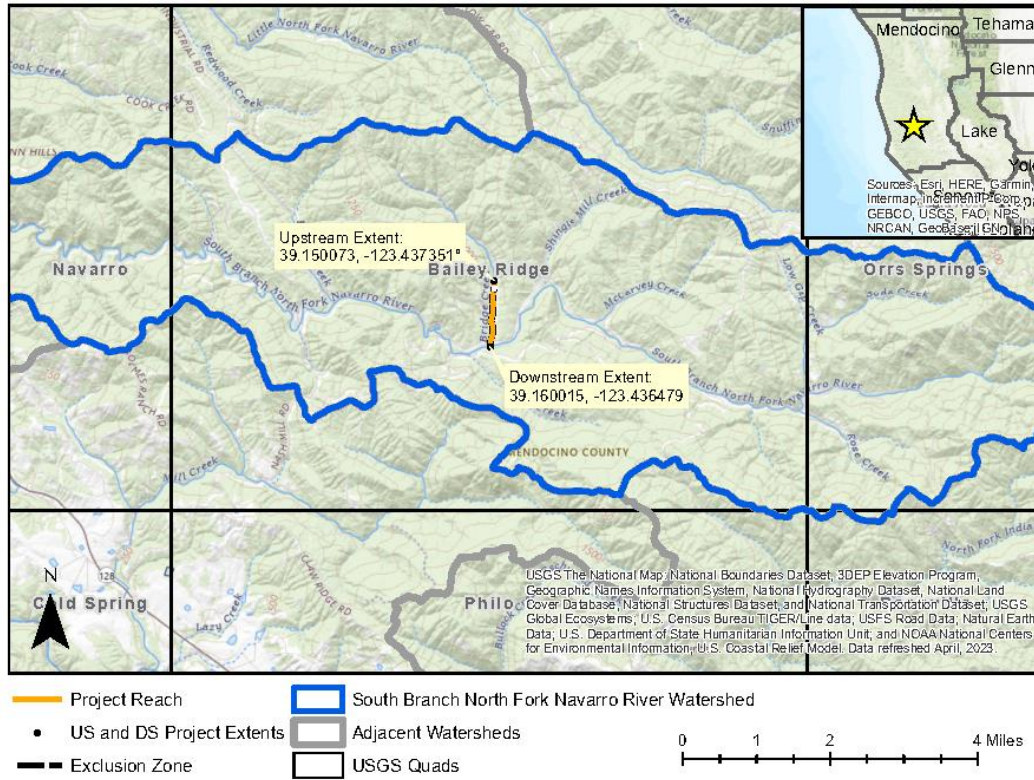
All habitat improvements will follow techniques described in the [California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)](#) or [other approved guidelines and manuals for salmon and steelhead habitat restoration](#).

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

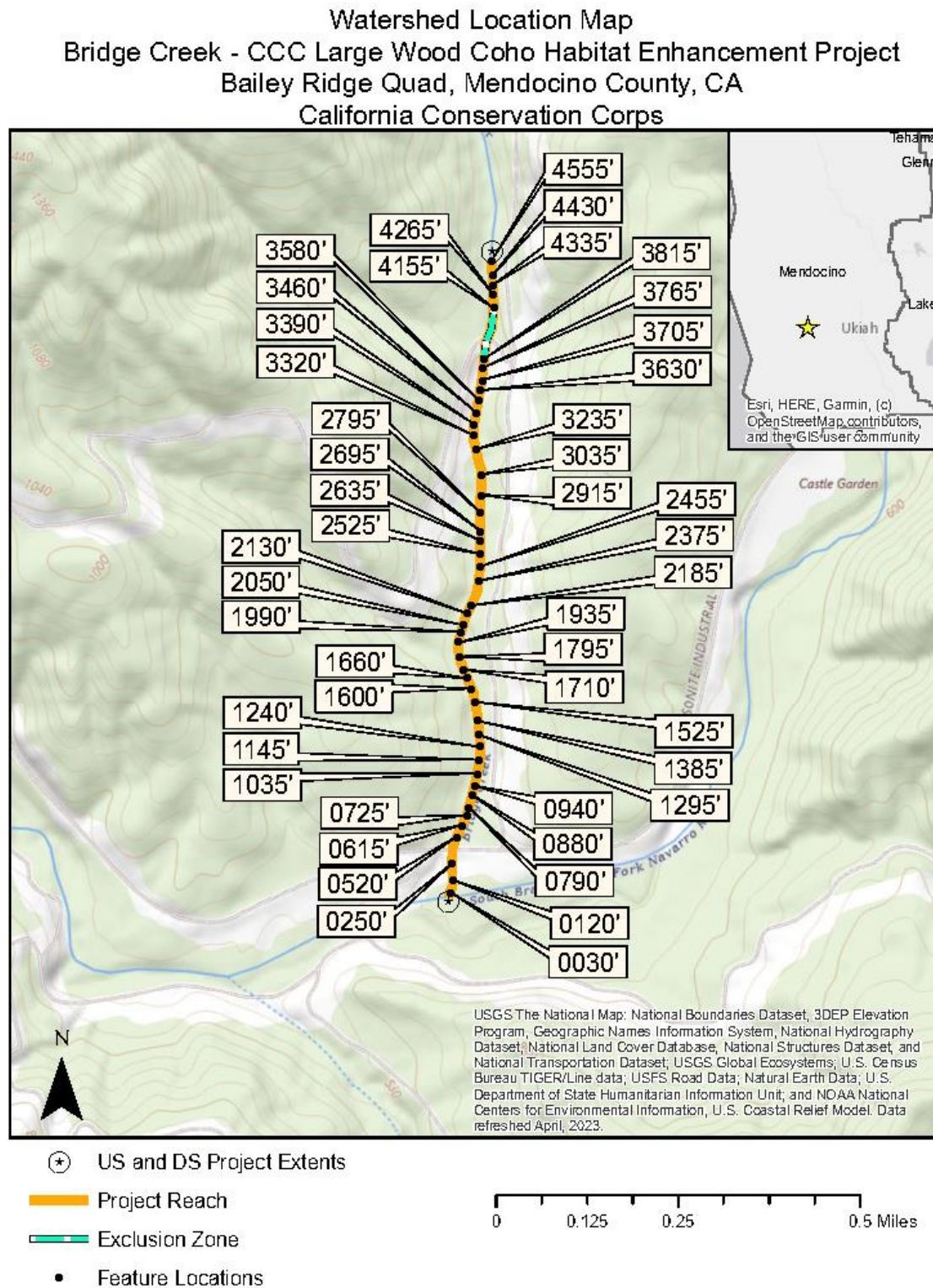
Mulching and seeding will take place as sites are completed to avoid unforeseen erosion.

Watershed Location Map

Watershed Location Map Bridge Creek - CCC Large Wood Coho Habitat Enhancement Project Bailey Ridge Quad, Mendocino County, CA California Conservation Corps



Project Location Map



California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734187 Bridge Creek - CCC Large Wood Coho
Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC
Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC
Rana boylei pop. 1	foothill yellow-legged frog -	AAABH01051	None	None	SSC
Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC
Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC
Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC
Accipiter atricapillus	American goshawk	ABNKC12061	None	None	SSC
Accipiter cooperii	Coopers hawk	ABNKC12040	None	None	WL
Chaetura vauxi	Vauxs swift	ABNUA03020	None	None	SSC
Ardea herodias	great blue heron	ABNGA04010	None	None	-
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Progne subis	purple martin	ABPAU01010	None	None	SSC
Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734187 Bridge Creek - CCC Large Wood Coho
Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Asio flammeus	short-eared owl	ABNSB13040	None	None	SSC
Athene cunicularia	burrowing owl	ABNSB10010	None	Candidate Endangered	SSC
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC
Hesperoleucus venustus	northern coastal roach	AFCJB19031	None	None	SSC
Hysterocarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC
Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon	AFCHA02032	Threatened	Threatened	-
Oncorhynchus kisutch pop. 4	coho salmon - central California	AFCHA02034	Endangered	Endangered	-
Oncorhynchus mykiss irideus	steelhead - northern	AFCHA0213Q	Threatened	None	SSC
Oncorhynchus mykiss irideus	steelhead - central California	AFCHA0209G	Threatened	None	SSC
Oncorhynchus tshawytscha pop.	chinook salmon - California coastal	AFCHA0205S	Threatened	None	SSC
Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-
Atractelmis wawona	Wawona riffle beetle	IICOL58010	None	None	-
Aplodontia rufa nigra	Point Arena mountain beaver	AMAFa01011	Endangered	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734187 Bridge Creek - CCC Large Wood Coho
Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC
Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-
Taxidea taxus	American	AMAJF04010	None	None	SSC
Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Lasionycteris	silver-haired bat	AMACC02010	None	None	-
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Myotis thysanodes	fringed myotis	AMACC01090	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Helminthoglypta arrosa pomoensis	Pomo bronze shoulderband	IMGASC2033	None	None	-
Margaritifera falcata	western pearlshell	IMBIV27020	None	None	-
Actinemys marmorata	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Buxbaumia viridis	green shield-moss	NBMUS1B040	None	None	-
Fissidens pauperculus	minute pocket moss	NBMUS2W0U0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734187 Bridge Creek - CCC Large Wood Coho
Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Usnea longissima	Methuselahs beard lichen	NLLEC5P420	None	None	-
Ramalina thrausta	angels hair lichen	NLLEC3S340	None	None	-
Allium peninsulare var.	Franciscan onion	PMLIL021R1	None	None	-
Blennosperma bakeri	Sonoma sunshine	PDAST1A010	Endangered	Endangered	-
Erigeron biolettii	streamside daisy	PDAST3M5H0	None	None	-
Hemizonia congesta ssp. calyculata	Mendocino tarplant	PDAST4R063	None	None	-
Hemizonia congesta ssp. tracyi	Tracys tarplant	PDAST4R067	None	None	-
Lessingia hololeuca	woolly-headed lessingia	PDAST5S030	None	None	-
Streptanthus glandulosus ssp. hoffmanii	Hoffmans bristly jewelflower	PDBRA2G0J4	None	None	-
Brasenia schreberi	watershield	PDCAB01010	None	None	-
Eastwoodiella californica	swamp harebell	PDCAM02060	None	None	-
Silene bolanderi	Bolanders catchfly	PDCAR0U2L0	None	None	-
Hesperocyparis pygmaea	pygmy cypress	PGCUP04032	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734187 Bridge Creek - CCC Large Wood Coho
Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Carex californica	California sedge	PMCYP032D0	None	None	-
Arctostaphylos stanfordiana ssp.	Raiches manzanita	PDERI041G2	None	None	-
Astragalus agnicidus	Humboldt County milk-vetch	PDFAB0F080	None	Endangered	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Trifolium buckwestiorum	Santa Cruz clover	PDFAB402W0	None	None	-
Erythronium revolutum	coast fawn lily	PMLILOU0F0	None	None	-
Fritillaria roderickii	Rodericks fritillary	PMLILOV0M0	None	Endangered	-
Lilium maritimum	coast lily	PMLIL1A0C0	None	None	-
Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-
Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-
Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734187 Bridge Creek - CCC Large Wood Coho
Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Pityopus californicus	California pinefoot	PDMON05010	None	None	-
Cypripedium montanum	mountain ladyslipper	PMORC0Q080	None	None	-
Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-
Cordylanthus tenuis ssp. brunneus	serpentine birdsbeak	PDSCR0J0S1	None	None	-
Erythranthe nudata	bare monkeyflower	PDSCR1B200	None	None	-
Calamagrostis bolanderi	Bolanders reed grass	PMPOA17010	None	None	-
Pleuropogon hooverianus	North Coast semaphore grass	PMPOA4Y070	None	Threatened	-
Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734187 Bridge Creek - CCC Large Wood Coho
Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Leptosiphon aureus	bristly leptosiphon	PDPLM09010	None	None	-
Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-
Navarretia leucocephala ssp. bakeri	Bakers navarretia	PDPLM0C0E1	None	None	-
Coptis laciniata	Oregon goldthread	PDRAN0A020	None	None	-
Ceanothus gloriosus var. exaltatus	glory brush	PDRHA040F4	None	None	-

Chamberlain Creek Instream Habitat Enhancement Project (Project ID: 1734188)

2025

Introduction:

Trout Unlimited, Inc. (Grantee) will increase stream complexity, pool frequency, pool depth, high-flow refugia, and over-summer and over-winter rearing habitat for Coho Salmon and Steelhead Trout in the 2.56-mile Chamberlain Creek project reach by installing 114 large wood (LW) structures composed of 440 logs. The project is necessary because the lack of LW in the stream channel has negatively affected the quality and quantity of salmonid habitat within Chamberlain Creek by reducing the amount of large channel forming features and limiting complex cover for salmonids.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#), Volume I, Part VII.

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The project is located on Chamberlain Creek, tributary to North Fork Big River in Mendocino County. The project reach begins just upstream of the confluence with the tributary, Park Gulch, and extends upstream 2.56 miles. Township 18 North, Range 15 West, Section 32 on the Comptche 7.5 Minute U.S. Geological Survey (USGS) Quadrangle map. The project central coordinates are 39.3725, -123.5527 as depicted in the project location maps.

Project Description:

The project goal is to improve Coho Salmon and Steelhead Trout habitat in the Chamberlain Creek project reach by installing LW structures that will increase stream complexity, pool frequency, pool depth, and provide high-flow refugia, cover and protection from predation, and over-summer and over-winter rearing habitat. The project objectives are to 1) procure whole tree material and install 114 LW structures, 2) install erosion control treatments and rehabilitate site post-construction in 1.37 acres of riparian area, and 3) document pre-implementation and post-implementation conditions at all 114 unique structures.

Heavy equipment will be used to procure Douglas fir and redwood trees from the surrounding upland area adjacent to the project area. Project pieces will include logs with rootwads and cut logs. An excavator will be used to exhume the rootwads of whole trees which will then be moved to the channel with a skidder. Trees will also be cut and placed or winched into the channel. Heavy equipment will install 114 non-engineered large wood unique structures composed of 440 logs.

After the project construction is complete, erosion control measures will be used to rehabilitate the project site. Approximately 1.37 acres of riparian area will be rehabilitated from impacts from equipment access. All bare soils which may conduct water to the stream will be decompacted and packed with native woody slash or mulched with rice straw or weed free erosion control materials. Native seed will be distributed in the bare soils, where necessary, to provide short to medium term erosion control. If needed, waterbars will be installed on equipment access trails. Grantee will document pre-implementation and post-implementation project conditions. Prior to and post construction, Grantee will take photos at all 114 unique structure sites.

Materials:

- Large wood including 440 pieces logs, logs with roots and root wads
- Mulching material including native straw
- Tags and rigging including metal tags and nail boxes
- Anchoring materials including all-thread, flat washers, nylock nuts

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
Task 1 - Project Management & Administration	04/01/26	Grantee will provide technical and administrative services associated with performing and completing the work for this Project, including grant management, assuring all permits are finalized, administering subcontracts, invoicing and payments, completing the Build America, Buy America Act certification, finalizing progress and annual reports, and drafting and finalizing the final report. Grantee will provide oversight of the Project. Grantee will help process invoices, track financial information, ensure grant and procurement compliance, and develop reports. Grantee Project will deliver the final landowner access agreements prior to receiving a Notice to Proceed.	Final Landowner Access Agreement - June 1, 2026 or Prior to receiving Notice to Proceed Executed Subcontractor Agreements - June 1, 2027 or Prior to receiving the Notice to Proceed Invoices & Progress Reports - Due with each submitted invoice or at least quarterly; Annual Reports - Due no later than November 15 of each year Draft Final Report - January 31, 2030 Final Report - March 1, 2030 Final Invoice - March 1, 2030 Build America, Buy America Act Certification Form - March 1, 2030

Task Name	Start Date	Activity Description	Deliverables
Task 2 - Environmental Compliance	04/01/26	Grantee will follow CEQA requirements throughout the life of the project. Grantee will use the FRGP programmatic permits (Clean Water Act Section 401 Water Quality Certification and Notice of Applicability & Section 404 of the Clean Water Act: Regional General Permit 12). Grantee will be responsible for securing the final 1602 Lake and Streambed Alteration Agreement. Grantee will follow all permit conditions.	Resource Survey Documentation - June 15, 2027, or prior to construction activities Final LSAA 1602 - June 15, 2027, or prior to receiving Notice to Proceed Final Water Quality Monitoring Plan - April 1, 2026, or prior to construction activities Water Quality Monitoring Documentation - Weekly during construction when applicable
Task 2.1 - Resource Survey Documentation & Permits	06/15/26	Grantee will provide proof all required threatened and endangered species surveys, biological monitoring, and required reasonable measures to cultural, archeological, paleontological, and biological resources, including native species and their habitat have been completed. Grantee will secure all required permits for the Project and will follow all permit conditions. Grantee will be responsible for securing the CDFW 1602 agreement. Subcontractor Pacific Watershed Associates (PWA) will assess potential paleontological resources and provide a report on the findings. Subcontractor Cal Poly Humboldt - Cultural Resources Facility (CRF) will	Resource Survey Documentation - June 15, 2027, or prior to construction activities Final LSAA 1602 - June 15, 2027, or prior to receiving Notice to Proceed

Task Name	Start Date	Activity Description	Deliverables
		provide cultural resources support for this project. CRF will conduct a Northwest Information Center Records Search, conduct site surveys, coordinate with Native American Tribes, and provide a report detailing site pre-history and history, survey results, and avoidance and minimization measures, if required. Subcontractor Clifton Environmental LLC will provide botanical resources support for this project through a California Natural Diversity Database query, botanical field surveys, and associated mapping and reporting to support environmental compliance. Grantee will conduct nesting migratory bird surveys if construction begins before August 1, each year of implementation	
Task 2.2 - Water Quality Monitoring Documentation	04/01/26	Grantee will provide a Final Water Quality Monitoring Plan to the CDFW Grant Manager. Grantee will monitor and report water quality during construction activities. Parameters, such as but not limited to dissolved oxygen, temperature, pH, and turbidity shall be reported. Grantee will record Water Quality data and report weekly.	Final Water Quality Monitoring Plan - April 1, 2026, or prior to construction activities Water Quality Monitoring Documentation - Weekly during construction when applicable
Task 3 - Pre-Implementation and Data Collection	04/01/26	Trees will be marked and flagged in preparation of felling operations. Any changes to project designs or locations will be discussed with the CDFW Grant Manager. Anchor points will be painted, and flags will be hung at feature locations. Any avoidance areas that may have resulted from CEQA surveys will be clearly designated with flagging. Grantee will take pre-implementation photos at all 114 unique structures.	Pre-project implementation photos - July 9, 2027, or prior to construction activities

Task Name	Start Date	Activity Description	Deliverables
		Grantee will purchase construction materials such as hardware, hand tools, drill bits, safety supplies, office supplies, and decontamination chemicals. Additional tools and materials may be purchased or repaired as needed throughout implementation.	
Task 4 - Implementation	07/10/27	Grantee will have a pre-construction field meeting to review permit conditions, design plans, and discuss other logistics. Construction may occur any time after July 10th to avoid impacts to Northern Spotted Owls. Construction will occur during the low flow seasonal work period and will follow best management practices as outlined by the permits. It is expected that construction will occur for 10-11 weeks over two years. A final Notice to Proceed will be secured prior to construction. All habitat improvements will follow techniques described in the California Salmonids Stream Habitat Restoration Manual, Volumes I and Volume II and Fish Bulletin 184. Construction activities include site prep and mobilization, tree procurement, log placement, anchoring, and site stabilization. A Licensed Timber Operator and will place logs into project streams by direct falling, rigging gear, and/or with heavy equipment (i.e. excavator and skidder). Trees will be cut down and winched into place or dug out with an excavator. Structures will be anchored into place. 114 instream structures consisting of 440 pieces of large wood will be installed over two construction seasons.	114 unique structures with 440 log pieces - October 31, 2029 Actual performance measures per site, as specified in the 2025 PSN - January 31, 2030

Task Name	Start Date	Activity Description	Deliverables
Task 5 - Post-Implementation Surveys and Monitoring	11/01/27	After each construction season post- implementation photos will be collected and actual performance metrics will be reported. Grantee will perform the first winter observations and prepare a First Winter Observations Summary memorandum. The summary will include the largest flow and/or storm precipitation event that occurred in the project area, photos or time-lapse photos/video, observations about how the project is moving towards meeting objectives of the project goal(s), how the features have changed from as-built, and any lessons learned.	First Winter Observation Summary - January 31, 2030 Post-Implementation Site Photos - January 31, 2030

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

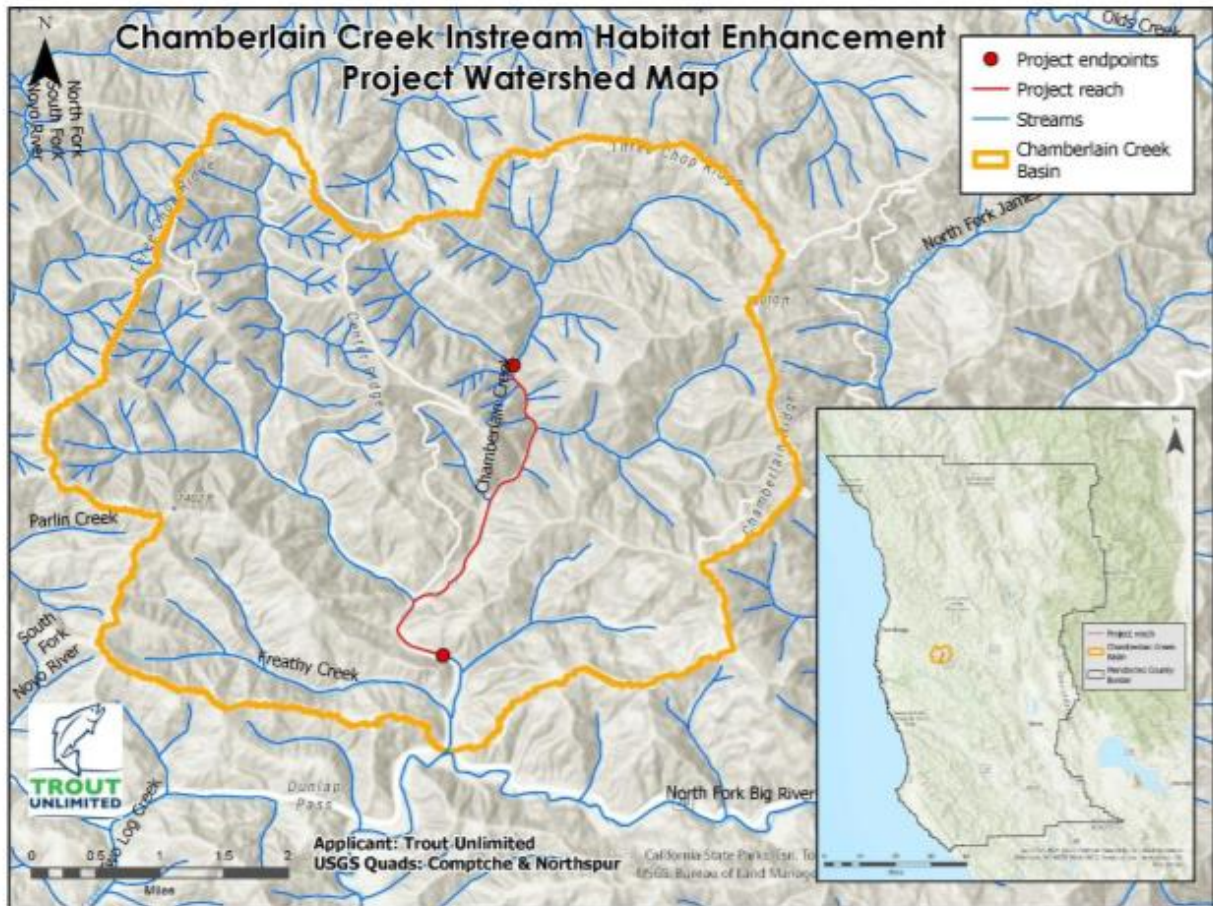
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

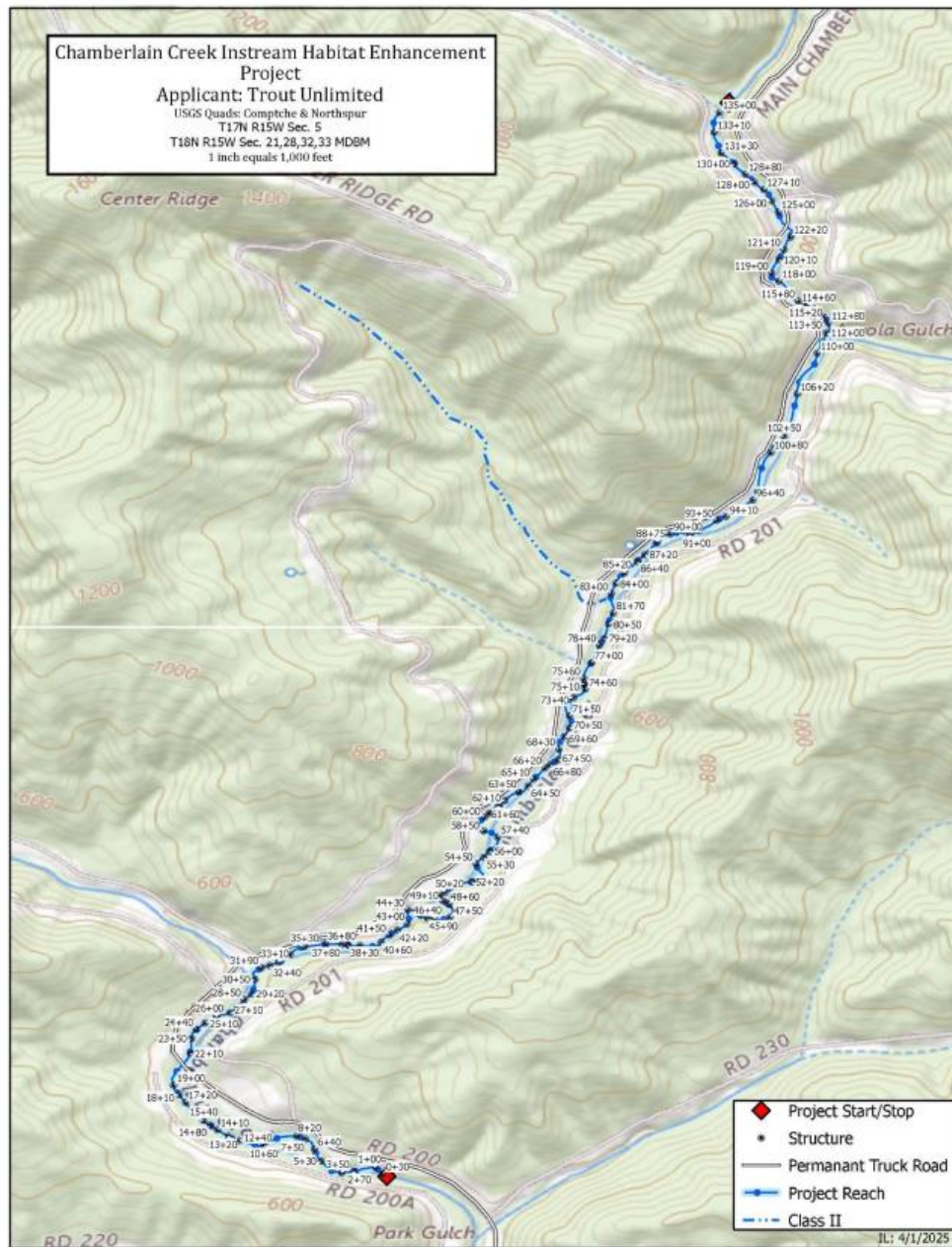
During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

All habitat improvements will follow techniques described in the [*California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)*](#) or [*other approved guidelines and manuals for salmon and steelhead habitat restoration*](#).

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

Mulching and seeding will take place as sites are completed to avoid unforeseen erosion.





California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734188 Chamberlain Creek Instream Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Accipiter atricapillus	American goshawk	ABNKC12061	None	None	SSC
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Ramalina thrausta	angels hair lichen	NLLEC3S340	None	None	-
Speyeria zerene behrensii	Behrens silverspot butterfly	IILEPJ6088	Endangered	None	-
Agrostis blasdalei	Blasdales bent grass	PMPOA04060	None	None	-
Erysimum concinnum	bluff wallflower	PDBRA160E3	None	None	-
Pinus contorta ssp. bolanderi	Bolanders beach pine	PGPIN04081	None	None	-
Calamagrostis bolanderi	Bolanders reed grass	PMPOA17010	None	None	-
Leptosiphon aureus	bristly leptosiphon	PDPLM09010	None	None	-
Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-
Pelecanus occidentalis californicus	California brown pelican	ABNFC01021	Delisted	Delisted	-
Pityopus californicus	California pinefoot	PDMON05010	None	None	-
Darlingtonia californica	California pitcherplant	PDSAR01010	None	None	-
Carex californica	California sedge	PMCYP032D0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734188 Chamberlain Creek Instream Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	SSC
Erythronium revolutum	coast fawn lily	PMLILOU0F0	None	None	-
Lilium maritimum	coast lily	PMLIL1A0C0	None	None	-
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-
Calystegia purpurata ssp. saxicola	coastal bluff morning-glory	PDCON040D2	None	None	-
Coastal Brackish Marsh	Coastal Brackish Marsh	CTT52200CA	None	None	-
Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	-
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-
Hemizonia congesta ssp.	congested-headed hayfield	PDAST4R0W1	None	None	-
Carex saliniformis	deceiving sedge	PMCYP03BY0	None	None	-
Pekania pennanti	Fisher	AMAJF01020	None	None	SSC
Rana boylei pop. 1	foothill yellow-legged frog -	AAABH01051	None	None	SSC
Veratrum fimbriatum	fringed false-hellebore	PMLIL25030	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734188 Chamberlain Creek Instream Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Myotis thysanodes	fringed myotis	AMACC01090	None	None	-
Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-
Ceanothus gloriosus var.	glory brush	PDRHA040F4	None	None	-
Grand Fir Forest	Grand Fir Forest	CTT82120CA	None	None	-
Alisma gramineum	grass alisma	PMALI01010	None	None	-
Ardea herodias	great blue heron	ABNGA04010	None	None	-
Sanguisorba officinalis	great burnet	PDROS1L060	None	None	-
Buxbaumia viridis	green shield-moss	NBMUS1B040	None	None	-
Sulcaria badia	grooved beard lichen	NLTEST0030	None	None	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Astragalus	Humboldt County	PDFAB0F080	None	Endangered	-
Carex lenticularis	lagoon sedge	PMCYP037A7	None	None	-
Mitellastra	leafy-stemmed	PDSAX0N020	None	None	-
Erythronium citrinum var.	lemon-colored fawn lily	PMLIL0U041	None	None	-
Myotis volans	long-legged myotis	AMACC01110	None	None	-
Carex lyngbyei	Lyngbyes sedge	PMCYP037Y0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734188 Chamberlain Creek Instream Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	PDMAL110E0	None	None	-
<i>Castilleja mendocinensis</i>	Mendocino Coast paintbrush	PDSCR0D3N0	None	None	-
<i>Calileptoneta wapiti</i>	Mendocino leptonetid spider	ILARAU6040	None	None	-
Mendocino Pygmy Cypress Forest	Mendocino Pygmy Cypress Forest	CTT83161CA	None	None	-
<i>Hemizonia congesta</i> ssp. <i>calyculata</i>	Mendocino tarplant	PDAST4R063	None	None	-
<i>Usnea longissima</i>	Methuselahs beard lichen	NLLEC5P420	None	None	-
<i>Fissidens pauperculus</i>	minute pocket moss	NBMUS2W0U0	None	None	-
<i>Danaus plexippus</i> plexippus pop. 1	monarch - California overwintering	IILEPP2012	Proposed Threatened	None	-
<i>Trifolium trichocalyx</i>	Monterey clover	PDFAB402J0	Endangered	Endangered	-
<i>Cypripedium montanum</i>	mountain ladyslipper	PMORC0Q080	None	None	-
<i>Pleuropogon refractus</i>	nodding semaphore grass	PMPOA4Y080	None	None	-
<i>Erethizon dorsatum</i>	North American porcupine	AMAFJ01010	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734188 Chamberlain Creek Instream Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Pleuropogon hooverianus	North Coast semaphore grass	PMPOA4Y070	None	Threatened	-
Hesperoleucus venustus navarroensis	northern coastal roach	AFCJB19031	None	None	SSC
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	CTT52110CA	None	None	-
Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Actinemys marmorata	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-
Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC
Coptis laciniata	Oregon goldthread	PDRAN0A020	None	None	-
Pandion haliaetus	osprey	ABNKC01010	None	None	WL
Gilia capitata ssp. pacifica	Pacific gilia	PDPLM040B6	None	None	-
Chrysosplenium glechomifolium	Pacific golden saxifrage	PDSAX07020	None	None	-
Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734188 Chamberlain Creek Instream Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Ascaphus truei</i>	Pacific tailed frog	AAABA01010	None	None	SSC
<i>Ceanothus gloriosus</i> var. <i>gloriosus</i>	Point Reyes ceanothus	PDRHA040F5	None	None	-
<i>Sidalcea calycosa</i> ssp. <i>rhizomata</i>	Point Reyes checkerbloom	PDMAL11012	None	None	-
<i>Horkelia marinensis</i>	Point Reyes horkelia	PDROS0W0B0	None	None	-
<i>Helminthoglypta arrosa</i> <i>pomoensis</i>	Pomo bronze shoulderband	IMGASC2033	None	None	-
<i>Progne subis</i>	purple martin	ABPAU01010	None	None	SSC
<i>Sidalcea malviflora</i> ssp. <i>purpurea</i>	purple-stemmed checkerbloom	PDMAL110FL	None	None	-
<i>Hesperocyparis pygmaea</i>	pygmy cypress	PGCUP04032	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734188 Chamberlain Creek Instream Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Arctostaphylos nummularia ssp. mendocinoensis	pygmy manzanita	PDERI04280	None	None	-
Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC
Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-
Lycopodium clavatum	running-pine	PPLYC01080	None	None	-
Trifolium buckwestiorum	Santa Cruz clover	PDFAB402W0	None	None	-
Packera bolanderi var. bolanderi	seacoast ragwort	PDAST8H0H1	None	None	-
Angelica lucida	sea-watch	PDAPI070G0	None	None	-
Cordylanthus tenuis ssp. brunneus	serpentine birds-beak	PDSCR0J0S1	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734188 Chamberlain Creek Instream Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Accipiter striatus</i>	sharp-shinned hawk	ABNKC12020	None	None	WL
<i>Hesperivax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	PDASTE5011	None	None	-
<i>Lasionycteris noctivagans</i>	silver-haired bat	AMACC02010	None	None	-
<i>Kopsiopsis hookeri</i>	small groundcone	PDORO01010	None	None	-
<i>Arborimus pomo</i>	Sonoma tree vole	AMAFF23030	None	None	SSC
<i>Rhyacotriton variegatus</i>	southern torrent salamander	AAAAJ01020	None	None	SSC
Sphagnum Bog	Sphagnum Bog	CTT51110CA	None	None	-
<i>Oncorhynchus mykiss irideus</i> pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	SSC
<i>Oncorhynchus mykiss irideus</i>	steelhead - northern	AFCHA0213Q	Threatened	None	SSC
<i>Eastwoodiella californica</i>	swamp harebell	PDCAM02060	None	None	-
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	AMACC08010	None	None	SSC
<i>Hemizonia congesta</i> ssp.	Tracy's tarplant	PDAST4R067	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734188 Chamberlain Creek Instream Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC
Tiarella trifoliata var. trifoliata	trifoliate laceflower	PDSAX10031	None	None	-
Cervus canadensis nannodes	tule elk	AMALC01011	None	None	-
Chaetura vauxi	Vauxs swift	ABNUA03020	None	None	SSC
Brasenia schreberi	watershield	PDCAB01010	None	None	-
Atractelmis wawona	Wawona riffle beetle	IICOL58010	None	None	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-
Margaritifera falcata	western pearlshell	IMBIV27020	None	None	-
Lasiurus frantzii	western red bat	AMACC05080	None	None	SSC
Rhynchospora alba	white beaked- rush	PMCYP0N010	None	None	-
Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-
Elanus leucurus	white-tailed kite	ABNKCC06010	None	None	FP
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-

Ryan and Freshwater Slough Tidal Wetland Reconnection Project (Project ID: 1734247)

2025

Introduction:

The Eel River Watershed Improvement Group (ERWIG) (Grantee) will facilitate site surveys, monitoring and modeling used to develop up to three conceptual designs with the goal of reconnecting tidally influenced off-channel habitat in the Humboldt Bay Watershed. Options will include replacing a tide gate on Ryan Slough, removing levees, and improving the reconnected habitat for the benefit of fish and wildlife. One of the limiting factors for Ryan Creek and Freshwater Creek is lack of estuary habitat. This project will develop plans to increase estuary habitat in both watersheds by reconnecting and restoring estuarine habitat that are both disconnected and dysfunctional in their current conditions.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#), utilizing sections VI, IX.

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☒ or No ☐

Project Description:

Location:

The project site is located adjacent to Ryan Slough and Freshwater Slough, in Eureka, CA. The Ryan Slough tide gate is located approximately 1/3 of a mile upstream from the confluence with Freshwater Slough. The project site is approximately 700 feet downstream of the Myrtle Avenue bridge over Ryan Slough.

Project central coordinates: 40.78662, -124.11891

Project Description:

The goal of this project is to restore salmonid habitat by improving tidal connection and fish passage to approximately 28 acres of off-channel habitat. The project would evaluate options for replacing an existing tide gate crossing on Ryan Slough with a new crossing structure that provides unimpeded fish passage and the restoration of the historical tidal marsh. Alternative road/trail alignments and crossing locations will also be evaluated to reduce the length of dike separating the marsh from Ryan Slough. The project would determine the appropriate design criteria and structure type and size for the vehicular crossing, with consideration of sea level rise and the critical infrastructure the access route serves. The planning project would also assess potential risks associated with reintroducing full tidal circulation into the area and develop measures to mitigate such risks. Multiple alternatives will be assessed for restoring this site with a focus on using natural tidal processes to allow the site to evolve and adapt to sea level rise.

This project would also assess alternatives to connect County owned parcels comprising approximately 24 acres that drain north into Freshwater Slough to Dead Mouse Marsh. Dead Mouse Marsh is currently disconnected from Freshwater Slough by Park Street. Restoring and creating tidal channels and a hummocky topography would be evaluated to restore and enhance historical marsh conditions. Connection and restoration of the freshwater springs and tributary streams along the western bluff would also be evaluated to create a mosaic of habitats within this transitional ecotone. The project would analyze the appropriate channel sizes and assess new crossing structure types and sizes for Park Street to make the connection to Dead Mouse Marsh.

Materials:

All materials listed are needed to conduct surveys and collect data to inform project designs and alternative analysis. All materials will be purchased by subcontractors.

1. Pressure transducers will be used to monitor water levels within the project area.
2. Salinity and DO loggers will be used to monitor salinity and DO within the project area.
3. A total station will be used to conduct topographic surveys.
4. A sonar device will be used to collect bathymetric data.
5. Unmanned Aerial Vehicle (UAV) will be used to conduct vegetation mapping and in the creation of a base image.

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
Task 1. Project Management and Administration	04/01/26	ERWIG personnel will provide all contracting and administrative oversight pursuant to grant and regulatory guidelines. Project management includes grant management, contracting oversight and administration, scheduling landowner and agency communication, landowner access agreements, subcontracting, ongoing coordination with the various stakeholders and members of the project design team, preparing invoices and progress reports, tracking project costs, and accomplishments, and submittal of final report and final invoice. ERWIG will track the project budget and develop and submit invoices to the grantor on a regular basis. In addition, the required annual report metrics will be generated and submitted to the CDFW contract manager each year.	Final Landowner Access Agreements: July 1, 2026 Subcontractor Contracts: July 1, 2026 Progress Reports: With every invoice Annual Report: Annually in November Final Project Metrics: March 31, 2028 Draft Final Project Report: March 31, 2028 Final Project Report: April 30, 2028 Final Project Invoice: April 30, 2028
Task 2. Meetings, Coordination, and Review of Background Documents	05/01/26	Meetings and Coordination: The project involves multiple project partners, along with multiple objectives and constraints. Identifying a project that meets habitat restoration objectives while satisfying other requirements will necessitate close coordination with project partners on a regular basis. This will involve larger Planning Meetings along with smaller	Meeting Notes in pdf format: March 31, 2028 Compiled and organized background documents in electronic format: March 31, 2028

Task Name	Start Date	Activity Description	Deliverables
		coordination meetings with individual partners. This task includes four (4) larger Planning Meetings led by ERWIG and supported by MLA and SWS along with additional time for coordination and information gathering with partners. Meetings will be both in-person and virtual. * Planning Meeting 1: Kick-off meeting * Planning Meeting 2: Findings from site characterizations and establishing project objectives and constraints * Planning Meeting 3: Scoping of restoration options and selection of alternatives for Development * Planning Meeting 4: Review findings from draft Alternatives Analysis Report Collection and Review of Background Documents: Identifying constraints and opportunities for the project requires gathering and reviewing background documents and data, including descriptions of parcel boundaries, easements, and rights-of-way, deed restrictions, location and depth of water lines and other utilities, historical maps and aerials photographs, and previous botanical and wetland surveys among others. These documents will be identified and copies obtained through the close coordination with project partners. MLA and SWS staff will digitize and review these documents and data sources. They will be compiled and organized electronically for future reference, listed in a spreadsheet database, and	

Task Name	Start Date	Activity Description	Deliverables
		summarized in the project's Alternatives Evaluation Report.	
Task 3. Topographic Surveys and UAV Imagery	10/01/26	MLA's Principal Engineer, Project Engineer, and Associate Engineer will conduct topographic and bathymetric surveys of project areas using RTK-GNSS survey equipment and a single beam sonar. The survey area will, to the extent feasible, include the existing marsh areas behind the dikes, the tidal channels in Dead Mouse Marsh, and the adjacent Ryan Slough and Freshwater Slough channels. The survey data will be used to create a digital elevation model (DEM) of the terrain. The DEM will be combined with the publicly available LiDAR DEM to create a project DEM for project planning and design. The survey and DEM datums will be in NAD83 CA Zone 1 State Plane and NAVD88 feet. MLA's Associate Engineer, a FAA licensed UAS pilot, will use a DJI UAS to collect imagery and create a high resolution geo-rectified aerial image of the entire project area. The images will be taken during spring to aid in vegetation mapping by SWS. The final product will serve as a base image in GIS and CAD for project planning and design.	Combined DEM of Project Area as a geoTIFF. High resolution UAS aerial image as a JPEG - 6/30/2027.
Task 4. Water Level and Water Quality Monitoring	10/01/26	Water levels and water quality [water temperatures, salinity, and dissolved oxygen (DO) levels] will be monitored at locations throughout the project study area. This data will be used to calibrate hydraulic models, assess risks from tidal flooding, and identify potential habitat types that may be created spatially	Plots of water level and water quality data in Alternatives Evaluation Report. Spreadsheet with 15 minute data. 03/31/2027

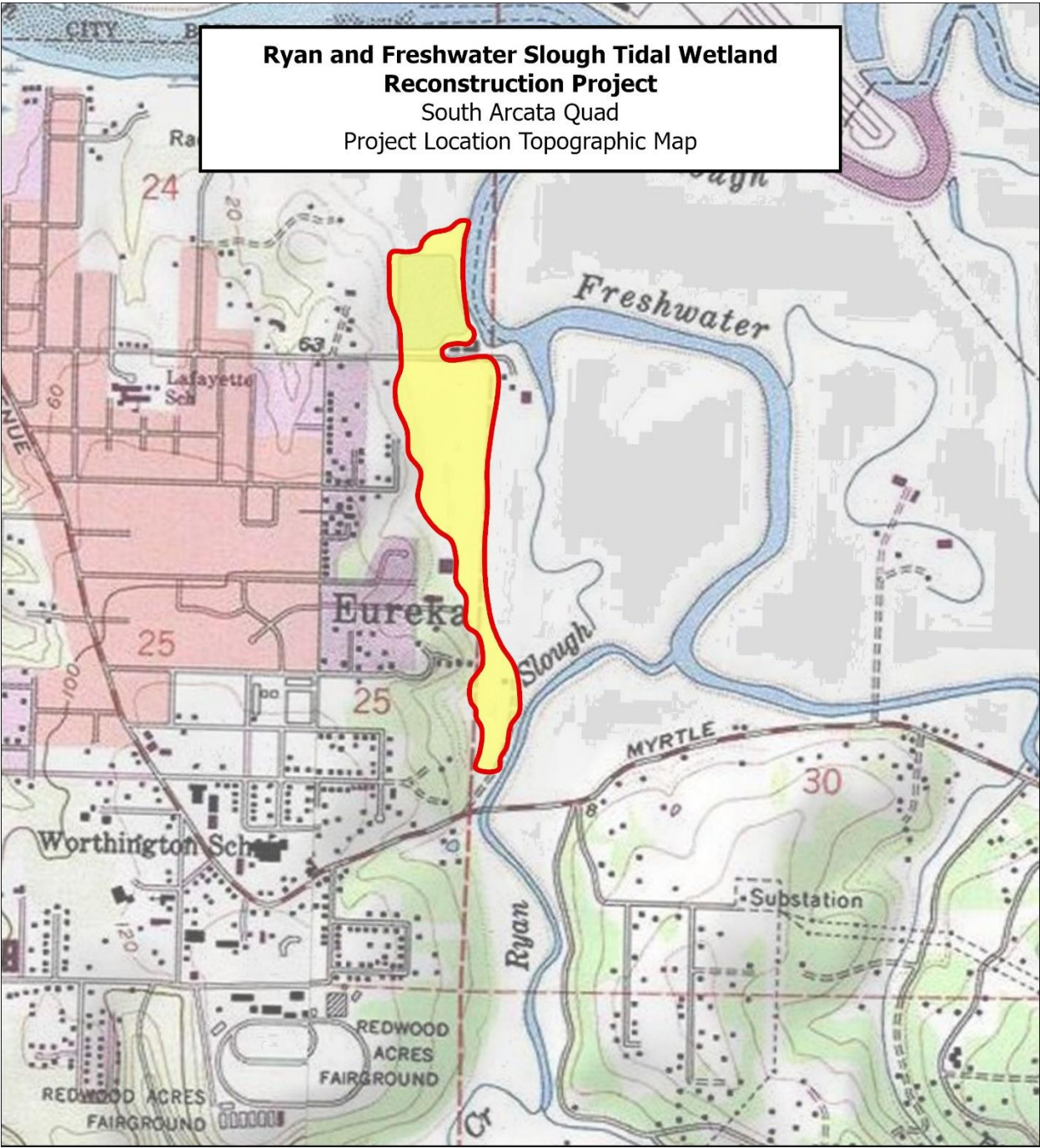
Task Name	Start Date	Activity Description	Deliverables
		and seasonally by the project. Water level monitoring will occur in Ryan Slough and Freshwater Slough as well as in the existing marshes on the County parcels. Water quality monitoring will consist of loggers measuring surface and bottom salinity and water temperature in conjunction with the water level monitoring stations. Loggers measuring DO concentrations and water temperature will be stationed at locations that tributary streams and springs emerge from the bluffs as they flow into the project wetlands. The loggers will be operated over a 12-month period and set to record data every 15 minutes. MLA's Associates Engineers will install and remove the loggers and associated housings, conduct regular downloads, and post-process the data. The loggers will be downloaded and serviced every 6 weeks. Spot measurements of water quality parameters will be taken during each download. Data will be plotted and presented in the project's Alternatives Evaluation Report.	
Task 5. Hydrology and Hydraulics	02/01/27	MLA's Project Engineer, and Associate Engineer calculate drainage areas and estimate return period flows for the tributaries draining into the project for use as inflows to a hydraulic model MLA will develop an existing conditions 2-D hydraulic model of the project study area using HEC-RAS. The project DEM will be used as the base model terrain. The collected water level data will be utilized to calibrate and validate the model. Historical water level data from Eureka Slough	Tables and appendices summarizing hydrologic calculations will be provided in the Alternatives Evaluation Report. Model results figures and description will be provided in Alternatives Evaluation Report and appendices. 2/29/28

Task Name	Start Date	Activity Description	Deliverables
		at Murray Field collected by Cal Poly Humboldt will also be utilized. Once calibrated, the model will be used to assess different alternatives relative to tidal inundation extents, tidal prism and channel sizes, and sizing of road crossing openings. Scenarios that will be analyzed will include sea level rise, levee beaching, and potentially muted tide gates.	
Task 6. Geology and Geomorphology	09/01/26	SWS's Engineering Geologist will lead the geologic and geomorphic investigations of the project sites. The geomorphic investigation will include review and interpretation of historical maps, coastal charts, and aerial photographs. Site geomorphology will also be characterized in the field to produce an existing conditions geomorphic map of the project sites. The geologic investigation will include hand-augured boreholes to describe the general surface and subsurface soils and stratigraphy with a focus on considerations for construction and heavy equipment access. No soil laboratory analysis is planned at this phase of the project. Up to six (6) shallow groundwater monitoring wells will be installed by MLA in the boreholes. Locations will be selected to characterize conditions across the freshwater and tidal marsh transition. Potential geologic hazards will be identified and characterized to a preliminary level that is suitable for this stage of restoration design planning. The geologic and geomorphic characterizations will be summarized in a technical memorandum and be	Geologic and geomorphic characterizations in the Geology and Geomorphology Technical Memorandum. 10/31/27

Task Name	Start Date	Activity Description	Deliverables
		used to inform the evaluation of conceptual of conceptual restoration alternatives.	
Task 7. Vegetation	09/01/26	SWS's Botanist/Wetland Specialist will perform a desktop vegetation characterization using the project UAV orthomosaic imagery and heads-up digitizing. The characterization will include a one-day field survey for rapid vegetation verification of the draft desktop mapping. The Botanist/Wetland Specialist will synthesize field vegetation survey data from numerous previous projects surrounding the project site to evaluate potential special-status plant occurrences and sensitive natural resources in the area. The characterization will be summarized in a vegetation classification technical memorandum that includes a preliminary-level overview of restoration opportunities and constraints.	Vegetation characterizations in the Vegetation Technical Memorandum. 10/31/27
Task 8. Scoping and Evaluation of Alternatives	06/01/26	Establishing Project Objectives and Constraints: This task involves the scoping of various options for restoring and enhancing the tidal marsh habitats to meet objectives while working within the project constraints followed by evaluating each alternative. The first step will be to identify the specific project objectives and constraints, informed by outcomes from the project Planning Meetings, discussions with project partners, and findings from the review of background documents in Task 2. SWS's Engineering Geologist and Botanist/Wetland Specialist will participate in scoping the restoration alternatives. The drafted project	Draft and Final list of project objectives and constraints. Figures and description of Scoped Options. Conceptual design drawings for up to 3 alternatives. Planning level (Class 4) cost estimates for up to 3 alternatives. 2/29/28

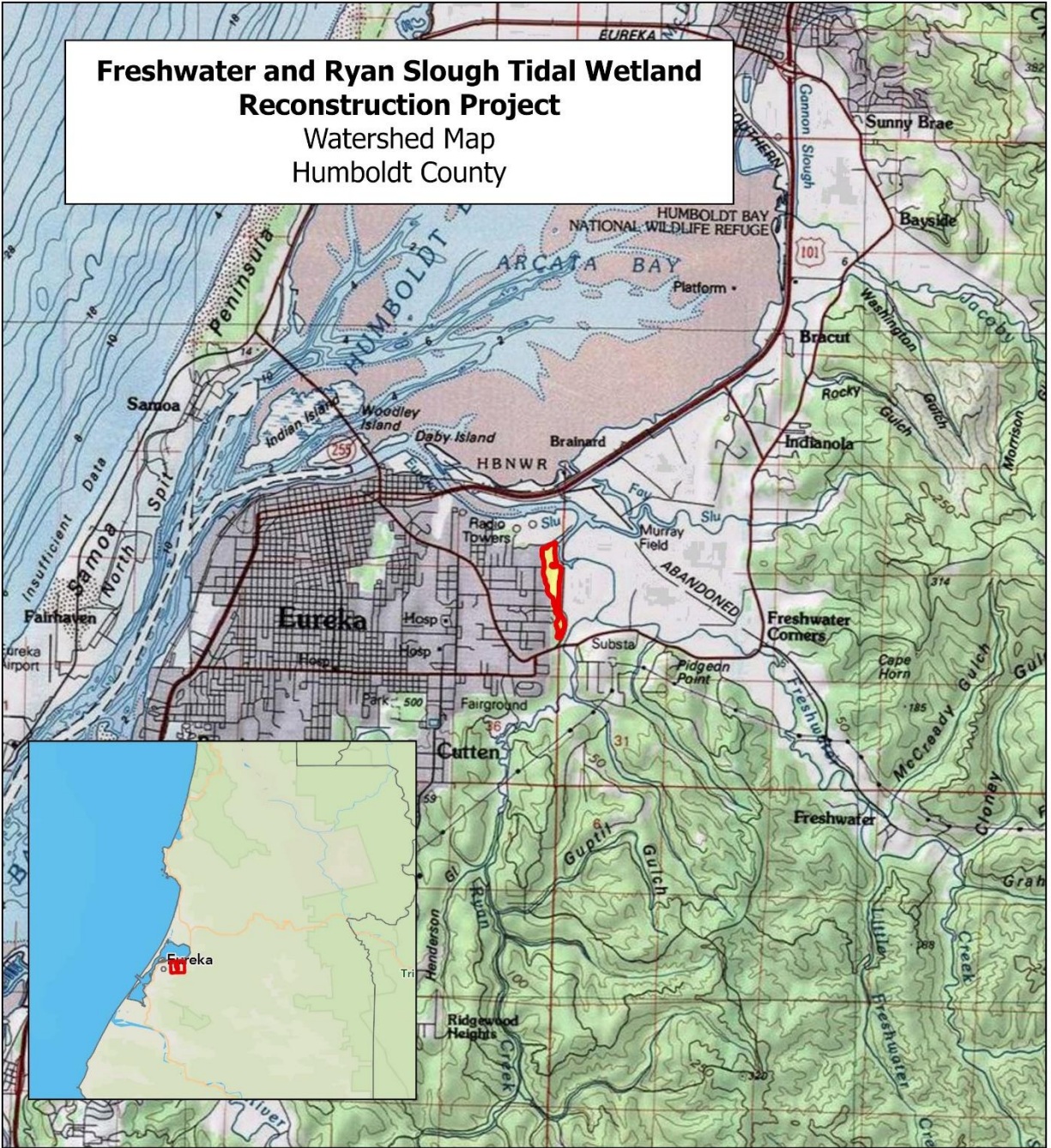
Task Name	Start Date	Activity Description	Deliverables
		objectives and constraints will be provided to the project partners and refined based on group input. Scoping Restoration Options: The scoping process will involve MLA developing GIS-type figures depicting different options accompanied by a brief bulleted description. These options will be provided to project partners and presented at a Project Planning Meeting. Based on feedback from the group, the options will be refined down to three restoration alternatives for further development. Alternatives Development and Cost Estimates: The alternatives will be developed to a conceptual (30%) design level sufficient to describe the anticipated performance relative to project objectives and constraints. This will include grading the DEM in CAD, hydraulic and hydrologic analysis, analyzing hydraulics through different sized road crossing structures, and development of CAD of GIS drawings showing each alternative in plan view, profile, and typical sections. A planning level (Class 4) cost estimate for each alternative will be prepared based on the cost from completed projects with similar elements.	
Task 9. Preparation of Alternatives Evaluation Report and	01/01/28	MLA will lead the preparation of the Alternative Evaluation Report. The results from the project background research, meetings and coordination, site characterization efforts, established project objectives and constraints, scoped options, and analyzed alternatives will be summarized in a Alternative Evaluation Report. The concept drawings and cost	Draft Alternatives Evaluation Report in PDF format. Final Alternatives Evaluation Report in PDF format. 4/30/28

Task Name	Start Date	Activity Description	Deliverables
Concept Designs		estimates will be included with the report. The geologic and vegetation memorandums will be included as appendices to the report. The report will describe each alternative and anticipated ability to meet project objectives. The report will serve as a decision making tool for the project partners to select the best alternative to advance to final design.	
Task 10. Cultural Resource Investigation	05/01/26	William Rich and Associates and the Wiyot tribe will work on identifying archaeological and cultural resources with the project area. Areas determined to be archaeologically or culturally sensitive will be incorporated into the designs as areas that construction work will not occur.	Cultural Resource Report due on March 31, 2027



0 0.1 0.2 0.3 0.4 0.5 Miles





0 0.8 1.5 2.3 3 Miles

 Project Area



California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734247 Ryan and Freshwater Slough Tidal
Wetland Reconnection Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC
Plethodon elongatus	Del Norte salamander	AAAAD12050	None	None	WL
Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC
Rana boylei pop. 1	foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	SSC
Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC
Accipiter cooperii	Coopers hawk	ABNKC12040	None	None	WL
Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL
Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP WL
Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC
Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP
Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP
Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-
Chaetura vauxi	Vauxs swift	ABNUA03020	None	None	SSC
Ardea alba	great egret	ABNGA04040	None	None	-
Ardea herodias	great blue heron	ABNGA04010	None	None	-
Botaurus lentiginosus	American bittern	ABNGA01020	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734247 Ryan and Freshwater Slough Tidal
Wetland Reconnection Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Egretta thula</i>	snowy egret	ABNGA06030	None	None	-
<i>Nycticorax nycticorax</i>	black-crowned night heron	ABNGA11010	None	None	-
<i>Charadrius montanus</i>	mountain plover	ABNNB03100	None	None	SSC
<i>Charadrius nivosus nivosus</i>	western snowy plover	ABNNB03031	Threatened	None	SSC
<i>Falco columbarius</i>	merlin	ABNKD06030	None	None	WL
<i>Falco peregrinus anatum</i>	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
<i>Antigone canadensis canadensis</i>	lesser sandhill crane	ABNMK01011	None	None	SSC
<i>Antigone canadensis tabida</i>	greater sandhill crane	ABNMK01014	None	Threatened	FP
<i>Riparia riparia</i>	bank swallow	ABPAU08010	None	Threatened	-
<i>Icteria virens</i>	yellow-breasted chat	ABPBX24010	None	None	SSC
<i>Thalasseus elegans</i>	elegant tern	ABNNM08040	None	None	WL
<i>Pandion haliaetus</i>	osprey	ABNKC01010	None	None	WL
<i>Poecile atricapillus</i>	black-capped chickadee	ABPAW01010	None	None	WL
<i>Passerculus sandwichensis alaudinus</i>	Bryants savannah sparrow	ABPBX99011	None	None	SSC
<i>Pelecanus occidentalis californicus</i>	California brown pelican	ABNFC01021	Delisted	Delisted	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734247 Ryan and Freshwater Slough Tidal
Wetland Reconnection Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Nannopterum auritum	double-crested cormorant	ABNFD01020	None	None	WL
Coturnicops noveboracensis	yellow rail	ABNME01010	None	None	SSC
Rallus obsoletus obsoletus	California Ridgways rail	ABNME05011	Endangered	Endangered	FP
Numenius americanus	long-billed curlew	ABNNF07070	None	None	WL
Asio flammeus	short-eared owl	ABNSB13040	None	None	SSC
Asio otus	long-eared owl	ABNSB13010	None	None	SSC
Athene cunicularia	burrowing owl	ABNSB10010	None	Candidate Endangered	SSC
Strix nebulosa	great gray owl	ABNSB12040	None	Endangered	-
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC
Empidonax traillii	willow flycatcher	ABPAE33040	None	Endangered	-
Acipenser medirostris pop. 1	green sturgeon - southern DPS	AFCAA01031	Threatened	None	SSC
Acipenser medirostris pop. 2	green sturgeon - northern DPS	AFCAA01032	None	None	SSC
Acipenser transmontanus	white sturgeon	AFCAA01050	None	Candidate Threatened	SSC
Cottus asper ssp.	Clear Lake prickly sculpin	AFC4E02021	None	None	SSC
Eucyclogobius newberryi	tidewater goby	AFCQN04010	Endangered	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734247 Ryan and Freshwater Slough Tidal
Wetland Reconnection Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Spirinchus thaleichthys	longfin smelt	AFCHB03010	None	Threatened	-
Thaleichthys pacificus	eulachon	AFCHB04010	Threatened	None	SSC
Entosphenus folletti	northern California brook lamprey	AFBAA02110	None	None	SSC
Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC
Lampetra richardsoni	western brook lamprey	AFBAA02180	None	None	SSC
Oncorhynchus clarkii	coast cutthroat trout	AFCHA0208A	None	None	SSC
Oncorhynchus gorbuscha	pink salmon	AFCHA02010	None	None	-
Oncorhynchus keta	chum salmon	AFCHA02020	None	None	-
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-
Oncorhynchus mykiss irideus pop. 48	steelhead - northern California DPS summer-run	AFCHA0213P	Threatened	Endangered	-
Oncorhynchus mykiss irideus pop. 49	steelhead - northern California DPS winter-run	AFCHA0213Q	Threatened	None	SSC
Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734247 Ryan and Freshwater Slough Tidal
Wetland Reconnection Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Oncorhynchus tshawytscha pop. 30	chinook salmon - upper Klamath and Trinity Rivers ESU	AFCHA02056	Candidate	Threatened	SSC
Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-
Bombus crotchii	Crotchs bumble bee	IIHYM24480	None	Candidate Endangered	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-
Cicindela hirticollis gravida	sandy beach tiger beetle	IICOL02101	None	None	-
Scaphinotus behrensi	Behrens snail-eating beetle	IICOL4L070	None	None	-
Aplodontia rufa humboldtiana	Humboldt mountain beaver	AMAF01017	None	None	-
Arborimus albipes	white-footed vole	AMAFF23010	None	None	SSC
Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC
Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-
Enhydra lutris nereis	southern sea otter	AMAJF09012	Threatened	None	FP
Martes caurina humboldtensis	Humboldt marten	AMAJF01017	Threatened	Endangered	SSC
Pekania pennanti	Fisher	AMAJF01020	None	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734247 Ryan and Freshwater Slough Tidal
Wetland Reconnection Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Bassariscus astutus raptor	northern California ringtail	AMAJE01014	None	None	FP
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Myotis evotis	long-eared myotis	AMACC01070	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Littorina subrotundata	Newcombs littorine snail	IMGASR3010	None	None	-
Margaritifera falcata	western pearlshell	IMBIV27020	None	None	-
Anodonta californiensis	California floater	IMBIV04220	None	None	-
Actinemys marmorata	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	CTT52110CA	None	None	-
Northern Foredune Grassland	Northern Foredune Grassland	CTT21211CA	None	None	-
Upland Douglas Fir Forest	Upland Douglas Fir Forest	CTT82420CA	None	None	-
Trichodon cylindricus	cylindrical trichodon	NBMUS7N020	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734247 Ryan and Freshwater Slough Tidal
Wetland Reconnection Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Fissidens pauperculus	minute pocket moss	NBMUS2W0U0	None	None	-
Sulcaria spiralifera	twisted horsehair lichen	NLT0042560	None	None	-
Platismatia lacunosa	crinkled rag lichen	NLLEC2Q010	None	None	-
Usnea longissima	Methuselahs beard lichen	NLLEC5P420	None	None	-
Angelica lucida	sea-watch	PDAP1070G0	None	None	-
Glehnia littoralis ssp. leiocarpa	American glehnia	PDAP113011	None	None	-
Hemizonia congesta ssp. tracyi	Tracys tarplant	PDAST4R067	None	None	-
Hesperervax sparsiflora var. brevifolia	short-leaved evax	PDASTE5011	None	None	-
Lasthenia californica ssp. macrantha	perennial goldfields	PDAST5L0C5	None	None	-
Layia carnosa	beach layia	PDAST5N010	Threatened	Endangered	-
Packera bolanderi var. bolanderi	seacoast ragwort	PDAST8H0H1	None	None	-
Cardamine angulata	seaside bittercress	PDBRA0K010	None	None	-
Erysimum menziesii	Menzies wallflower	PDBRA160R0	Endangered	Endangered	-
Noccaea fendleri ssp. californica	Kneeland Prairie pennycress	PDBRA2P041	Endangered	None	-
Silene scouleri ssp. scouleri	Scoulers catchfly	PDCAR0U1MC	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734247 Ryan and Freshwater Slough Tidal
Wetland Reconnection Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Spergularia canadensis</i> var. <i>occidentalis</i>	western sand-spurrey	PDCAR0W032	None	None	-
<i>Carex arcta</i>	northern clustered sedge	PMCYP030X0	None	None	-
<i>Carex leptalea</i>	bristle-stalked sedge	PMCYP037E0	None	None	-
<i>Carex lyngbyei</i>	Lyngbyes sedge	PMCYP037Y0	None	None	-
<i>Carex praticola</i>	northern meadow sedge	PMCYP03B20	None	None	-
<i>Eleocharis parvula</i>	small spikerush	PMCYP091G0	None	None	-
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	coastal marsh milk-vetch	PDFAB0F7B2	None	None	-
<i>Astragalus rattanii</i> var. <i>rattanii</i>	Rattans milk-vetch	PDFAB0F7E2	None	None	-
<i>Hosackia gracilis</i>	harlequin lotus	PDFAB2A0D0	None	None	-
<i>Lathyrus glandulosus</i>	sticky pea	PDFAB251A0	None	None	-
<i>Lathyrus japonicus</i>	seaside pea	PDFAB250C0	None	None	-
<i>Lathyrus palustris</i>	marsh pea	PDFAB250P0	None	None	-
<i>Ribes laxiflorum</i>	trailing black currant	PDGRO020V0	None	None	-
<i>Erythronium oregonum</i>	giant fawn lily	PMLILOU0C0	None	None	-
<i>Erythronium revolutum</i>	coast fawn lily	PMLILOU0F0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734247 Ryan and Freshwater Slough Tidal
Wetland Reconnection Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Fritillaria purdyi</i>	Purdys fritillary	PMLILOV0H0	None	None	-
<i>Lilium kelloggii</i>	Kelloggs lily	PMLIL1A0A0	None	None	-
<i>Lilium occidentale</i>	western lily	PMLIL1A0G0	Endangered	Endangered	-
<i>Lilium rubescens</i>	redwood lily	PMLIL1A0N0	None	None	-
<i>Lycopodium clavatum</i>	running-pine	PPLYC01080	None	None	-
<i>Iliamna latibracteata</i>	California globe mallow	PDMAL0K040	None	None	-
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	PDMAL110E0	None	None	-
<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	PDMAL110F9	None	None	-
<i>Sidalcea oregana</i> ssp. <i>eximia</i>	coast checkerbloom	PDMAL110K9	None	None	-
<i>Monotropa uniflora</i>	ghost-pipe	PDMON03030	None	None	-
<i>Pityopus californicus</i>	California pinefoot	PDMON05010	None	None	-
<i>Lewisia kelloggii</i> ssp. <i>kelloggii</i>	Kelloggs lewisia	PDPOR040M1	None	None	-
<i>Montia howellii</i>	Howells montia	PDPOR05070	None	None	-
<i>Abronia umbellata</i> var. <i>breviflora</i>	pink sand-verbena	PDNYC010N4	None	None	-
<i>Epilobium septentrionale</i>	Humboldt County fuchsia	PDONA06110	None	None	-
<i>Oenothera wolfii</i>	Wolfs evening-primrose	PDONA0C1K0	None	None	-
<i>Listera cordata</i>	heart-leaved twayblade	PMORC1N060	None	None	-
<i>Piperia candida</i>	white-flowered rein orchid	PMORC1X050	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734247 Ryan and Freshwater Slough Tidal
Wetland Reconnection Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Castilleja ambigua var. humboldtensis	Humboldt Bay owls-clover	PDSCR0D402	None	None	-
Castilleja littoralis	Oregon coast paintbrush	PDSCR0D012	None	None	-
Chloropyron maritimum ssp. palustre	Point Reyes salty birds-beak	PDSCR0J0C3	None	None	-
Collinsia corymbosa	round-headed collinsia	PDSCR0H060	None	None	-
Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-
Gilia capitata ssp. pacifica	Pacific gilia	PDPLM040B6	None	None	-
Gilia millefoliata	dark-eyed gilia	PDPLM04130	None	None	-
Coptis laciniata	Oregon goldthread	PDRAN0A020	None	None	-
Chrysosplenium glechomifolium	Pacific golden saxifrage	PDSAX07020	None	None	-
Mitellastra caulescens	leafy-stemmed mitrewort	PDSAX0N020	None	None	-
Tiarella trifoliata var. trifoliata	trifoliate laceflower	PDSAX10031	None	None	-
Viola palustris	alpine marsh violet	PDVIO041G0	None	None	-

Upper SF Eel River Instream Habitat Improvement Project (Project ID: 1734303)

2025

Introduction:

The Eel River Watershed Improvement Group (ERWIG) (Grantee) will implement 100% design plans for an instream large wood (LS) project along 3.5 miles of the SF Eel River. The designed project will improve spawning and rearing habitat conditions for salmonids. Project designs will include 41 in-channel habitat structures made out of 166 logs and 202 boulders. The designed project will improve ecological complexity and geomorphic function within the project reach. The project is necessary because the lack of LW in the stream channel has negatively affected the quality and quantity of salmonid habitat within South Fork Eel River by reducing the amount of large channel forming features and limiting complex cover for salmonids.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [*California Salmonid Stream Habitat Restoration Manual*](#), Volume I, Part VII.

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

This project is located on the South Fork Eel River, a tributary to the Eel River (Exhibit 1). The project site is located near Branscomb, Mendocino County, CA, Township 21 North, 16 West and Ranges 25, 26, 27, 36 of the Lincoln Ridge and Cahto Peak 7.5 Minute U.S. Geological Survey Quadrangles. The downstream extent of the project site is 1.1 miles upstream of the confluence with Kenny Creek and it extends 3.5 miles upstream.

Project central point: 39.64108, -123.60823

Project Description:

The goal of this project is to increase salmonid survival by improving available habitat for spawning and rearing. This will be accomplished by implementing engineered design plans for a LW project along 3.5 miles of the upper South Fork Eel River. Forty-one LW structures will be constructed using 145 logs, 21 logs with rootwads, and 202 boulders. Structures will deepen pools, increase shelter and shelter complexity, capture spawning gravels, improve off-channel habitat, increase floodplain and side channel inundation, and provide velocity refugia to Coho, Chinook, and Steelhead.

Materials:

All materials will be purchased by applicant.

- Large wood including 145 logs and 21 logs with rootwads
- 202 boulders
- Conifer seedlings and native plants including coast redwood (*Sequoia sempervirens*), salal (*Gaultheria shallon*), evergreen huckleberry (*Vaccinium ovatum*), azalea (*Rhododendron* sp.), thimbleberry (*Rubus parviflorus*), and western sword fern (*Polystichum munitum*)
- Gripping and anchoring Supplies including threaded bar, nuts, and plates (washers)
- Rock glue
- Erosion Control Materials for preventing surface erosion

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
Task 1. Project Management and Administration	04/01/26	Grantee will provide all contracting and administrative oversight pursuant to grant and regulatory guidelines. Project management includes grant management, contracting oversight and administration, scheduling landowner and agency communication, landowner access agreements, subcontracting, ongoing coordination with the various stakeholders, preparing invoices and progress reports, tracking project costs, and accomplishments, and submittal of final report and final invoice. Grantee will track the project budget and develop and submit invoices to the grantor on a regular basis. In addition, the required annual report metrics will be generated and submitted to the CDFW Grant Manager each year.	1600 Permit - 7/1/2027 Executed Subcontracts - 7/1/2027 Access Agreements - 7/1/2027 Invoices - 7/1/2026 Progress Reports - With every invoice Annual Report - Annually in November Project Data - 2/28/2029 Draft Final Report - 1/28/29 Final Report - 2/28/2029 Final Invoice - 2/28/2029
Task 2. CEQA Surveys and Research	04/01/26	Subcontractors William Rich and Associates and Pacific Watershed Associates will conduct research and surveys within the project reach to fulfill CEQA requirements for FRGP. A Tribal representative may help inform the cultural resource investigations. Interim survey reports will be delivered to CDFW Grant Manager prior to receiving a Notice to Proceed.	Interim Survey Report for cultural resources, botany and paleontology - 7/1/2027 Final Survey Report for cultural resource, botany and paleontology - 2/28/2029

Task Name	Start Date	Activity Description	Deliverables
Task 3. Site Preparation	06/14/26	Grantee and subcontractor Stillwater Sciences will finalize site specific designs based on channel morphology, equipment access, and large wood availability. A Tribal representative may provide input on project designs and implementation approach. They will submit any changes to designs for CDFW Grant Manager approval. Grantee will flag sites for wood selection, staging, and installation, clear brush as needed, and designate staging areas for wood along the project reach. Up to three stream crossing sites will be used to access features. These crossings will be used two times by an excavator (in and out). Vehicles will access construction areas via existing roads. Grantee will set up fish exclusion fencing at the stream crossings. Grantee staff will assist subcontractor Ross Taylor and Associates and/or CDFW staff in fish and amphibian removal at the stream crossings. The crossings will be used for the shortest time frame possible, at which time Grantee will remove the fencing and rehab the banks. Fish relocation data will be delivered to grant manager. Pre-project photos and metrics will be collected by Grantee. Tools and materials will be purchased by Grantee prior to the start of implementation and on an as-needed basis throughout the project.	Finalized design plans, flagged equipment access routes, pre-project photos and metrics, add due by 7/1/2027
Task 4. Large Wood Structure Construction	07/10/26	Upon approval from the CDFW Grant Manager, construction will begin on 41 LW features under the direction of the Grantee and Stillwater Sciences. A qualified contractor who is a licensed timber operator	41 LW structures made up of 166 logs and 202 boulders, due on October 31, 2028.

Task Name	Start Date	Activity Description	Deliverables
		and who has registered professional foresters (RPF) on staff will cut down trees and saw them into logs for the project. The RPF will sign off on all trees chosen for use in the project and will facilitate log purchases. Edwards Excavation will place boulders, logs and excavated logs with root-wads, into the stream in accordance with design plans. Up to three stream crossings will be used by an excavator. When necessary, subcontractor California Conservation Corps (CCC) Corpsmembers will move logs into position using a grip hoist come-along. The project will utilize living riparian trees as anchors by wedging the logs between them where feasible. CCC Corpsmembers will anchor the sites according to design and anchoring specifications. Corpsmembers will use one-inch threaded rebar to anchor logs to mature riparian trees and other logs. Holes will be drilled through the logs and their anchor trees using a wood drill, timber bit, and drill bit extensions when necessary. One-inch rebar will be inserted through the log and secured with nuts and washers. Corpsmembers will be supervised by a trained Conservationist 1 (C1) and the Grantee. Subcontractor Edwards Excavation and Grantee may assist the CCC with anchoring. Site construction, wood placement, and anchoring will be in accordance with the CDFW California Salmonid Stream Habitat Restoration Manual, Section VII (Flosi et al. 2010). Erosion control methods will be employed by the CCC and Grantee as required at each structure and along equipment corridors to eliminate the possibility of sediment	

Task Name	Start Date	Activity Description	Deliverables
		transport to the stream. Any tools that break down will be taken to a repair shop by the CCC. Grantee will monitor water quality as needed. To address concerns over invasive species this project will follow the Grantee Aquatic Invasive Species Decontamination Protocol, which is in line with the CDFW Aquatic Invasive Species Decontamination Protocol. Due to emergency response responsibilities, implementation will occur in the first summer that the CCC are available (between July and October, 2026-2028).	
Task 5. Riparian Planting	12/01/27	Grantee will return in the winter following project implementation to plant 400 redwood seedlings and 100 native plants, with a primary focus in areas disturbed by project activities and lacking sufficient conifer cover or riparian vegetation.	Four-hundred redwoods and 100 native plants planted along the project reach. Due by 2/28/2029
Task 6. Post Project Monitoring	10/30/27	Following implementation Grantee will take post-project photos and quantitative implementation metrics will be collected. Grantee will complete a first winter observation report/memo. Stillwater Sciences and Grantee will create as-built designs.	Post-project metrics, first winter report, as-built designs, and photos. Due on 2/28/2029

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

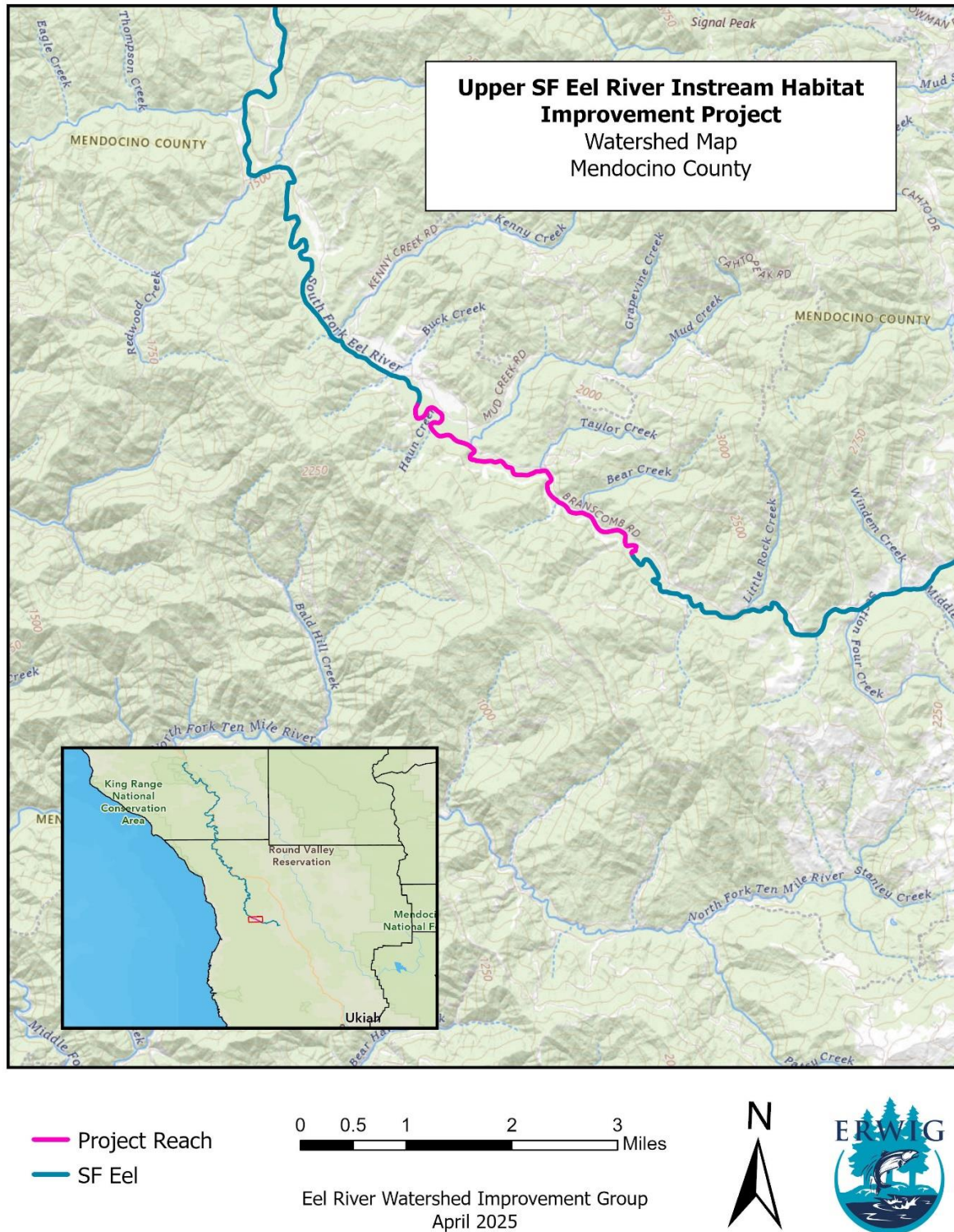
During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

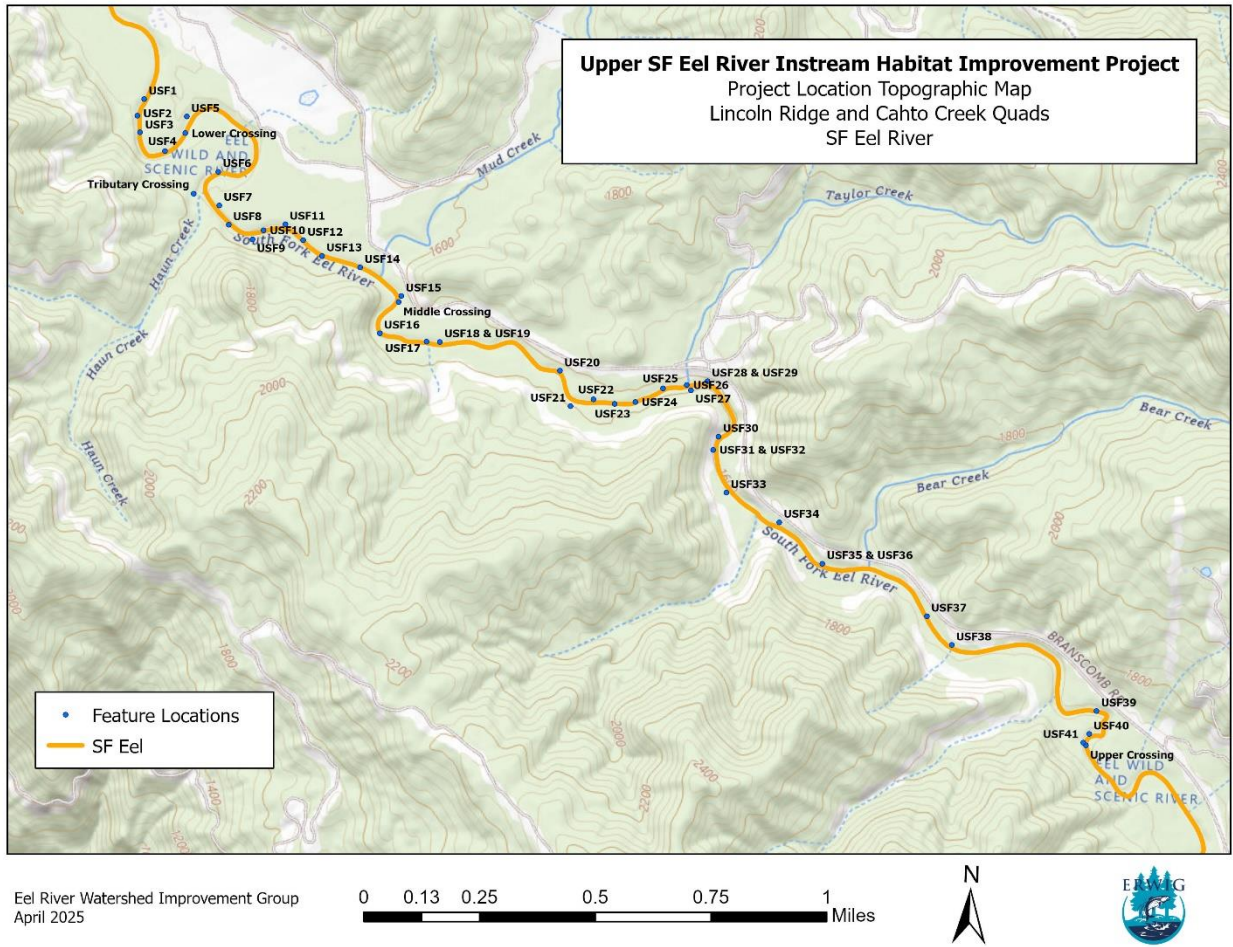
All habitat improvements will follow techniques described in the [*California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)*](#) or [*other approved guidelines and manuals for salmon and steelhead habitat restoration*](#).

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

Mulching and seeding will take place as sites are completed to avoid unforeseen erosion.

Exhibit 1 Watershed Map and Project Location Map





California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734303 Upper SF Eel River Instream Habitat
Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC
Rana aurora	northern red- legged frog	AAABH01021	None	None	SSC
Rana boylei pop. 1	foothill yellow- legged frog -	AAABH01051	None	None	SSC
Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC
Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC
Accipiter atricapillus	American goshawk	ABNKC12061	None	None	SSC
Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP
Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-
Ardea alba	great egret	ABNGA04040	None	None	-
Ardea herodias	great blue heron	ABNGA04010	None	None	-
Progne subis	purple martin	ABPAU01010	None	None	SSC
Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC
Pandion haliaetus	osprey	ABNKC01010	None	None	WL

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734303 Upper SF Eel River Instream Habitat
Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Eucyclogobius newberryi	tidewater goby	AFCQN04010	Endangered	None	SSC
Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-
Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	-
Oncorhynchus mykiss irideus pop. 48	steelhead - northern California DPS	AFCHA0213P	Threatened	Endangered	-
Oncorhynchus mykiss irideus pop. 49	steelhead - northern California DPS	AFCHA0213Q	Threatened	None	SSC
Oncorhynchus tshawytscha pop.	chinook salmon - California coastal	AFCHA0205S	Threatened	None	SSC
Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-
Bombus crotchii	Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-
Cervus canadensis	tule elk	AMALC01011	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734303 Upper SF Eel River Instream Habitat
Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC
Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-
Pekania pennanti	Fisher	AMAJF01020	None	None	SSC
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Bassariscus astutus raptor	northern California ringtail	AMAJE01014	None	None	FP
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Lasionycteris	silver-haired bat	AMACC02010	None	None	-
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Lasiurus frantzii	western red bat	AMACC05080	None	None	SSC
Myotis evotis	long-eared myotis	AMACC01070	None	None	-
Myotis thysanodes	fringed myotis	AMACC01090	None	None	-
Myotis volans	long-legged myotis	AMACC01110	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Margaritifera falcata	western pearlshell	IMBIV27020	None	None	-
Anodonta californiensis	California floater	IMBIV04220	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734303 Upper SF Eel River Instream Habitat
Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Actinemys marmorata	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
North Central Coast Fall-Run Steelhead Stream	North Central Coast Fall-Run Steelhead Stream	CARA2631CA	None	None	-
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-
Upland Douglas Fir Forest	Upland Douglas Fir Forest	CTT82420CA	None	None	-
Sulcaria badia	grooved beard lichen	NLTEST0030	None	None	-
Usnea longissima	Methuselahs beard lichen	NLLEC5P420	None	None	-
Ramalina thrausta	angels hair lichen	NLLEC3S340	None	None	-
Alisma gramineum	grass alisma	PMALI01010	None	None	-
Angelica lucida	sea-watch	PDAPI070G0	None	None	-
Lomatium kogholiini	Wailaki lomatium	PDAPI1B310	None	None	-
Erigeron biolettii	streamside daisy	PDAST3M5H0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734303 Upper SF Eel River Instream Habitat
Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Hemizonia congesta ssp. calyculata	Mendocino tarplant	PDAST4R063	None	None	-
Hemizonia congesta ssp. tracyi	Tracys tarplant	PDAST4R067	None	None	-
Wyethia longicaulis	Humboldt County wyethia	PDAST9X0A0	None	None	-
Brasenia schreberi	watershield	PDCAB01010	None	None	-
Eastwoodiella californica	swamp harebell	PDCAM02060	None	None	-
Viburnum ellipticum	oval-leaved viburnum	PDCPR07080	None	None	-
Silene bolanderi	Bolanders catchfly	PDCAR0U2L0	None	None	-
Silene greenei ssp. angustifolia	Red Mountain catchfly	PDCAR0U0A2	None	Endangered	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734303 Upper SF Eel River Instream Habitat
Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Sedum eastwoodiae	Red Mountain stonecrop	PDCRA0A0L1	None	None	-
Arctostaphylos densiflora	Vine Hill manzanita	PDERI040C0	None	Endangered	-
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	PDERI04271	None	None	-
Arctostaphylos stanfordiana ssp. raichei	Raiches manzanita	PDERI041G2	None	None	-
Astragalus agnicidus	Humboldt County milk-vetch	PDFAB0F080	None	Endangered	-
Astragalus rattanii var. rattanii	Rattans milk-vetch	PDFAB0F7E2	None	None	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Lathyrus glandulosus	sticky pea	PDFAB251A0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734303 Upper SF Eel River Instream Habitat
Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Lupinus milobakeri	Milo Bakers lupine	PDFAB2B4E0	None	Endangered	-
Thermopsis robusta	robust false lupine	PDFAB3Z0D0	None	None	-
Calochortus uniflorus	pink star-tulip	PMLIL0D1F0	None	None	-
Erythronium revolutum	coast fawn lily	PMLILOU0F0	None	None	-
Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-
Limnanthes bakeri	Bakers meadowfoam	PDLIM02020	None	Rare	-
Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-
Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-
Pityopus californicus	California pinefoot	PDMON05010	None	None	-
Epilobium septentrionale	Humboldt County fuchsia	PDONA06110	None	None	-
Cypripedium montanum	mountain ladys-slipper	PMORC0Q080	None	None	-
Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734303 Upper SF Eel River Instream Habitat
Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-
Kopsiopsis hookeri	small groundcone	PDORO01010	None	None	-
Calamagrostis bolanderi	Bolanders reed grass	PMPOA17010	None	None	-
Pleuropogon californicus var. davyi	Davys semaphore grass	PMPOA7Y012	None	None	-
Pleuropogon hooverianus	North Coast semaphore grass	PMPOA4Y070	None	Threatened	-
Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-
Gilia millefoliata	dark-eyed gilia	PDPLM04130	None	None	-
Leptosiphon aureus	bristly leptosiphon	PDPLM09010	None	None	-
Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-
Leptosiphon rattanii	Rattans leptosiphon	PDPLM09110	None	None	-
Navarretia leucocephala ssp. bakeri	Bakers navarretia	PDPLM0C0E1	None	None	-
Eriogonum kelloggii	Kelloggs buckwheat	PDPGN083A0	None	Endangered	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734303 Upper SF Eel River Instream Habitat
Improvement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Potamogeton epihydrus	Nuttalls ribbon- leaved	PMPOT03080	None	None	-
Coptis laciniata	Oregon goldthread	PDRAN0A020	None	None	-
Delphinium uliginosum	swamp larkspur	PDRAN0B1V0	None	None	-
Ceanothus foliosus var.	Vine Hill ceanothus	PDRHA040D6	None	None	-
Ceanothus gloriosus var.	glory brush	PDRHA040F4	None	None	-
Ceanothus gloriosus var.	Point Reyes ceanothus	PDRHA040F5	None	None	-
Micranthes marshallii	Marshalls saxifrage	PDSAX0U0X0	None	None	-
Mitellastra caulescens	leafy-stemmed mitrewort	PDSAX0N020	None	None	-

Arroyo Seco River Fish Passage Project - Sycamore Flats (Project ID: 1734307) 2025

Introduction:

Trout Unlimited, Inc. (Grantee) will implement (permit and construct) a project that will remove an existing 120-foot-long and 12-foot-wide private concrete vehicle ford on the Arroyo Seco River and replace it with a lower decked ford. The existing ford is a migration barrier for all life stages of south-central California coast steelhead. The project will provide full adult migration in all flows and improved passage for juveniles, thereby remediating a high priority migration barrier in the Arroyo Seco River and facilitating access for steelhead for an additional six river miles. Modifying fish passage impediments is a Critical Recovery Action for the Arroyo Seco River (NOAA SCC Steelhead Recovery Plan).

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The project site is located in the unincorporated community of Sycamore Flat, City of Greenfield, Monterey County (see Project Location Topographic Map). The project occurs on the Arroyo Seco River, approximately 15 river-miles from the confluence with the Salinas River (see Watershed Map). The project is centered at 36.26417, -121.39139.

Access to the site is from an existing road (Sycamore Flats Road). The concrete ford serves serves 13 residential homes and a commercial vineyard business with vehicular access over the Arroyo Seco River.

Project Description:

Over the past half century, the driving surface of the ford has been raised 3 times as sediment accumulates upstream. The ford is not passable in most winter months. In April 2023, The Grandma Flats Association (landowner) reached out to Grantee to investigate a long-term modification to the ford which would provide full migration opportunities for steelhead and a more durable vehicular crossing.

Grantee applied to CDFW and was awarded AB 179 Addressing Climate Impacts funds to investigate alternatives and complete 100% design for the preferred alternative stream crossing (Q2396022). Alternative approaches were conceptualized and modeled (including low deck and high deck bridges). The preferred alternative (this project) was selected by NMFS, CDFW, landowner, and Grantee.

Although the project will still not provide vehicular access across the river during winter flow events, it will: 1) remove the existing priority migration barrier, and 2) satisfy landowner, who is not attracted to a very high (full span) bridge.

Project Set-up:

Grantee will hire and oversee subcontractors, coordinate grant reporting, invoicing and communications between landowner, CDFW and subcontractors.

Waterways Consulting Inc. (and their sub-contractors Streeter Group and CMAG) will be sub-contracted for construction staking, site management and As-Built Drawings.

Alnus Ecological will be sub-contracted to conduct biological services such as pre-project surveys, site de-watering and fish relocation, and environmental education for project personnel.

RCD of Monterey County will be sub-contracted to secure necessary project permits and provide on site biological and permit compliance monitoring as needed.

Albion Environmental will be subcontracted to conduct cultural, archaeological, and botanical surveys, and prepare an associated Cultural Resources Report.

Esselen Tribe of Monterey County will be sub-contracted for tribal resource monitoring during construction.

Construction Contractor (TBD) will be selected after an advertised procurement process and sub-contracted all construction activities.

Materials:

All materials will be provided by subcontractors. Material costs have been included in the project budget within each respective subcontractor line item.

Tasks, Deliverables, and Timelines:

The table below describes project tasks and deliverables. The due dates in the deliverables column are approximate and susceptible to change, with Grant Manager approval.

Task Name	Start Date	Activity Description	Deliverables
Task 1 Project Management and Administration	06/01/26	Trout Unlimited will provide technical and administrative services associated with implementation of the Project including managing the grant, assuring all permits are finalized, securing Project Site Access, administrating subcontracts, invoicing and payment, drafting and finalizing progress and final reports and data management. TU will develop and manage subcontracts for Waterways Consulting Inc. (Waterways), Alnus Ecological, Resource Conservation District of Monterey Co., Albion Environmental, Esselen Tribe of Monterey Co., and a Construction Contractor (to be selected).	Quarterly Progress Reports and Invoices - Due within 30 days following each calendar quarter (March, June, September, December) following grant execution. Copies of Executed Subcontracts - Due 5/1/26 Copy of Executed Landowner Access Agreement - Due 8/1/26 Draft Final Progress Report - Due 7/1/28 Final Progress Report - Due no later than the Grant Term end date 9/1/28
Task 2: Project Pre-Construction Activities and Surveys	08/01/26	Permit Acquisition: Sub-contractors RCD and Alnus Ecological will secure all necessary permits, not provided by FRGP, DFW 1600 Lake and Streambed Alteration Agreement (LSA), any county or local permits, and any other permit or authorization required for capturing and handling steelhead and California red-legged frogs. A hard copy of all permits and	Copies of all permits Due 5/15/27 Resource surveys documentation Due 5/15/27 Water Quality and De-watering Plan Due 5/1/27

Task Name	Start Date	Activity Description	Deliverables
		resolution obtained for the project will be submitted to the Grant Manager prior to the commencement of construction. Submission of Plans and Work Schedule: Hard and electronic copy of Final Engineered Plans and specification for the project to be submitted within two (2) weeks after execution of the grant, to Grant Manager. California red-legged frogs and Steelhead Trout Surveys: Alnus Ecological will conduct pre-construction surveys following US Fish and Wildlife guidance protocol (2005). Surveys will be conducted by a qualified biologist (one holding appropriate permit) at least two weeks but before the onset of construction activities. If needed, California red-legged frog and Steelhead Trout will be moved from the construction area and relocated to appropriate habitat. In addition, monitoring of the channel will be conducted b a qualified biologist, permitted to handle the species, during the installation of coffer dams (or other dewatering structures) and during construction. Albion Environmental (Albion) will conduct cultural resource survey including the archaeological, botanical and paleontological surveys consistent with the requirements of CEQA for the subject site. Staging and Mobilization: Conduct site preparation surveys to inform on-site operations, for the safe movement of personnel, equipment, supplies, and	Final Plans Due 7/1/26 Photo Pt. Establishment Due 6/1/27

Task Name	Start Date	Activity Description	Deliverables
		incidentals to the work site; for the establishment of all offices and other facilities necessary for work on the project; and for all other work and operation which must be performed to complete tasks. Photo points will be established and used throughout the project to document work site conditions.	
Task 3: Construction	05/01/27	All construction will be done according to the accepted project specifications and accepted Final Engineering Plans. TU will hold a pre-construction meeting with the Grant Manager, Waterways, and sub-contractor representatives to establish roles and responsibilities and set expectations for record keeping, scheduling, monitoring, safety, sensitive species and invasive species protocols. TU will notify the Grant Manager a minimum of two weeks prior to the start of construction to enable the Grant Manager to begin monitoring of the project. Sub-contractors RCD and Esselen Tribe of Monterey County will provide monitoring during ground disturbance activities of construction. Once each week during construction, TU shall electronically submit to the Grant Manager and the Grantor Engineer a construction progress report and required photos. TU shall provide a dewatering plan, at least one month before the commencement to dewatering, to the	Notification of the construction start date due 5/1/27 Construction inspection checklist and weekly monitoring photo documentation - ongoing during construction (expected to be 6/1/27 thru 11/1/27) Completed construction and final report of permits condition compliance due 12/1/27

Task Name	Start Date	Activity Description	Deliverables
		Grant Manager for review and acceptance. All materials used for dewatering shall be removed and disposed of appropriately off site at the completion of the project. Construction by sub-contractor including: De-watering and fish relocation. Clearing and grubbing of vegetation and removal of debris from the construction site. All material removed shall be disposed of in accordance with all local regulations. Vegetation located beyond the limits for clearing and grubbing shall be protected from damage. Demolish existing concrete ford. Demolition will be done in accordance with all local regulations. Excavation and sub-grade preparation Cast in place concrete foundations New crossing construction and road approaches constructed Channel to be restored and rock slope protection to stabilize the banks and provide protection for newly installed culverts Re-watering/diversion removal Waterways will complete final surveys and final As-Built Plan after construction is completed.	
Task 4: Post Construction Tasks	12/01/27	Upon completion of construction during the following fall and winter, restoration of disturbed riparian habitat (e.g. stream banks in the vicinity disturbed area) will include installation of erosion control fabric, and revegetation with native seeding, plants and live	Re-vegetation plan Due 5/15/27 As-Built Surveys and Plans due 12/1/27

Task Name	Start Date	Activity Description	Deliverables
		stakes (per Revegetation Plan prepared for FRPG P1540401) and will be maintained to a minimum of eighty five percent (85%) coverage of the seeded area three years after the revegetation is complete. Photo points established during Pre-construction Activities should be used throughout the project to document work site conditions. Visual inspection of site and stability of project will be conducted after storm events.	Re-vegetation of construction site and staging area Due 4/1/28 Reports of visual inspections after storm events Due 5/1/28 Final photo monitoring documentation Due 5/1/28

Additional Requirements:

The Grantee will not proceed with on the ground implementation (Task 3) until all necessary permits and consultations are secured, including cultural and biological surveys. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and floodplain areas at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

The Grantee shall notify CDFW at least five working days before the project site is de-watered and the stream flow diverted and submit a Water Quality Monitoring Plan and Dewatering Plan to CDFW for State Water Resources Control Board approval at least 30 days before the activity. The notification will provide a reasonable time for CDFW personnel to oversee the implementation of the water diversion plan and the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:

- a. Fish dewatering and relocation activities shall only occur between June 15 and October 31 of each year.
- b. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as

described in Part IX, pages 52 and 53 of the California Salmonid Stream Habitat Restoration Manual.

- c. The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible as approved by the CDFW Grant Manager and pursuant to conditions in the USACE Regional General Permit and National Marine Fisheries Service (NMFS) Biological Opinion.
- d. All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the NMFS, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
- e. USFWS Approved fisheries biologists will provide fish relocation data via the Grantee to the CDFW personnel on a form provided by CDFW.

The project will follow the National Marine Fisheries Service (NMFS 2001) Guidelines for Salmonid Passage at Stream Crossings and criteria for fish passage as described in Volume II, Part IX, of the California Salmonid Stream Habitat Restoration Manual. Engineered plans shall be visually reviewed and authorized by NOAA Fisheries or CDFW engineers prior to commencement of work.

Grantee or landowner will maintain the new crossing, inspect the crossing in a timely manner and remove debris as necessary to maintain function.

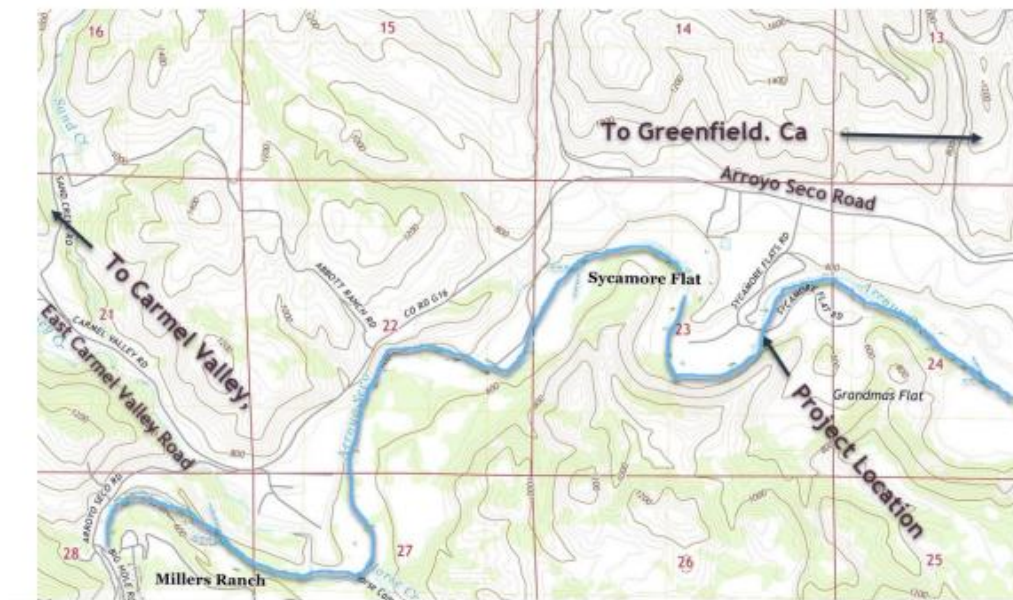
Project Location Topographic Map

Arroyo Seco River Fish Passage Project – Sycamore Flats

Proposal Number: 1734307 Proposal Type: Fish Passage (FP)

Supplemental Information

Project Location Topographic Map



Project shown on USGS 7.5 minute Sycamore Flats, Ca 2021 quad.



Project Site lies in unincorporated Monterey County, 7 miles South-westerly of the town of Greenfield in the Arroyo Seco River Watershed

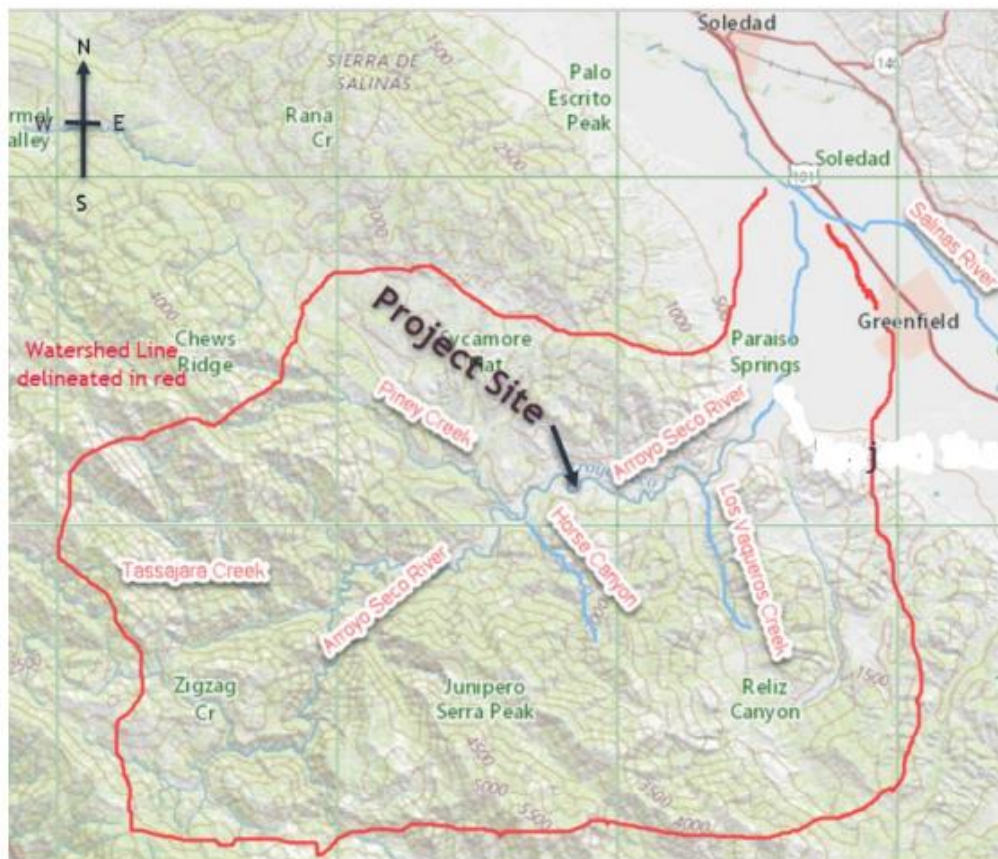
Watershed Map

Arroyo Seco River Fish Passage Project – Sycamore Flats

Proposal Number: 1734307 Proposal Type: FP

Supplemental Information

Watershed Map



California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734307 Arroyo Seco River Fish Passage Project -
Sycamore Flats

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Delete This Row	Coopers hawk	ABNKC12040	None	None	WL
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	WL
Ambystoma californiense pop. 2	California tiger salamander - Santa Barbara County DPS	AAAAA01182	Endangered	Threatened	WL
Batrachoseps luciae	Santa Lucia slender salamander	AAAAD02160	None	None	-
Rana boylei pop. 6	foothill yellow-legged frog - south coast DPS	AAABH01056	Endangered	Endangered	-
Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC
Taricha torosa	Coast Range newt	AAAAF02032	None	None	SSC
Spea hammondi	western spadefoot	AAABF02020	Proposed Threatened	None	SSC
Hubbardia secoensis	Arroyo Seco short-tailed whipscorpion	ILARAE2030	None	None	-
Calileptoneta ubicki	Ubicks leptonetid spider	ILARAU6030	None	None	-
Socalchemmis monterey	Monterey socalchemmis spider	ILARAU7030	None	None	-
Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP WL

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734307 Arroyo Seco River Fish Passage Project -
Sycamore Flats

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ardea herodias	great blue heron	ABNGA04010	None	None	-
Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP
Charadrius nivosus nivosus	western snowy plover	ABNNB03031	Threatened	None	SSC
Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL
Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-
Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC
Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC
Athene cunicularia	burrowing owl	ABNSB10010	None	Candidate Endangered	SSC
Strix occidentalis occidentalis	California Spotted Owl	ABNSB12013	Proposed Endangered ; Proposed Threatened	None	SSC
Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC
Hesperoleucus venustus subditus	southern coastal roach	AFCJB19032	None	None	SSC
Lavinia exilicauda harengus	Monterey hitch	AFCJB19013	None	None	SSC
Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734307 Arroyo Seco River Fish Passage Project -
Sycamore Flats

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Oncorhynchus mykiss irideus</i> pop. 9	steelhead - south-central California coast DPS	AFCHA0209H	Threatened	None	SSC
<i>Bombus caliginosus</i>	obscure bumble bee	IIHYM24380	None	None	-
<i>Bombus crotchii</i>	Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	-
<i>Bombus occidentalis</i>	western bumble bee	IIHYM24252	None	Candidate Endangered	-
<i>Chrysis tularensis</i>	Tulare cuckoo wasp	IIHYM72010	None	None	-
<i>Optioservus canus</i>	Pinnacles optioservus riffle beetle	IICOL5E020	None	None	-
<i>Euphydryas editha bayensis</i>	Bay checkerspot butterfly	IILEPK4055	Threatened	None	-
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	AMAJA03041	Endangered	Threatened	-
<i>Neotoma macrotis luciana</i>	Monterey dusky-footed woodrat	AMAFF08083	None	None	SSC
<i>Dipodomys heermanni goldmani</i>	Salinas kangaroo rat	AMAFD03065	None	None	-
<i>Dipodomys venustus elephantiinus</i>	big-eared kangaroo rat	AMAFD03041	None	None	-
<i>Dipodomys venustus sanctiluciaae</i>	Santa Lucia Mountain kangaroo rat	AMAFD03043	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734307 Arroyo Seco River Fish Passage Project -
Sycamore Flats

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Perognathus inornatus psammophilus	Salinas pocket mouse	AMAFD01062	None	None	SSC
Eumops perotis californicus	western mastiff bat	AMACD02011	None	None	SSC
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Sorex ornatus salarius	Monterey shrew	AMABA01105	None	None	SSC
Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Lasiurus frantzii	western red bat	AMACC05080	None	None	SSC
Myotis volans	long-legged myotis	AMACC01110	None	None	-
Anniella pulchra	Northern California legless lizard	ARACC01020	None	None	SSC
Masticophis flagellum ruddocki	San Joaquin coachwhip	ARADB21021	None	None	SSC
Actinemys pallida	southwestern pond turtle	ARAAD02032	Proposed Threatened	None	SSC
Thamnophis hammondi	two-striped gartersnake	ARADB36160	None	None	SSC
Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC
Valley Needlegrass Grassland	Valley Needlegrass Grassland	CTT42110CA	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734307 Arroyo Seco River Fish Passage Project -
Sycamore Flats

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-
Plagiobryoides vinosula	wine-colored tufa moss	NBMUS0Y090	None	None	-
Orthotrichum kellmanii	Kellmans bristle moss	NBMUS56190	None	None	-
Scytinium siskiyouense	Siskiyou jellyskin lichen	NLTES34580	None	None	-
Centromadia parryi ssp. congdonii	Congdons tarplant	PDAST4R0P1	None	None	-
Lasthenia leptalea	Salinas Valley goldfields	PDAST5L0B0	None	None	-
Lessingia tenuis	spring lessingia	PDAST5S0B0	None	None	-
Malacothrix saxatilis var. arachnoidea	Carmel Valley malacothrix	PDAST660C2	None	None	-
Senecio astephanus	San Gabriel ragwort	PDAST8H090	None	None	-
Amsinckia douglasiana	Douglas fiddleneck	PDBOR01010	None	None	-
Cryptantha rattanii	Rattans cryptantha	PDBOR0A2H0	None	None	-
Plagiobothrys uncinatus	hooked popcornflower	PDBOR0V170	None	None	-
Caulanthus lemmonii	Lemmons jewelflower	PDBRA0M0E0	None	None	-
Arctostaphylos hooveri	Hoovers manzanita	PDERI040K0	None	None	-
Astragalus nuttallii var. nuttallii	ocean bluff milk-vetch	PDFAB0F641	None	None	-
Lupinus cervinus	Santa Lucia lupine	PDFAB2B0X0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734307 Arroyo Seco River Fish Passage Project -
Sycamore Flats

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ribes sericeum	Santa Lucia gooseberry	PDGRO021F0	None	None	-
Clinopodium mimuloides	monkey-flower savory	PDLAM1T040	None	None	-
Fritillaria agrestis	stinkbells	PMLIL0V010	None	None	-
Malacothamnus aboriginum	Indian Valley bushmallow	PDMAL0Q020	None	None	-
Malacothamnus discombobulatus	discombobulating bushmallow	PDMAL0Q0W0	None	None	-
Malacothamnus involucratus	Carmel Valley bushmallow	PDMAL0Q0B1	None	None	-
Malacothamnus lucianus	Arroyo Seco bushmallow	PDMAL0Q0B2	None	None	-
Sidalcea hickmanii ssp. hickmanii	Hickmans checkerbloom	PDMAL110A2	None	None	-
Calyptridium parryi var. hesseae	Santa Cruz Mountains pussypaws	PDPOR09052	None	None	-
Clarkia jolonensis	Jolon clarkia	PDONA050L0	None	None	-
Clarkia lewisii	Lewis clarkia	PDONA050N0	None	None	-
Eschscholzia hypocoides	San Benito poppy	PDPAP0A060	None	None	-
Mimulus secundus	one-sided monkeyflower	PDSCR1B2K0	None	None	-
Abies bracteata	bristlecone fir	PGPIN01030	None	None	-
Eriastrum virgatum	virgate eriastrum	PDPLM030D0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734307 Arroyo Seco River Fish Passage Project -
Sycamore Flats

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Gilia tenuiflora</i> ssp. <i>amplifauca</i>	trumpet-throated gilia	PDPLM041P4	None	None	-
<i>Leptosiphon</i> <i>grandiflorus</i>	large-flowered leptosiphon	PDPLM090K0	None	None	-
<i>Chorizanthe</i> <i>douglasii</i>	Douglas spineflower	PDPGN040A0	None	None	-
<i>Chorizanthe</i> <i>pungens</i> var. <i>pungens</i>	Monterey spineflower	PDPGN040M2	Threatened	None	-
<i>Eriogonum</i> <i>butterworthianum</i>	Butterworths buckwheat	PDPGN080X0	None	Rare	-
<i>Eriogonum</i> <i>elegans</i>	elegant wild buckwheat	PDPGN081Y0	None	None	-
<i>Eriogonum</i> <i>nortonii</i>	Pinnacles buckwheat	PDPGN08470	None	None	-
<i>Eriogonum</i> <i>nudum</i> var. <i>indictum</i>	protruding buckwheat	PDPGN08494	None	None	-
<i>Eriogonum</i> <i>umbellatum</i> var. <i>bahiiforme</i>	bay buckwheat	PDPGN086UB	None	None	-
<i>Systemotheca</i> <i>vortriedei</i>	Vortriedes spineflower	PDPGN0W010	None	None	-
<i>Delphinium</i> <i>umbraculorum</i>	umbrella larkspur	PDRAN0B1W0	None	None	-
<i>Horkelia yadonii</i>	Santa Lucia horkelia	PDROS0W0K0	None	None	-
<i>Rosa pinetorum</i>	pine rose	PDROS1J0W0	None	None	-
<i>Galium andrewsii</i> ssp. <i>gatense</i>	phlox-leaf serpentine bedstraw	PDRUB0N032	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734307 Arroyo Seco River Fish Passage Project -
Sycamore Flats

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Galium californicum ssp. lucense	Cone Peak bedstraw	PDRUB0N0E3	None	None	-
Galium clementis	Santa Lucia bedstraw	PDRUB0N0H0	None	None	-

Lower SLO Creek Floodplain Preserve Steelhead Habitat Enhancement Project

(Project ID: 1734314) 2025

Introduction:

The Land Conservancy of San Luis Obispo County (Grantee) will plan and design a project to restore more natural conditions along the lower mainstem of San Luis Obispo Creek on the Land Conservancy's Lower San Luis Obispo Creek Floodplain Preserve, to primarily benefit south-central California coast steelhead (Project). These habitat enhancements will increase the amount and quality of steelhead juvenile rearing habitat, fry rearing habitat, and winter refuge habitat to support the steelhead population within the San Luis Obispo Creek watershed. Design will be influenced by a Technical Advisory Committee. The Project will also evaluate an existing dilapidated bridge crossing within the Project footprint, to assess whether it may be a fish passage barrier in need of remediation.

The Project may include on-the-ground geotechnical investigations to inform design. The Grantee shall not proceed with geotechnical investigations until all necessary permits, consultations, and/or Notices to Proceed are secured.

When planning the Project, all habitat improvement(s) will consider techniques in the [California Salmonid Stream Habitat Restoration Manual](#) section XII. Fish passage Design and Implementation.

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The Project is located south of the city of San Luis Obispo, in San Luis Obispo County (see Project Location Map). The project occurs on San Luis Obispo Creek, approximately four miles upstream from the Pacific Ocean (see Watershed Map). The project is centered at approximately 35.20308, -120.69547. Access to the Project site is from San Luis Bay Drive.

ocean. It runs parallel to Highway 101, east of the highway near the San Luis Bay exit. The Land Conservancy of San Luis Obispo County owns 150 acres along 2 miles of the lower reaches of San Luis Obispo Creek.

Project central coordinates: 35.19585, -120.69696

Project Description:

The purpose of the Project is to plan and design a habitat restoration project on approximately 15 acres of the Lower San Luis Obispo Creek Floodplain Preserve. Specifically, the Project will: conduct various site assessments; organize and manage a Technical Advisory Committee; produce 30%, 65%, 90%, and 100% design packages; and prepare and apply for necessary permits. The design will likely include large wood augmentation, expansion of floodplain connectivity through creation of off-channel habitat, and diversification of hydraulic and geomorphic complexity throughout the floodplain.

Materials:

This is a planning and design project which will not require any major materials or equipment. Grantee and/or Subcontractors will purchase supplies for surveys or other Project tasks, as needed.

Tasks, Deliverables, and Timelines:

The table below describes project tasks and deliverables as proposed. The due dates in the deliverables column are approximate and susceptible to change, with Grant Manager approval.

Task Name	Start Date	Activity Description	Deliverables
Task 1. Project Management and Administration	04/01/26	Oversee contracts, invoicing, reporting, and grant administration.	Invoices and Progress Reports (Quarterly) Final Report (Spring 2028) Final Invoice (Spring 2028)
Task 2. Technical Advisory Committee	04/01/26	Oversee the management of the Technical Advisory Committee (TAC). This will involve recruitment, correspondence, and feedback management from technical advisors and the public.	Creation of TAC (Spring 2026) TAC meetings: introductory meeting and one at each design stage
Task 3. Site assessment and Design	04/01/26	Subcontractors Waterways Consulting, Inc. and Yeh and Associates will perform site assessments, hydrologic and hydraulic analysis, design, and provide implementation recommendations.	Design plans provided in stages following review by The Land Conservancy and Technical Advisory Committee: 30% Design Concept Plans and Conceptual Report (including all completed analysis and findings): Fall 2026 65% Design Intermediate Plans: Spring 2027 90% Draft Plans: Winter 2028

Task Name	Start Date	Activity Description	Deliverables
			100% Final Plans: Spring 2028 Fish Barrier and Stream Crossing Analysis: Spring 2027 Geotechnical Assessment and Report completed by Fall 2026.
Task 4. Permitting	04/01/26	SWCA will complete necessary permitting applications in preparation for implementation. A CEQA platform will be determined.	Biological Assessment (Spring 2028) Permit applications submitted (Spring 2028)

Additional Requirements:

As it pertains to the geotechnical investigations, if needed:

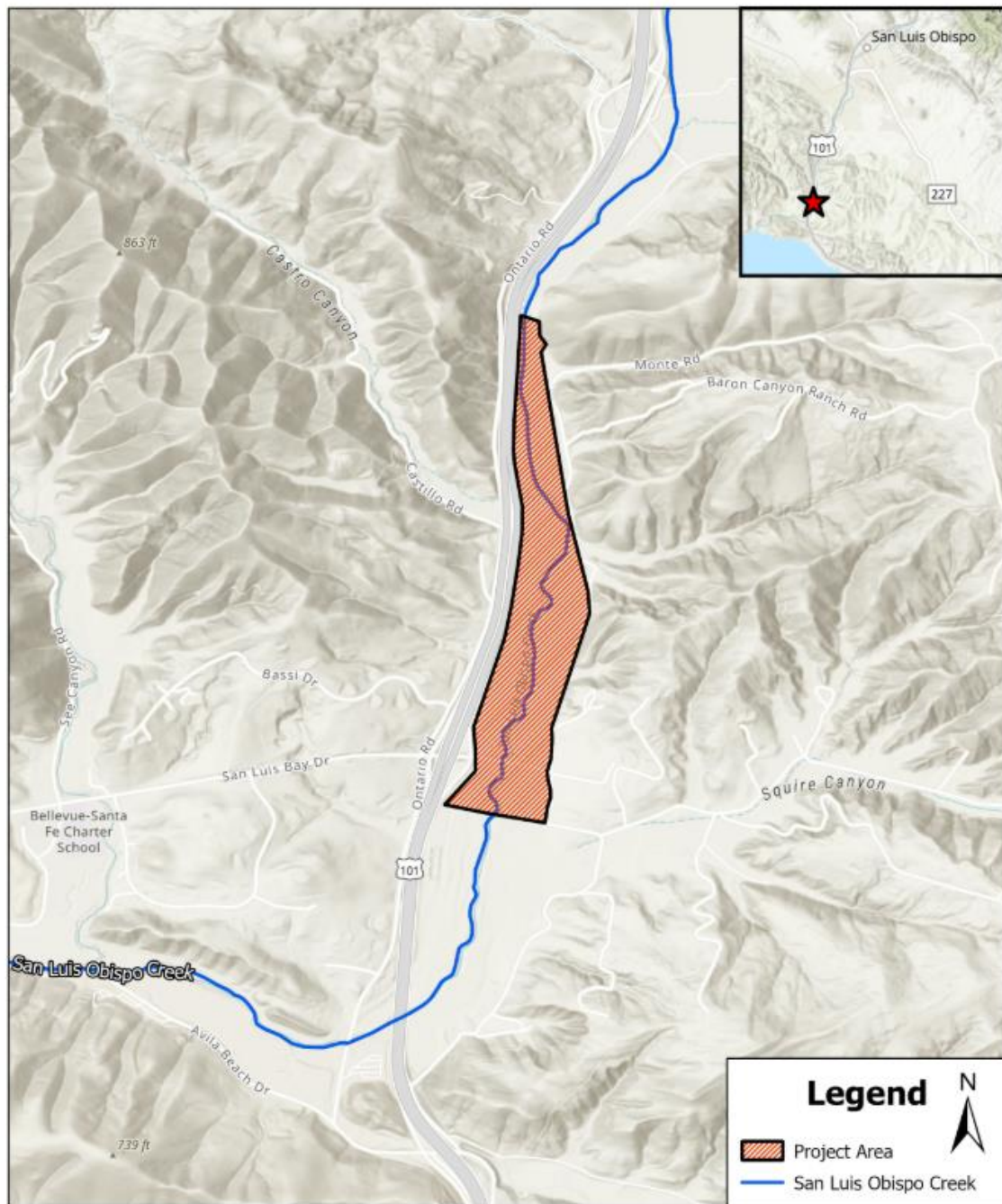
Grantee will not proceed until all necessary permits and authorizations are secured. Deviances to Project Tasks and implementation timeframes are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the stream at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

All project trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash will be removed from work areas.

Project Location Map



Lower SLO Creek Floodplain Preserve Steelhead Habitat Enhancement Project

0 5 10 20
Miles

USGS Quad: Pismo Beach
Project Applicant:
The Land Conservancy of
San Luis Obispo County

Created by: Westin Namanny 3/3/2025

Watershed Map

San Luis Obispo Creek Watershed



California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1334314 Lower SLO Creek Floodplain Preserve
Steelhead Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ablautus schlingeri	Oso Flaco robber fly	IIDIP42010	None	None	-
Abronia maritima	red sand-verbena	PDNYC010E0	None	None	-
Accipiter cooperii	Coopers hawk	ABNKC12040	None	None	WL
Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL
Actinemys pallida	southwestern pond turtle	ARAAD02032	Proposed Threatened	None	SSC
Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC
Agrostis hooveri	Hoovers bent grass	PMPOA040M0	None	None	-
Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC
Ammopelmatus muwu	Point Conception jerusalem cricket	IIORT25020	None	None	-
Amsinckia douglasiana	Douglas fiddleneck	PDBOR01010	None	None	-
Anniella pulchra	Northern California legless	ARACC01020	None	None	SSC
Anodonta californiensis	California floater	IMBIV04220	None	None	-
Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC
Aphyllon parishii ssp. brachylobum	short-lobed broomrape	PDORO040A2	None	None	-
Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP WL
Arctocephalus townsendi	Guadalupe fur-seal	AMAJC02010	Threatened	Threatened	FP

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1334314 Lower SLO Creek Floodplain Preserve
Steelhead Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Arctostaphylos luciana	Santa Lucia manzanita	PDERI040N0	None	None	-
Arctostaphylos	Morro manzanita	PDERI040S0	Threatened	Candidate	-
Arctostaphylos nipumu	Nipomo Mesa manzanita	PDERI043D0	None	None	-
Arctostaphylos obispoensis	Bishop manzanita	PDERI040X0	None	None	-
Arctostaphylos osoensis	Oso manzanita	PDERI042S0	None	None	-
Arctostaphylos pechoensis	Pecho manzanita	PDERI04140	None	None	-
Arctostaphylos pilosula	Santa Margarita manzanita	PDERI042Z0	None	None	-
Arctostaphylos tomentosa ssp.	dacite manzanita	PDERI041HD	None	None	-
Ardea alba	great egret	ABNGA04040	None	None	-
Ardea herodias	great blue heron	ABNGA04010	None	None	-
Arenaria paludicola	marsh sandwort	PDCAR040L0	Endangered	Endangered	-
Areniscythis brachypteris	Oso Flaco flightless moth	IILEG49010	None	None	-
Arizona elegans occidentalis	California glossy snake	ARADB01017	None	None	SSC
Aspidotis carlotta-halliae	Carlotta Halls lace fern	PPADI07020	None	None	-
Astragalus didymocarpus	Miles milk-vetch	PDFAB0F2X3	None	None	-
Astragalus nuttallii var. nuttallii	ocean bluff milk-vetch	PDFAB0F641	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1334314 Lower SLO Creek Floodplain Preserve
Steelhead Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Athene cunicularia	burrowing owl	ABNSB10010	None	Candidate Endangered	SSC
Atractelmis wawona	Wawona riffle beetle	IICOL58010	None	None	-
Atriplex coulteri	Coulters saltbush	PDCHE040E0	None	None	-
Batrachoseps minor	lesser slender salamander	AAAAD02170	None	None	SSC
Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-
Bombus crotchii	Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-
Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-
Branta bernicla	brant	ABNJB05010	None	None	SSC
Branta hutchinsii leucopareia	cackling (=Aleutian)	ABNJB05035	Delisted	None	WL
Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL
Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-
Calandrinia breweri	Brewer's calandrinia	PDPOR01020	None	None	-
Callorhinus ursinus	northern fur-seal	AMAJC01010	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1334314 Lower SLO Creek Floodplain Preserve
Steelhead Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Calochortus clavatus var. clavatus	club-haired mariposa-lily	PMLIL0D091	None	None	-
Calochortus obispoensis	San Luis mariposa-lily	PMLIL0D110	None	None	-
Calochortus simulans	La Panza mariposa-lily	PMLIL0D170	None	None	-
Calystegia subacaulis ssp.	Cambria morning-glory	PDCON040J1	None	None	-
Camissoniopsis hardhamiae	Hardhams evening-primrose	PDONA030N0	None	None	-
Carex obispoensis	San Luis Obispo sedge	PMCYP039J0	None	None	-
Castilleja densiflora var.	San Luis Obispo owls-clover	PDSCR0D453	None	None	-
Castilleja latifolia	Monterey Coast paintbrush	PDSCR0D1P0	None	None	-
Ceanothus cuneatus var. fascicularis	Lompoc ceanothus	PDRHA04066	None	None	-
Ceanothus impressus var.	Nipomo Mesa ceanothus	PDRHA040L2	None	None	-
Ceanothus thyrsiflorus var.	San Luis Obispo ceanothus	PDRHA04461	None	None	-
Central Dune Scrub	Central Dune Scrub	CTT21320CA	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1334314 Lower SLO Creek Floodplain Preserve
Steelhead Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Central Foredunes	Central Foredunes	CTT21220CA	None	None	-
Central Maritime Chaparral	Central Maritime Chaparral	CTT37C20CA	None	None	-
Centromadia parryi ssp.	Congdons tarplant	PDAST4R0P1	None	None	-
Cercocarpus betuloides var. blanchae	island mountain-mahogany	PDROS08022	None	None	-
Cerorhinca monocerata	rhinoceros auklet	ABNNN11010	None	None	WL
Chaetura vauxi	Vauxs swift	ABNUA03020	None	None	SSC
Charadrius montanus	mountain plover	ABNNB03100	None	None	SSC
Charadrius nivosus nivosus	western snowy plover	ABNNB03031	Threatened	None	SSC
Chenopodium littoreum	coastal goosefoot	PDCHE091Z0	None	None	-
Chlorogalum pomeridianum	dwarf soaproot	PMLIL0G042	None	None	-
Chloropyron maritimum ssp. maritimum	salt marsh birds-beak	PDSCR0J0C2	Endangered	Endangered	-
Chloropyron maritimum ssp. palustre	Point Reyes salty birds-beak	PDSCR0J0C3	None	None	-
Chlosyne leanira elegans	Oso Flaco patch butterfly	IILEPJA051	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1334314 Lower SLO Creek Floodplain Preserve
Steelhead Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Chorizanthe aphanantha	Irish Hills spineflower	PDPGN04110	None	None	-
Chorizanthe breweri	Brewers spineflower	PDPGN04050	None	None	-
Chorizanthe douglasii	Douglas spineflower	PDPGN040A0	None	None	-
Chorizanthe palmeri	Palmers spineflower	PDPGN040H0	None	None	-
Chorizanthe rectispina	straight-awned spineflower	PDPGN040N0	None	None	-
Chorizanthe ventricosa	potbellied spineflower	PDPGN040W0	None	None	-
Cicindela hirticollis gravida	sandy beach tiger beetle	IICOL02101	None	None	-
Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC
Cirsium fontinale var. fontinale	fountain thistle	PDAST2E161	Endangered	Endangered	-
Cirsium fontinale var. obispoense	Chorro Creek bog thistle	PDAST2E162	Endangered	Endangered	-
Cirsium occidentale var. lucianum	Cuesta Ridge thistle	PDAST2E1Z6	None	None	-
Cirsium rhothophilum	surf thistle	PDAST2E2J0	None	Threatened	-
Cirsium scariosum var. loncholepis	La Graciosa thistle	PDAST2E1N0	Endangered	Threatened	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1334314 Lower SLO Creek Floodplain Preserve
Steelhead Habitat Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Cladium californicum	California saw-grass	PMCYP04010	None	None	-
Cladonia firma	popcorn lichen	NLT0008460	None	None	-
Clarkia speciosa ssp. immaculata	Pismo clarkia	PDONA05111	Endangered	Rare	-
Clinopodium mimuloides	monkey-flower savory	PDLAM1T040	None	None	-
Coastal and Valley Freshwater	Coastal and Valley Freshwater	CTT52410CA	None	None	-
Coastal Brackish Marsh	Coastal Brackish Marsh	CTT52200CA	None	None	-
Coccyzus americanus	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-
Coelus globosus	globose dune beetle	IICOL4A010	None	None	-
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Danaus plexippus plexippus pop. 1	monarch - California	IILEPP2012	Proposed Threatened	None	-
Deinandra paniculata	paniculate tarplant	PDAST4R0Y0	None	None	-
Delphinium hutchinsoniae	Hutchinson's larkspur	PDRAN0B0V0	None	None	-
Delphinium parryi ssp. blochmaniae	dune larkspur	PDRAN0B1B1	None	None	-
Delphinium parryi ssp. eastwoodiae	Eastwoods larkspur	PDRAN0B1B2	None	None	-
Delphinium umbraculorum	umbrella larkspur	PDRAN0B1W0	None	None	-
Dipodomys heermanni	Lompoc kangaroo rat	AMAFD03064	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Dipodomys heermanni morroensis	Morro Bay kangaroo rat	AMAFD03063	Endangered	Endangered	FP
Dithyrea maritima	beach spectaclepod	PDBRA10020	None	Threatened	-
Dudleya abramsii ssp. bettinae	Bettys dudleya	PDCRA04011	None	None	-
Dudleya abramsii ssp. murina	mouse-gray dudleya	PDCRA04012	None	None	-
Dudleya blochmaniae ssp.	Blochmans dudleya	PDCRA04051	None	None	-
Egretta thula	snowy egret	ABNGA06030	None	None	-
Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP
Eleocharis parvula	small spikerush	PMCYP091G0	None	None	-
Enhydra lutris nereis	southern sea otter	AMAJF09012	Threatened	None	FP
Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC
Eremophila alpestris actia	California horned lark	ABPAT02011	None	None	WL
Erigeron blochmaniae	Blochmans leafy daisy	PDAST3M5J0	None	None	-
Erigeron sanctarum	saints daisy	PDAST3M3R0	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Eriodictyon altissimum	Indian Knob mountainbalm	PDHYD04010	Endangered	Endangered	-
Eryngium aristulatum var.	Hoovers button-celery	PDAP10Z043	None	None	-
Erysimum capitatum var.	San Luis Obispo wallflower	PDBRA16057	None	None	-
Erysimum	suffrutescent	PDBRA160D2	None	None	-
Erythranthe serpentinicola	Irish Hills monkeyflower	PDPHR01290	None	None	-
Eschscholzia hypecoides	San Benito poppy	PDPAP0A060	None	None	-
Eucyclogobius newberryi	tidewater goby	AFCQN04010	Endangered	None	SSC
Eumetopias jubatus	Steller sea lion	AMAJC03010	Delisted	None	-
Eumops perotis californicus	western mastiff bat	AMACD02011	None	None	SSC
Extriplex joaquinana	San Joaquin spearscale	PDCHE041F3	None	None	-
Falco columbarius	merlin	ABNKD06030	None	None	WL
Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Fritillaria agrestis	stinkbells	PMLILOV010	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Fritillaria ojaiensis</i>	Ojai fritillary	PMLILOV0N0	None	None	-
<i>Galium californicum</i> ssp. <i>luciense</i>	Cone Peak bedstraw	PDRUB0N0E3	None	None	-
<i>Galium cliftonsmithii</i>	Santa Barbara bedstraw	PDRUB0N0J0	None	None	-
<i>Gasterosteus aculeatus</i>	unarmored threespine	AFCPA03011	Endangered	Endangered	FP
<i>Gavia immer</i>	common loon	ABNBA01030	None	None	SSC
<i>Gilia tenuiflora</i> ssp. <i>amplifaucalis</i>	trumpet-throated gilia	PDPLM041P4	None	None	-
<i>Grindelia hirsutula</i> var. <i>maritima</i>	San Francisco gumplant	PDAST470D3	None	None	-
<i>Gymnogyps californianus</i>	California condor	ABNKA03010	Endangered	Endangered	FP
<i>Haliaeetus leucocephalus</i>	bald eagle	ABNKC10010	Delisted	Endangered	FP
<i>Haliotis</i>	pinto abalone	IMGASV2040	None	None	-
<i>Helminthoglypta walkeriana</i>	Morro shoulderband	IMGASC2510	Threatened	None	-
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	PDROS0W045	None	None	-
<i>Horkelia cuneata</i> var. <i>sericea</i>	Kelloggs horkelia	PDROS0W043	None	None	-
<i>Hydroprogne caspia</i>	Caspian tern	ABNNM08020	None	None	-
<i>Icaricia icarioides moroensis</i>	Morro Bay blue butterfly	IILEPG801B	None	None	-
<i>Icteria virens</i>	yellow-breasted chat	ABPBX24010	None	None	SSC

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Ixobrychus exilis</i>	least bittern	ABNGA02010	None	None	SSC
<i>Juncus acutus</i> <i>ssp. leopoldii</i>	southwestern spiny rush	PMJUN01051	None	None	-
<i>Lanius</i> <i>ludovicianus</i>	loggerhead shrike	ABPBR01030	None	None	SSC
<i>Larus californicus</i>	California gull	ABNNM03110	None	None	WL
<i>Lasionycteris</i> <i>noctivagans</i>	silver-haired bat	AMACC02010	None	None	-
<i>Lasiurus cinereus</i>	hoary bat	AMACC05032	None	None	-
<i>Lasiurus frantzii</i>	western red bat	AMACC05080	None	None	SSC
<i>Lasthenia</i> <i>californica ssp.</i>	perennial goldfields	PDAST5L0C5	None	None	-
<i>Lasthenia</i> <i>glabrata ssp.</i>	Coulters goldfields	PDAST5L0A1	None	None	-
<i>Laterallus</i> <i>jamaicensis</i>	California black rail	ABNME03041	None	Threatened	FP
<i>Layia erubescens</i>	blushing layia	PDAST5N0H0	None	None	-
<i>Layia jonesii</i>	Jones layia	PDAST5N090	None	None	-
<i>Leptosiphon</i> <i>grandiflorus</i>	large-flowered leptosiphon	PDPLM090K0	None	None	-
<i>Lichnanthe</i> <i>albipilosa</i>	white sand bear scarab beetle	IICOL67010	None	None	-
<i>Linanthus</i> <i>californicus ssp.</i> <i>tomentosus</i>	fuzzy prickly-phlox	PDPLM08021	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Lindleriella occidentalis</i>	California lindleriella	ICBRA06010	None	None	-
<i>Lomatium parvifolium</i>	small-leaved lomatium	PDAP11B1F0	None	None	-
<i>Lupinus ludovicianus</i>	San Luis Obispo County lupine	PDFAB2B2G0	None	None	-
<i>Lupinus nipomensis</i>	Nipomo Mesa lupine	PDFAB2B550	Endangered	Endangered	-
<i>Malacothamnus jonesii</i> var. <i>gracilis</i>	slender bushmallow	PDMAL0Q0J0	None	None	-
<i>Malacothamnus jonesii</i> var. <i>niveus</i>	fragrant-snow bushmallow	PDMAL0Q0H0	None	None	-
<i>Malacothrix incana</i>	dunedelion	PDAST66070	None	None	-
<i>Monardella palmeri</i>	Palmer's monardella	PDLAM180H0	None	None	-
<i>Monardella sinuata</i> ssp.	southern curly-leaved	PDLAM18161	None	None	-
<i>Monardella undulata</i> ssp.	crisp monardella	PDLAM18070	None	None	-
<i>Monardella undulata</i> ssp.	San Luis Obispo monardella	PDLAM180X0	None	None	-
<i>Monolopia gracilens</i>	woodland woollythreads	PDAST6G010	None	None	-
<i>Mucronea californica</i>	California spineflower	PDPGN0F010	None	None	-
<i>Muhlenbergia utilis</i>	aparejo grass	PMPOA481X0	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Nannopterum auritum	double-crested cormorant	ABNFD01020	None	None	WL
Nasturtium gambelii	Gambels water cress	PDBRA270V0	Endangered	Threatened	-
Nemacaulis denudata var.	coast woolly-heads	PDPGN0G011	None	None	-
Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	None	None	SSC
Neotoma macrotis luciana	Monterey dusky-footed woodrat	AMAFF08083	None	None	SSC
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	CTT52110CA	None	None	-
Northern Interior Cypress Forest	Northern Interior Cypress Forest	CTT83220CA	None	None	-
Numenius americanus	long-billed curlew	ABNNF07070	None	None	WL
Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-
Nyctinomops macrotis	big free-tailed bat	AMACD04020	None	None	SSC
Oncorhynchus mykiss irideus pop. 9	steelhead - south-central California coast DPS	AFCHA0209H	Threatened	None	SSC
Pandion haliaetus	osprey	ABNKC01010	None	None	WL
Passerculus sandwichensis	Bryants savannah sparrow	ABPBX99011	None	None	SSC
Passerculus sandwichensis	Beldings savannah	ABPBX99015	None	Endangered	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Pelecanus erythrorhynchos</i>	American white pelican	ABNFC01010	None	None	SSC
<i>Pelecanus occidentalis</i>	California brown pelican	ABNFC01021	Delisted	Delisted	-
<i>Pelochrista henei</i>	Hennes eucosman moth	IILEM0R390	None	None	-
<i>Perideridia pringlei</i>	adobe yampah	PDAP11N0D0	None	None	-
<i>Phrynosoma blainvillii</i>	coast horned lizard	ARACF12100	None	None	SSC
<i>Pica nuttalli</i>	yellow-billed magpie	ABPAV09020	None	None	-
<i>Piperia michaelii</i>	Michaels rein orchid	PMORC1X110	None	None	-
<i>Plagiobothrys chorisianus</i> var. <i>hickmanii</i>	Hickmans popcornflower	PDBOR0V062	None	None	-
<i>Plagiobothrys uncinatus</i>	hooked popcornflower	PDBOR0V170	None	None	-
<i>Poa diaboli</i>	Diablo Canyon blue grass	PMPOA4Z390	None	None	-
<i>Polyphylla morroensis</i>	Morro Bay June beetle	IICOL68200	None	None	-
<i>Polyphylla nubila</i>	Atascadero June beetle	IICOL68040	None	None	-
<i>Progne subis</i>	purple martin	ABPAU01010	None	None	SSC

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Prunus fasciculata</i> var. <i>punctata</i>	sand almond	PDROS1C0E2	None	None	-
<i>Ptychoramphus aleuticus</i>	Cassins auklet	ABNNN08010	None	None	SSC
<i>Pyrgulopsis taylori</i>	San Luis Obispo pyrg	IMGASJ0A50	None	None	-
<i>Rallus obsoletus</i>	California Ridgways rail	ABNME05011	Endangered	Endangered	FP
<i>Rana boylei</i> pop. 6	foothill yellow-legged frog -	AAABH01056	Endangered	Endangered	-
<i>Rana draytonii</i>	California red-legged frog	AAABH01022	Threatened	None	SSC
<i>Ribes sericeum</i>	Santa Lucia gooseberry	PDGRO021F0	None	None	-
<i>Sanicula hoffmannii</i>	Hoffmanns sanicle	PDAP11Z090	None	None	-
<i>Sanicula maritima</i>	adobe sanicle	PDAP11Z0D0	None	Rare	-
<i>Scrophularia atrata</i>	black-flowered figwort	PDSCR1S010	None	None	-
<i>Selasphorus rufus</i>	rufous hummingbird	ABNUC51020	None	None	-
<i>Senecio aphanactis</i>	chaparral ragwort	PDAST8H060	None	None	-
<i>Senecio blochmaniae</i>	Blochmans ragwort	PDAST8H0G0	None	None	-
Serpentine Bunchgrass	Serpentine Bunchgrass	CTT42130CA	None	None	-
<i>Setophaga petechia</i>	yellow warbler	ABPBX03010	None	None	SSC

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Sidalcea hickmanii</i> ssp.	Cuesta Pass checkerbloom	PDMAL110A1	None	Rare	-
<i>Spinus lawrencei</i>	Lawrences goldfinch	ABPBY06100	None	None	-
<i>Sternula antillarum browni</i>	California least tern	ABNNM08103	Endangered	Endangered	FP
<i>Streptanthus albidus</i> ssp.	most beautiful jewelflower	PDBRA2G012	None	None	-
<i>Strix occidentalis occidentalis</i>	California Spotted Owl	ABNSB12013	Proposed Endangered	None	SSC
<i>Suaeda californica</i>	California seablite	PDCHE0P020	Endangered	None	-
<i>Sulcaria isidiifera</i>	splitting yarn lichen	NLTEST0020	None	None	-
<i>Sulcaria spiralifera</i>	twisted horsehair lichen	NLT0042560	None	None	-
<i>Symphytotrichum defoliatum</i>	San Bernardino aster	PDASTE80C0	None	None	-
<i>Synthliboramphus scrippsi</i>	Scripps murrelet	ABNNN07012	None	Threatened	-
<i>Taricha torosa</i>	Coast Range newt	AAAAF02032	None	None	SSC
<i>Taxidea taxus</i>	American badger	AMAJF04010	None	None	SSC
<i>Thalasseus elegans</i>	elegant tern	ABNNM08040	None	None	WL

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Thamnophis hammondi	two-striped gartersnake	ARADB36160	None	None	SSC
Trifolium hydrophilum	saline clover	PDFAB400R5	None	None	-
Tropidocarpum capparideum	caper-fruited tropidocarpum	PDBRA2R010	None	None	-
Tryonia imitator	mimic tryonia (=California	IMGASJ7040	None	None	-
Valley Needlegrass	Valley Needlegrass	CTT42110CA	None	None	-

Upper Tryon Creek Restoration Project, Phase 1 (Project ID: 1734338) 2025

Introduction:

The Smith River Alliance (Grantee) will restore winter rearing habitat for juvenile coho salmon along 0.56 miles of Tryon Creek by re-establishing the natural meandering channel form, creating 3 new off-channel alcoves and restoring existing off-channel habitat, installing 31 large wood structures, removing one and upgrading one stream crossing to restore fish passage, removing invasive plants, and installing native plants and riparian fencing to create an 85-foot-wide riparian area. This project is needed because the juvenile life stage is the most limited for the Smith River population of coho salmon, due to a lack of access to and decrease in the quantity of high-quality winter and summer rearing habitat.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#) (sections III, VII, VIII, IX, XI, XII).

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The project is on Tryon Creek, a coastal stream located on the Smith River Plain. The project site is 8 miles upstream from the Pacific Ocean, 5.7 miles upstream of the confluence with the Smith River, and 3.75 miles upstream of Yontocket Slough. The project site is 0.24 miles north of the unincorporated town of Fort Dick and 0.41 miles west of Highway 101. Phase 1 of the project includes 0.56 miles of Tryon Creek located downstream from Lake Earl Drive. The project is on private agricultural land and includes the stream channel, access area across the pasture, and an 85 foot wide riparian corridor. While most of the Smith River watershed is steep and in public ownership, primarily federal. The streams on the

Smith River Plain provide important low gradient and freshwater estuarine habitats that provide productive areas for rearing juvenile salmonids.

Project central coordinates: 41.87515, -124.14809, see Upper Tryon Project Location Map and Upper Tryon Watershed Map

Project Description:

The Upper Tryon Creek Restoration Project will restore natural ecosystem processes and enhance the aquatic and terrestrial habitats of Tryon Creek, a tributary of Yontocket Slough and the Smith River Estuary. Tryon Creek is one of several major tributaries that run through the Smith River Plain, and the only one south of the Smith River. Restoration work in Tryon Creek is part of a comprehensive strategy being implemented by the Smith River Alliance to restore rearing habitat for coho in the watershed.

The proposed project is one part of a larger project to restore habitat along 0.83 miles of Tryon Creek. The initial phase of restoration work was completed in 2024. The current restoration project, Phase 1, will restore instream and riparian habitat along 0.56 miles of Tryon Creek located downstream from Lake Earl Drive.

The project goal is to restore natural geomorphic function, enhance instream habitat complexity and riparian habitat to increase the quality and quantity of winter rearing habitat available for coho salmon. The project achieve this goal by: 1) Restoring the natural geomorphic channel form by re-establishing historic meanders in the stream channel, 2) Restoring fish passage by removing one undersized stream crossing and upgrading one partial fish passage barrier, 3) Installing 36 large wood structures to improve instream habitat and promote instream channel complexity, 4) Creating 3 off-channel alcoves and enhancing one existing off-channel habitat feature, 5) installing 1800 native riparian plants and installing 1.13 miles of riparian fencing along both sides of the stream to create an 85-foot wide riparian zone that will stabilize the streambank and improve water quality.

These project actions will address multiple instream recovery actions listed in the SONCC Coho Recovery Plan (NMFS 2014) that will benefit instream habitat (HI), including: SmiR.2.2.3.2: Implement restoration projects that improve off channel habitats to create refugia habitat, as guided by assessment results; SmiR.2.1.1.2: Place instream structures, guided by assessment results. SmiR.7.1.7.3, SmiR.7.1.7.4 and SmiR.7.1.7.5: Plant vegetation to stabilize stream bank, fence livestock out of riparian zones, remove instream livestock watering sources.

Materials:

SRA will purchase native plant materials, riparian, wetland and pasture seed, temporary irrigation, and temporary tree protection with FRGP funding and field supplies (PPE and hand tools) under matching funds.

All other materials will be purchased by construction and fencing contractors. The Implementation Contractor will purchase construction materials (i.e., wood, rock, bridge). MLA will provide survey equipment/materials (i.e., Trimble S-7 total station, RTK-GNSS, survey pins). CCC will provide tools for invasive plant removal, willow collection, plant installation.

Phase 1 materials identified in the Basis of Design report and Final designs include:

- * Large Wood (46) - 15 to 20-foot long and 1.5-foot diameter logs with root wads.
- * Large Wood (10) - 30-foot long and 1-foot diameter channel spanning logs
- * Large Wood (30) - 30-foot long and 1.5-foot diameter pile logs
- * Slash (92 cubic yards) - used in large wood structures to add complexity.
- * Anchors (36 structures) Log anchoring for materials include 1 threaded rebar, washer, nut, 3.5 by 3.5 steel washer plate.
- * Bridge, sheet pile backwall, pre-cast footings (50-foot by 14-foot).
- * Rock Slope Protection (180 tons) - installed at the bridge abutments.
- * Bridge abutment stabilization (120 tons) - rock and stabilization mats.
- * Structural backfill (670 cubic yards) - crossing and road approach subgrade.
- * Cattle exclusion fencing (5970 LF) and four gates - will be used for replacing removed fencing and new fencing along the entire project reach.
- * Cattle guards (2) installed at each bridge approach.
- * Container Plants (800) - trees and shrubs will be installed in the riparian area.
- * Willow and wetland plants (1,000) - will be collected and salvaged from the construction area and installed after construction.
- * Hand tools for invasive plant removal - McClouds, Picks, Shovels, Rakes.
- * Tools for willow collection - chainsaws, hand saws, and pruners.
- * Mulch (50 bales per acre) - used for BMPs around project area.
- * Seed (155 lbs.) - used for BMPs around project area and accelerate vegetative recruitment.
- * Temporary wildlife fencing (800 cages) - constructed with 4-foot tall and 1-foot diameter woven wire cages and bamboo stakes used to protect revegetation from herbivory.

- * Temporary irrigation - used to water revegetation areas.
- * Robotic total station, RTK GPS, and UAS (drone) - will be used to survey during and post construction.

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
Task 1 - Project Management	04/01/26	SRA will lead project management. Task 1 includes, but is not limited to, contract oversight, scheduling, invoicing, project reporting, and coordination with stakeholders and members of the project team. SRA staff will manage all project data and coordinate data management and delivery with contractors hired for project implementation. SRA will support ongoing landowner outreach and engagement. The project will be completed by a team consisting of the Smith River Alliance (SRA), Michael Love and Associates (MLA), Del Norte Resource Conservation District (DNRCD), cultural monitors (TBD), the California Conservation Corps (CCC), the landowner (PWI) and qualified contractors selected for project implementation (TBD), riparian fencing (TBD), and environmental compliance surveys (TBD).	Deliverables: Data Management Plan - 07/01/2026 Executed Subcontracts - 07/01/2026 Invoices - Due not more frequently than monthly for the duration of the agreement Progress Reports - With every invoice Project Data - With progress reports Draft Final Report - 02/01/3030 Final Report - 03/01/2030
Task 2 - Implementation Preparation, Permitting & Environmental	04/01/26	SRA will lead permitting tasks to prepare for project implementation in 2026. SRA will coordinate with FRGP Staff for CDFW secured permits, will complete agency notification for permits secured by SRA, will coordinate nesting	Nesting Bird Survey Reports - 8/1/26 CNDDDB Forms and maps of documented special status birds (if applicable) - 8/31/26

Compliance Permitting		and special status bird surveys and will apply for a Construction General Permit. 1) Secured Permits: The project has a CEQA Mitigated Negative Declaration (MND) filed by Del Norte County as the lead agency on 11/5/2021. The county also issued a Coastal Use Permit UP2116C that will remain active through implementation of Phase 1. The project secured a 5-year CDFW Lake and Streambed Alteration Agreement that covers the entire 0.83 project reach (Phase 1 and 2), EPIMS-DEL-488960R1C, notification date 03/05/2024. CDFW Permits: The project does not have 401 and 404 coverage and requests to be included in the FRGP programmatic permits. SWPPP: SRA will secure a Construction General Permit. To support CGP compliance, the implementation contractor (TBD) will prepare a Stormwater Pollution Prevention Plan and complete monitoring required for the Construction General Permit. 2) Environmental Surveys: A qualified biologist will complete riparian nesting and special status bird surveys, under matching funds. 3) Final Design Updates: MLA will update the design plans as necessary to address minor design and permitting changes since the 100% designs were finalized in 2020. MLA will make minor modifications to the designs based on lessons learned from implementation upstream of	Revised Final Design in PDF format 6/1/26 Final Bid Package 6/1/26

		Lake Earl Drive (Phase 2) that was completed in 2024. MLAs updates to the design drawings will include changes to the bridge and foundation design that arise from shop drawings that will be obtained after an implementation contractor is selected. As necessary, SHN, as a geotechnical subcontractor to MLA will provide updates to the bridge foundation. 4) Bid Solicitation/Selection and Construction Preparation: SRA, with support from MLA will prepare a bid package that will include the bidding requirements, contract forms, grant provisions, conditions of contract, technical specifications, project plans and permits. MLA will lead the preparation of technical specifications that will include bid item descriptions and prepare the bid schedule, with support from SRA. SRA will hold a pre-bid site inspection with prospective bidders, DNRCD Staff, landowners, and engineers. MLA will participate in one pre-bid site meeting, assist with responses to perspective bidder questions and preparation of addendums, and will assist SRA with review of received bids and selection of a contractor. SRA will review bids with support from MLA. Awards will be made to the lowest, responsive, responsible Bidder in accordance with the requirements on the bid form. One of the requirements for being deemed responsive and responsible is that the bidder must meet all the minimum qualification requirements set forth in the Bidder Qualification Summary. The	

		selected contractor will provide insurance and bonding, maintenance of traffic, erosion and sediment control, water management and dewatering, all construction work, and provide all material certifications. 5) Once a contractor is selected SRA will coordinate a pre-construction meeting with DNRCD, MLA, the selected contractor, and the landowner to discuss permit and engineering requirements, the project schedule, and notification requirements.	
Task 3 - Project Implementation	06/15/26	SRA will provide construction oversight, with support from DNRCD and MLA. MLA will provide construction oversight throughout the duration of project implementation with an anticipated onsite presence by a licensed professional of 50% of the time. MLA will work with the contractors to verify construction activities follow the specifications in the final design plans and design report. The selected construction contractor will conduct all equipment operations necessary to implement all project designs. The construction contractor will provide all equipment and materials needed to construct design elements outlined in tasks 3.2 - 3.4. The contractor will follow the details and construction specifications outlined in the Final Design Plan Set. The contractor will work closely with MLA, SRA, and DNRCD to ensure the project	Field Logs - 11/01/26

		is implemented as designed and follows all permit requirements. Additional details are outlined in Task 3.1 to 3.4	
Task 3.1 Implementation Oversight	06/15/26	SRA will oversee all aspects of implementation, including verification of permit compliance, water quality testing, and on-site coordination. SRA will provide daily construction management and resolution of implementation issues, as necessary. DNRCD staff will assist with construction oversight and landowner coordination. SRA will work with the oversee the revegetation completed by the CCC. SRA and DNRCD will oversee the riparian fence installation. MLA will provide part time technical oversight throughout the duration of project implementation. MLA will work with the contractors to verify construction activities follow the specifications in the final design plans and design report. Technical oversight will include working with the selected heavy equipment contractor, as needed, to salvage trees, separate and stockpile materials, oversee grading and compaction operations, and installation of the large wood structures. MLA will provide oversight of the bridge assembly and installation and coordinate with SHN for foundation inspection(s). MLA will provide survey control for the project for the Implementation Contractors use in project stakeout and will periodically check grades to	Water Quality Monitoring Logs - 11/01/2026

		verify construction elevations. MLA assumes that construction oversight and survey work performed by MLA staff will be subject to prevailing wage for a maximum of 8 hours a day. MLA will prepare a daily field observation log of construction activities when on site, which will include contractor staffing, equipment, activities, and specific directions to the contractor related to the stream work. This log will be provided to SRA. MLA will also support SRA with invoicing by reviewing contractor-submitted quantities and/or percent completion of items. MLA will assist SRA with development of a final punch list for the contractor. Geotechnical inspectors from SHN, a subcontractor to MLA, will perform up to two subgrade inspections to determine suitability or the bridge foundation. SHN will also respond to Requests for Information (RFIs) and review of submittals specific to installation of the bridge foundation. Monitoring services from cultural resource monitors will be secured with matching funds.	
Task 3.2 - Mobilization, Site Preparation & Invasives Removal;	06/15/26	The selected contractors (implementation, fencing) and the California Conservation Corps (riparian) will furnish all labor, materials, tools, equipment, and incidentals for project construction.	Field Logs - 11/01/2026

Demobilization & Site Cleanup		The Implementation Contractor (TBD) will remove all existing stream crossings and fencing. Damaged materials will be hauled off-site and properly disposed of. The landowner will assist with excluding livestock from the project area during construction. The Implementation Contractor will mechanically remove Himalayan blackberry and pile this material for burning. The CCC will remove all remaining invasive plant materials with hand tools. All non-native vegetation will be piled and burned with proper burn permits. During site grubbing, the Implementation Contractor will remove native emergent wetland plants in clumps with both roots and shoots intact from grading areas along the existing channel. The contractor will set up a temporary staging area for salvaged material and will stage plants for installation. CCC will collect live willow cuttings for use in bioengineering and prepare live plant divisions for planting. Site cleanup and demobilization will include all steps necessary to stabilize the site with required BMPs in compliance with all permits. All project materials and equipment will be removed from the project site. Upon completion of work, all access areas outside the limit of channel grading will be smoothed to create a uniform surface similar to adjacent undisturbed areas.	

		Mobilization and demobilization, invasive plant removal, water management, stream crossing replacement, channel restoration, large wood installation, site stabilization and erosion control, installation will follow the engineering designs and all permit conditions.	
Task 3.3 - Water Management and Aquatic Species Relocation	06/15/26	The Implementation contractor (TBD) will be responsible for installing a water management system and clear water diversion, installing block nets to isolate the work area, and removing any groundwater seepage into the work area. Water pumped out of work areas will be discharged on the flat floodplain surface far enough away that dirty water does not return to the stream, but instead infiltrates into the ground. If necessary, straw waddles will be placed to slow and filter discharged water. To avoid impacts to aquatic habitats, construction will take place during the dry summer season when flows are low, or the stream is dry. Construction plans also include water and aquatic organism management in accordance with state and federal permitting requirements including the installation of fish exclusion and de-watering as needed. Project construction will follow BMPs as applicable, described in the current California Storm water BMP handbook for Construction (www.CASQA.org) and methods outline in the California Salmonid Stream Habitat Restoration Manual, Parts IV, IX and XII. If water is	Aquatic Species Relocation Data - 08/01/2026 Water Quality Logs - 08/01/2026

		present SRA will complete daily water quality monitoring of turbidity, construction pollutants, temperature, dissolved oxygen, and turbidity and complete water monitoring. Dewatering shall be coordinated with a qualified biologist to perform fish and wildlife relocation activities. Relocation will follow all permit conditions. SRA will coordinate with CDFW biologist to determine the best method of relocating non-listed species that are likely to be present during dewatering including northern red-legged frog and Pacific lamprey.	
Task 3.4 - Habitat Restoration	06/15/26	The Implementation Contractor will grade the channel to restore natural meanders, install large wood, create off-channel alcoves, and complete fish passage improvements. Phase 1 will install large wood and bridge abutments and Rock Slope Protection (RSP) on 0.057 acres and 530 linear feet of channel. Phase 1 will install 36 large wood structures, 4 side-channel alcoves, and restore a natural meandering channel form. The intent of the alcoves is to provide off-channel high-flow refugia for rearing salmonids with the creation of deep pools with clear quality and refuge from predators. A wetland bench was designed in each alcove to have shallow submergence during winter baseflow to support emergent wetland vegetation and increase primary productivity for foraging salmonids and support habitat for other aquatic species (i.e.,	Construction oversight logs - 11/01/2026 Photo documentation - 11/01/2026

		red-legged frog and salamanders). Large wood will restore habitat complexity, cover, and structural diversity within the stream. The Implementation Contractor will install 36 single and multiple log structures. The structures will use 15- to 30-foot long, 1- to 1.5-foot diameter trees, with or without root wads, as specified by the engineering plans. They will be anchored by a combination of burial in the ground and anchoring to log piles driven into the ground. Embedment depth was determined based on calculations presented in Knutson and Fealko (2014). Three large wood structure types: root wads, scour logs, and log overhang structures, will be used to support the process-based development of instream habitat complexity. Fish passage will be improved by replacing the two existing undersized crossings downstream of Lake Earl Drive with a single full-span bridge at the Phase 1, downstream/Crossing 1 location. The hydraulic design of the bridge was based on stream simulation design methodologies (CDFW 2009, USFS 2008) to fully-span the bankfull width of the design channel and convey the stream's 100-year flow to maintain stable geomorphic processes. The new bridge will consist of a 50-foot span by 14-foot wide prefabricated steel-beam bridge with precast concrete strip footings. The bridge approach will connect with an existing gravel road used for the agricultural operation.	

		The bridge was designed with freeboard above the 100-year water surface elevation of Tryon Creek SRA will provide oversight for riparian restoration, collection of live plant materials, plant installation, plant maintenance, and irrigation. CCC will collect live plant materials and install plants and tree protection. SRA will mulch and seed the riparian area with support from CCC. The RCD will coordinate pasture seeding disturbed during construction. The California Conservation Corps will install native riparian plants and wildlife browse protection. Temporary irrigation for riparian plantings will be provided by the landowner. A fence contractor (TBD) will install a riparian fence on both sides of the creek. The fencing design will follow CDFW guidelines for wildlife friendly fencing (Paige 2012), NRCS recommendations for cattle exclusion along riparian areas, and the production needs of the livestock operation. A 48-inch tall woven wire field fence will be used, with two barbed wires on the top. Permanent gates and cattle guards will be installed at the stream crossing location.	
Task 4 - Monitoring and Maintenance	11/01/26	SRA will conduct project monitoring in accordance with the California Salmonid Stream Habitat Restoration Manual (1998). SRA will collect data on baseline conditions at the project site and establish photo-monitoring points. SRA will collect pre and post project drone imagery to	As-built plans - 12/15/2026 Field observation logs - 11/01/2026 First Winter Monitoring Memorandum 06/01/2027

		support project monitoring and reporting. SRA will prepare annual photo and monitoring reports that will include all required permitting metrics. SRA will monitor riparian plant survival for a period of 3 years. Michael Love and Associates will prepare as-built, cross section, and instream feature drawings. SRA will complete vegetation monitoring and off-channel habitat monitoring per FRGP guidelines. The first year monitoring will include all FRGP First Winter Observation requirements. Monitoring of off-channel habitat will take place for two years after implementation is complete and will follow the Off-Channel Monitoring and Maintenance Plan prepared by SRA and attached in the Supplemental Documents. The alcoves are intended to provide winter off-channel high flow refugia for rearing salmonids, create additional instream habitat and create vegetated wetland habitat with high primary productivity. Monitoring will help evaluate backwater habitat use by winter rearing coho salmon and inform project maintenance actions. Off-channel habitat monitoring will include two main components: Salmonid Monitoring and Stream Channel and Structures Monitoring. MLA will lead the stream channel monitoring. Monitoring conducted by CDFW and SRA from 2013 - 2019 will be used as baseline data for biological fish response. Baseline topographic	Second Winter Off-Channel Habitat Memorandum 06/01/2028 Annual photo point monitoring and permit reporting - 04/01/2027, 04/01/2028, 04/01/2029

		monitoring was completed by Michael Love and Associates during the project design phase and will be used to compare to as-built conditions post construction. Prior to project construction, SRA will establish photo monitoring locations and collect drone imagery that will serve as the baseline conditions for comparison to post construction monitoring. During both years of monitoring, MLA will prepare a georeferenced orthomosaic of the project area using UAV flights. This imagery will be used to monitor changes to the project area over time. MLA will also conduct a visual inspection of the project area to document areas of erosion or deposition or constructed features that have changed from as-built conditions. Changes to the project area after the first and second winter compared to as-built conditions will be documented by MLA in a section of the two annual monitoring reports. During the second year of monitoring, MLA will conduct topographic surveys that include thalweg profiles through the entire constructed channel reach and through each alcove. Cross sections of the channel where substantial changes have occurred will also be surveyed in detail (sedimentation, bank erosion etc). The surveys will be compared to as-built conditions to evaluate changes to the channel, including scour and sedimentation of the channel and alcove	

		features and around hydraulic controls such as large wood. During the second year of monitoring, MLA will also evaluate the hydraulic performance of the channel to provide suitable winter rearing habitat. The evaluation will include measurements of flow depth, velocity at various locations within the channel (riffles, pools, at large wood structures) and alcoves during two wet-season flow events. Stream discharge will be measured as part of each monitoring event. Except for extreme flow events, the alcoves will be backwatered by the stream channel and are expected to have minimal flow velocities. Measurements of the water surface, water depths, and velocities will be made with a topset wading rod and current-meter and survey (equipment total station or RTK). MLA will synthesize the results of the second-year topography, field observations, and hydraulic performance of the channel in a section of the Second Winter Off-Channel Habitat Memorandum. The results will include a discussion of overall project performance, changes, lessons learned, and any areas that need maintenance or continued monitoring.	

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

All habitat improvements will follow techniques described in the [California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)](#) or [other approved guidelines and manuals for salmon and steelhead habitat restoration](#).

The Grantee shall notify CDFW at least five working days before the project site is de-watered and the stream flow diverted and submit a Water Quality Monitoring Plan and Dewatering Plan to CDFW for State Water Resources Control Board approval at least 30 days before the activity. The notification will provide a reasonable time for CDFW personnel to oversee the implementation of the water diversion plan and the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:

- a. Fish dewatering and relocation activities shall only occur between June 15 and October 31 of each year.
- b. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.
- c. The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible as approved by the CDFW Grant Manager and pursuant to conditions in the USACE Regional General Permit and National Marine Fisheries Service (NMFS) Biological Opinion.
- d. All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the NMFS, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
- e. USFWS Approved fisheries biologists will provide fish relocation data via the Grantee to the CDFW personnel on a form provided by CDFW.

The bridge (culvert) design and installation will meet flow carrying capacity required for a 100-year flood event as identified by specifications determined by National Oceanic and Atmospheric Administration (NOAA) Fisheries and the CDFW, for adult and juvenile salmonid fish passage. The project will follow the National Marine Fisheries Service (NMFS 2001) Guidelines for Salmonid Passage at Stream Crossings and criteria for fish passage as described in Volume II, Part IX, of the *California Salmonid Stream Habitat Restoration Manual*. The engineered plans for the bridge (culvert) installation shall be visually reviewed and authorized by NOAA Fisheries or CDFW engineers prior to commencement of work.

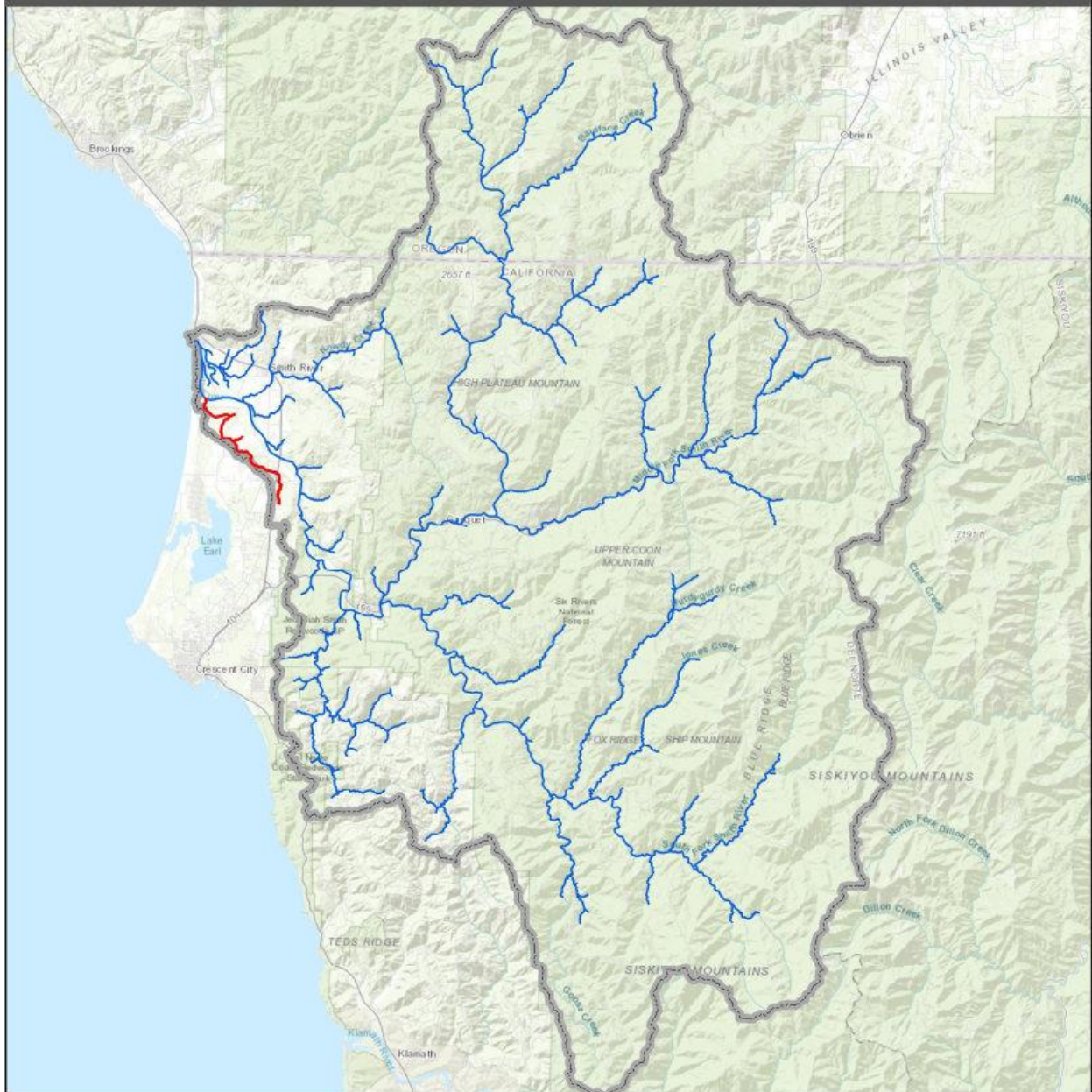
The Grantee/landowner will maintain the new crossing, inspect the crossing in a timely manner and remove debris as necessary during the storm season.

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

Planting of tree seedlings should take place after December 1 or when sufficient rainfall has occurred to ensure the best chance of survival of the seedlings.

The Grantee/landowner will maintain the livestock exclusion fence(s) for a period of 10 years and totally exclude livestock from the riparian zone. Maintenance will include repair of fences to a level that will effectively exclude livestock from the livestock exclusion project area. Maintenance will not include damage that exceeds 50 percent of the fence due to natural disaster.

Upper Tryon Creek Restoration Project



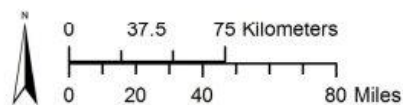
Watershed Map

-  Tryon Creek
-  Smith River Anadromous Streams
-  Smith River Watershed



SMITH
RIVER
ALLIANCE

Map Sources:
Imagery: ESRI World Mapping Service
Watershed, streams: CDFW



Map Location

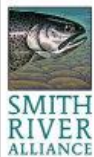


UPPER TRYON CREEK RESTORATION PROJECT

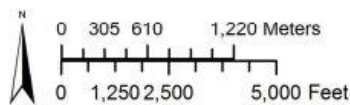


Project Topographic Map

-  Tryon Creek
-  Upper Tryon Project Reach
-  Tryon Creek Watershed



Map Sources:
Imagery: USGS Quad Map
Imagery, roads, cities:
ESRI World Mapping Service



Map Location



California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734338 Upper Tryon Creek Restoration Project,
Phase 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC
Plethodon elongatus	Del Norte salamander	AAAAD12050	None	None	WL
Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC
Rana boylei pop. 1	foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	SSC
Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC
Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC
Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP
Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP
Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-
Cerorhinca monocerata	rhinoceros auklet	ABNNN11010	None	None	WL
Fratercula cirrhata	tufted puffin	ABNNN12010	None	None	SSC
Ptychoramphus aleuticus	Cassins auklet	ABNNN08010	None	None	SSC
Branta hutchinsii leucopareia	cackling (=Aleutian Canada) goose	ABNJB05035	Delisted	None	WL
Cypseloides niger	black swift	ABNUA01010	None	None	SSC
Ardea alba	great egret	ABNGA04040	None	None	-
Ardea herodias	great blue heron	ABNGA04010	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Botaurus lentiginosus</i>	American bittern	ABNGA01020	None	None	-
<i>Egretta thula</i>	snowy egret	ABNGA06030	None	None	-
<i>Nycticorax nycticorax</i>	black-crowned night heron	ABNGA11010	None	None	-
<i>Charadrius nivosus nivosus</i>	western snowy plover	ABNNB03031	Threatened	None	SSC
<i>Falco peregrinus anatum</i>	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
<i>Antigone canadensis canadensis</i>	lesser sandhill crane	ABNMK01011	None	None	SSC
<i>Antigone canadensis tabida</i>	greater sandhill crane	ABNMK01014	None	Threatened	FP
<i>Riparia riparia</i>	bank swallow	ABPAU08010	None	Threatened	-
<i>Hydrobates furcatus</i>	fork-tailed storm-petrel	ABNDC04010	None	None	SSC
<i>Pandion haliaetus</i>	osprey	ABNKC01010	None	None	WL
<i>Poecile atricapillus</i>	black-capped chickadee	ABPAW01010	None	None	WL
<i>Pelecanus occidentalis californicus</i>	California brown pelican	ABNFC01021	Delisted	Delisted	-
<i>Nannopterum auritum</i>	double-crested cormorant	ABNFD01020	None	None	WL
<i>Coturnicops noveboracensis</i>	yellow rail	ABNME01010	None	None	SSC
<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Selasphorus rufus</i>	rufous hummingbird	ABNUC51020	None	None	-
<i>Empidonax traillii brewsteri</i>	little willow flycatcher	ABPAE33041	None	Endangered	-
<i>Acipenser medirostris</i> pop. 2	green sturgeon - northern DPS	AFCAA01032	None	None	SSC
<i>Cottus asper</i> ssp.	Clear Lake prickly sculpin	AFC4E02021	None	None	SSC
<i>Eucyclogobius newberryi</i>	tidewater goby	AFCQN04010	Endangered	None	SSC
<i>Spirinchus thaleichthys</i>	longfin smelt	AFCHB03010	None	Threatened	-
<i>Thaleichthys pacificus</i>	eulachon	AFCHB04010	Threatened	None	SSC
<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC
<i>Lampetra richardsoni</i>	western brook lamprey	AFBAA02180	None	None	SSC
<i>Oncorhynchus clarkii</i>	coast cutthroat trout	AFCHA0208A	None	None	SSC
<i>Oncorhynchus kisutch</i> pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-
<i>Oncorhynchus mykiss irideus</i> pop. 1	steelhead - Klamath Mountains Province DPS	AFCHA0209D	None	None	SSC
<i>Oncorhynchus tshawytscha</i> pop. 14	chinook salmon - southern Oregon/northern California coastal	AFCHA0205P	Candidate	None	SSC

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-
Scaphinotus behrensi	Behrens snail-eating beetle	IICOL4L070	None	None	-
Atractelmis wawona	Wawona riffle beetle	IICOL58010	None	None	-
Polites mardon	mardon skipper	IILEP66030	None	None	-
Limnephilus atercus	Fort Dick limnephilus caddisfly	IITRI15020	None	None	-
Coenonympha tullia yontockett	Yontocket satyr	IILEPN6035	None	None	-
Speyeria zerene hippolyta	Oregon silverspot butterfly	IILEPJ6087	Threatened	None	-
Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-
Enhydra lutris nereis	southern sea otter	AMAJF09012	Threatened	None	FP
Martes caurina humboldtensis	Humboldt marten	AMAJF01017	Threatened	Endangered	SSC
Pekania pennanti	Fisher	AMAJF01020	None	None	SSC
Arctocephalus townsendi	Guadalupe fur-seal	AMAJC02010	Threatened	Threatened	FP
Eumetopias jubatus	Steller sea lion	AMAJC03010	Delisted	None	-
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC

California Department of Fish and Wildlife
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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Monadenia fidelis pronotis	rocky coast Pacific sideband	IMGASC7032	None	None	-
Lanx alta	highcap lanx	IMGASL7010	None	None	-
Margaritifera falcata	western pearlshell	IMBIV27020	None	None	-
Juga chacei	Chace juga	IMGASK4180	None	None	-
Pomatiopsis chacei	marsh walker	IMGASJ9030	None	None	-
Actinemys marmorata	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-
Coastal Brackish Marsh	Coastal Brackish Marsh	CTT52200CA	None	None	-
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	CTT52110CA	None	None	-
Fissidens pauperculus	minute pocket moss	NBMUS2W0U0	None	None	-
Sulcaria spiralifera	twisted horsehair lichen	NLT0042560	None	None	-
Calicium adpersum	spiral-spored gilded-head pin lichen	NLT0005640	None	None	-
Usnea longissima	Methuselabs beard lichen	NLLEC5P420	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ramalina thrausta	angels hair lichen	NLLEC3S340	None	None	-
Sagittaria sanfordii	Sanfords arrowhead	PMALI040Q0	None	None	-
Angelica lucida	sea-watch	PDAPI070G0	None	None	-
Glehnia littoralis ssp. leiocarpa	American glehnia	PDAPI13011	None	None	-
Lomatium howellii	Howells lomatium	PDAPI1B0U0	None	None	-
Lomatium tracyi	Tracys lomatium	PDAPI1B1Y0	None	None	-
Perideridia gairdneri ssp. gairdneri	California Gairdners yampah	PDAPI1N062	None	None	-
Sanicula peckiana	Pecks sanicle	PDAPI1Z0E0	None	None	-
Tauschia glauca	glaucous tauschia	PDAPI27020	None	None	-
Asplenium trichomanes ssp. trichomanes	maidenhair spleenwort	PPASP021K2	None	None	-
Antennaria suffrutescens	evergreen everlasting	PDAST0H0S0	None	None	-
Arnica cernua	serpentine arnica	PDAST0Q040	None	None	-
Arnica spathulata	Klamath arnica	PDAST0Q0M0	None	None	-
Doellingeria glabrata	Siskiyou aster	PDASTE030	None	None	-
Erigeron cervinus	Siskiyou daisy	PDAST3M0U0	None	None	-
Hesperevax sparsiflora var. brevifolia	short-leaved evax	PDASTE5011	None	None	-

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California Natural Diversity Database Species Lists for 1734338 Upper Tryon Creek Restoration Project,
Phase 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	PDAST5L0C5	None	None	-
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	PDAST8H0H1	None	None	-
<i>Packera macounii</i>	Siskiyou Mountains ragwort	PDAST8H1Z0	None	None	-
<i>Pyrrocoma racemosa</i> var. <i>congesta</i>	Del Norte pyrrocoma	PDASTDT0F4	None	None	-
<i>Vancouveria chrysantha</i>	Siskiyou inside-out flower	PDBER09010	None	None	-
<i>Arabis aculeolata</i>	Waldo rockcress	PDBRA06010	None	None	-
<i>Arabis mcdonaldiana</i>	McDonalds rockcress	PDBRA06150	Endangered	Endangered	-
<i>Boechera koehleri</i>	Koehlers stipitate rockcress	PDBRA060Z0	None	None	-
<i>Cardamine angulata</i>	seaside bittercress	PDBRA0K010	None	None	-
<i>Cardamine nuttallii</i> var. <i>gemmata</i>	yellow-tubered toothwort	PDBRA0K0R3	None	None	-
<i>Cochlearia groenlandica</i>	Greenland cochlearia	PDBRA0S020	None	None	-
<i>Erysimum concinnum</i>	bluff wallflower	PDBRA160E3	None	None	-
<i>Streptanthus howellii</i>	Howells jewelflower	PDBRA2G0N0	None	None	-
<i>Downingia willamettensis</i>	Cascade downingia	PDCAM060E0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734338 Upper Tryon Creek Restoration Project,
Phase 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Sabulina howellii</i>	Howells sandwort	PDCAR0G0F0	None	None	-
<i>Silene hookeri</i>	Hookers catchfly	PDCAR0U2M0	None	None	-
<i>Silene serpentinicola</i>	serpentine catchfly	PDCAR0U2B0	None	None	-
<i>Calystegia atriplicifolia</i> ssp. <i>buttensis</i>	Butte County morning-glory	PDCON04012	None	None	-
<i>Sedum patens</i>	Smith River stonecrop	PDCRA0A250	None	None	-
<i>Carex arcta</i>	northern clustered sedge	PMCYP030X0	None	None	-
<i>Carex lenticularis</i> var. <i>limnophila</i>	lagoon sedge	PMCYP037A7	None	None	-
<i>Carex lyngbyei</i>	Lyngbys sedge	PMCYP037Y0	None	None	-
<i>Carex praticola</i>	northern meadow sedge	PMCYP03B20	None	None	-
<i>Carex scabriuscula</i>	Siskiyou sedge	PMCYP03C40	None	None	-
<i>Carex serpenticola</i>	serpentine sedge	PMCYP03KM0	None	None	-
<i>Carex sheldonii</i>	Sheldons sedge	PMCYP03CE0	None	None	-
<i>Carex viridula</i> ssp. <i>viridula</i>	green yellow sedge	PMCYP03EM5	None	None	-
<i>Empetrum nigrum</i>	black crowberry	PDEMP03020	None	None	-
<i>Arctostaphylos hispidula</i>	Howells manzanita	PDERI04230	None	None	-
<i>Arctostaphylos nortensis</i>	Del Norte manzanita	PDERI04092	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Vaccinium scoparium	little-leaved huckleberry	PDERI180Y0	None	None	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Lathyrus delnorticus	Del Norte pea	PDFAB25070	None	None	-
Lathyrus japonicus	seaside pea	PDFAB250C0	None	None	-
Lathyrus palustris	marsh pea	PDFAB250P0	None	None	-
Dicentra formosa ssp. oregana	Oregon bleeding heart	PDFUM04052	None	None	-
Gentiana setigera	Mendocino gentian	PDGEN060S0	None	None	-
Ribes laxiflorum	trailing black currant	PDGRO020V0	None	None	-
Phacelia argentea	sand dune phacelia	PDHYD0C070	Threatened	None	-
Romanzoffia tracyi	Tracys romanzoffia	PDHYD0E030	None	None	-
Iris bracteata	Siskiyou iris	PMIRI09020	None	None	-
Iris innominata	Del Norte County iris	PMIRI090F0	None	None	-
Iris tenax ssp. klamathensis	Orleans iris	PMIRI090Z2	None	None	-
Iris thompsonii	Thompsons iris	PMIRI09120	None	None	-
Pinguicula macroceras	horned butterwort	PDLNT01040	None	None	-
Erythronium hendersonii	Hendersons fawn lily	PMLILOU070	None	None	-
Erythronium howellii	Howells fawn lily	PMLILOU080	None	None	-
Erythronium oregonum	giant fawn lily	PMLILOU0C0	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Lilium bolanderi</i>	Bolanders lily	PMLIL1A010	None	None	-
<i>Lilium occidentale</i>	western lily	PMLIL1A0G0	Endangered	Endangered	-
<i>Lilium pardalinum</i> ssp. vollmeri	Vollmers lily	PMLIL1A0H2	None	None	-
<i>Lycopodium clavatum</i>	running-pine	PPLYC01080	None	None	-
<i>Sidalcea elegans</i>	Del Norte checkerbloom	PDMAL110F5	None	None	-
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	PDMAL110E0	None	None	-
<i>Sidalcea malviflora</i> ssp. patula	Siskiyou checkerbloom	PDMAL110F9	None	None	-
<i>Sidalcea oregana</i> ssp. eximia	coast checkerbloom	PDMAL110K9	None	None	-
<i>Veratrum insolitum</i>	Siskiyou false-hellebore	PMLIL25040	None	None	-
<i>Monotropa uniflora</i>	ghost-pipe	PDMON03030	None	None	-
<i>Pityopus californicus</i>	California pinefoot	PDMON05010	None	None	-
<i>Lewisia oppositifolia</i>	opposite-leaved lewisia	PDPOR040B0	None	None	-
<i>Montia howellii</i>	Howells montia	PDPOR05070	None	None	-
<i>Lysimachia europaea</i>	arctic starflower	PDPRI0A020	None	None	-
<i>Abronia umbellata</i> var. breviflora	pink sand-verbena	PDNYC010N4	None	None	-
<i>Epilobium rigidum</i>	Siskiyou Mountains willowherb	PDONA060V0	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Oenothera wolfii	Wolfs evening-primrose	PDONA0C1K0	None	None	-
Cypripedium californicum	California ladys-slipper	PMORC0Q040	None	None	-
Cypripedium montanum	mountain ladys-slipper	PMORC0Q080	None	None	-
Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-
Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-
Castilleja ambigua var. ambigua	johnny-nip	PDSCR0D401	None	None	-
Castilleja brevilobata	short-lobed paintbrush	PDSCR0D181	None	None	-
Castilleja elata	Siskiyou paintbrush	PDSCR0D213	None	None	-
Castilleja litoralis	Oregon coast paintbrush	PDSCR0D012	None	None	-
Kopsiopsis hookeri	small groundcone	PDORO01010	None	None	-
Oxalis suksdorfii	Suksdorfs wood-sorrel	PDOXA010U0	None	None	-
Anthoxanthum nitens ssp. nitens	vanilla-grass	PMPOA35041	None	None	-
Calamagrostis crassiglumis	Thurbers reed grass	PMPOA17070	None	None	-
Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-
Poa piperi	Pipers blue grass	PMPOA4Z200	None	None	-
Gilia capitata ssp. pacifica	Pacific gilia	PDPLM040B6	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Gilia millefoliata</i>	dark-eyed gilia	PDPLM04130	None	None	-
<i>Polemonium carneum</i>	Oregon polemonium	PDPLM0E050	None	None	-
<i>Eriogonum nudum</i> var. <i>paralinum</i>	Del Norte buckwheat	PDPGN08498	None	None	-
<i>Eriogonum pendulum</i>	Waldo wild buckwheat	PDPGN084Q0	None	None	-
<i>Eriogonum ternatum</i>	ternate buckwheat	PDPGN085R0	None	None	-
<i>Potamogeton foliosus</i> ssp. <i>fibrillosus</i>	fibrous pondweed	PMPOT030B1	None	None	-
<i>Moneses uniflora</i>	woodnymph	PDPYR02010	None	None	-
<i>Coptis laciniata</i>	Oregon goldthread	PDRAN0A020	None	None	-
<i>Horkelia howellii</i>	Howells horkelia	PDROS0W0M0	None	None	-
<i>Horkelia sericata</i>	silky horkelia	PDROS0W0N0	None	None	-
<i>Sanguisorba officinalis</i>	great burnet	PDROS1L060	None	None	-
<i>Salix delnortensis</i>	Del Norte willow	PDSAL023F0	None	None	-
<i>Darlingtonia californica</i>	California pitcherplant	PDSAR01010	None	None	-
<i>Cascadia nuttallii</i>	Nuttalls saxifrage	PDSAX0U160	None	None	-
<i>Chrysosplenium glechomifolium</i>	Pacific golden saxifrage	PDSAX07020	None	None	-
<i>Micranthes howellii</i>	Howells saxifrage	PDSAX0U0T0	None	None	-
<i>Micranthes marshallii</i>	Marshalls saxifrage	PDSAX0U0X0	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Mitellastra caulescens	leafy-stemmed mitrewort	PDSAX0N020	None	None	-
Tiarella trifoliata var. trifoliata	trifoliate laceflower	PDSAX10031	None	None	-
Viola langsdorffii	Langsdorfs violet	PDVIO04100	None	None	-
Viola palustris	alpine marsh violet	PDVIO041G0	None	None	-
Viola primulifolia ssp. occidentalis	western white bog violet	PDVIO040Y2	None	None	-

Mattole Headwaters Habitat Enhancement Project (Project ID: 1734339) 2025

Introduction:

The Mattole Salmon Group (Grantee) will install Large wood (LW) in five project reaches:

- 1.A - Mattole River mainstem: add 36 pieces of wood at 11 sites, restoring 1,478 ft of stream;
- 1.B - McKee Creek: add 22 pieces LW at 6 sites, restoring 634 ft;
- 2 - Mattole River mainstem: add 55 pieces LW at 14 sites, restoring 3,168 ft
- 3 - Mattole River mainstem: add 31 pieces LW at 9 sites, restoring 1,426 ft;
- 4 - Mattole River mainstem: add 52 pieces LW at 11 sites, restoring 1,003 ft;
- 5 - State Parks - Mattole River mainstem: add 180 pieces LW at 44 sites, restoring 3,580 ft.

This project is needed because complex instream habitat is lacking throughout much of the Mattole watershed.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#) (section VII).

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The Project is located in the upper mainstem Mattole River and lower extent of McKee Creek (see the attached Project Map), and begins near the junction of Shelter Cove Rd with Briceland-Thorn Rd. The McKee Creek portion of the Project (Reach 1.B) extends from the confluence with the Mattole River (RM 52.7) to 640 ft upstream. The downstream-most project section of the mainstem Mattole (Reach 1.A) begins at the confluence with McKee Cr (RM 52.7) and extends upstream 1,472 ft. Moving upstream, Reach 2 on the mainstem begins at the

confluence of Gibson Cr (RM 56.5) and extends upstream 3,168 ft to the confluence of Stanley Cr (RM 57.1). Moving upstream, Reach 3 of the mainstem begins at the confluence of Baker Cr (RM 57.8) and extends upstream 1,426 ft. The upstream-most Project section of the mainstem (Reach 4) begins at the bridge where Briceland-Thorn Rd crosses the Mattole River and extends upstream 1,003 ft, just past the confluence of Lost River (RM 58.8).

Project central coordinates: 40.04961, -123.93886, see Mattole Headwaters Project Location Map and Mattole Headwaters Watershed Map

Project Description:

The Mattole Headwaters Habitat Enhancement Project treats 50 sites within a cumulative 1.5 miles of stream in the upper Mattole River mainstem and lower portion of McKee Creek, a tributary to the upper Mattole. Implementation will occur over two years. Treatments will consist of 29 anchored multi-log structures as well as 6 individual large whole trees, 14 unanchored complex multi-log structures, and 1 log-boulder structure. The Project is spread over 4 work areas occurring within an 8-mile span of the Mattole mainstem. Wood will be placed to mimic naturally occurring fallen trees and jams to increase cover, velocity refugia, pool depth and frequency, roughness, and promote channel complexity, gravel sorting/retention, and promote floodplain connectivity and streamflow enhancement. Wood loading will increase habitat complexity and quantity for salmonids during spring/summer rearing and winter spawning seasons.

The metrics above reflect the proposed FRGP funding for the project. With additional proposed funding from the California Wildlife Conservation Board, an additional 44 sites and 180 key pieces of large wood will be installed over 0.68 miles of stream on CA State Parks property during the same timeframe as proposed for FRGP.

Materials:

All materials will be purchased by MSG.

Equipment Rental: Heavy equipment will be required for the project. Equipment will be rented at the standard piece rate identified by CA Department of Transportation in the year of implementation. Heavy equipment includes: excavator, plate compactor, grapple saw, jumping jack, rubber-tired loader, skidder, dozer, track loader, pickup truck, water trailer, tractor, flatbed trailer, box trailer. Additional misc. tools and smaller pieces of equipment will also be rented (e.g., generator, air compressor, chainsaws).

Logs: Logs are an essential component of this Project. Most logs will be Douglas fir (*Pseudotsuga menziesii*) with some occasional Monterey pine (*Pinus radiata*) at

specific sites where noted, and the rare use of deciduous whole trees where opportunity exist and where noted. Whole trees are considered to have branches and rootwads attached. Some logs may also have rootwads attached without canopy structure included.

Rock/Boulders: Boulders will be required at Site #6 on the mainstem, estimated to be 6x 2-3 ton pieces.

Anchoring materials: Anchoring materials consist of plates, threaded rebar, nuts, epoxy, chains, fittings, and similar products. These will be required to anchor and pin together non-engineered structures, where necessary. Iron and steel materials will be sourced from US manufacturers in accordance with the Build America, Buy America Act.

Other Materials & Supplies: These include safety gear, spill kits, waders, gloves, and other items required for site and employee safety, drill bits, saw chain, abrasive wheels, various replaceable tool parts, tape measure; straw wattles, bales, and silt fencing (sediment control items). The MSG already has most tools required for the project, but project implementation activities will require replacement of some working parts and may require servicing due to project use.

Fuels & Lubricants: These will be required to refuel and lubricate machinery and power tools, as necessary and include diesel and gasoline, as well as various hydraulic and grease materials.

Permit Fees: Funds are requested to pay for the LSA Agreement for the entire project.

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
Task 1: Project Management and Administration	03/01/26	This task is led by MSG and involves invoice preparation, progress reports, annual reports, contracting with subcontractor/s, coordination and scheduling, hiring and onboarding field crew, and preparing the Project final report, including data submittal for water quality monitoring and post-project monitoring. The final report will include actual performance measures per site, as outlined in the 2025 FRGP Guidelines, Part IV. MSG's Project Manager, Project Coordinator, and Bookkeeper will perform work under this task.	Invoices: monthly and/or quarterly Executed Subcontracts: August 1 of each year Progress Reports: monthly and/or quarterly (with invoice) Annual Report: November 30 of each year Final Report: 03/31/2028 Final Invoice: 03/31/2028 Project Data: 03/31/2028
Task 2: Permits & Approvals	03/01/26	This task is led by MSG and consists of securing necessary permits and approvals for the Project, such as a Lake and Streambed Alteration Agreement, 401 and 404 permits, NOAA Biological Opinion consultation (if required), Landowner Access Agreements for Implementation and follow-up monitoring, and coordination with Sanctuary Forest in regard to CEQA. MSG's Project Manager, Project Coordinator, and Biologist will perform work under this task.	LSA Agreement: 06/30/2026 401 Permit (under FRGP): 06/30/2026 404 Permits (under FRGP): 06/30/2026 Landowner Access Agreements: 06/30/2026

Task Name	Start Date	Activity Description	Deliverables
Task 3: Implementation	06/15/26	MSG will implement the Project, installing the following: Reach 1.A: Mattole River (RM 52.7) Treat 10 sites within 0.28 mi of mainstem Mattole River with 8 multi-log anchored structures, 2 unanchored large whole trees (at one site), and 1 anchored log-boulder structure (engineering analysis provided), totaling 36 pieces of wood. The boulder site will require 6x 2-3 ton boulders (Site #6). Average # of large wood pieces per structure: 3.6 Reach 1.B: McKee Creek Treat 6 sites within the lower 0.12 mi of McKee Creek, a tributary to the upper Mattole River, with 3 anchored multi-log structures, 1 unanchored multi-log complex, and 2 unanchored large whole trees, totaling 22 pieces of wood. Average # of large wood pieces per structure: 3.7 Reach 2: Mattole River (RM 56.5) Treat 14 sites within 0.6 mi of mainstem Mattole River with 12 anchored multi-log structures (including 1 unanchored tree) and 2 unanchored large whole trees, totaling 55 pieces of wood. Average # of large wood pieces per anchored structure: 3.9 Reach 3: Mattole River (RM 57.8) Treat 9 sites within 0.27 mi of mainstem Mattole River with 7 anchored structures and 2 unanchored multi-log structures (engineering analysis provided for 1 of	Installation of 196 pieces of large wood over 50 sites: 34 anchored multi-log structures, as well as 4 individual large whole trees, 11 unanchored complex multi-log structures, and 1 log-boulder structure. End date: 10/15/2028

Task Name	Start Date	Activity Description	Deliverables
		these), totaling 31 pieces of wood. Average # of large wood pieces per anchored structure: 3.4 Reach 4: Mattole River (RM58.8) Treat 0.19 mi of mainstem Mattole River with 11 unanchored structure complexes (that include 13 whole trees; engineering analysis provided for 1 specific site) totaling 52 pieces of wood. Average # of large wood pieces per unanchored structure: 5 Additional LW inputs adjacent to the project reaches: With additional project funding provided by Wildlife Conservation Board, an additional 3,580 linear ft of stream will be treated with 180 pieces of large wood at 44 sites. Structures will consist of individual trees and multi-log complexes. Implementation will require the use of all materials listed in the Materials section, as well as the services of a subcontractor for equipment hauling, log hauling, and rock delivery. Subcontractor expenses will be a micro-purchase, and selective bidding is not required. Mileage expenses will also be incurred for travel to and from the site for staff, equipment, and Project oversight and site visits. The MSG Project Coordinator will directly oversee field operations and guide individual log placement. The MSG Equipment Operator will operate heavy machinery necessary to place logs and boulders. Laborers will assist in prepping access routes, installing logs for placement, anchoring structures, installing sediment controls, and general site	

Task Name	Start Date	Activity Description	Deliverables
		maintenance during implementation. The MSG Project Manager will have overall oversight of the Project for all Tasks.	
Task 4: Project Monitoring	11/01/26	Pre-project monitoring is required for HI project types. Before and after photos of all individual feature locations sites) will be taken. Following Project implementation, as-built drawings will be completed that include feature placement, design changes where applicable, alignment, sizes, and quantity of material added. Water quality will be monitored during implementation, according to CDFW guidelines. First Winter Observation Summaries will occur after the first and second years of implementation, respectively, and will include the largest flow and/or storm precipitation event that occurred in the project area, photos or time-lapse photos/video (some during an event if safely possible), observations about how the project is moving towards meeting objectives of the project goal(s), how the features have changed from as-built, and any lessons learned. Any fish observed at during the survey events will also be noted. Mileage will be required to perform this work. MSG's Project Coordinator and Biologist will perform this task. The MSG Project Manager will have overall oversight of the Project for all Tasks.	Site photographs (50 sites x 2 per site; included with Final Report), as-built designs (included with Final Report). Due date: 03/31/2028 First Winter Observation Summaries (included in Final Report). Due date: 03/31/2028 Water quality monitoring report (included with Final Report). Due date: 03/31/2028

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

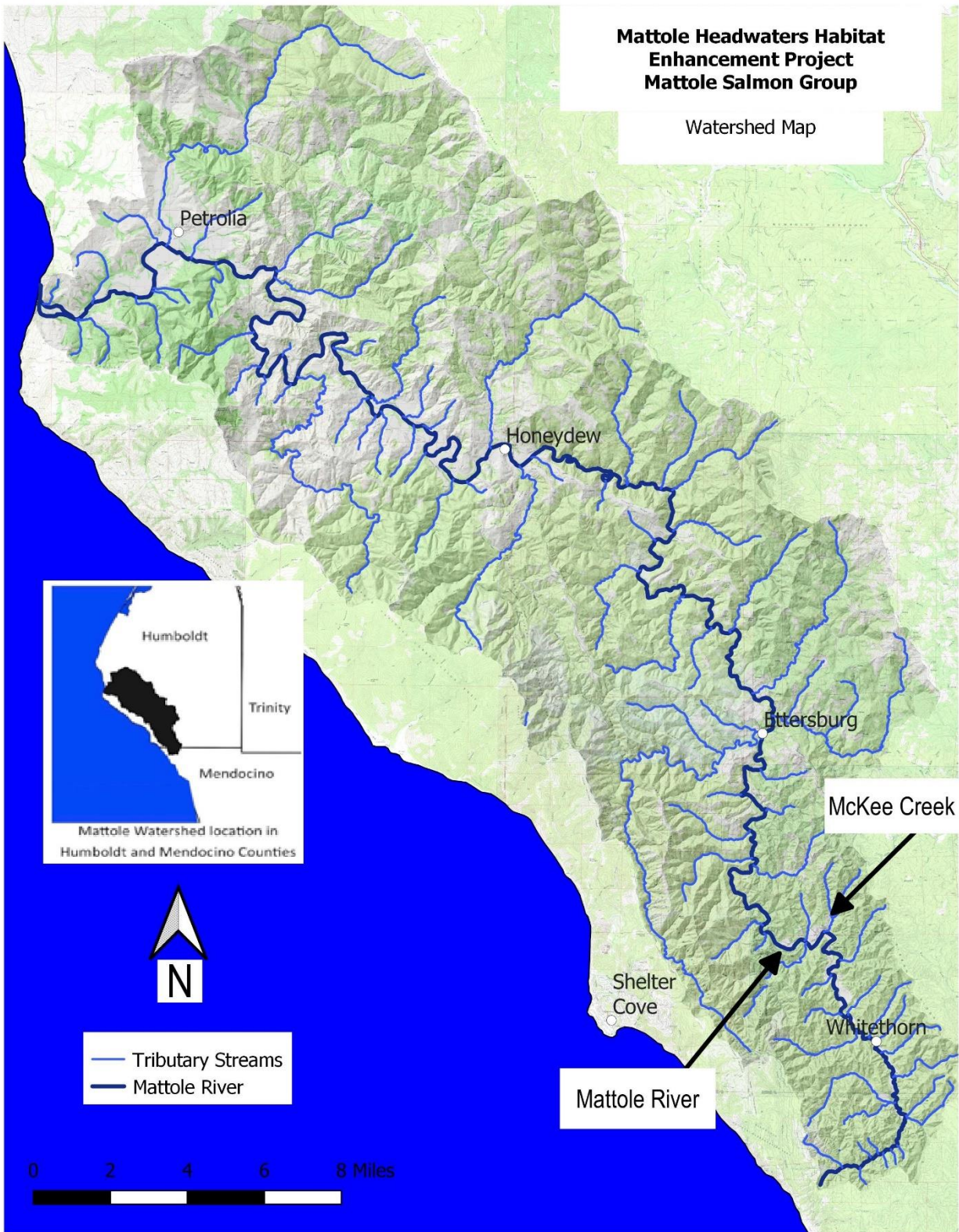
During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

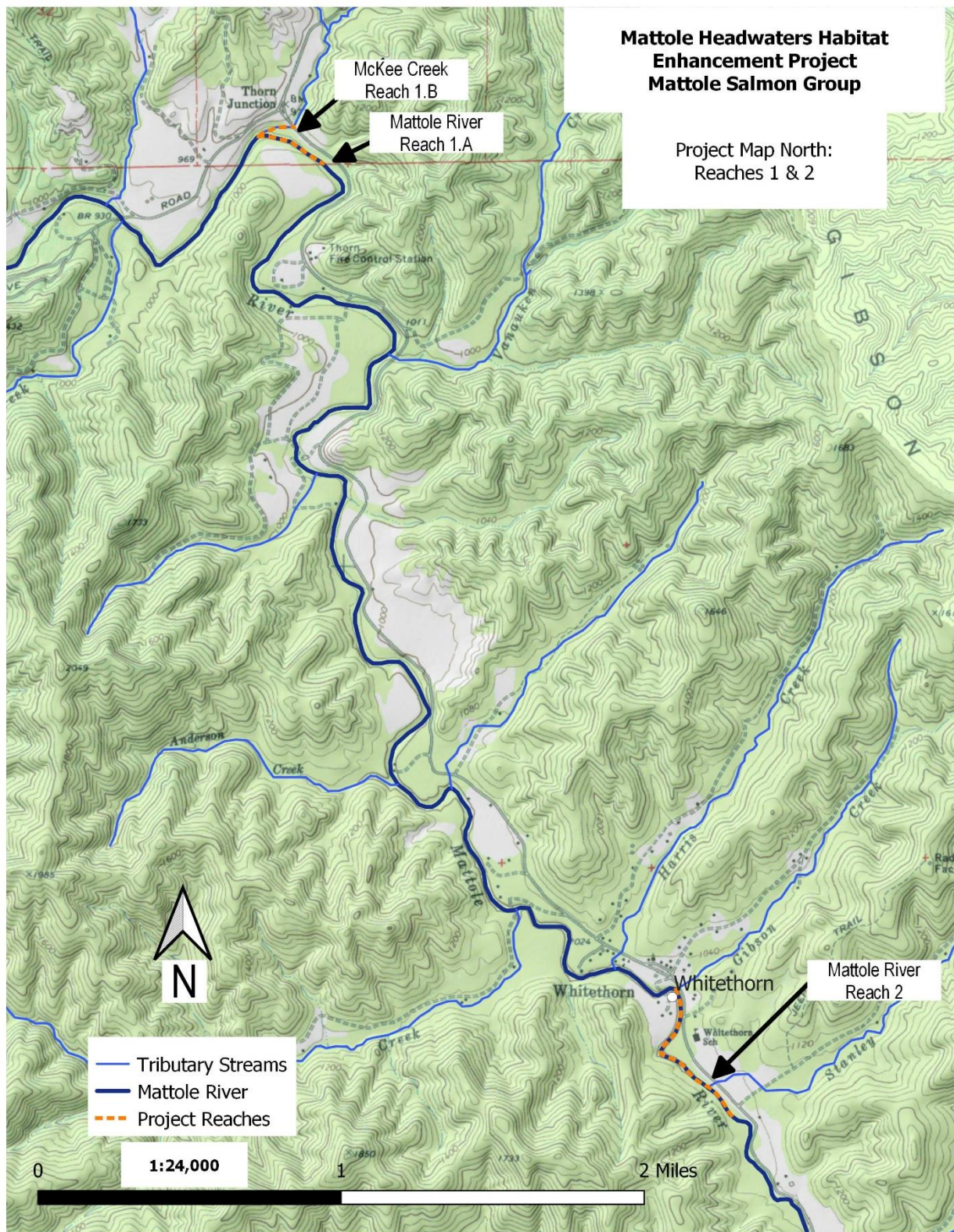
All habitat improvements will follow techniques described in the [California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)](#) or [other approved guidelines and manuals for salmon and steelhead habitat restoration](#).

The Grantee shall notify CDFW at least five working days before the project site is de-watered and the stream flow diverted and submit a Water Quality Monitoring Plan and Dewatering Plan to CDFW for State Water Resources Control Board approval at least 30 days before the activity. The notification will provide a reasonable time for CDFW personnel to oversee the implementation of the water diversion plan and the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:

- a. Fish dewatering and relocation activities shall only occur between June 15 and October 31 of each year.
- b. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.
- c. The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible as approved by the CDFW Grant Manager and pursuant to conditions in the USACE Regional General Permit and National Marine Fisheries Service (NMFS) Biological Opinion.
- d. All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the NMFS, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
- e. USFWS Approved fisheries biologists will provide fish relocation data via the Grantee to the CDFW personnel on a form provided by CDFW.

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.





California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734339 Mattole Headwaters Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Ascaphus truei</i>	Pacific tailed frog	AAABA01010	None	None	SSC
<i>Rana aurora</i>	northern red-legged frog	AAABH01021	None	None	SSC
<i>Rana boylei</i> pop. 1	foothill yellow-legged frog -	AAABH01051	None	None	SSC
<i>Rhyacotriton variegatus</i>	southern torrent salamander	AAAAJ01020	None	None	SSC
<i>Taricha rivularis</i>	red-bellied newt	AAAAF02020	None	None	SSC
<i>Accipiter cooperii</i>	Coopers hawk	ABNKC12040	None	None	WL
<i>Aquila chrysaetos</i>	golden eagle	ABNKC22010	None	None	FP WL
<i>Haliaeetus leucocephalus</i>	bald eagle	ABNKC10010	Delisted	Endangered	FP
<i>Falco peregrinus anatum</i>	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
<i>Progne subis</i>	purple martin	ABPAU01010	None	None	SSC
<i>Icteria virens</i>	yellow-breasted chat	ABPBX24010	None	None	SSC
<i>Pandion haliaetus</i>	osprey	ABNKC01010	None	None	WL
<i>Setophaga petechia</i>	yellow warbler	ABPBX03010	None	None	SSC

California Department of Fish and Wildlife
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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Ammodramus savannarum</i>	grasshopper sparrow	ABPBXA0020	None	None	SSC
<i>Pelecanus occidentalis californicus</i>	California brown pelican	ABNFC01021	Delisted	Delisted	-
<i>Asio otus</i>	long-eared owl	ABNSB13010	None	None	SSC
<i>Psilosops flammeolus</i>	flamulated owl	ABNSB01020	None	None	-
<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
<i>Contopus cooperi</i>	olive-sided flycatcher	ABPAE32010	None	None	SSC
<i>Empidonax traillii brewsteri</i>	little willow flycatcher	ABPAE33041	None	Endangered	-
<i>Pacifastacus leniusculus</i>	Klamath crayfish	ICMAL31042	None	None	-
<i>Acipenser medirostris</i> pop. 2	green sturgeon - northern DPS	AFCAA01032	None	None	SSC
<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC
<i>Oncorhynchus kisutch</i> pop. 2	coho salmon - southern Oregon	AFCHA02032	Threatened	Threatened	-
<i>Oncorhynchus mykiss irideus</i>	steelhead - northern	AFCHA0213P	Threatened	Endangered	-
<i>Oncorhynchus mykiss irideus</i> pop. 49	steelhead - northern California DPS	AFCHA0213Q	Threatened	None	SSC
<i>Oncorhynchus</i>	chinook salmon -	AFCHA0205S	Threatened	None	SSC
<i>Bombus</i>	obscure bumble	IIHYM24380	None	None	-
<i>Bombus occidentalis</i>	western bumble bee	IIHYM24252	None	Candidate Endangered	-

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California Natural Diversity Database Species Lists for 1734339 Mattole Headwaters Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC
Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-
Enhydra lutris nereis	southern sea otter	AMAJF09012	Threatened	None	FP
Pekania pennanti	Fisher	AMAJF01020	None	None	SSC
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Arctocephalus townsendi	Guadalupe fur-seal	AMAJC02010	Threatened	Threatened	FP
Eumetopias jubatus	Steller sea lion	AMAJC03010	Delisted	None	-
Bassariscus astutus raptor	northern California ringtail	AMAJE01014	None	None	FP
Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC
Corynorhinus	Townsend's big-	AMACC08010	None	None	SSC
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Myotis evotis	long-eared myotis	AMACC01070	None	None	-
Myotis thysanodes	fringed myotis	AMACC01090	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Helminthoglypta arrosa monticola	mountain shoulderband	IMGASC2035	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734339 Mattole Headwaters Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Noyo intersessa	Ten Mile shoulderband	IMGASC5070	None	None	-
Anodonta californiensis	California floater	IMBIV04220	None	None	-
Anodonta oregonensis	Oregon floater	IMBIV04110	None	None	-
Actinemys marmorata	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Upland Douglas Fir Forest	Upland Douglas Fir Forest	CTT82420CA	None	None	-
Usnea longissima	Methuselahs beard lichen	NLLEC5P420	None	None	-
Antennaria suffrutescens	evergreen everlasting	PDAST0H0S0	None	None	-
Erigeron biolettii	streamside daisy	PDAST3M5H0	None	None	-
Hemizonia congesta ssp. tracyi	Tracys tarplant	PDAST4R067	None	None	-
Lasthenia californica ssp. macrantha	perennial goldfields	PDAST5L0C5	None	None	-
Carex arcta	northern clustered sedge	PMCYP030X0	None	None	-
Astragalus agnicidus	Humboldt County milk-vetch	PDFAB0F080	None	Endangered	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734339 Mattole Headwaters Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Lathyrus palustris	marsh pea	PDFAB250P0	None	None	-
Lycopus uniflorus	northern bugleweed	PDLAM0X080	None	None	-
Erythronium oregonum	giant fawn lily	PMLILOU0C0	None	None	-
Erythronium revolutum	coast fawn lily	PMLILOU0F0	None	None	-
Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-
Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734339 Mattole Headwaters Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	PDMAL110F9	None	None	-
<i>Pityopus californicus</i>	California pinefoot	PDMON05010	None	None	-
<i>Montia howellii</i>	Howells montia	PDPOR05070	None	None	-
<i>Clarkia amoena</i> ssp. <i>whitneyi</i>	Whitneys farewell-to-spring	PDONA05025	None	None	-
<i>Epilobium septentrionale</i>	Humboldt County fuchsia	PDONA06110	None	None	-
<i>Listera cordata</i>	heart-leaved twayblade	PMORC1N060	None	None	-
<i>Piperia candida</i>	white-flowered rein orchid	PMORC1X050	None	None	-
<i>Castilleja litoralis</i>	Oregon coast paintbrush	PDSCR0D012	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734339 Mattole Headwaters Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Castilleja mendocinensis	Mendocino Coast paintbrush	PDSCR0D3N0	None	None	-
Kopsiopsis hookeri	small groundcone	PDORO01010	None	None	-
Calamagrostis bolanderi	Bolanders reed grass	PMPOA17010	None	None	-
Calamagrostis foliosa	leafy reed grass	PMPOA170C0	None	Rare	-
Pleuropogon hooverianus	North Coast semaphore grass	PMPOA4Y070	None	Threatened	-
Gilia capitata ssp. pacifica	Pacific gilia	PDPLM040B6	None	None	-
Leptosiphon aureus	bristly leptosiphon	PDPLM09010	None	None	-
Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-
Coptis laciniata	Oregon goldthread	PDRAN0A020	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734339 Mattole Headwaters Habitat
Enhancement Project

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ceanothus gloriosus var. exaltatus	glory brush	PDRHA040F4	None	None	-
Mitellastra caulescens	leafy-stemmed mitrewort	PDSAX0N020	None	None	-
Tiarella trifoliata var. trifoliata	trifoliate laceflower	PDSAX10031	None	None	-

Green Valley Creek Off-Channel Habitat Enhancement Implementation at Sweetwater Nursery (Project ID: 1734344) 2025

Introduction:

The Gold Ridge Resource Conservation District (Grantee) will connect an existing floodplain pond to Green Valley Creek, a priority watershed for coho salmon recovery. An excavated connector channel will allow access to off-channel habitat for juvenile salmonids at flows above winter base flow. This project will further improve complex instream rearing habitat adjacent to the connector channel through: excavation of a pool/alcove at inlet and inset floodplain with swales/alcoves downstream and Installation of engineered log jams to drive pool development and provide woody cover. This project is the upstream-most feature in a nearly mile-long reach of Green Valley Creek where floodplain and off-channel habitat enhancement efforts are underway.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#) (Volume I, Section VII).

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The Sweetwater Nursery is a 15 acre parcel in western Sonoma County on the left bank of Green Valley Creek just upstream of the Green Valley-Atascadero Creek confluence, approximately 5 miles from the confluence of Green Valley Creek and the Russian River. The project site is northwest of the town of Graton and can be accessed via Ross Road to Green Valley Road to Thomas Road (Figure 1; Figure 2).

Project central coordinates: 38.44833, -122.88772

Project Description:

The goal of this Project is to restore salmonid habitat in the following ways:

1. Improve connectivity between Green Valley Creek (GVC) and the existing off-channel pond for salmonid utilization by excavating a 400' long, 4-5' deep inlet channel between Green Valley Creek and the western edge of the Sweetwater pond. The width of the swale ranges from 16 feet to 40 feet at the top of bank, with side slopes ranging from 2:1 to 5:1. The narrower, steeper swale section is designed to be a pinch point that restricts the volume of water that can flow from Green Valley Creek to the pond and thence down the floodplain through the Greene and Iron Horse properties during the smaller, more frequent high flow events throughout the winter. A v-shaped inlet channel is proposed to concentrate flows and facilitate fish passage as streamflow levels drop.

2. Create higher quality in-channel rearing habitat. At the confluence of the pond inlet channel and Green Valley Creek, excavate a 50-foot-long, 30-foot-wide alcove that extends the pool into the floodplain to provide low velocity refugia habitat at all flow levels. The bottom elevation of the pool and alcove will be approximately 88 feet, which makes it approximately 1.5 feet deep during spring outmigration flows and three to five feet deep during frequent winter storm events. The alcove extends to the crossover channel between Atascadero Creek and GVC to create a 20-foot-long alcove on the right bank. An engineered log jam would be constructed upstream of the inlet that pinches the GVC channel and directs flows towards the inlet opening. Additional logs and rootwads would be added to the edges of the alcove to provide stability and complex cover for juvenile salmonids and California freshwater shrimp.

Downstream of the alcove a 150-foot long, 100-foot wide section of channel bank would be excavated to create a low inset floodplain. The elevation of this floodplain would range from 91 to 93 feet, and be inundated during winter storm high flows.

3. Increase complex edge habitat volume and quality at a range of winter and spring flows. The pond, alcove, inset floodplain, and overflow swale have all been designed to increase the amount of complex edge habitat. It is estimated that the project designs will dramatically increase the available low velocity and vegetated edge habitat preferred by coho during the winter high flow and spring outmigration periods. All constructed and disturbed areas within the project would be revegetated with native plants appropriate to the specific hydrologic setting.

4. Maintain seasonal pond habitat quality for waterfowl and native amphibians. The footprint of the Sweetwater pond would not be significantly changed from its

existing condition. The winter full pond water level would be lowered one foot to elevation 91 feet. Floodwater coming into the pond will spill on to the floodplain at the northern end when the flood elevations exceed 92 feet. Floodwaters will flow north down the western edge of the floodplain through the Greene and Iron Horse properties, as they do currently.

5. Increase the dominance of native riparian and wetland plant species through removal of non-natives and replanting with appropriate natives. Areas to be excavated are currently dominated by non-native invasive species. Native riparian trees will be saved where possible; the tree island has several large willow and ash trees that will provide shade and habitat value. The excavated inset floodplain and pond access channel would be replanted with native grasses, sedges, rush, and riparian shrubs to provide high quality vegetated edge habitat conditions for juvenile salmonids, amphibians, and freshwater shrimp. Native riparian trees would also be planted to maintain bank stability and provide canopy cover.

To create the diverse in- and off-channel habitats described above, approximately 4,000 cubic yards of soil would be excavated. The spoils would be utilized on site to build a two-track road for the nursery to access their well and pumps. The roadway would be raised above the flood zone (elevation 99 feet), and rerouted from its current location around the pond to the east to the western and southern edge of the pond. The hillside at the southern edge of the property would also be extended and recontoured to use additional spoils. Mature native trees would not be impacted by the fill. A four-foot culvert would need to be installed in the road fill to accommodate the stormwater swale and maintain its intermittent flow into the pond.

Materials:

Materials purchased by the construction subcontractor:

- Dewatering materials:
 - silt control filter fabric
 - impervious liners
 - cofferdam material
 - fish and exclusion screens
 - casings
 - washed rock
- Excavated materials will be utilized on site to build a two-track road for the nursery to access their well and pumps.
 - A 48 ft corrugated metal pipe will be installed in the road fill to accommodate the stormwater swale and maintain its intermittent flow into the pond.

Large wood elements will be purchased by the applicant, and all other materials will be procured by the construction subcontractor:

- 17 logs
- 14 rootwads
- 22 vertical log anchors (VLA)
- 6 angled log anchors (ALA)
- 35 log connector pins
- anchoring materials (steel threaded rod, steel plate washers, steel nuts), rope, and miscellaneous parts and fasteners as specified in the project plans.

Biotechnical and erosion control features (including willow wattle, brush mattress, and large-wood-structure slash packing) will be implemented as appropriate on disturbed areas. Materials will be purchased by the subcontractor:

- coir mat
- erosion control blanket
- wedge stakes
- weed-free straw mulch
- native grass seed and rope
- willow stakes harvested onsite
- Protective fencing (t-posts, orange barrier fencing and nylon cable ties and rebar caps)- installed to protect trees and shrubs from damage associated with clearing and grubbing.

Floodplain revegetation activities involve revegetating disturbed areas in newly created habitats. All materials are specified in the project plans, and will be procured by the construction subcontractor:

- native plant materials (trees, shrubs, vines, forbs, grasses, rushes, and other monocots)
- planting soil/mulch
- 100% biodegradable weed control fabric (hemp or jute) and fasteners (50d nails with washers or 6? staples)
- all associated browse guard/plant protection cages
- irrigation system materials (water tank, filter, valves, mainline, drip tubing, emitters).

Water quality monitoring equipment needed to comply with the requirement that projects dewatering waterways monitor and report water quality during dewatering activities. Materials will be procured by the applicant.

- Two deployable water quality meters (sondes), necessary software for downloading data, calibration solutions, and batteries.

Post-project monitoring will be conducted to document the use of constructed habitat by PIT tagged salmonids. Materials will be procured by the applicant.

- Four PIT tag antennas (2 paired arrays), a data logger, batteries, and a solar panel array.

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
Task 1: Administration	04/01/26	The grant will be managed and administered by the Gold Ridge RCD, using standard and accepted accounting rules and procedures and following any DFW- or grant-specific guidelines. This task includes quarterly invoicing and submission of progress reports, bid package preparation, bidding and subcontracting, and preparation and submission of the draft and final project reports. This task will also include landowner interaction and coordination, including coordination of access. The RCD Project Manager will be the lead for this task, responsible for all activities listed above, and will be assisted in landowner and agency coordination, bidding and contracting by the RCD Ecologist and RCD Shared Engineer. The RCD District Administrator will be responsible for setting up the appropriate accounting and invoicing procedures, and will assist with reporting. The RCD Executive Director will have oversight responsibilities for the overall project. This task includes a subcontractor to carry out labor compliance monitoring for all project activities subject to public works labor rules.	Invoicing and submission of progress reports (quarterly) Landowner Access Agreement (05/31/2026) Bid package preparation (05/31/2027) Bidding and subcontracting documentation (06/30/2027) Submission of the draft and final project reports (03/15/2029)
Task 2: Regulatory surveys	05/01/26	A qualified subcontractor will be contracted by Gold Ridge RCD to conduct a paleontological resource assessment. The RCD Ecologist will coordinate the survey efforts and work with the landowner regarding access. The RCD Ecologist will also be the lead in	Paleontological Resource Assessment summary (06/01/2027)

Task Name	Start Date	Activity Description	Deliverables
		carrying out habitat assessment and pre-construction surveys for sensitive species, including California red-legged frogs and California freshwater shrimp. The RCD Ecologist and a Qualified Biologist will conduct all necessary preconstruction surveys for before project implementation.	Habitat Assessment Survey summary reports for sensitive species, including California red-legged frogs and California freshwater shrimp (06/01/2027)
Task 3: Dewatering and fish and aquatic species relocation	08/01/26	Dewatering of the Green Valley Creek channel in the vicinity of the off-channel habitat area inlets and outlets and large wood structure locations will primarily be the responsibility of the construction subcontractor, with assistance from GRRCD staff. Exclusion netting will be set, and dewatering will be accomplished and maintained following standard dewatering procedures as detailed in the attached Dewatering Protocol document and in compliance with the dewatering measures in the FRGP CEQA document. Fish and aquatic species relocation will be accomplished in coordination with the DFW Grant Manager or Biologist, with assistance from multiple RCD staff members. Fish will be removed from the area through seine netting, electrofishing or another DFW-approved standard method, and will be released in appropriate habitat adjacent to the project site. Dewatering activities will be done in compliance with USFWS Best Management Practices to Minimize Adverse Affects to Pacific Lamprey.	Channel Dewatering/Species Relocation Datasheet/summary (11/01/2027)
Task 4: Construction and oversight	08/01/26	A qualified construction subcontractor will be selected using Gold Ridge RCD bidding rules and will be responsible for on-the-ground implementation work	Project effectiveness survey summaries, including photo documentation, PIT antenna

Task Name	Start Date	Activity Description	Deliverables
		including off-channel habitat construction of floodplain features (alcoves, side channels, seasonal wetlands and connector channels), installation of large wood structures (pinch jams, cross-channel jams, habitat structures), driveway improvements (road treatments and culverts), and floodplain revegetation. This work will include all earthwork and grading, installation of large wood structures and driveway improvements as detailed in the plans and specifications for the project, as well as mobilization and demobilization and installation of erosion control measures. The construction subcontractor will be overseen by the Gold Ridge RCD Project Manager with assistance from the RCD Shared Engineer for all inspection points and during all wood installations. An evaluation and monitoring plan will be composed and conduct post- implementation project effectiveness surveys and associated reporting as part of the regulatory compliance tasks. The Gold Ridge RCD Ecologist will conduct pre-construction endangered species surveys for California red-legged frogs and California freshwater shrimp, conduct pre- and post-project photo monitoring.	installation documentation, and pre-construction biological monitoring (12/31/2027) Year 1 and Year 2 physical monitoring and effectiveness technical reports (annually, each year post-implementation)
Task 5: Water quality, fish usage, and post-construction monitoring	10/15/26	In accordance with DFW permit requirements, RCD staff will procure, install and maintain water quality monitoring equipment at the project site and in the reach immediately downstream. Parameters to be monitored include temperature, dissolved oxygen, conductivity, pH and turbidity. The RCD Ecologist will	Water quality monitoring summary report (12/31/2027) Documentation of water quality data upload to CEDEN (12/31/2028)

Task Name	Start Date	Activity Description	Deliverables
		be the lead on the monitoring effort, working with the RCD Lead Scientist to identify and procure the appropriate equipment, determining monitoring station locations, developing protocols, overseeing data management and analysis, uploading data to CEDEN and composing monitoring reports. The RCD Project Coordinator will assist in operating and maintaining water quality monitoring equipment, as well as downloading and analyzing data. As-built post construction surveys to document off-channel features with sections and profile surveys along with wood installations and monitoring equipment locations will be completed. The GRRCD Project Manager, with assistance from the GRRCD Ecologist, will conduct winter and post winter visual inspections, photo documentation along with continuous monitoring through use of PIT antennas during winter and spring for presence or absence of salmonids use of off-channel features and large wood structures. Grantee will utilize PIT monitoring results to evaluate functional use of the constructed habitat by target species during the targeted life stage and anticipated time period of use. Year 1 and Year 2 physical monitoring and effectiveness technical reports to document changes in channel topography and habitat conditions, hydraulic function, water quality dynamics and fish utilization will be prepared.	As-built post construction surveys to document off-channel features with sections and profile surveys along with wood installations (12/31/2028) Photo documentation, PIT antenna continuous monitoring summaries (annually, each year post-implementation)

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

All habitat improvements will follow techniques described in the [California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)](#) or [other approved guidelines and manuals for salmon and steelhead habitat restoration](#).

For Fish Relocation projects:

The Grantee shall notify CDFW at least five working days before the project site is de-watered and the stream flow diverted and submit a Water Quality Monitoring Plan and Dewatering Plan to CDFW for State Water Resources Control Board approval at least 30 days before the activity. The notification will provide a reasonable time for CDFW personnel to oversee the implementation of the water diversion plan and the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the

relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:

- a. Fish dewatering and relocation activities shall only occur between June 15 and October 31 of each year.
- b. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.
- c. The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible as approved by the CDFW Grant Manager and pursuant to conditions in the USACE Regional General Permit and National Marine Fisheries Service (NMFS) Biological Opinion.
- d. All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the NMFS, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
- e. USFWS Approved fisheries biologists will provide fish relocation data via the Grantee to the CDFW personnel on a form provided by CDFW.

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

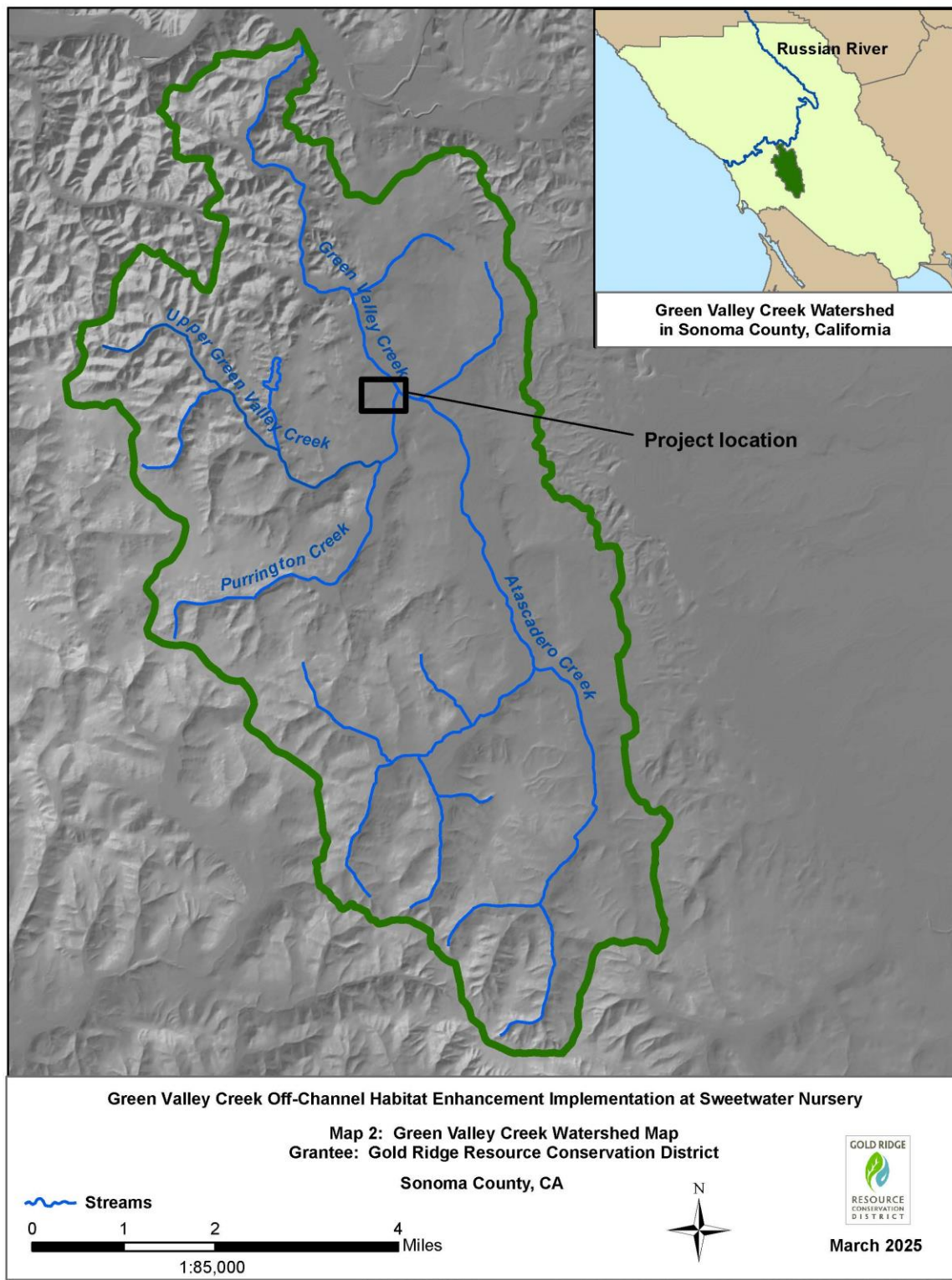


Figure 1. Green Valley Creek Watershed and Sonoma County map.

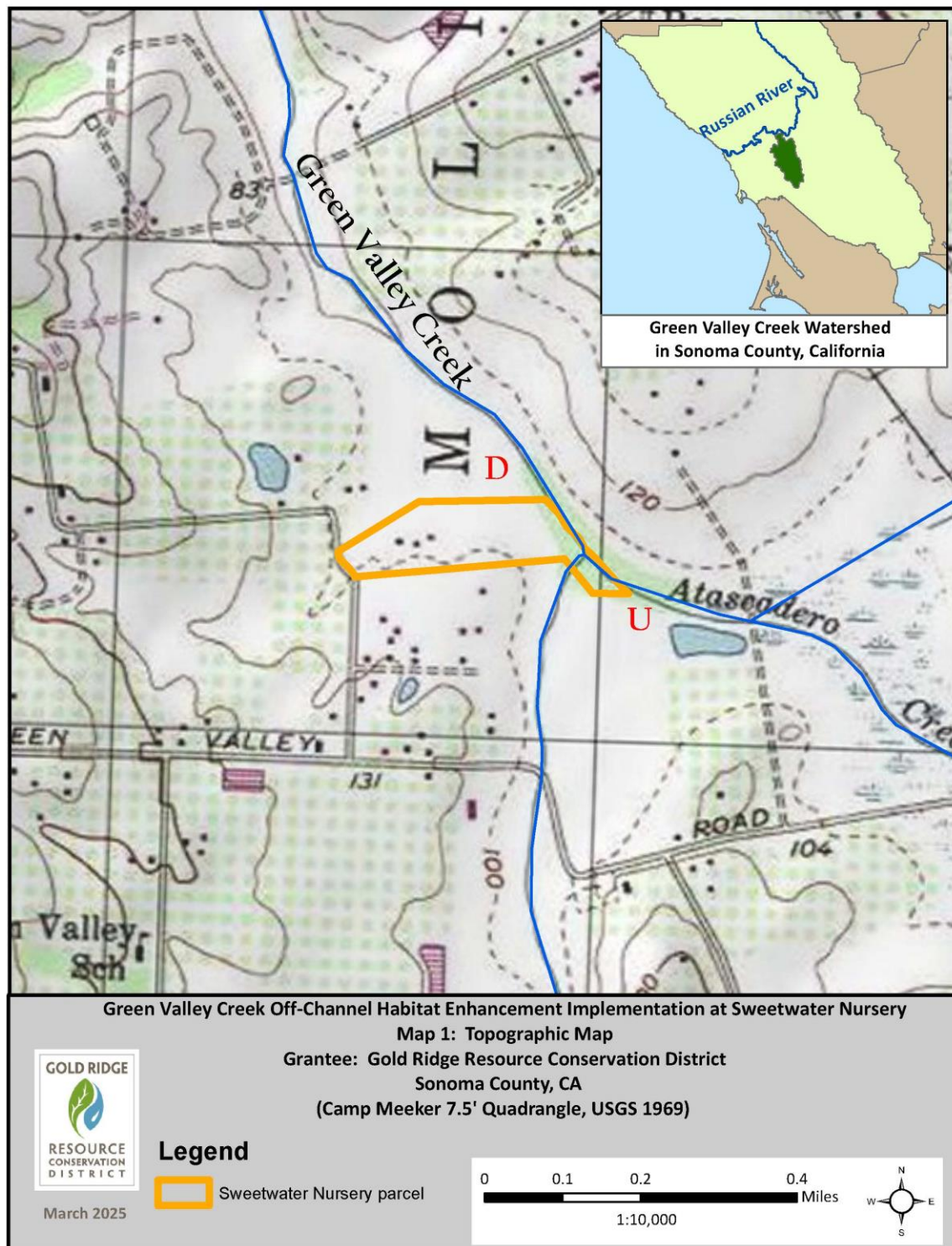


Figure 2. Project topographic map.

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734344 Green Valley Creek Off-Channel
Habitat Enhancement Implementation at Sweetwater Nursery

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	WL
Ambystoma californiense pop. 3	California tiger salamander - Sonoma County DPS	AAAAA01183	Endangered	Threatened	WL
Dicamptodon ensatus	California giant salamander	AAAAH01020	None	None	SSC
Rana boylei pop. 1	foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	SSC
Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC
Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC
Accipiter cooperii	Coopers hawk	ABNKC12040	None	None	WL
Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL
Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP WL
Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP
Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP
Cerorhinca monocerata	rhinoceros auklet	ABNNN11010	None	None	WL

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734344 Green Valley Creek Off-Channel
Habitat Enhancement Implementation at Sweetwater Nursery

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Fratercula cirrhata	tufted puffin	ABNNN12010	None	None	SSC
Ptychoramphus aleuticus	Cassins auklet	ABNNN08010	None	None	SSC
Chaetura vauxi	Vauxs swift	ABNUA03020	None	None	SSC
Cypseloides niger	black swift	ABNUA01010	None	None	SSC
Ardea alba	great egret	ABNGA04040	None	None	-
Ardea herodias	great blue heron	ABNGA04010	None	None	-
Egretta thula	snowy egret	ABNGA06030	None	None	-
Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-
Charadrius nivosus nivosus	western snowy plover	ABNNB03031	Threatened	None	SSC
Coccyzus americanus	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Antigone canadensis	lesser sandhill crane	ABNMK01011	None	None	SSC
Antigone canadensis	greater sandhill crane	ABNMK01014	None	Threatened	FP
Progne subis	purple martin	ABPAU01010	None	None	SSC
Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734344 Green Valley Creek Off-Channel
Habitat Enhancement Implementation at Sweetwater Nursery

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC
Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC
Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC
Pandion haliaetus	osprey	ABNKC01010	None	None	WL
Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC
Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC
Passerculus sandwichensis	Bryants savannah sparrow	ABPBX99011	None	None	SSC
Pelecanus occidentalis	California brown pelican	ABNFC01021	Delisted	Delisted	-
Nannopterum auritum	double-crested cormorant	ABNFD01020	None	None	WL
Melanerpes lewis	Lewis woodpecker	ABNYF04010	None	None	-
Asio otus	long-eared owl	ABNSB13010	None	None	SSC
Athene cunicularia	burrowing owl	ABNSB10010	None	Candidate Endangered	SSC
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Selasphorus rufus	rufous hummingbird	ABNUC51020	None	None	-
Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC
Syncaris pacifica	California freshwater shrimp	ICMAL27010	Endangered	Endangered	-
Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734344 Green Valley Creek Off-Channel
Habitat Enhancement Implementation at Sweetwater Nursery

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Hesperoleucus parvipinnis	Gualala roach	AFCJB19025	None	None	SSC
Hesperoleucus venustus	northern coastal roach	AFCJB19031	None	None	SSC
Lavinia exilicauda	Sacramento hitch	AFCJB19012	None	None	SSC
Mylopharodon conocephalus	hardhead	AFCJB25010	None	None	SSC
Hysteroecarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC
Eucyclogobius newberryi	tidewater goby	AFCQN04010	Endangered	None	SSC
Spirinchus thaleichthys	longfin smelt	AFCHB03010	None	Threatened	-
Spirinchus thaleichthys pop.	longfin smelt - San Francisco	AFCHB03040	Endangered	Threatened	-
Thaleichthys pacificus	eulachon	AFCHB04010	Threatened	None	SSC
Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC
Lampetra richardsoni	western brook lamprey	AFBAA02180	None	None	SSC
Oncorhynchus keta	chum salmon	AFCHA02020	None	None	-
Oncorhynchus kisutch pop. 4	coho salmon - central California	AFCHA02034	Endangered	Endangered	-
Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	SSC
Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	SSC
Andrena blennospermatis	Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Bombus caliginosus</i>	obscure bumble bee	IIHYM24380	None	None	-
<i>Bombus occidentalis</i>	western bumble bee	IIHYM24252	None	Candidate Endangered	-
<i>Bombus pensylvanicus</i>	American bumble bee	IIHYM24260	None	None	-
<i>Dubiraphia giulianii</i>	Giulianis dubiraphian riffle beetle	IICOL5A020	None	None	-
<i>Lichnanthe ursina</i>	bumblebee	IICOL67020	None	None	-
<i>Callophrys mossii</i>	Marin elfin	IILEPE2207	None	None	-
<i>Danaus plexippus plexippus</i> pop. 1	monarch - California	IILEPP2012	Proposed Threatened	None	-
<i>Speyeria zerene myrtleae</i>	Myrtles silverspot butterfly	IILEPJ608C	Endangered	None	-
<i>Coelus globosus</i>	globose dune beetle	IICOL4A010	None	None	-
<i>Arborimus pomo</i>	Sonoma tree vole	AMAFF23030	None	None	SSC
<i>Erethizon dorsatum</i>	North American porcupine	AMAFJ01010	None	None	-
<i>Enhydra lutris nereis</i>	southern sea otter	AMAJF09012	Threatened	None	FP
<i>Taxidea taxus</i>	American badger	AMAJF04010	None	None	SSC
<i>Eumetopias jubatus</i>	Steller sea lion	AMAJC03010	Delisted	None	-
<i>Antrozous pallidus</i>	pallid bat	AMACC10010	None	None	SSC
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	AMACC08010	None	None	SSC

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Lasionycteris noctivagans</i>	silver-haired bat	AMACC02010	None	None	-
<i>Lasiurus cinereus</i>	hoary bat	AMACC05032	None	None	-
<i>Lasiurus frantzii</i>	western red bat	AMACC05080	None	None	SSC
<i>Myotis evotis</i>	long-eared myotis	AMACC01070	None	None	-
<i>Myotis thysanodes</i>	fringed myotis	AMACC01090	None	None	-
<i>Myotis yumanensis</i>	Yuma myotis	AMACC01020	None	None	-
<i>Tryonia imitator</i>	mimic tryonia (=California	IMGASJ7040	None	None	-
<i>Vespericola marinensis</i>	Marin hesperian	IMGASA4140	None	None	-
<i>Anodonta californiensis</i>	California floater	IMBIV04220	None	None	-
<i>Anodonta oregonensis</i>	Oregon floater	IMBIV04110	None	None	-
<i>Gonidea angulata</i>	western ridged mussel	IMBIV19010	None	None	-
<i>Actinemys marmorata</i>	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-
Coastal Brackish Marsh	Coastal Brackish Marsh	CTT52200CA	None	None	-
Coastal Terrace Prairie	Coastal Terrace Prairie	CTT41100CA	None	None	-
Northern Coastal	Northern Coastal	CTT52110CA	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-
Northern Vernal Pool	Northern Vernal Pool	CTT44100CA	None	None	-
Fissidens pauperculus	minute pocket moss	NBMUS2W0U0	None	None	-
Triquetrella californica	coastal triquetrella	NBMUS7S010	None	None	-
Thamnolia vermicularis	whiteworm lichen	NLTES43860	None	None	-
Usnea longissima	Methuselahs beard lichen	NLLEC5P420	None	None	-
Chlorogalum pomeridianum var. minus	dwarf soaproot	PMLIL0G042	None	None	-
Allium peninsulare var. franciscanum	Franciscan onion	PMLIL021R1	None	None	-
Perideridia gairdneri ssp. gairdneri	California Gairdners yampah	PDAPI1N062	None	None	-
Asclepias solanoana	serpentine milkweed	PDASC021R0	None	None	-
Blennosperma bakeri	Sonoma sunshine	PDAST1A010	Endangered	Endangered	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Centromadia parryi ssp. parryi	pappose tarplant	PDAST4R0P2	None	None	-
Cirsium andrewsii	Franciscan thistle	PDAST2E050	None	None	-
Erigeron biolettii	streamside daisy	PDAST3M5H0	None	None	-
Erigeron greenei	Greenes narrow-leaved daisy	PDAST3M5G0	None	None	-
Erigeron serpentinus	serpentine daisy	PDAST3M5M0	None	None	-
Hemizonia congesta ssp.	congested-headed hayfield	PDAST4R0W1	None	None	-
Hesperevax caulescens	hogwallow starfish	PDASTE5020	None	None	-
Hesperevax sparsiflora var. brevifolia	short-leaved evax	PDASTE5011	None	None	-
Lasthenia burkei	Burkes goldfields	PDAST5L010	Endangered	Endangered	-
Lasthenia californica ssp. bakeri	Bakers goldfields	PDAST5L0C4	None	None	-
Lasthenia californica ssp. macrantha	perennial goldfields	PDAST5L0C5	None	None	-
Lasthenia conjugens	Contra Costa goldfields	PDAST5L040	Endangered	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Lessingia arachnoidea	Crystal Springs lessingia	PDA5T5S0C0	None	None	-
Lessingia hololeuca	woolly-headed lessingia	PDA5T5S030	None	None	-
Microseris paludosa	marsh microseris	PDA5T6E0D0	None	None	-
Amsinckia lunaris	bent-flowered fiddleneck	PDBOR01070	None	None	-
Arabis blepharophylla	coast rockcress	PDBRA06040	None	None	-
Erysimum concinnum	bluff wallflower	PDBRA160E3	None	None	-
Erysimum franciscanum	San Francisco wallflower	PDBRA160A0	None	None	-
Streptanthus barbiger	bearded jewelflower	PDBRA2G040	None	None	-
Streptanthus glandulosus ssp. hoffmanii	Hoffmans bristly jewelflower	PDBRA2G0J4	None	None	-
Streptanthus morrisonii ssp. hirtiflorus	Dorrs Cabin jewelflower	PDBRA2G0S2	None	None	-
Streptanthus morrisonii ssp. morrisonii	Morrison's jewelflower	PDBRA2G0S3	None	None	-
Downingia pusilla	dwarf downingia	PDCAM060C0	None	None	-
Eastwoodiella californica	swamp harebell	PDCAM02060	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Legenere limosa	legenere	PDCAM0C010	None	None	-
Viburnum ellipticum	oval-leaved viburnum	PDCPR07080	None	None	-
Silene scouleri ssp. scouleri	Scoulers catchfly	PDCAR0U1MC	None	None	-
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	PDCON04032	None	None	-
Calystegia purpurata ssp.	coastal bluff morning-glory	PDCON040D2	None	None	-
Cuscuta obtusiflora var.	Peruvian dodder	PDCUS01111	None	None	-
Cuscuta pacifica var. papillata	Mendocino dodder	PDCUS011A2	None	None	-
Carex comosa	bristly sedge	PMCYP032Y0	None	None	-
Eleocharis parvula	small spikerush	PMCYP091G0	None	None	-
Eriophorum gracile	slender cottongrass	PMCYP0A080	None	None	-
Rhynchospora alba	white beaked-rush	PMCYP0N010	None	None	-
Rhynchospora californica	California beaked-rush	PMCYP0N060	None	None	-
Rhynchospora capitellata	brownish beaked-rush	PMCYP0N080	None	None	-
Rhynchospora globularis	round-headed beaked-rush	PMCYP0N0W0	None	None	-
Arctostaphylos bakeri ssp. bakeri	Bakers manzanita	PDERI04221	None	Rare	-
Arctostaphylos bakeri ssp.	Cedars manzanita	PDERI04222	None	Rare	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Arctostaphylos densiflora	Vine Hill manzanita	PDERI040C0	None	Endangered	-
Arctostaphylos hispidula	Howells manzanita	PDERI04230	None	None	-
Arctostaphylos stanfordiana ssp.	Rincon Ridge manzanita	PDERI041G4	None	None	-
Amorpha californica var. napensis	Napa false indigo	PDFAB08012	None	None	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Lupinus tidestromii	Tidestroms lupine	PDFAB2B3Y0	Endangered	Endangered	-
Trifolium amoenum	two-fork clover	PDFAB40040	Endangered	None	-
Trifolium buckwestiorum	Santa Cruz clover	PDFAB402W0	None	None	-
Trifolium hydrophilum	saline clover	PDFAB400R5	None	None	-
Iris longipetala	coast iris	PMIRI092E0	None	None	-
Monardella viridis	green monardella	PDLAM180Q2	None	None	-
Calochortus raichei	Cedars fairy-lantern	PMLIL0D1L0	None	None	-
Calochortus uniflorus	pink star-tulip	PMLIL0D1F0	None	None	-
Fritillaria liliacea	fragrant fritillary	PMLIL0V0C0	None	None	-
Lilium pardalinum ssp. pitkinense	Pitkin Marsh lily	PMLIL1A0H3	Endangered	Endangered	-
Limnanthes vinculans	Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Hesperolinon congestum	Marin western flax	PDLIN01060	Threatened	Threatened	-
Sidalcea calycosa ssp.	Point Reyes checkerbloom	PDMAL11012	None	None	-
Sidalcea malviflora ssp.	purple-stemmed checkerbloom	PDMAL110FL	None	None	-
Abronia umbellata var.	pink sand-verbena	PDNYC010N4	None	None	-
Clarkia imbricata	Vine Hill clarkia	PDONA050K0	Endangered	Endangered	-
Cypripedium californicum	California ladyslipper	PMORC0Q040	None	None	-
Cypripedium montanum	mountain ladyslipper	PMORC0Q080	None	None	-
Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-
Piperia leptopetala	narrow-petaled rein orchid	PMORC1X100	None	None	-
Castilleja ambigua var. ambigua	johnny-nip	PDSCR0D401	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Castilleja latifolia	Monterey Coast paintbrush	PDSCR0D1P0	None	None	-
Castilleja uliginosa	Pitkin Marsh paintbrush	PDSCR0D380	None	Endangered	-
Chloropyron maritimum ssp. palustre	Point Reyes salty birds-beak	PDSCR0J0C3	None	None	-
Cordylanthus tenuis ssp. brunneus	serpentine birds-beak	PDSCR0J0S1	None	None	-
Cordylanthus tenuis ssp. capillaris	Pennells birds-beak	PDSCR0J0S2	Endangered	Rare	-
Kopsiopsis hookeri	small groundcone	PDORO01010	None	None	-
Triphysaria floribunda	San Francisco owls-clover	PDSCR2T010	None	None	-
Erythranthe nudata	bare monkeyflower	PDSCR1B200	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Agrostis blasdalei	Blasdales bent grass	PMPOA04060	None	None	-
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	PMPOA07012	Endangered	None	-
Calamagrostis bolanderi	Bolanders reed grass	PMPOA17010	None	None	-
Calamagrostis crassiglumis	Thurbers reed grass	PMPOA17070	None	None	-
Calamagrostis ophitidis	serpentine reed grass	PMPOA170V0	None	None	-
Elymus californicus	California bottle-brush grass	PMPOA2H0W0	None	None	-
Pleuropogon hooverianus	North Coast semaphore grass	PMPOA4Y070	None	Threatened	-
Collomia diversifolia	serpentine collomia	PDPLM02020	None	None	-
Gilia capitata ssp. chamissonis	blue coast gilia	PDPLM040B3	None	None	-
Gilia capitata ssp. pacifica	Pacific gilia	PDPLM040B6	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Gilia capitata</i> ssp. <i>tomentosa</i>	woolly-headed gilia	PDPLM040B9	None	None	-
<i>Gilia millefoliata</i>	dark-eyed gilia	PDPLM04130	None	None	-
<i>Leptosiphon aureus</i>	bristly leptosiphon	PDPLM09010	None	None	-
<i>Leptosiphon grandiflorus</i>	large-flowered leptosiphon	PDPLM090K0	None	None	-
<i>Leptosiphon jepsonii</i>	Jepsons leptosiphon	PDPLM09140	None	None	-
<i>Leptosiphon rosaceus</i>	rose leptosiphon	PDPLM09180	None	None	-
<i>Navarretia leucocephala</i>	Bakers navarretia	PDPLM0C0E1	None	None	-
<i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	many-flowered navarretia	PDPLM0C0E5	Endangered	Endangered	-
<i>Polemonium carneum</i>	Oregon polemonium	PDPLM0E050	None	None	-
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	San Francisco Bay spineflower	PDPGN04081	None	None	-
<i>Chorizanthe cuspidata</i> var. <i>villosa</i>	woolly-headed spineflower	PDPGN04082	None	None	-
<i>Chorizanthe valida</i>	Sonoma spineflower	PDPGN040V0	Endangered	Endangered	-
<i>Eriogonum cedrorum</i>	Cedars buckwheat	PDPGN087A0	None	None	-
<i>Eriogonum ternatum</i>	ternate buckwheat	PDPGN085R0	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Polygonum marinense	Marin knotweed	PDPGN0L1C0	None	None	-
Delphinium bakeri	Bakers larkspur	PDRAN0B050	Endangered	Endangered	-
Delphinium luteum	golden larkspur	PDRAN0B0Z0	Endangered	Rare	-
Ranunculus lobbii	Lobbs aquatic buttercup	PDRAN0L1J0	None	None	-
Ceanothus confusus	Rincon Ridge ceanothus	PDRHA04220	None	None	-
Ceanothus foliosus var. vineatus	Vine Hill ceanothus	PDRHA040D6	None	None	-
Ceanothus gloriosus var. exaltatus	glory brush	PDRHA040F4	None	None	-
Ceanothus gloriosus var. gloriosus	Point Reyes ceanothus	PDRHA040F5	None	None	-
Ceanothus purpureus	holly-leaved ceanothus	PDRHA04160	None	None	-
Holodiscus discolor var. cedrorum	Cedars oceanspray	PDROS0V041	None	None	-
Horkelia marinensis	Point Reyes horkelia	PDROS0W0B0	None	None	-
Horkelia tenuiloba	thin-lobed horkelia	PDROS0W0E0	None	None	-

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Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Potentilla uliginosa	Cunningham Marsh cinquefoil	PDROS1B4A0	None	None	-
Brodiaea leptandra	narrow-anthered brodiaea	PMLIL0C022	None	None	-
Dirca occidentalis	western leatherwood	PDTHY03010	None	None	-

Elk Creek Fish Passage and Sediment Reduction Project, Crossing 1 (Project ID: 1734345) 2025

Introduction:

The Smith River Alliance (Grantee) will restore fish passage and migration access to spawning and rearing coho salmon by replacing an existing undersized culvert with an 8-foot-diameter culvert with a natural channel bottom. The culvert upgrade is one part of a larger project that will restore fish passage at six barriers in the headwaters of Elk Creek. Riparian plants will be installed in areas impacted by construction and currently lacking riparian cover. This project is needed because this culvert was determined to be a partial barrier to migrating salmonids. The culvert upgrades, once implemented, will improve access to limited spawning habitat and improved passage for all life stages and flow regimes.

The Grantee shall not proceed with on-the-ground implementation until all necessary permits, consultations, and/or Notices to Proceed are secured. All habitat improvement(s) will follow techniques in the [California Salmonid Stream Habitat Restoration Manual](#) (CA Salmonid Stream Habitat Restoration Manual; section(s) IV, IX, XI, XII).

Does the project involve the construction of beaver analogs?

Yes ☐ or No ☒

Is the project located in a tidally influenced California coastal zone?

Yes ☐ or No ☒

Project Description:

Location:

The project site lies in the Elk Creek watershed, a small urban coastal basin at Crescent City's southern end. Elk Creek flows northeast to southwest with tributaries branching north and south. Elk Valley Road runs parallel to Elk Creek, crossing tributaries five times in the southern part of the watershed. Low-gradient streams in this area have gravel substrates, making them ideal for coho salmon spawning and rearing. The project site is located on a private road which has a stream crossing on a tributary to upper Elk Creek, 2.35 miles northeast of Crescent City in Del Norte County and 3 miles upstream from the Pacific Ocean. This crossing supports a single-lane driveway providing access to a residence off Elk

Valley Road and is on a stream that is part of the Nunes Creek tributary group, considered the upper-most reach of Elk Creek.

Project central coordinates: 41.77265, -124.15314 - see ElkCreek.Crossing_WatershedMap and ElkCreek.Crossing_ProjectLocationMap

Project Description:

Located at a high priority location in the Elk Creek watershed, the project will benefit SONCC coho salmon (*Oncorhynchus kisutch*). This project was identified and prioritized through collaborative watershed planning processes and will implement one of the priority restoration actions identified in the Elk Creek Restoration Feasibility Study report. This project is a component of a larger-scale project in Elk Creek, now underway, that will improve fish passage by removing barriers limiting adult and juvenile salmonid migration at six undersized and failing crossings, reducing fine sediment delivery and restoring natural conveyance of spawning gravels. When complete, the overall project will restore access to 4.1 miles of spawning habitat. This spawning habitat is extremely rare in the Elk Creek watershed and a limiting factor for the coho salmon population in the basin. With previously awarded funds, the first phase in the larger-scale project is expected to be completed in the summer of 2025. The Phase 1 part of the project will upgrade two failing culverts on Nunes Creek, a tributary to Elk Creek, which are either partial or complete passage barriers that limit adult and juvenile salmonid migration.

The overall goals of the larger-scale project are to upgrade undersized and failing culverts to 1) improve migration of salmonids, 2) improve access to juvenile salmonids, 3) reduce fine sediment delivery, 4) restore natural stream function (i.e., conveyance of gravel and large wood), 5) increase flood flow capacity, and 6) enhance riparian habitat.

FRGP funds would be used for the Elk Creek Fish Passage and Sediment Reduction Project, Crossing 1, Phase 2 of the project. The proposed project would upgrade Crossing 1, an existing undersized crossing, with an 8-foot diameter CMP culvert, and two crossings on Elk Valley Road. Crossing 1 is a 36-inch diameter corrugated metal pipe (CMP) culvert. The existing culvert is hydraulically undersized and is a partial fish passage barrier for adult and juvenile salmonids at elevated flows due to high velocity. The pipe inlet is partially crushed and armored with small riprap that is collapsing into the channel. Minor amounts of small wood and debris are currently jammed between the liner and metal pipe, further restricting flow conveyance and fish passage. Once implemented, the project will improve flood conveyance, re-establish natural sediment and wood transport, and provide unimpeded fish passage into key spawning reaches in the Elk Creek watershed. Areas disturbed during construction at the crossing inlet and outlet will be planted with native riparian vegetation.

During Phase 2 of the project, construction at Crossing 1 will be concurrent with the Elk Valley Road Crossing 2 due to their proximity. With leveraged funds, Elk Valley Road Crossing 2 will replace an existing 48-inch diameter RCP culvert with a 9-foot rise by 12-foot span by 40-foot length precast concrete box culvert. A temporary access lane will be installed downstream of the crossing to support travel and will be fully removed after construction. The culvert will be backfilled with native streambed material and coarse bankline rocks to simulate natural channel geometry based on the reference reach. Four large bank rootwads will be installed in the stream bank upstream of the crossing, and a buried boulder-grade control weir will be embedded 0.5 feet below the stream bed approximately 16 feet upstream of the crossing. Areas impacted by construction will be mulched, stabilized with wattles, and planted with multi-story native vegetation. There is approximately 0.87 miles of fish bearing habitat upstream of Elk Valley Road.

Materials:

Materials identified in the Basis of Design report and Final Designs include:

- CMP Culvert (8' x 55') - will be used for the structure at crossing
- Roadside Ditch Culvert (18 x 60') - will be used to accommodate the realigned driveway.
- Rock Slope Protection (RSP) and bankline rock (55 cubic yards) - will be used for construction around the crossing.
- Engineered Streambed Material (ESM) (60 cubic yards) - for placement in and around the crossing.
- Compacted backfill and grade (155 cubic yards) - will be used to reconstruct the landowners driveway.
- Road base and paving (2500 square feet) - will be used to reconstruct the landowner's driveway.
- Container Plants - riparian vegetation on disturbed areas.
- Erosion Control and Mulch - will be used for BMPs around the project area.
- Seed - will be used for BMPs around the project area and to accelerate vegetative recruitment.

The Stillwater Sciences budget includes funding for equipment needed for pre-construction surveys, as-built surveys, and project monitoring. The equipment includes a UAV drone, GPS RTK GNSS Survey Package, Trimble Geo7X package, a flow meter, and survey marker.

The Construction Contractor (TBD) will furnish all heavy equipment used during project construction.

The Environmental Compliance sub-contractor (TBD) budget includes funding for an electrofisher to be used during relocation activities.

The Smith River Alliance budget includes funding for field gear (waders and PPE), ESRI mapping license, and YSI water quality meter calibration.

Tasks, Deliverables, and Timelines:

All in-water work will comply with seasonal work windows. Generally, in-water work will be between June 15 to October 31, unless there is a species-specific work window.

Task Name	Start Date	Activity Description	Deliverables
Project Management and Administration	04/01/26	Task 1: Project Management - Smith River Alliance (SRA) will lead project management. Task 1 includes, but is not limited to, contract oversight, scheduling, invoicing, project reporting, and coordination with stakeholders and members of the project team. SRA will prepare bid solicitation packages and coordinate with contractors hired for project implementation. SRA will support ongoing landowner outreach and engagement. The project will be completed by a team consisting of the Smith River Alliance (SRA), Stillwater Sciences (SWS), and a qualified contractor selected for project implementation (TBD).	Progress reports (Quarterly) Invoices (Quarterly) Annual report (Yearly) Executed subcontracts (July 30, 2026) Project data (March 1, 2030) Final report (March 1, 2030) Final invoice (March 1, 2030)
Task 2: Implementation Prep, Environmental Compliance, and Contractor Selection	01/01/26	Implementation Prep - Secured Permits: General 401 Water Quality Certification Order for SHRP Projects, USACE Section 404, CDFW HREA Consistency Determination, NOAA RC Programmatic Biological Opinion. Additional permitting needs: SRA will prepare environmental documents and applications to secure a CDFW Lake and Streambed Alteration Agreement permit. Environmental Compliance - SRA will coordinate with other stakeholders and regulatory agencies	Final permits and access agreement (April 1, 2026) Environmental Compliance survey reports (August 1, 2026) Final bid package and Contractor selection documents (May 1, 2026)

		to secure all permits necessary to complete the project within compliance with County, State, and Federal regulations. An environmental compliance consultant will complete protocol level nesting bird surveys before and following any gap in construction that is longer than 14 days. This consultant will also lead fish relocation with support from SRA and local CDFW staff. SRA will work with the county and all landowners and legal counsels to finalize temporary access agreements needed during construction. Bid Solicitation/Selection and Construction Preparation - SRA with support from SWS will prepare a bid package that will include the bidding requirements, contract forms, grant provisions, conditions of the contract, technical specifications, project plans, and permits. SRA will hold a pre-bid inspection with prospective bidders, the landowner, and engineers. A construction contractor will be selected through a competitive bid process and awards will be made to the lowest, responsive, responsible bidder in accordance with the requirements of the bid form. The selected Construction Contractor will provide insurance and bonding, maintenance of traffic, erosion and sediment control, water management and dewatering, all construction work, and all material certifications. Once a contractor is selected, SRA will coordinate a pre-construction meeting with SWS, the	Revised final designs (if applicable) (May 1, 2026)

		selected contractor, and the landowner to discuss permit and engineering requirements, the project schedule, and notification requirements. The selected Construction Contractor and SRA will work to secure all project materials and coordinate access points. Stillwater Sciences will update the 100% designs, as needed, based on input from permitting agencies.	
Task 3: Project Implementation	06/15/26	Task 3: Project Implementation - SRA and SWS will oversee project construction to ensure all permit conditions are met, to perform water quality testing, and on-site coordination. SWS will be onsite approximately 50% of the time to oversee critical design elements (e.g. stream simulation channel construction, crossing removal/replacement, placement of RSP). The engineering contractor will use a robotic total station and/or RTK GPS to confirm critical design specifications (e.g., elevations, slopes, alignments) during construction activities, will prepare daily field logs when on-site, and submit a project letter of record and as-built designs after construction is completed. If water is present at the project site during construction, SRA will complete daily water quality monitoring. The Construction Contractor will be responsible for dewatering groundwater seepage from the work area. The pumped sediment-laden	Project construction logs (November 1, 2026) As-built designs (April 1, 2027) Project letter of record (April 1, 2027)

		water will be discharged to that nuisance water does not return to the stream, rather infiltrates. If needed, waddles will be placed to slow and filter discharged water. To avoid impacts to aquatic habitats, construction will take place during the dry summer season when flows are low. Construction plans include water and aquatic organism management and monitoring in accordance with state and federal permitting requirements including the installation of fish exclusion and de-watering if needed. Project construction will follow BMPs as applicable and methods outlined in the California Salmonid Stream Habitat Restoration Manual, Parts IV, IX, and XII. Dewatering shall be coordinated with a qualified biologist to perform fish and wildlife relocation activities. Relocation will follow all permit conditions. SRA will coordinate with CDFW biologist to determine the best method of relocating species during dewatering. The Construction Contractor (TBD) will be responsible for providing construction staking and compaction testing where specified in the designs. The selected contractor will assume sole and complete responsibility for the safety of work areas and traffic control, acquiring an encroachment permit from the county, and will ensure that the crossings is built to specifications and will follow all environmental protections and	

		permit conditions. The contractor will furnish all labor, materials, tools, equipment, and incidentals for project construction. The contractor will remove the existing stream crossing. Damaged materials will be hauled off-site and properly disposed of. Site cleanup and demobilization will include all steps necessary to stabilize the site following permit BMPs. All project materials and equipment will be removed from the project site. Upon completion of work, access areas will be returned to conditions similar to adjacent undisturbed areas. Construction activities at Crossing 1: The project will replace an existing undersized culvert with an 8-foot diameter CMP culvert, buried 30-40% below the target channel grade, and backfilled with engineered streambed material (ESM) and coarse bankline rocks. The culvert inlet will be realigned to the west by approximately 10 feet, while the outlet will remain in the same location. The realignment will require a minor adjustment to the private driveway on the west side of the creek. The existing roadside ditch culvert (15-inch diameter) along Elk Valley Road at crossing 1 will be replaced with an 18-inch dual wall HDPE culvert that accommodates the realigned driveway. The designs include a natural channel through the culvert, more than two feet of freeboard through the culvert during a 100-year	

		flow event and substantially reduced flow velocities compared to existing conditions. Riparian planting will occur in areas impacted by construction or devoid of vegetation. Crossing 1 construction will require an encroachment permit from the County and replacement of the nearby culvert on Elk Valley Road will require temporarily closing a lane to traffic.	
Task 4: Monitoring and Reporting	07/01/26	Task 4: Monitoring and Reporting - Monitoring will be conducted from before project implementation through project completion and during one flow event post-implementation. Monitoring will include the following measures: photo documentation from designated points before and after the project implementation, quantification of materials removed and added to the stream during the construction phase, and post-implementation as-built topographic surveys of certain project elements. The project engineer will complete topographic, hydraulic, and a fish passage survey during one flow event post-implementation and a summary of any changes from as-built conditions will be documented. Monitoring results will be compiled into monitoring reports. Native plants at the site will be maintained and monitored for one-year post-installation.	Vegetation data (March 1, 2030) Fish passage monitoring report (March 1, 2030) Annual reports (Yearly)

Additional Requirements:

The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife (CDFW).

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. All equipment will be removed from the streambed and flood plain areas at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the standards detailed in the CDFW Aquatic Invasive Species Decontamination Protocol.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

All habitat improvements will follow techniques described in the [*California Salmonid Stream Habitat Restoration Manual, 4th Edition \(CA Restoration Manual\)*](#) or [*other approved guidelines and manuals for salmon and steelhead habitat restoration*](#).

The Grantee shall notify CDFW at least five working days before the project site is de-watered and the stream flow diverted and submit a Water Quality Monitoring Plan and Dewatering Plan to CDFW for State Water Resources Control Board approval at least 30 days before the activity. The notification will provide a reasonable time for CDFW personnel to oversee the implementation of the water diversion plan and the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:

- a. Fish dewatering and relocation activities shall only occur between June 15 and October 31 of each year.
- b. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.
- c. The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible as approved by the CDFW Grant Manager and pursuant to conditions in the USACE Regional General Permit and National Marine Fisheries Service (NMFS) Biological Opinion.
- d. All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the NMFS, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
- e. USFWS Approved fisheries biologists will provide fish relocation data via the Grantee to the CDFW personnel on a form provided by CDFW.

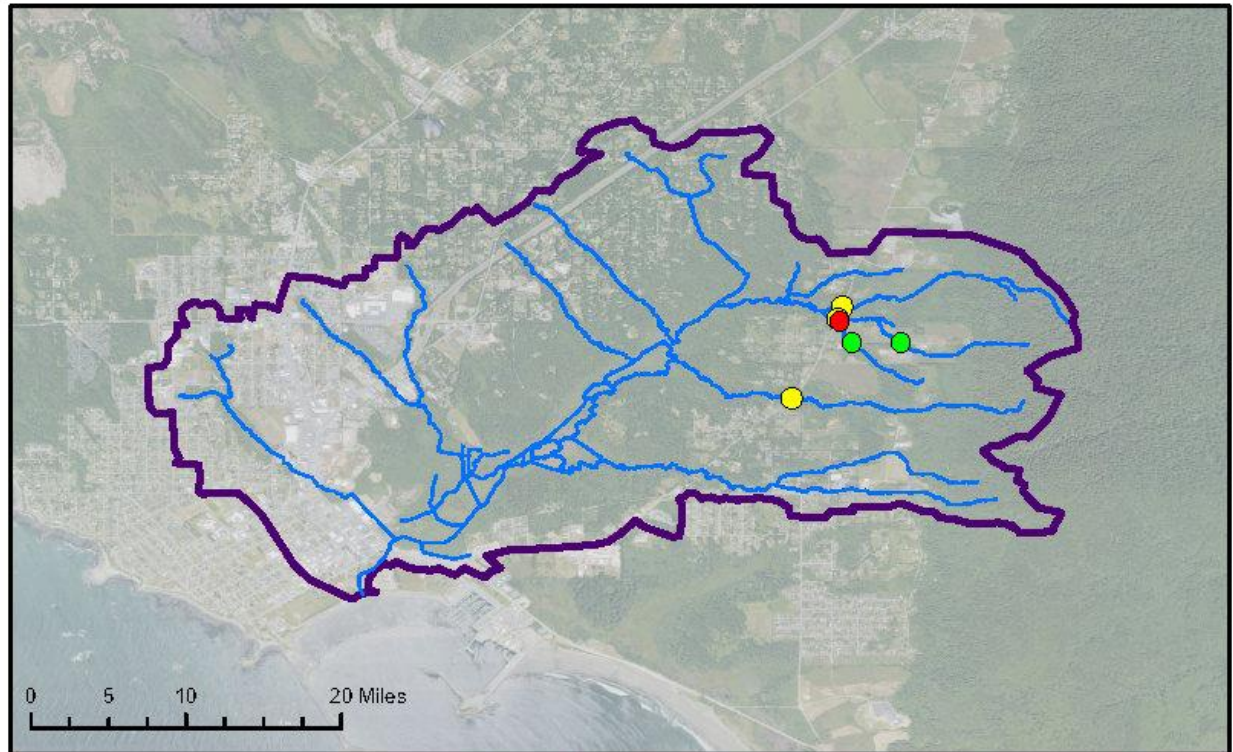
The bridge (culvert) design and installation will meet flow carrying capacity required for a 100-year flood event as identified by specifications determined by National Oceanic and Atmospheric Administration (NOAA) Fisheries and the CDFW, for adult and juvenile salmonid fish passage. The project will follow the National Marine Fisheries Service (NMFS 2001) Guidelines for Salmonid Passage at Stream Crossings and criteria for fish passage as described in Volume II, Part IX, of the *California Salmonid Stream Habitat Restoration Manual*. The engineered plans for the bridge (culvert) installation shall be visually reviewed and authorized by NOAA Fisheries or CDFW engineers prior to commencement of work.

The Grantee/landowner will maintain the new crossing, inspect the crossing in a timely manner and remove debris as necessary during the storm season.

Final structure design and placement will be determined by field consultation between the Grantee and the CDFW Personnel.

Planting of tree seedlings should take place after December 1 or when sufficient rainfall has occurred to insure the best chance of survival of the seedlings.

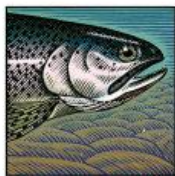
ELK CREEK FISH PASSAGE AND SEDIMENT REDUCTION PROJECT - CROSSING 1



Watershed Map

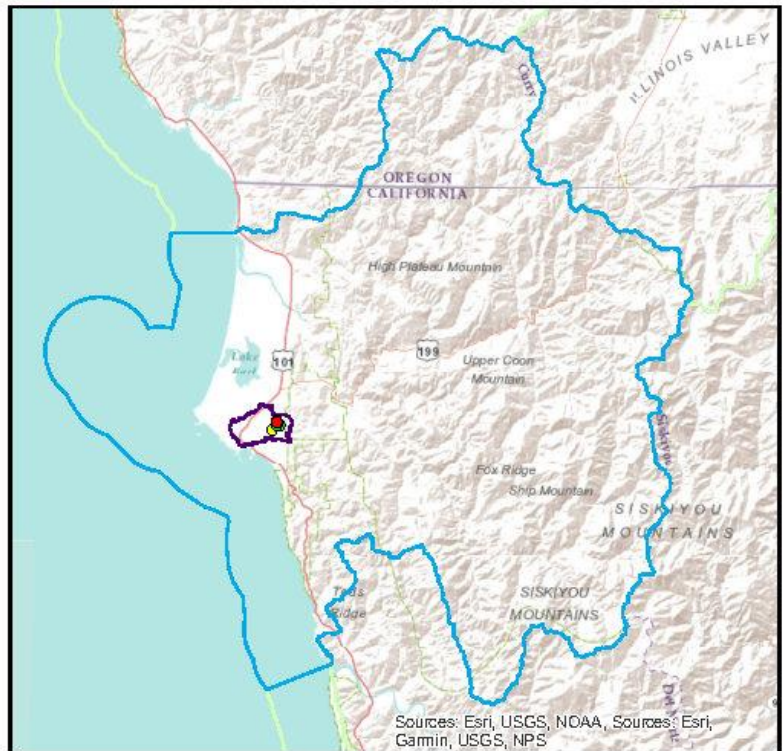
Crossings

- Elk Creek - Crossing 1
- Crossings Upgraded in 2025
- Elk Valley Road Crossings
- Elk Creek
- Elk Creek Watershed
- Smith River HUC 8

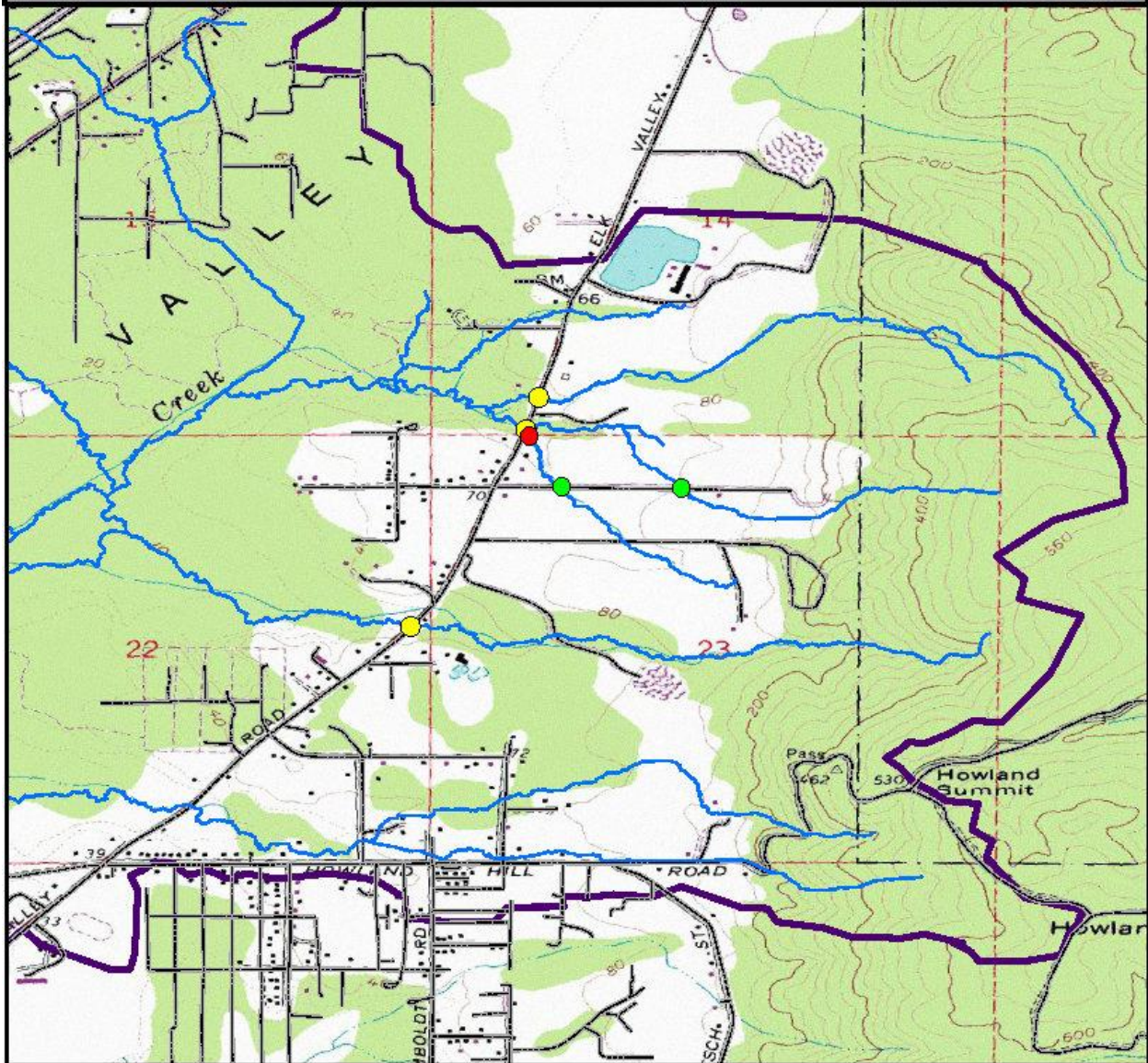


**SMITH
RIVER
ALLIANCE**

Map Sources: Imagery,
Roads, Streets, Cities:
USGS, ESRI, NOAA;
Stillwater Sciences:
Streams, Watershed,

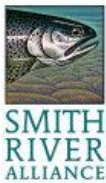


ELK CREEK FISH PASSAGE AND SEDIMENT REDUCTION PROJECT - CROSSING 1



Project Topographic Map

1:20,000



Crossings

- Elk Creek - Crossing 1
- Crossings Upgraded in 2025
- Elk Valley Road Crossings
- Watershed Boundary
- Elk Creek
- Road

Map Sources: Imagery, Roads,
Streets, Cities: USGS, ESRI, NOAA;
Stillwater Sciences: Streams, Watershed,



California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734345 Elk Creek Fish Passage and Sediment
Reduction Project, Crossing 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC
Plethodon elongatus	Del Norte salamander	AAAAD12050	None	None	WL
Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC
Rana boylei pop. 1	foothill yellow-legged frog -	AAABH01051	None	None	SSC
Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC
Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL
Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC
Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP
Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP
Brachyramphus marmoratus	marbled murrelet	ABNNN06010	Threatened	Endangered	-
Cerorhinca monocerata	rhinoceros auklet	ABNNN11010	None	None	WL
Fratercula cirrhata	tufted puffin	ABNNN12010	None	None	SSC
Ptychoramphus aleuticus	Cassins auklet	ABNNN08010	None	None	SSC
Branta hutchinsii leucopareia	cackling (=Aleutian	ABNJB05035	Delisted	None	WL
Cypseloides niger	black swift	ABNUA01010	None	None	SSC
Ardea alba	great egret	ABNGA04040	None	None	-
Ardea herodias	great blue heron	ABNGA04010	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734345 Elk Creek Fish Passage and Sediment
Reduction Project, Crossing 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Botaurus lentiginosus</i>	American bittern	ABNGA01020	None	None	-
<i>Egretta thula</i>	snowy egret	ABNGA06030	None	None	-
<i>Nycticorax nycticorax</i>	black-crowned night heron	ABNGA11010	None	None	-
<i>Charadrius nivosus nivosus</i>	western snowy plover	ABNNB03031	Threatened	None	SSC
<i>Falco peregrinus anatum</i>	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
<i>Antigone canadensis canadensis</i>	lesser sandhill crane	ABNMK01011	None	None	SSC
<i>Antigone canadensis tabida</i>	greater sandhill crane	ABNMK01014	None	Threatened	FP
<i>Riparia riparia</i>	bank swallow	ABPAU08010	None	Threatened	-
<i>Hydrobates furcatus</i>	fork-tailed storm-petrel	ABNDC04010	None	None	SSC
<i>Pandion haliaetus</i>	osprey	ABNKC01010	None	None	WL
<i>Poecile atricapillus</i>	black-capped chickadee	ABPAW01010	None	None	WL
<i>Pelecanus occidentalis californicus</i>	California brown pelican	ABNFC01021	Delisted	Delisted	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734345 Elk Creek Fish Passage and Sediment
Reduction Project, Crossing 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Nannopterum auritum	double-crested cormorant	ABNFD01020	None	None	WL
Bonasa umbellus	ruffed grouse	ABNLC11010	None	None	WL
Coturnicops noveboracensis	yellow rail	ABNME01010	None	None	SSC
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Selasphorus rufus	rufous hummingbird	ABNUC51020	None	None	-
Empidonax traillii brewsteri	little willow flycatcher	ABPAE33041	None	Endangered	-
Acipenser medirostris pop. 2	green sturgeon - northern DPS	AFCOA01032	None	None	SSC
Cottus asper ssp.	Clear Lake prickly sculpin	AFC4E02021	None	None	SSC
Eucyclogobius newberryi	tidewater goby	AFCQN04010	Endangered	None	SSC
Spirinchus thaleichthys	longfin smelt	AFCHB03010	None	Threatened	-
Thaleichthys pacificus	eulachon	AFCHB04010	Threatened	None	SSC
Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC
Lampetra richardsoni	western brook lamprey	AFBAA02180	None	None	SSC
Oncorhynchus clarkii	coast cutthroat trout	AFCHA0208A	None	None	SSC
Oncorhynchus keta	chum salmon	AFCHA02020	None	None	-
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon	AFCHA02032	Threatened	Threatened	-
Oncorhynchus mykiss irideus	steelhead - Klamath	AFCHA0209D	None	None	SSC

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734345 Elk Creek Fish Passage and Sediment
Reduction Project, Crossing 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Oncorhynchus tshawytscha pop.	chinook salmon - southern	AFCOA0205P	Candidate	None	SSC
Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-
Scaphinotus behrensi	Behrens snail-eating beetle	IICOL4L070	None	None	-
Atractelmis wawona	Wawona riffle beetle	IICOL58010	None	None	-
Polites mardon	mardon skipper	IILEP66030	None	None	-
Limnephilus atercus	Fort Dick limnephilus	IITRI15020	None	None	-
Coenonympha tullia yontockett	Yontocket satyr	IILEPN6035	None	None	-
Speyeria zerene hippolyta	Oregon silverspot butterfly	IILEPJ6087	Threatened	None	-
Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC
Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-
Enhydra lutris nereis	southern sea otter	AMAJF09012	Threatened	None	FP
Martes caurina humboldtensis	Humboldt marten	AMAJF01017	Threatened	Endangered	SSC
Pekania pennanti	Fisher	AMAJF01020	None	None	SSC
Arctocephalus townsendi	Guadalupe fur-seal	AMAJC02010	Threatened	Threatened	FP
Eumetopias jubatus	Steller sea lion	AMAJC03010	Delisted	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734345 Elk Creek Fish Passage and Sediment
Reduction Project, Crossing 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC
Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-
Lasiurus cinereus	hoary bat	AMACC05032	None	None	-
Myotis evotis	long-eared myotis	AMACC01070	None	None	-
Myotis thysanodes	fringed myotis	AMACC01090	None	None	-
Myotis volans	long-legged myotis	AMACC01110	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Monadenia fidelis pronotis	rocky coast Pacific sideband	IMGASC7032	None	None	-
Lanx alta	highcap lanx	IMGASL7010	None	None	-
Margaritifera falcata	western pearlshell	IMBIV27020	None	None	-
Juga chacei	Chace juga	IMGASK4180	None	None	-
Pomatiopsis chacei	marsh walker	IMGASJ9030	None	None	-
Actinemys marmorata	northwestern pond turtle	ARAAD02031	Proposed Threatened	None	SSC
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734345 Elk Creek Fish Passage and Sediment
Reduction Project, Crossing 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Coastal Brackish Marsh	Coastal Brackish Marsh	CTT52200CA	None	None	-
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	CTT52110CA	None	None	-
Fissidens pauperculus	minute pocket moss	NBMUS2W0U0	None	None	-
Sulcaria spiralis	twisted horsehair lichen	NLT0042560	None	None	-
Calicium adpersum	spiral-spored gilded-head pin	NLT0005640	None	None	-
Usnea longissima	Methuselahs beard lichen	NLLEC5P420	None	None	-
Ramalina thrausta	angels hair lichen	NLLEC3S340	None	None	-
Sagittaria sanfordii	Sanfords arrowhead	PMALI040Q0	None	None	-
Angelica lucida	sea-watch	PDAPI070G0	None	None	-
Glehnia littoralis ssp. leiocarpa	American glehnia	PDAPI13011	None	None	-
Lomatium howellii	Howells lomatium	PDAPI1B0U0	None	None	-
Lomatium tracyi	Tracys lomatium	PDAPI1B1Y0	None	None	-
Perideridia gairdneri ssp.	California Gairdners	PDAPI1N062	None	None	-
Sanicula peckiana	Pecks sanicle	PDAPI1Z0E0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734345 Elk Creek Fish Passage and Sediment
Reduction Project, Crossing 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Tauschia glauca</i>	glaucous tauschia	PDAPI27020	None	None	-
<i>Asplenium trichomanes</i> ssp.	maidenhair spleenwort	PPASP021K2	None	None	-
<i>Antennaria suffrutescens</i>	evergreen everlasting	PDAST0H0S0	None	None	-
<i>Arnica cernua</i>	serpentine arnica	PDAST0Q040	None	None	-
<i>Arnica spathulata</i>	Klamath arnica	PDAST0Q0M0	None	None	-
<i>Doellingeria glabrata</i>	Siskiyou aster	PDASTE030	None	None	-
<i>Erigeron cervinus</i>	Siskiyou daisy	PDAST3M0U0	None	None	-
<i>Hesperevax sparsiflora</i> var.	short-leaved evax	PDASTE5011	None	None	-
<i>Lasthenia californica</i> ssp.	perennial goldfields	PDAST5L0C5	None	None	-
<i>Packera bolanderi</i> var.	seacoast ragwort	PDAST8H0H1	None	None	-
<i>Packera macounii</i>	Siskiyou Mountains	PDAST8H1Z0	None	None	-
<i>Pyrrocoma racemosa</i> var.	Del Norte pyrrocoma	PDASTDT0F4	None	None	-
<i>Vancouveria chrysantha</i>	Siskiyou inside-out- flower	PDBER09010	None	None	-
<i>Arabis aculeolata</i>	Waldo rockcress	PDBRA06010	None	None	-
<i>Arabis mcdonaldiana</i>	McDonalds rockcress	PDBRA06150	Endangered	Endangered	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734345 Elk Creek Fish Passage and Sediment
Reduction Project, Crossing 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Boechera koehleri	Koehlers stipitate rockcress	PDBRA060Z0	None	None	-
Cardamine angulata	seaside bittercress	PDBRA0K010	None	None	-
Cardamine nuttallii var. gemmata	yellow-tubered toothwort	PDBRA0K0R3	None	None	-
Cochlearia groenlandica	Greenland cochlearia	PDBRA0S020	None	None	-
Erysimum concinnum	bluff wallflower	PDBRA160E3	None	None	-
Streptanthus howellii	Howells jewelflower	PDBRA2G0N0	None	None	-
Downingia willamettensis	Cascade downingia	PDCAM060E0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734345 Elk Creek Fish Passage and Sediment
Reduction Project, Crossing 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
<i>Sabulina howellii</i>	Howells sandwort	PDCAR0G0F0	None	None	-
<i>Silene hookeri</i>	Hookers catchfly	PDCAR0U2M0	None	None	-
<i>Silene scouleri</i> ssp. <i>scouleri</i>	Scoulers catchfly	PDCAR0U1MC	None	None	-
<i>Silene serpentinicola</i>	serpentine catchfly	PDCAR0U2B0	None	None	-
<i>Calystegia atriplicifolia</i> ssp.	Butte County morning-glory	PDCON04012	None	None	-
<i>Sedum patens</i>	Smith River stonecrop	PDCRA0A250	None	None	-
<i>Carex arcta</i>	northern clustered sedge	PMCYP030X0	None	None	-
<i>Carex lenticularis</i> var. <i>limnophila</i>	lagoon sedge	PMCYP037A7	None	None	-
<i>Carex lyngbyei</i>	Lyngbyes sedge	PMCYP037Y0	None	None	-
<i>Carex praticola</i>	northern meadow sedge	PMCYP03B20	None	None	-
<i>Carex scabriuscula</i>	Siskiyou sedge	PMCYP03C40	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734345 Elk Creek Fish Passage and Sediment
Reduction Project, Crossing 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Carex serpenticola	serpentine sedge	PMCYP03KM0	None	None	-
Carex sheldonii	Sheldons sedge	PMCYP03CE0	None	None	-
Carex viridula ssp. viridula	green yellow sedge	PMCYP03EM5	None	None	-
Empetrum nigrum	black crowberry	PDEMP03020	None	None	-
Arctostaphylos	Howells	PDERI04230	None	None	-
Arctostaphylos nortensis	Del Norte manzanita	PDERI04092	None	None	-
Vaccinium scoparium	little-leaved huckleberry	PDERI180Y0	None	None	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Lathyrus delnorticus	Del Norte pea	PDFAB25070	None	None	-
Lathyrus japonicus	seaside pea	PDFAB250C0	None	None	-
Lathyrus palustris	marsh pea	PDFAB250P0	None	None	-
Dicentra formosa ssp. oregana	Oregon bleeding heart	PDFUM04052	None	None	-
Gentiana setigera	Mendocino gentian	PDGEN060S0	None	None	-
Ribes laxiflorum	trailing black currant	PDGRO020V0	None	None	-

California Department of Fish and Wildlife
California Natural Diversity Database Species Lists for 1734345 Elk Creek Fish Passage and Sediment
Reduction Project, Crossing 1

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Phacelia argentea	sand dune phacelia	PDHYD0C070	Threatened	None	-
Romanzoffia tracyi	Tracys romanzoffia	PDHYD0E030	None	None	-
Iris bracteata	Siskiyou iris	PMIRI09020	None	None	-
Iris innominata	Del Norte County iris	PMIRI090F0	None	None	-
Iris tenax ssp. klamathensis	Orleans iris	PMIRI090Z2	None	None	-
Iris thompsonii	Thompsons iris	PMIRI09120	None	None	-
Pinguicula macroceras	horned butterwort	PDLNT01040	None	None	-
Erythronium hendersonii	Hendersons fawn lily	PMLILOU070	None	None	-
Erythronium howellii	Howells fawn lily	PMLILOU080	None	None	-
Erythronium oregonum	giant fawn lily	PMLILOU0C0	None	None	-
Erythronium revolutum	coast fawn lily	PMLILOU0F0	None	None	-
Lilium bolanderi	Bolanders lily	PMLIL1A010	None	None	-
Lilium occidentale	western lily	PMLIL1A0G0	Endangered	Endangered	-
Lilium pardalinum ssp. vollmeri	Vollmers lily	PMLIL1A0H2	None	None	-
Lycopodium clavatum	running-pine	PPLYC01080	None	None	-

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<i>Sidalcea elegans</i>	Del Norte checkerbloom	PDMAL110F5	None	None	-
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	PDMAL110E0	None	None	-
<i>Sidalcea malviflora</i> ssp.	Siskiyou checkerbloom	PDMAL110F9	None	None	-
<i>Sidalcea oregana</i> ssp.	coast checkerbloom	PDMAL110K9	None	None	-
<i>Veratrum insolitum</i>	Siskiyou false-hellebore	PMLIL25040	None	None	-
<i>Monotropa uniflora</i>	ghost-pipe	PDMON03030	None	None	-
<i>Pityopus californicus</i>	California pinefoot	PDMON05010	None	None	-
<i>Lewisia oppositifolia</i>	opposite-leaved lewisia	PDPOR040B0	None	None	-
<i>Montia howellii</i>	Howells montia	PDPOR05070	None	None	-
<i>Lysimachia europaea</i>	arctic starflower	PDPRI0A020	None	None	-
<i>Abronia</i>	pink sand-	PDNYC010N4	None	None	-
<i>Epilobium rigidum</i>	Siskiyou	PDONA060V0	None	None	-
<i>Oenothera wolfii</i>	Wolfs evening-	PDONA0C1K0	None	None	-
<i>Cypripedium californicum</i>	California ladyslipper	PMORC0Q040	None	None	-
<i>Cypripedium montanum</i>	mountain ladyslipper	PMORC0Q080	None	None	-
<i>Listera cordata</i>	heart-leaved twayblade	PMORC1N060	None	None	-
<i>Piperia candida</i>	white-flowered rein orchid	PMORC1X050	None	None	-

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Castilleja ambigua var. ambigua	johnny-nip	PDSCR0D401	None	None	-
Castilleja brevilobata	short-lobed paintbrush	PDSCR0D181	None	None	-
Castilleja elata	Siskiyou paintbrush	PDSCR0D213	None	None	-
Castilleja littoralis	Oregon coast paintbrush	PDSCR0D012	None	None	-
Kopsiopsis hookeri	small groundcone	PDORO01010	None	None	-
Oxalis suksdorfii	Suksdorfs wood-sorrel	PDOXA010U0	None	None	-
Anthoxanthum nitens ssp. nitens	vanilla-grass	PMPOA35041	None	None	-
Calamagrostis crassiglumis	Thurbers reed grass	PMPOA17070	None	None	-
Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-
Poa piperi	Pipers blue grass	PMPOA4Z200	None	None	-
Gilia capitata ssp. pacifica	Pacific gilia	PDPLM040B6	None	None	-
Gilia millefoliata	dark-eyed gilia	PDPLM04130	None	None	-
Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-
Polemonium carneum	Oregon polemonium	PDPLM0E050	None	None	-

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Eriogonum nudum var.	Del Norte buckwheat	PDPGN08498	None	None	-
Eriogonum pendulum	Waldo wild buckwheat	PDPGN084Q0	None	None	-
Eriogonum ternatum	ternate buckwheat	PDPGN085R0	None	None	-
Potamogeton foliosus ssp.	fibrous pondweed	PMPO030B1	None	None	-
Moneses uniflora	woodnymph	PDPYR02010	None	None	-
Coptis laciniata	Oregon	PDRAN0A020	None	None	-
Horkelia howellii	Howells horkelia	PDROS0W0M0	None	None	-
Horkelia sericata	silky horkelia	PDROS0W0N0	None	None	-
Sanguisorba officinalis	great burnet	PDROS1L060	None	None	-
Salix delnortensis	Del Norte willow	PDSAL023F0	None	None	-
Darlingtonia californica	California pitcherplant	PDSAR01010	None	None	-
Cascadia nuttallii	Nuttalls saxifrage	PDSAX0U160	None	None	-
Chrysosplenium glechomifolium	Pacific golden saxifrage	PDSAX07020	None	None	-
Micranthes howellii	Howells saxifrage	PDSAX0U0T0	None	None	-
Micranthes marshallii	Marshalls saxifrage	PDSAX0U0X0	None	None	-
Mitellastrum caulescens	leafy-stemmed mitrewort	PDSAX0N020	None	None	-
Tiarella trifoliata var. trifoliata	trifoliate laceflower	PDSAX10031	None	None	-
Viola langsdorffii	Langsdorfs violet	PDVIO04100	None	None	-

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<i>Viola palustris</i>	alpine marsh violet	PDVIO041G0	None	None	-
<i>Viola primulifolia</i> ssp. <i>occidentalis</i>	western white bog violet	PDVIO040Y2	None	None	-