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 buouancy. 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< key pieces of large wood per 100 M for larger channels>10m 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: identfication 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.

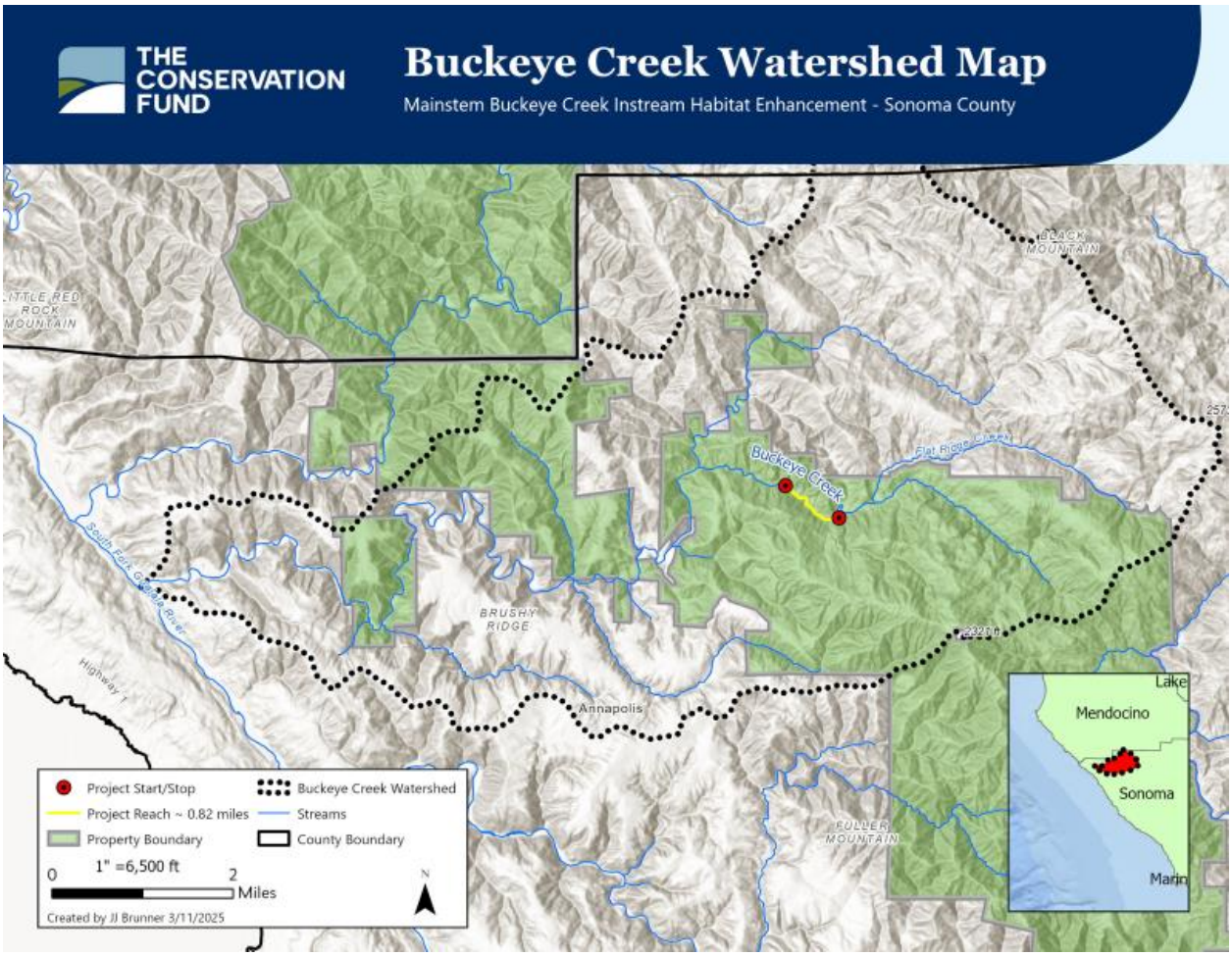
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out 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.

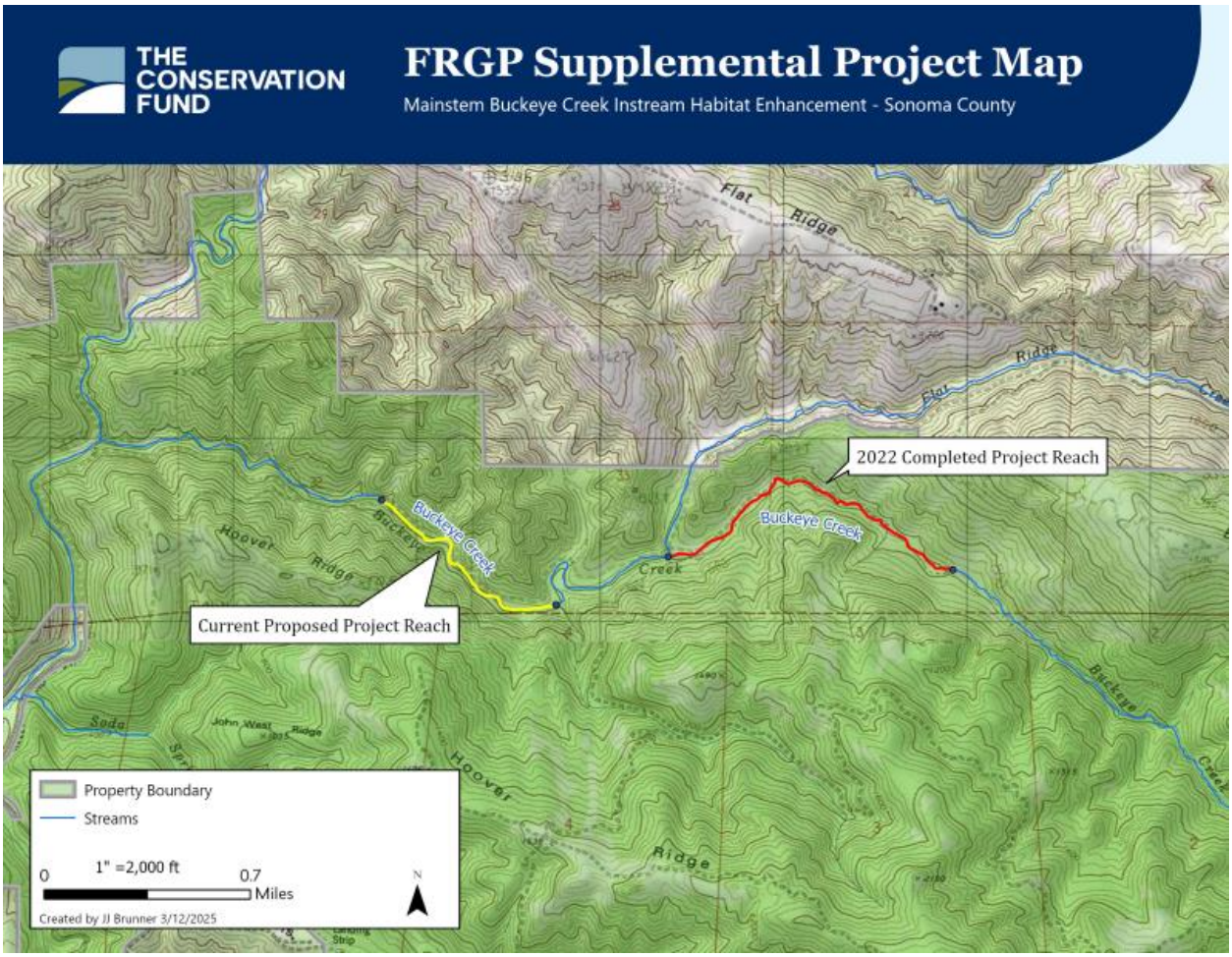
All habitat improvements will follow techniques described in the California Salmonid Stream Habitat Restoration Manual, 4th Edition (CA Restoration Manual) or other approved guidelines and manuals for salmon and steelhead habitat restoration.

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

Map 1.


THE CONSERVATION FUND
Buckeye Creek Watershed Map
Mainstem Buckeye Creek Instream Habitat Enhancement - Sonoma County
BLACK MOUNTAIN
LITTLE RED ROCK MOUNTAIN
Buckeye Creek
Flat Ridge Creek
South Fork Gualala River
BRUSHY RIDGE
Highway 1
Annapolis
FULLER MOUNTAIN
Lake
Mendocino
Sonoma
Marin
Project Start/Stop
Buckeye Creek Watershed
Project Reach ~ 0.82 miles
Streams
Property Boundary
County Boundary
0
1" =6,500 ft
2
Miles
N
Created by JJ Brunner 3/11/2025

Map 2.


THE CONSERVATION FUND
FRGP Supplemental Project Map
Mainstem Buckeye Creek Instream Habitat Enhancement - Sonoma County
2022 Completed Project Reach
Current Proposed Project Reach
Buckeye Creek
Hoover Ridge
Flat Ridge
Property Boundary
Streams
0
1" =2,000 ft
0.7
Miles
N
Created by JJ Brunner 3/12/2025

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Dicamptodon ensatus	California giant salamander	AAAAH01020	None	None	SSC
Rana boylii 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

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC
Hesperoleucus parvipinnis	Gualala roach	AFCJB19025	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. 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	-
Danaus plexippus plexippus pop. 1	monarch - California	IILEPP2012	Proposed Threatened	None	-
Speyeria zerene behrensii	Behrens silverspot butterfly	IILEPJ6088	Endangered	None	-
Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Bassariscus astutus raptor	northern California ringtail	AMAJE01014	None	None	FP

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

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	-

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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Monardella viridis	green monardella	PDLAM180Q2	None	None	-
Calochortus raichei	Cedars fairy-lantern	PMLIL0D1L0	None	None	-
Calochortus uniflorus	pink star-tulip	PMLIL0D1F0	None	None	-
Lilium maritimum	coast lily	PMLIL1A0C0	None	None	-
Lilium rubescens	redwood lily	PMLIL1A0N0	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.	purple-stemmed checkerbloom	PDMAL110FL	None	None	-
Veratrum fimbriatum	fringed false-hellebore	PMLIL25030	None	None	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Epilobium septentrionale	Humboldt County fuchsia	PDONA06110	None	None	-
Cypripedium californicum	California ladys-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	-

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 tranducers (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-Builts 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.

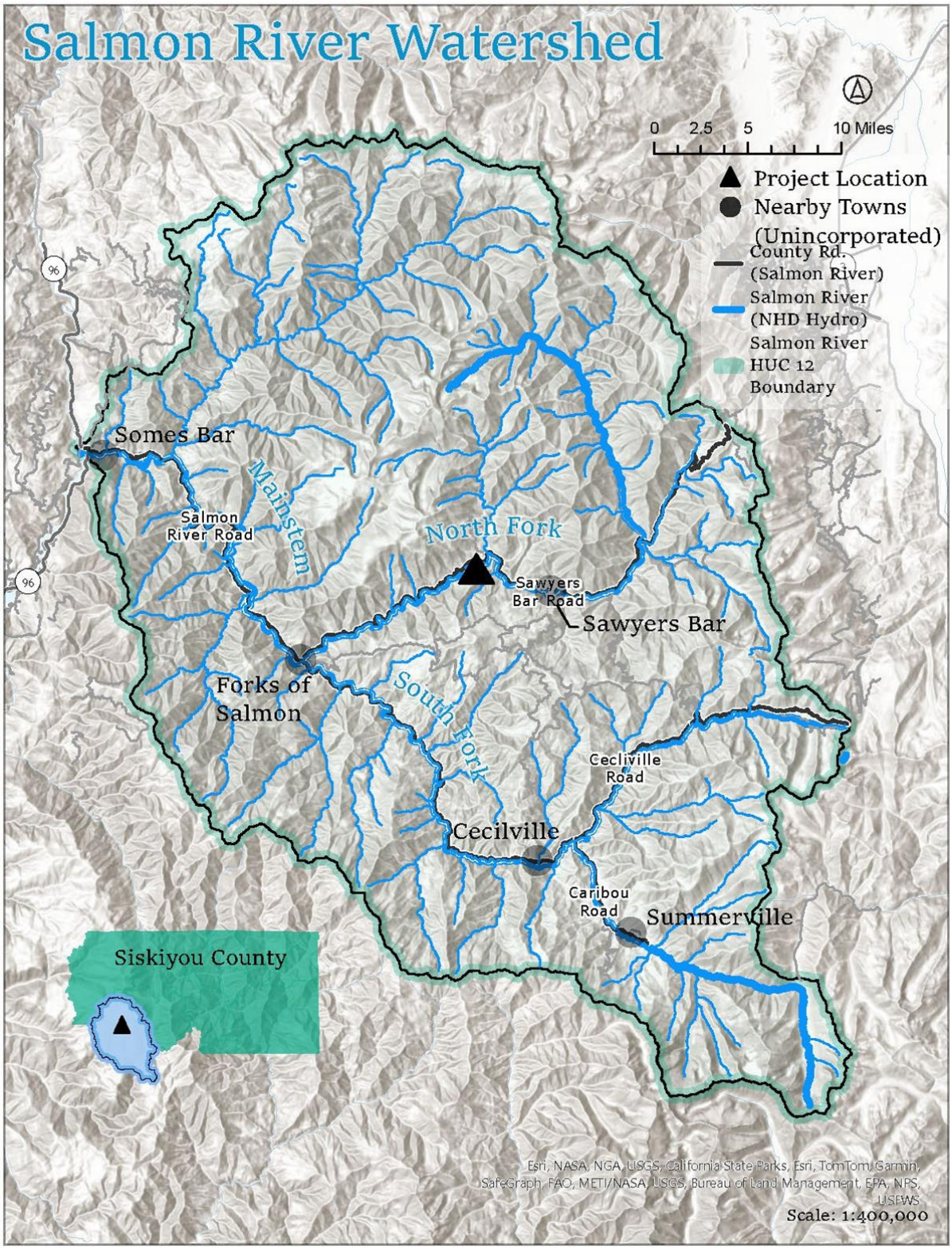
The bridge (culvert) design and installation will meet flow carrying capacity required for a 100-year flood event as identified by specifications determined by National Oceanic and Atmospheric Administration (NOAA) Fisheries and the CDFW, for adult and juvenile salmonid fish passage. The project will 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.

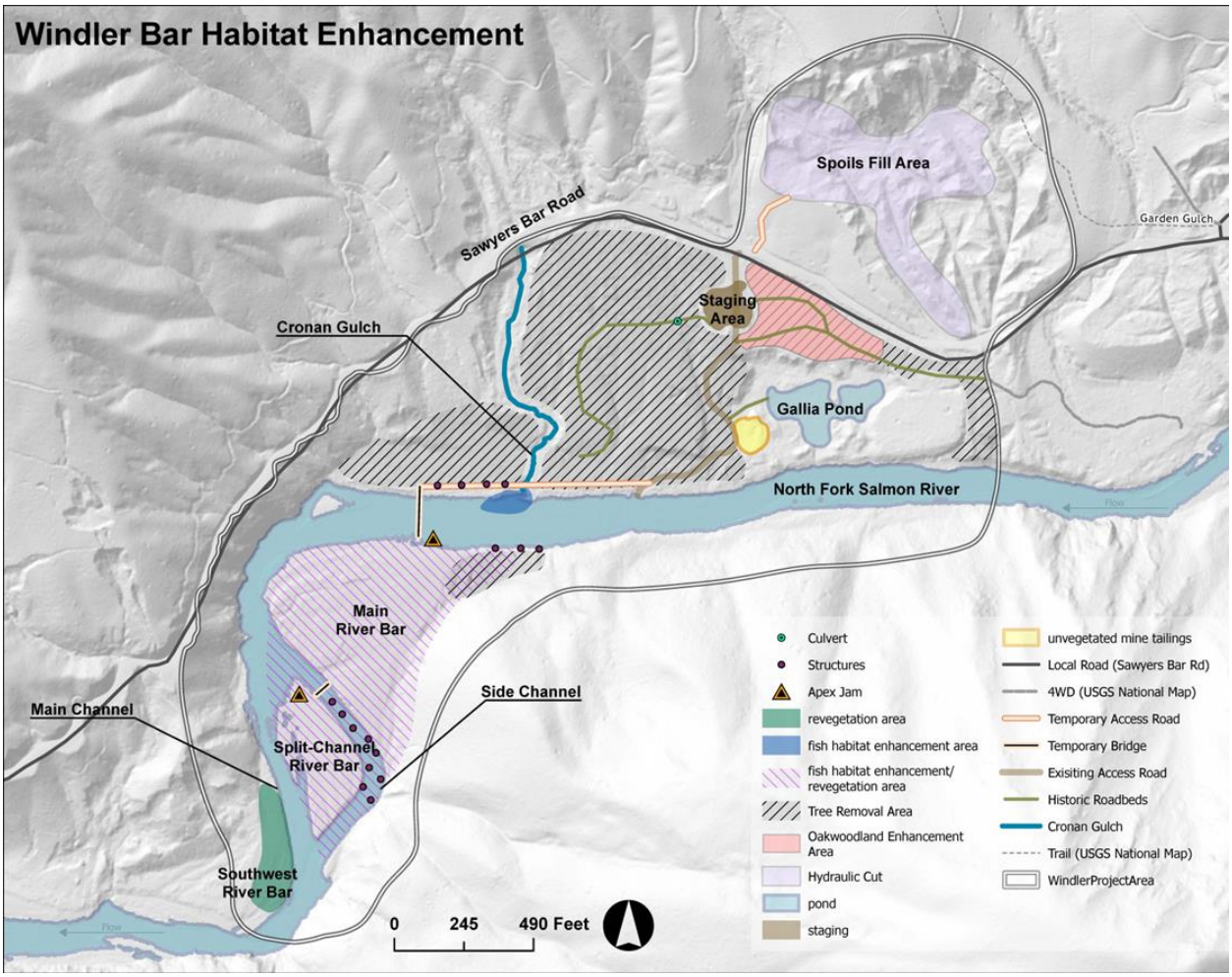
The Grantee/landowner will maintain the new crossing, inspect the crossing in a timely manner and remove debris as necessary during the storm season.

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.


Salmon River Watershed
0 2.5 5 10 Miles
Project Location
Nearby Towns
(Unincorporated)
County Rd.
(Salmon River)
Salmon River
(NHD Hydro)
Salmon River
HUC 12
Boundary
Somes Bar
Mainstem
Salmon
River Road
North Fork
Sawyers
Bar Road
Sawyers Bar
Forks of
Salmon
South Fork
Cecliville
Road
Cecilville
Caribou
Road
Summerville
Siskiyou County
96
96
Esri, NASA, NGA, USGS, California State Parks, Esri, TomTom, Garmin,
SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS,
USFWS
Scale: 1:400,000


Windler Bar Habitat Enhancement
Spoils Fill Area
Garden Gulch
Sawyers Bar Road
Staging Area
Cronan Gulch
Gallia Pond
North Fork Salmon River
Main River Bar
Side Channel
Main Channel
Split-Channel River Bar
Southwest River Bar
0
245
490 Feet
Culvert
Structures
Apex Jam
revegetation area
fish habitat enhancement area
fish habitat enhancement/ revegetation area
Tree Removal Area
Oakwoodland Enhancement Area
Hydraulic Cut
pond
staging
unvegetated mine tailings
Local Road (Sawyers Bar Rd)
4WD (USGS National Map)
Temporary Access Road
Temporary Bridge
Exisiting Access Road
Historic Roadbeds
Cronan Gulch
Trail (USGS National Map)
WindlerProjectArea

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 boylii pop. 1	foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	SSC
Rana cascadae	Cascades frog	AAABH01060	None	Candidate Endangered	SSC
Accipiter atricapillus	American goshawk	ABNKC12061	None	None	SSC
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Pandion haliaetus	osprey	ABNKC01010	None	None	WL
Psiloscops flammeolus	flammulated owl	ABNSB01020	None	None	-
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Pacifastacus leniusculus klamathensis	Klamath crayfish	ICMAL31042	None	None	-
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-
Oncorhynchus mykiss irideus pop. 1	steelhead - Klamath Mountains Province DPS	AFCHA0209D	None	None	SSC

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	Townsends 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	-

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	PDAPI1N0A0	None	None	-
Tauschia howellii	Howells tauschia	PDAPI27050	None	None	-
Arnica viscosa	Mt. Shasta arnica	PDAST0Q0R0	None	None	-
Chaenactis suffrutescens	Shasta chaenactis	PDAST200H0	None	None	-
Doellingeria glabrata	Siskiyou aster	PDASTEC030	None	None	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Erigeron cervinus	Siskiyou daisy	PDAST3M0U0	None	None	-
Eurybia merita	subalpine aster	PDASTEB030	None	None	-
Arabis modesta	modest rockcress	PDBRA06180	None	None	-
Arabis oregana	Oregon rockcress	PDBRA061A0	None	None	-
Arabis rigidissima var. rigidissima	Trinity Mountains rockcress	PDBRA061R2	None	None	-
Draba howellii	Howells draba	PDBRA11150	None	None	-
Draba pterosperma	winged-seed draba	PDBRA11230	None	None	-
Silene hookeri	Hookers catchfly	PDCAR0U2M0	None	None	-
Silene marmorensis	Marble Mountain campion	PDCAR0U0Z0	None	None	-
Sedum laxum ssp. heckneri	Heckners stonecrop	PDCRA0A0L3	None	None	-
Vaccinium scoparium	little-leaved huckleberry	PDERI180Y0	None	None	-
Gentiana plurisetosa	Klamath gentian	PDGEN060V0	None	None	-
Iris tenax ssp. klamathensis	Orleans iris	PMIRI090Z2	None	None	-
Erythronium citrinum var. citrinum	lemon-colored fawn lily	PMLIL0U041	None	None	-
Erythronium hendersonii	Hendersons fawn lily	PMLIL0U070	None	None	-
Erythronium oregonum	giant fawn lily	PMLIL0U0C0	None	None	-
Fritillaria glauca	Siskiyou fritillaria	PMLIL0V090	None	None	-

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

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.

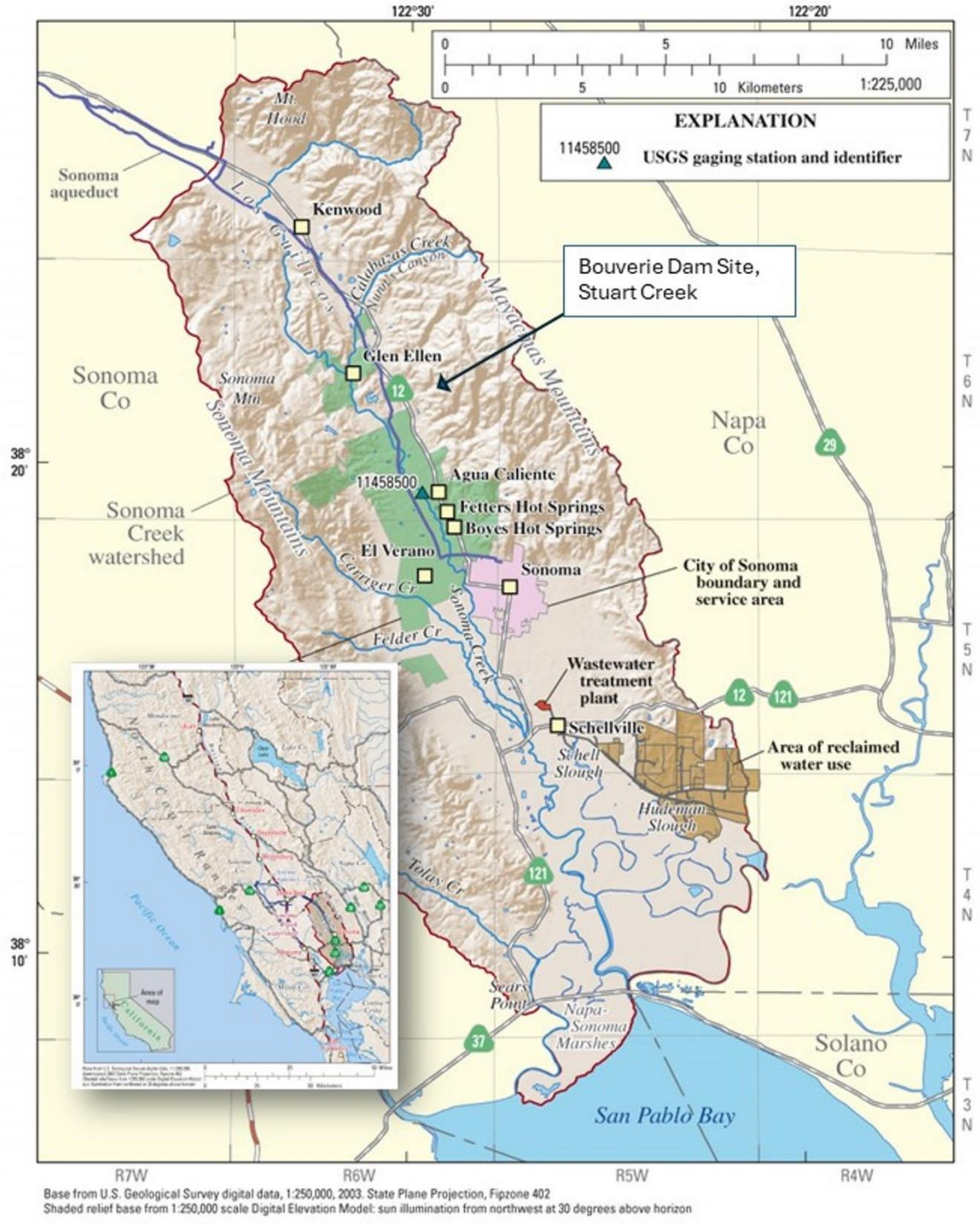


Figure 1. Sonoma Creek Watershed and County Map - USGS 2025. FRGP Proposal 1734137 Audubon Canyon Ranch.

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

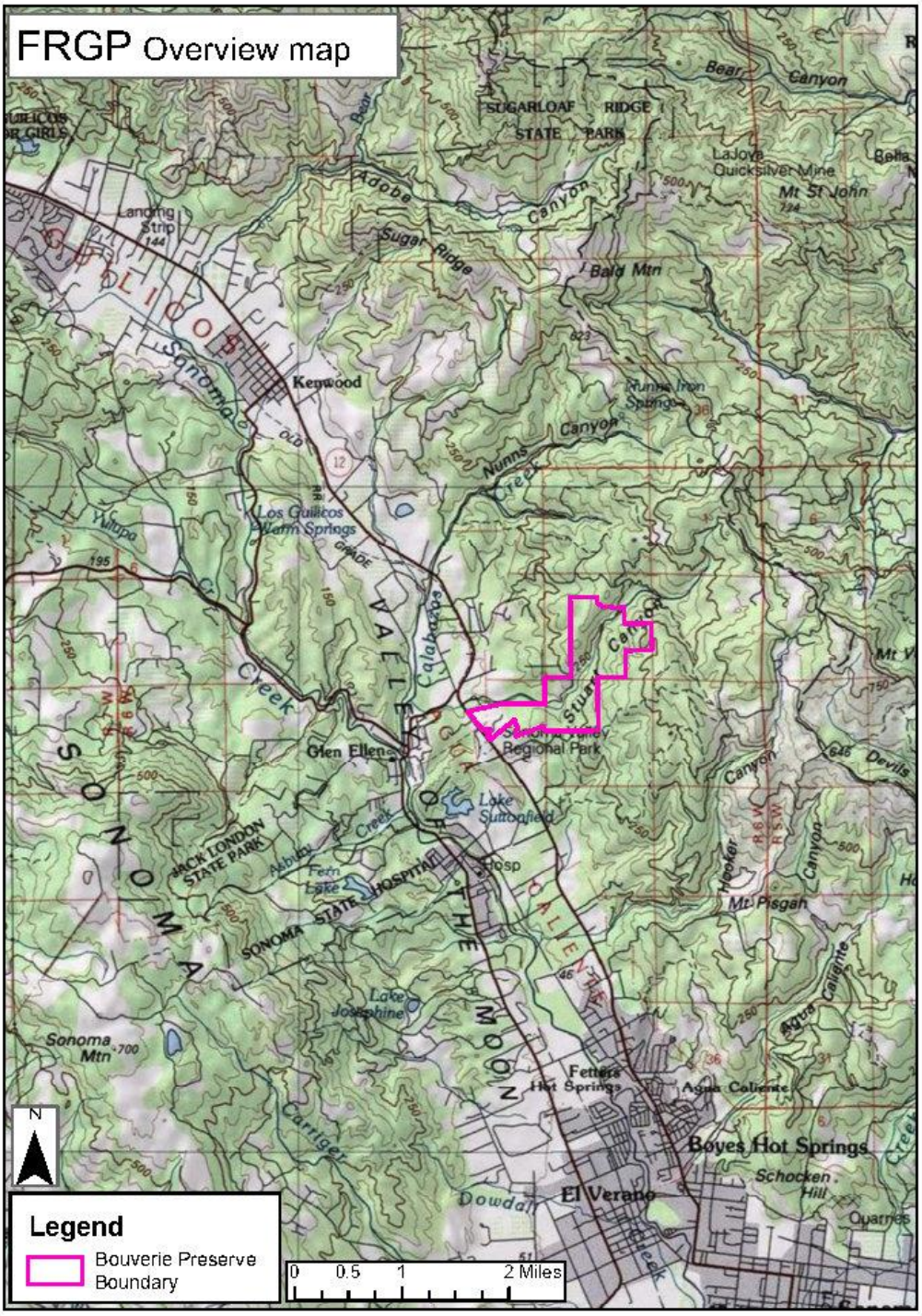


Figure 2. Project Location Topographic Map.

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	-

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

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	PMLIL0C022	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	-

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

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	Townsends 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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Egretta thula	snowy egret	ABNGA06030	None	None	-
Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP
Eleocharis parvula	small spikerush	PMCYP091G0	None	None	-
Elymus californicus	California bottle-brush grass	PMPOA2H0W0	None	None	-
Empidonax traillii	willow flycatcher	ABPAE33040	None	Endangered	-
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
Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-
Erigeron biolettii	streamside daisy	PDAST3M5H0	None	None	-
Erigeron greenei	Greenes narrow-leaved daisy	PDAST3M5G0	None	None	-
Eriogonum luteolum var. caninum	Tiburon buckwheat	PDPGN083S1	None	None	-
Eryngium jepsonii	Jepsons coyote-thistle	PDAPI0Z130	None	None	-
Erythronium helenae	St. Helena fawn lily	PMLIL0U060	None	None	-
Extriplex joaquinana	San Joaquin spearscale	PDCHE041F3	None	None	-

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	PMLIL0V0C0	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	-

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

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Lathyrus jepsonii var. jepsonii	Delta tule pea	PDFAB250D2	None	None	-
Lavinia exilicauda exilicauda	Sacramento hitch	AFCJB19012	None	None	SSC
Layia septentrionalis	Colusa layia	PDAST5N0F0	None	None	-
Legenere limosa	legenere	PDCAM0C010	None	None	-
Leptosiphon ambiguus	serpentine leptosiphon	PDPLM09020	None	None	-
Leptosiphon aureus	bristly leptosiphon	PDPLM09010	None	None	-
Leptosiphon jepsonii	Jepsons leptosiphon	PDPLM09140	None	None	-
Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-
Lessingia hololeuca	woolly-headed lessingia	PDAST5S030	None	None	-
Lilaeopsis masonii	Masons lilaeopsis	PDAPI19030	None	Rare	-
Lilium pardalinum ssp. pitkinense	Pitkin Marsh lily	PMLIL1A0H3	Endangered	Endangered	-
Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-
Limnanthes vinculans	Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	-
Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-
Lomatium repostum	Napa lomatium	PDAPI1B1M0	None	None	-
Lupinus sericatus	Cobb Mountain lupine	PDFAB2B3J0	None	None	-

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	-

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	-

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 boylii 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	PDMAL11012	None	None	-
Sidalcea hickmanii ssp. napensis	Napa checkerbloom	PDMAL110A6	None	None	-
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	PDMAL110K5	Endangered	Endangered	-
Sorex ornatus sinuosus	Suisun shrew	AMABA01103	None	None	SSC

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	-

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

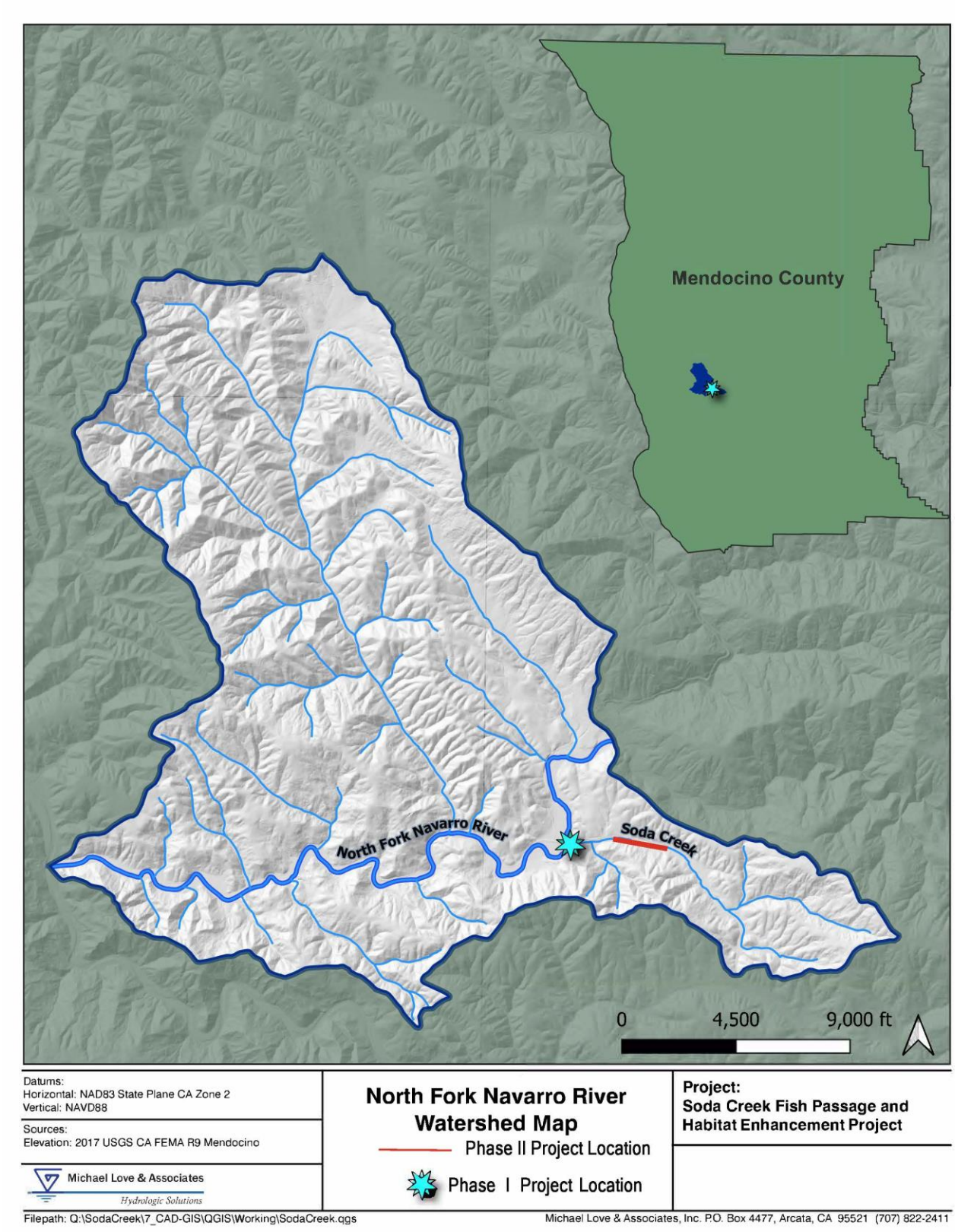
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out 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

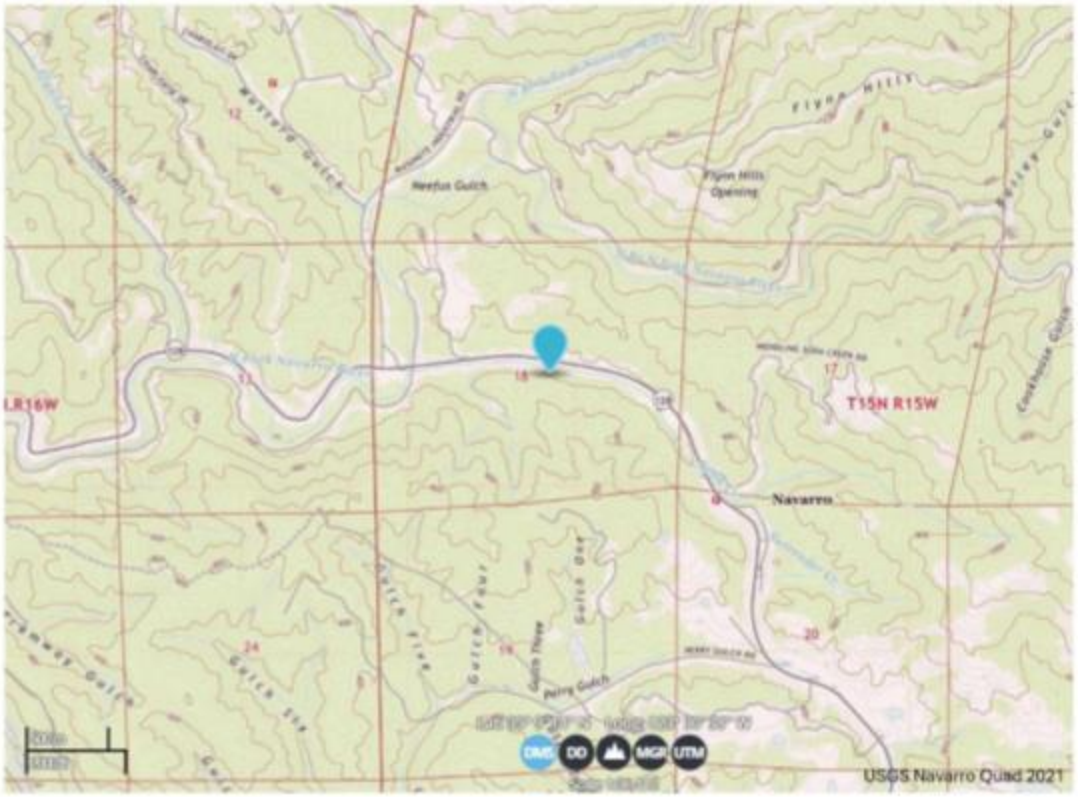
Phase II Project Location

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

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 boylii 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

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Pelecanus occidentalis californicus	California brown pelican	ABNFC01021	Delisted	Delisted	-
Asio flammeus	short-eared owl	ABNSB13040	None	None	SSC
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC
Hesperoleucus venustus navarroensis	northern coastal roach	AFCJB19031	None	None	SSC
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. 49	steelhead - northern California DPS winter-run	AFCHA0213Q	Threatened	None	SSC
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
Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-

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	AMAFA01011	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	Townsends 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	-

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	PDAPI070G0	None	None	-
Erigeron biolettii	streamside daisy	PDAST3M5H0	None	None	-
Hemizonia congesta ssp. calyculata	Mendocino tarplant	PDAST4R063	None	None	-

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	-

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	PMLIL0U0F0	None	None	-
Fritillaria roderickii	Rodericks fritillary	PMLIL0V0M0	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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Pityopus californicus	California pinefoot	PDMON05010	None	None	-
Cypripedium montanum	mountain ladys-slipper	PMORC0Q080	None	None	-
Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-
Castilleja mendocinensis	Mendocino Coast paintbrush	PDSCR0D3N0	None	None	-
Cordylanthus tenuis ssp. brunneus	serpentine birds-beak	PDSCR0J0S1	None	None	-
Kopsiopsis hookeri	small groundcone	PDORO01010	None	None	-
Pinus contorta ssp. bolanderi	Bolanders beach pine	PGPIN04081	None	None	-
Agrostis blasdalei	Blasdales bent grass	PMPOA04060	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	-
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	-

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:

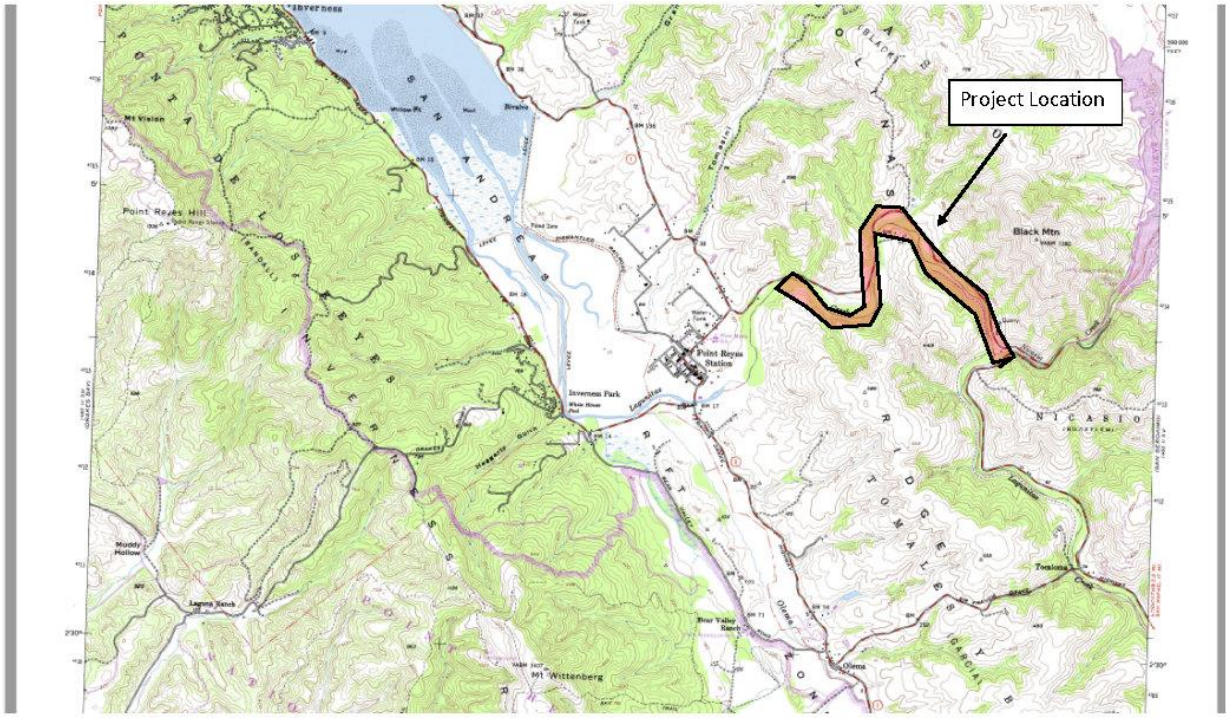
The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured, including cultural and biological surveys. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start 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.

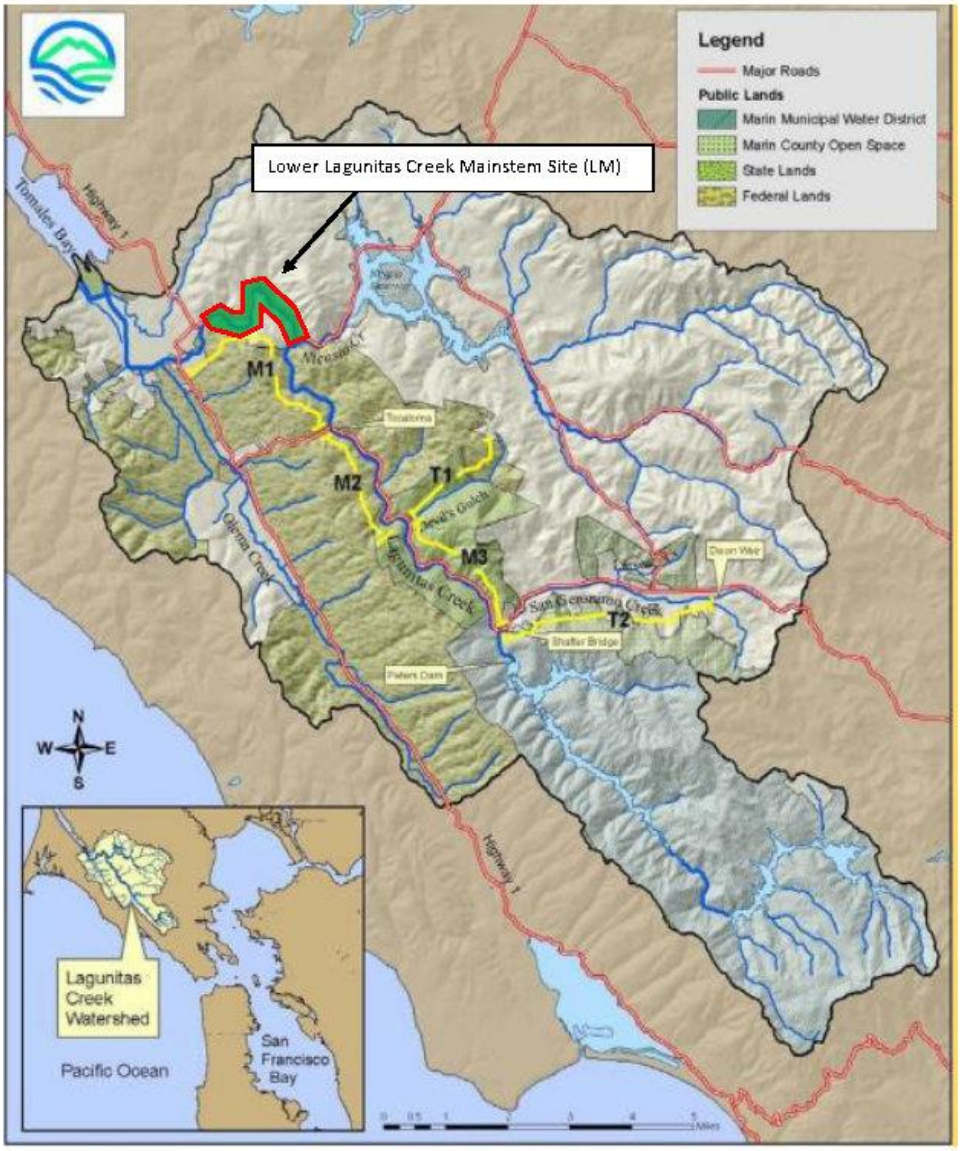
Applicant: Salmon Protection and Watershed Network
Topographic Map



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




Legend
Major Roads
Public Lands
Marin Municipal Water District
Marin County Open Space
State Lands
Federal Lands
Lower Lagunitas Creek Mainstem Site (LM)
M1
M2
M3
T1
T2
Lagunitas Creek
Olema Creek
Highway 1
Tomales Bay
Peters Dam
Shafter Bridge
Devon Weir
N
W
E
S
Lagunitas Creek Watershed
Pacific Ocean
San Francisco Bay

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.

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 boylii 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	-

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	ABNKC01010	None	None	WL
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	ABPBX1201A	None	None	SSC
Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC

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	-

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	-

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	-
Bombus pensylvanicus	American bumble bee	IIHYM24260	None	None	-
Cicindela hirticollis gravida	sandy beach tiger beetle	IICOL02101	None	None	-
Ischnura gemina	San Francisco forktail damselfly	IIODO72010	None	None	-
Lichnanthe ursina	bumblebee scarab beetle	IICOL67020	None	None	-
Hydrochara rickseckeri	Rickseckers water scavenger beetle	IICOL5V010	None	None	-
Callophrys mossii marinensis	Marin elfin butterfly	IILEPE2207	None	None	-
Icaricia icarioides parapheres	Point Reyes blue butterfly	IILEPG801D	None	None	-
Trachusa gummifera	San Francisco Bay Area leaf-cutter bee	IIHYM80010	None	None	-
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	IILEPP2012	Proposed Threatened	None	-
Speyeria zerene myrtleae	Myrtles silverspot butterfly	IILEPJ608C	Endangered	None	-

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	AMAFA01012	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	Townsends 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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Myotis volans	long-legged myotis	AMACC01110	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Helminthoglypta nickliniana awania	Peninsula coast range shoulderband	IMGASC2361	None	None	-
Helminthoglypta stiversiana williamsi	Williams bronze shoulderband	IMGASC2034	None	None	-
Margaritifera falcata	western pearlshell	IMBIV27020	None	None	-
Vespericola marinensis	Marin hesperian	IMGASA4140	None	None	-
Pomatiopsis binneyi	robust walker	IMGASJ9010	None	None	-
Pomatiopsis californica	Pacific walker	IMGASJ9020	None	None	-
Anodonta californiensis	California floater	IMBIV04220	None	None	-
Actinemys marmorata	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	-

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	-
Thamnolia 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	-

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	-
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	-
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	-

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

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	-

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	PMLIL0V0P1	None	None	-
Fritillaria liliacea	fragrant fritillary	PMLIL0V0C0	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	-

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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
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	-
Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-
Gilia capitata ssp. chamissonis	blue coast gilia	PDPLM040B3	None	None	-
Gilia capitata ssp. tomentosa	woolly-headed gilia	PDPLM040B9	None	None	-
Gilia millefoliata	dark-eyed gilia	PDPLM04130	None	None	-
Leptosiphon aureus	bristly leptosiphon	PDPLM09010	None	None	-
Leptosiphon grandiflorus	large-flowered leptosiphon	PDPLM090K0	None	None	-
Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-
Leptosiphon rosaceus	rose leptosiphon	PDPLM09180	None	None	-
Navarretia rosulata	Marin County navarretia	PDPLM0C0Z0	None	None	-
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	PDPGN04081	None	None	-
Chorizanthe cuspidata var. villosa	woolly-headed spineflower	PDPGN04082	None	None	-

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	-

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.

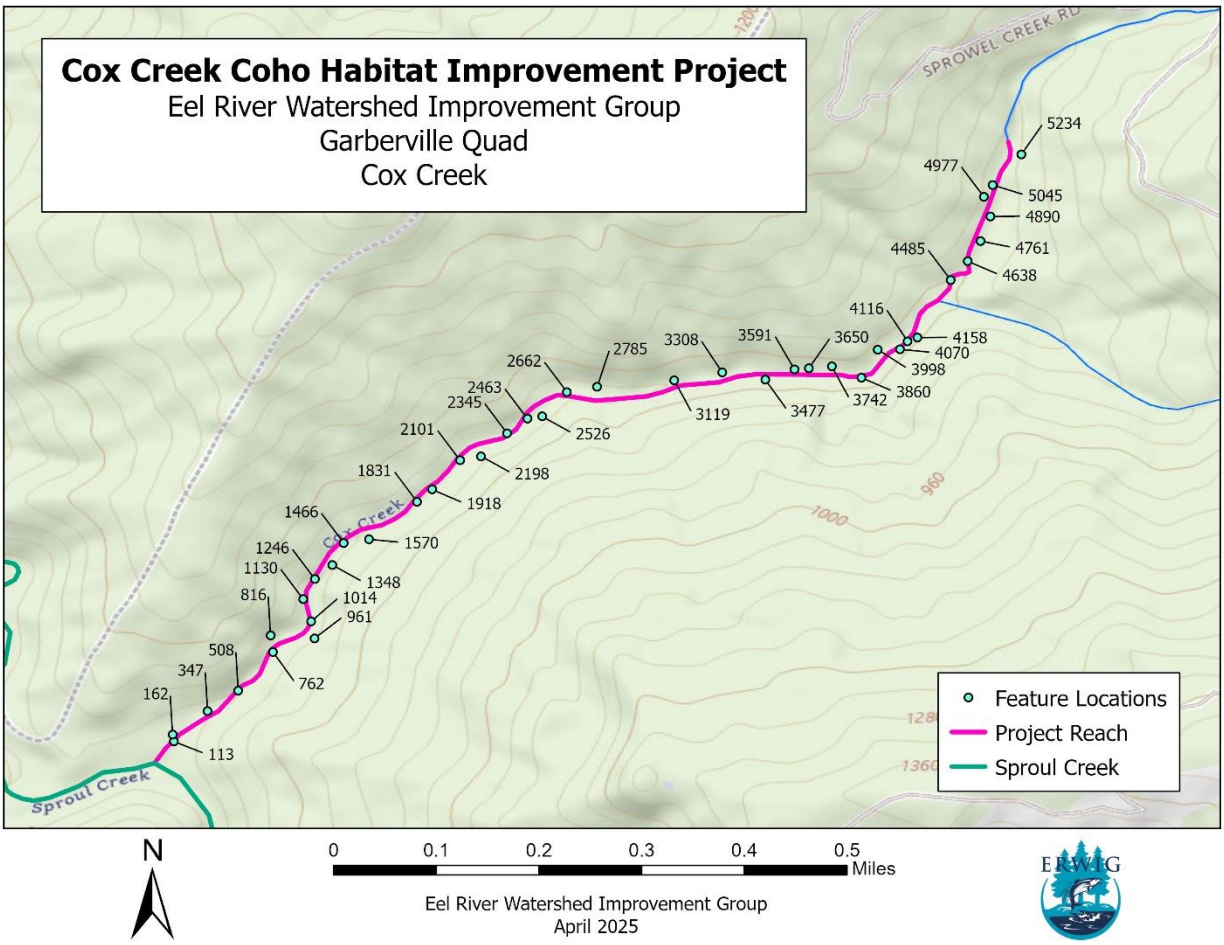
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out 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.

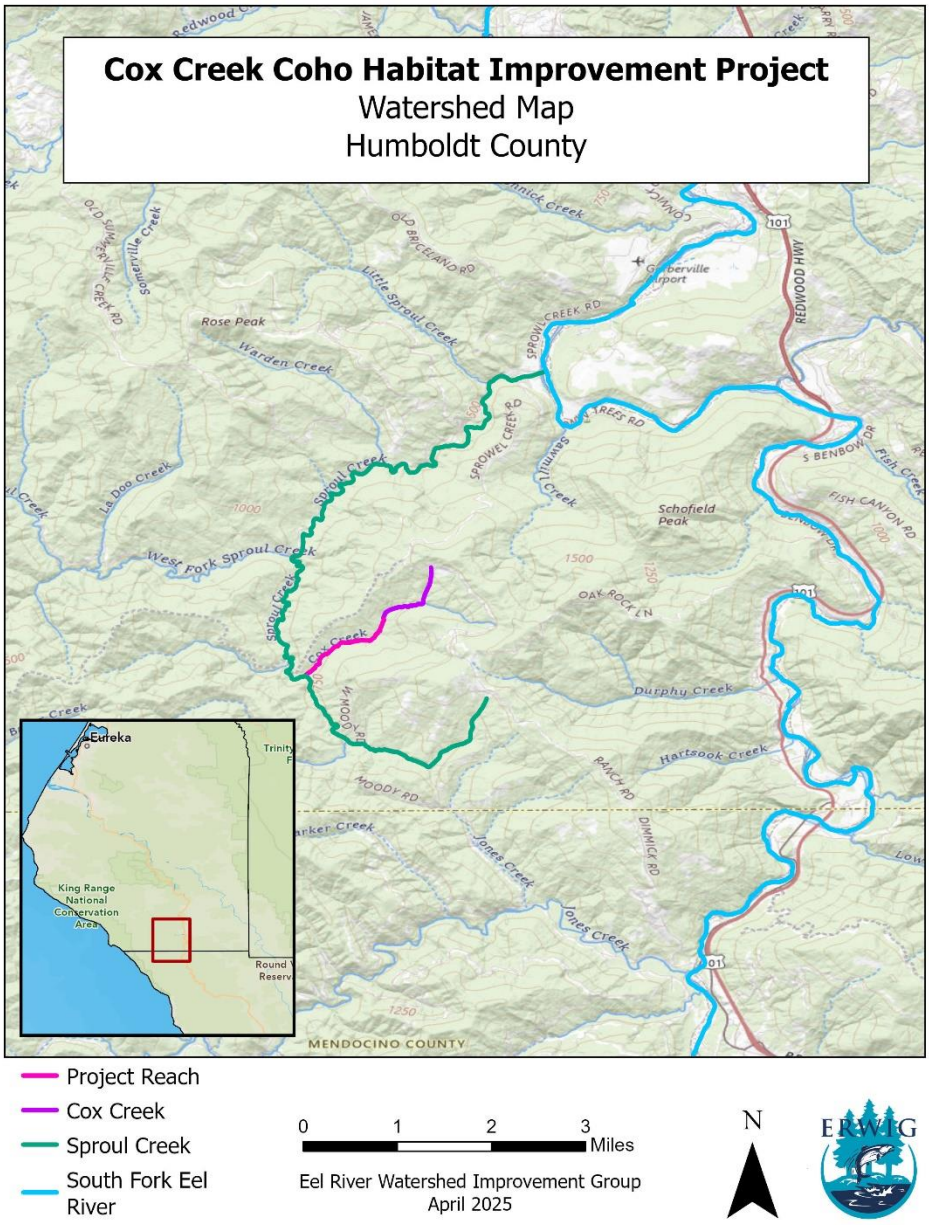
During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

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




Cox Creek Coho Habitat Improvement Project
Watershed Map
Humboldt County
Rose Peak
Warden Creek
Little Sproul Creek
Sproul Creek
West Fork Sproul Creek
Cox Creek
Schofield Peak
Durphy Creek
Hartsook Creek
Jones Creek
Redwood Hwy
Garberville Airport
Sprowel Creek Rd
Oak Rock Ln
Moody Rd
Ranch Rd
Dimmick Rd
Fish Canyon Rd
S Benbow Dr
Eureka
King Range National Conservation Area
MENDOCINO COUNTY
Project Reach
Cox Creek
Sproul Creek
South Fork Eel River
0 1 2 3 Miles
Eel River Watershed Improvement Group
April 2025
N
ERWIG

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 boylii 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

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

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	Townsends 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	-

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	PDAPI1B0K0	None	None	-
Lomatium kogholiini	Wailaki lomatium	PDAPI1B310	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	-

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	-

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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Erythronium oregonum	giant fawn lily	PMLIL0U0C0	None	None	-
Erythronium revolutum	coast fawn lily	PMLIL0U0F0	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 ladys-slipper	PMORC0Q040	None	None	-

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	-

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

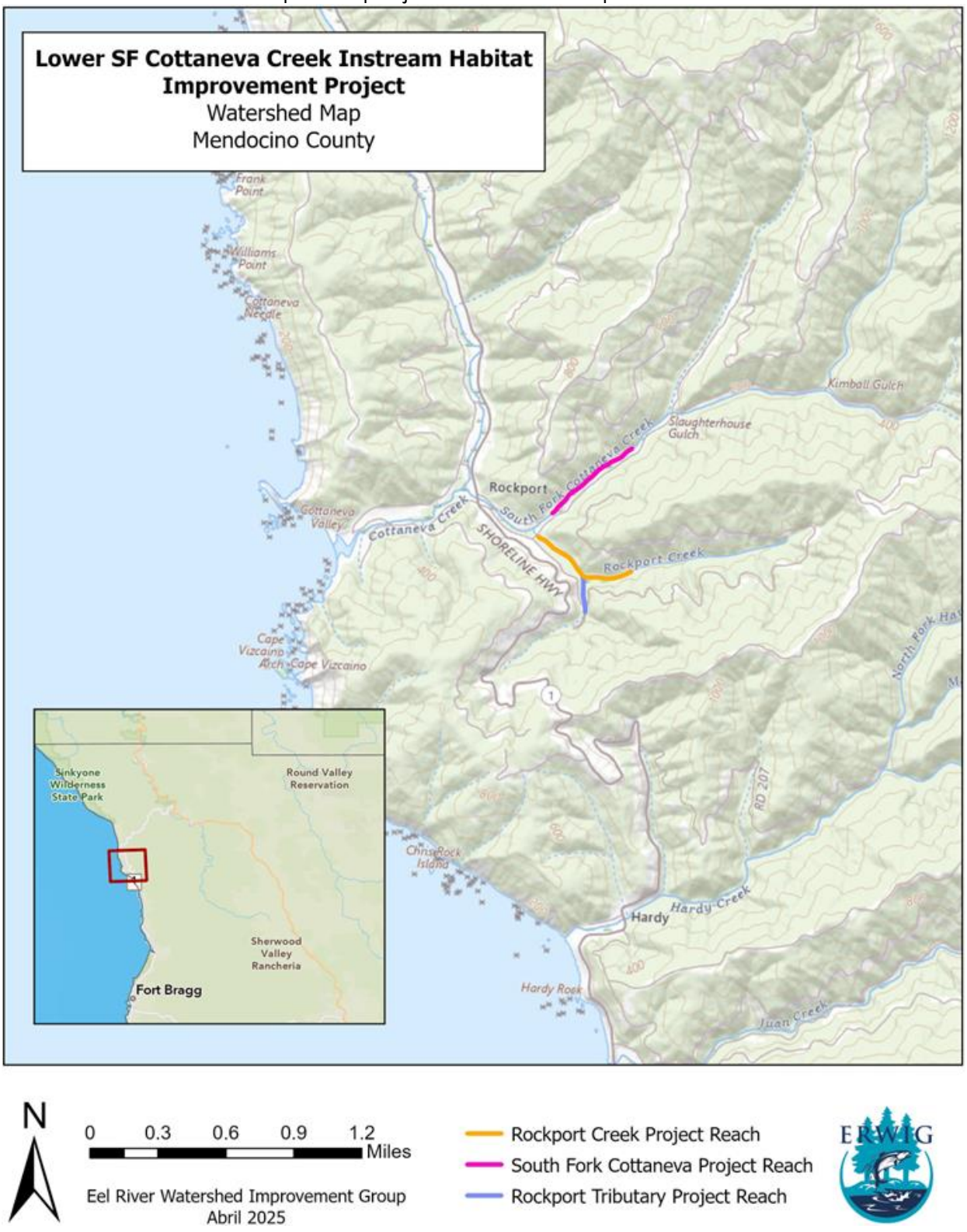
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out 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.

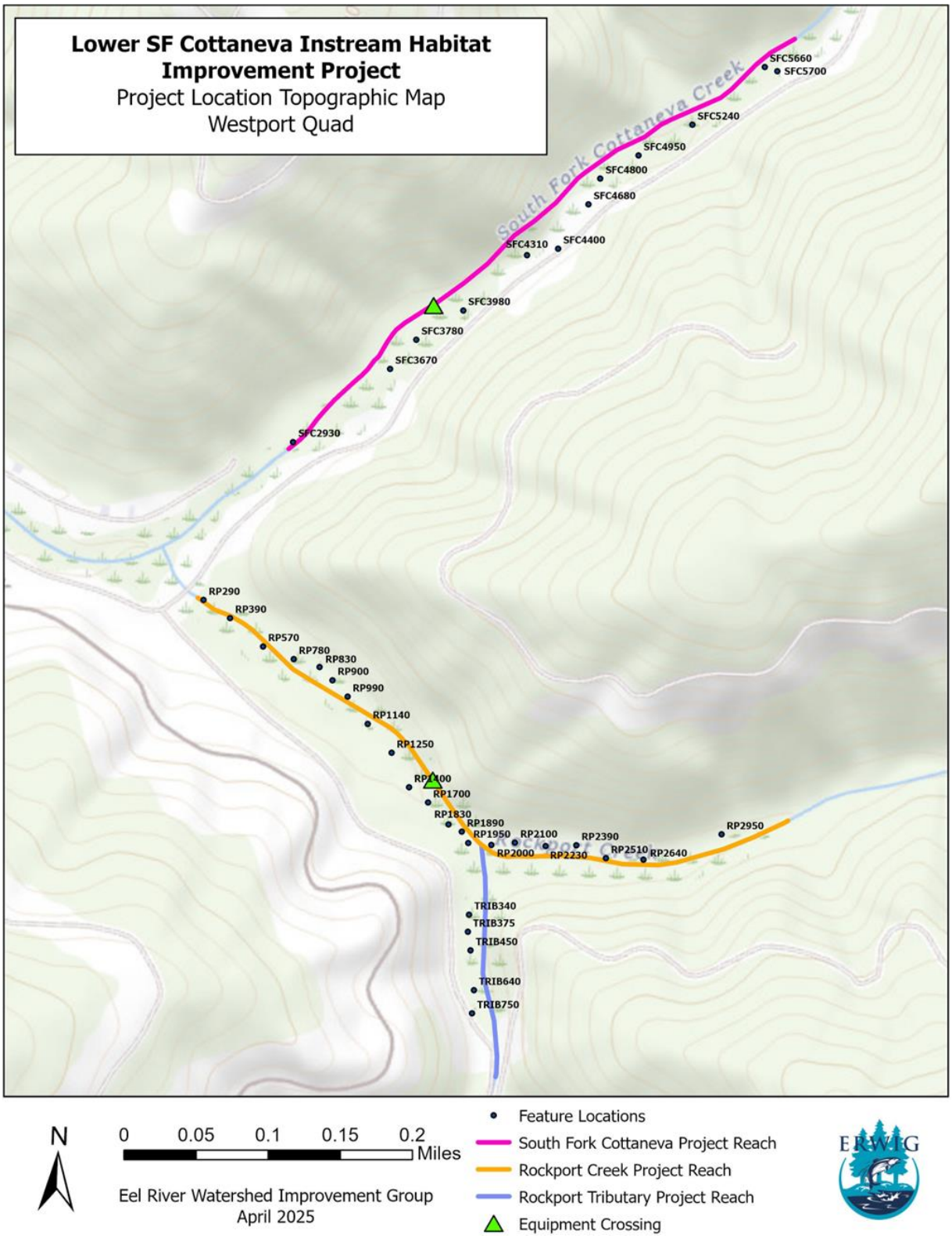
During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

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




Lower SF Cottaneva Instream Habitat Improvement Project
Project Location Topographic Map
Westport Quad
South Fork Cottaneva Creek
Rockport Creek
SFC5660
SFC5700
SFC5240
SFC4950
SFC4800
SFC4680
SFC4310
SFC4400
SFC3980
SFC3780
SFC3670
SFC2930
RP290
RP390
RP570
RP780
RP830
RP900
RP990
RP1140
RP1250
RP1700
RP1830
RP1890
RP1950
RP2000
RP2100
RP2230
RP2390
RP2510
RP2640
RP2950
TRIB340
TRIB375
TRIB450
TRIB640
TRIB750
N
0
0.05
0.1
0.15
0.2
Miles
Eel River Watershed Improvement Group
April 2025
Feature Locations
South Fork Cottaneva Project Reach
Rockport Creek Project Reach
Rockport Tributary Project Reach
Equipment Crossing
ERWIG

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 Asssessment 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, administrating 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.

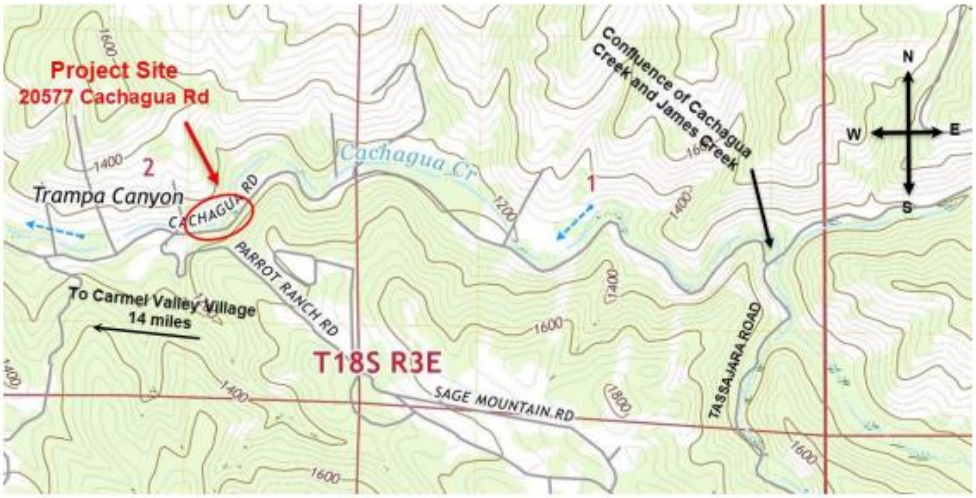
All project trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash will be removed from work areas.

Project Location Topographic Map

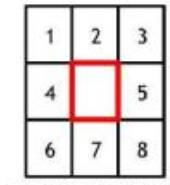
CACHAGUA CREEK FISH PASSAGE
ALTERNATIVE PLAN/DESIGN PROJECT - QUEVEDO
Proposal Number: 1734185 Proposal Type: P/D

Supplemental Information

Project Location Topographic Map



Taken from the **USGS 7.5-minute Ran Creek, Ca 2018 quad**. Adjoining 7.5 minute Quads include:



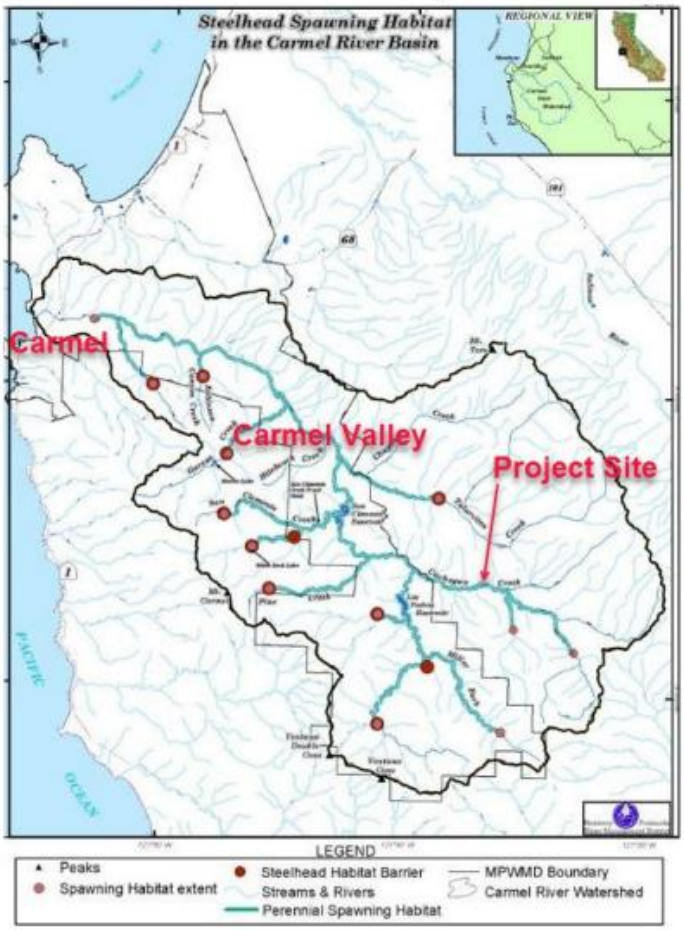
ADJOINING QUADRANGLES

1 Spreckels
2 Chualar
3 Gonzales
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.

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 boylii 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 hammondii	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

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	-

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	Townsends 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

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Thamnophis hammondii	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	PDAPI1B1F0	None	None	-
Perideridia gairdneri ssp. gairdneri	California Gairdners yampah	PDAPI1N062	None	None	-
Carlquistia muirii	Muirs tarplant	PDASTDU010	None	None	-
Centromadia parryi ssp. congdonii	Congdons 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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Micropus amphibolus	Mt. Diablo cottonweed	PDAST6D030	None	None	-
Stebbinsoseris decipiens	Santa Cruz microseris	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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Fritillaria falcata	talus fritillary	PMLIL0V070	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	-
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	-
Castilleja latifolia	Monterey Coast paintbrush	PDSCR0D1P0	None	None	-
Cordylanthus rigidus ssp. littoralis	seaside birds-beak	PDSCR0J0P2	None	Endangered	-
Eschscholzia hypecoides	San Benito poppy	PDPAP0A060	None	None	-
Meconella oregana	Oregon meconella	PDPAP0G030	None	None	-
Abies bracteata	bristlecone fir	PGPIN01030	None	None	-
Eriastrum virgatum	virgate eriastrum	PDPLM030D0	None	None	-
Gilia tenuiflora ssp. arenaria	Monterey gilia	PDPLM041P2	Endangered	Threatened	-

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	-

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 roject 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 an 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.

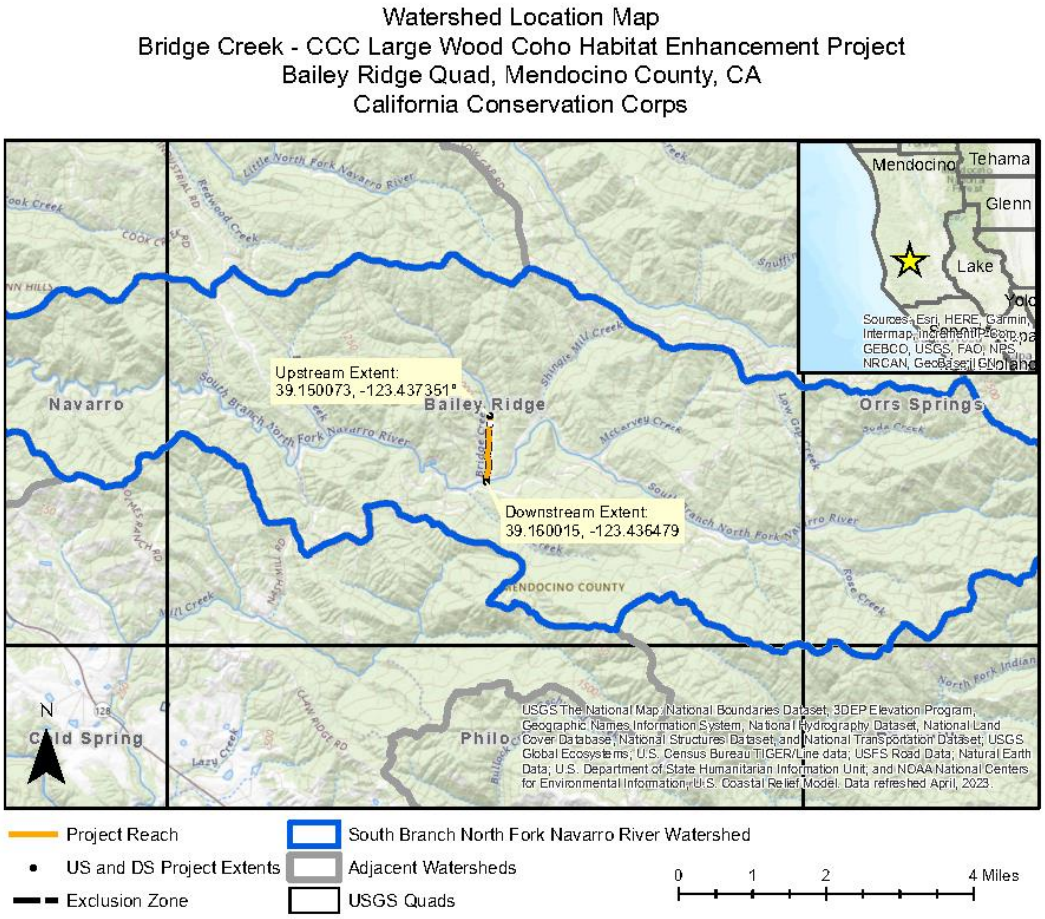
During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

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.

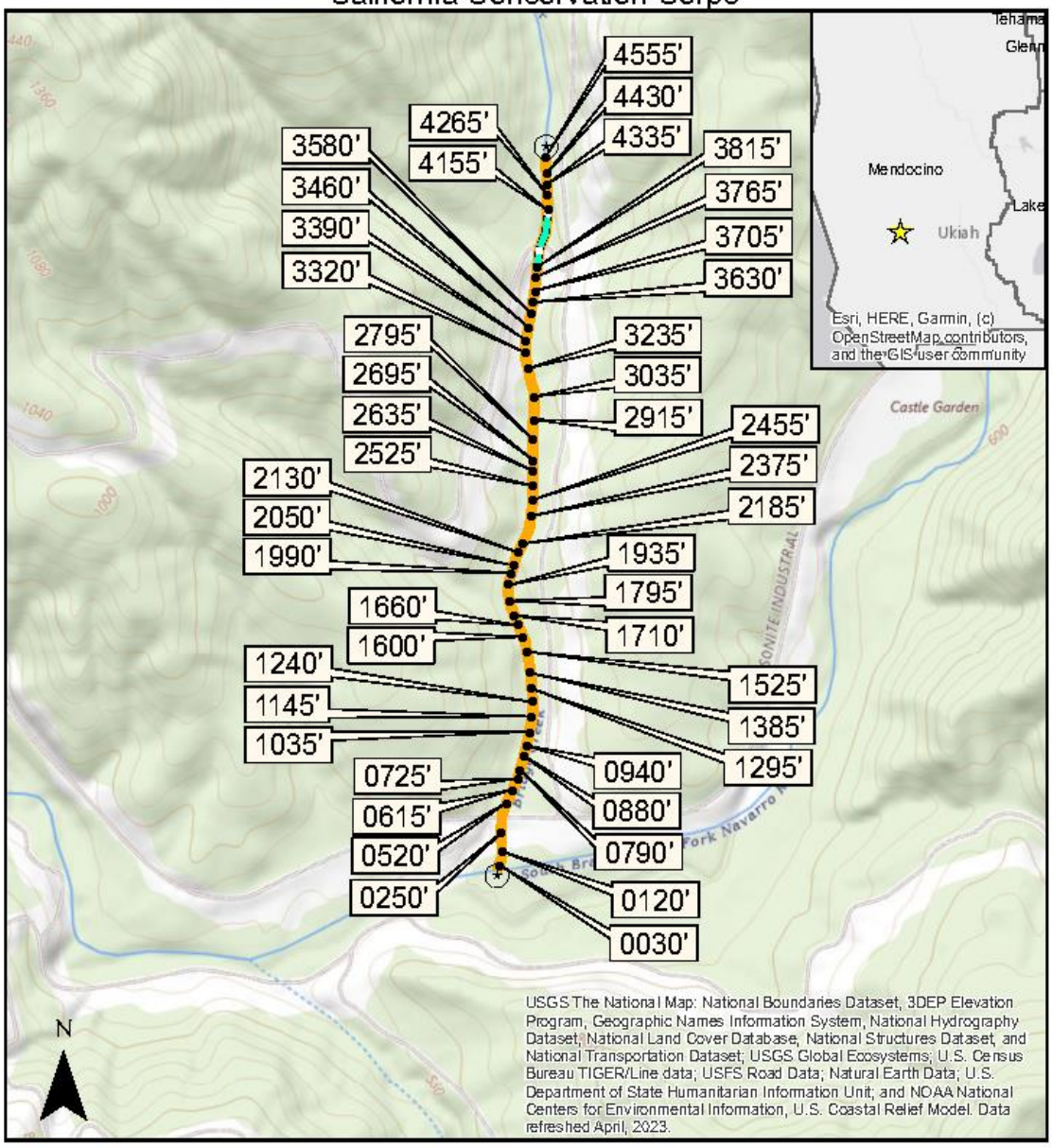
Mulching and seeding will take place as sites are completed to avoid unforeseen erosion.

Watershed Location Map



Project Location Map

Watershed Location Map
Bridge Creek - CCC Large Wood Coho Habitat Enhancement Project
Bailey Ridge Quad, Mendocino County, CA
California Conservation Corps



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 boylii 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

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

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	Townsends 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	-

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	-

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	PMLIL0U0F0	None	None	-
Fritillaria roderickii	Rodericks fritillary	PMLIL0V0M0	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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Pityopus californicus	California pinefoot	PDMON05010	None	None	-
Cypripedium montanum	mountain ladys-slipper	PMORC0Q080	None	None	-
Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-
Cordylanthus tenuis ssp. brunneus	serpentine birds-beak	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	-

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 Mendocinon 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. Teh 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 quipment 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. Approximatlely 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 be document pre-implementation and post-implementation project conditions. Prior to and post construction, Grantee will take photos at all 114 unique structure sites.

<u>Materials:</u>

- 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.

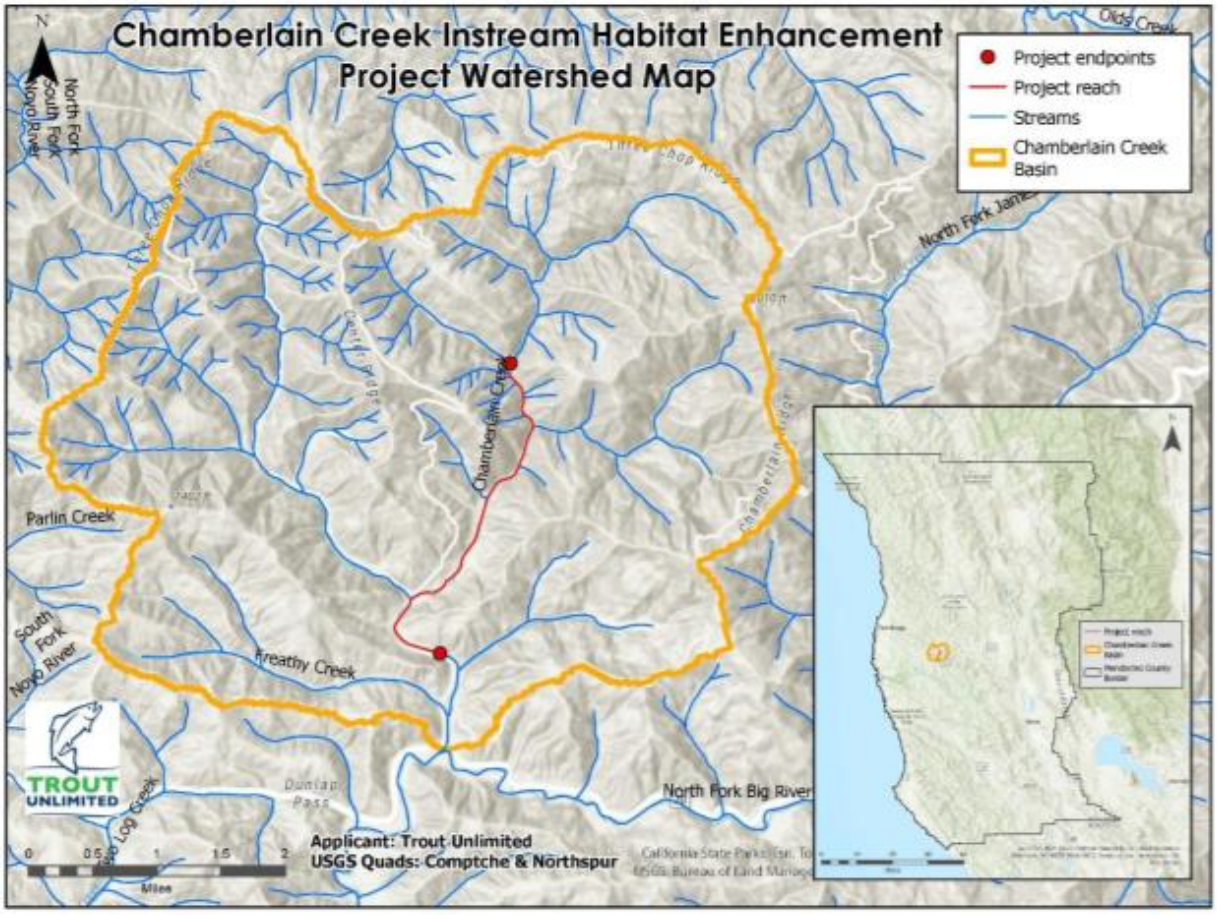
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out 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.

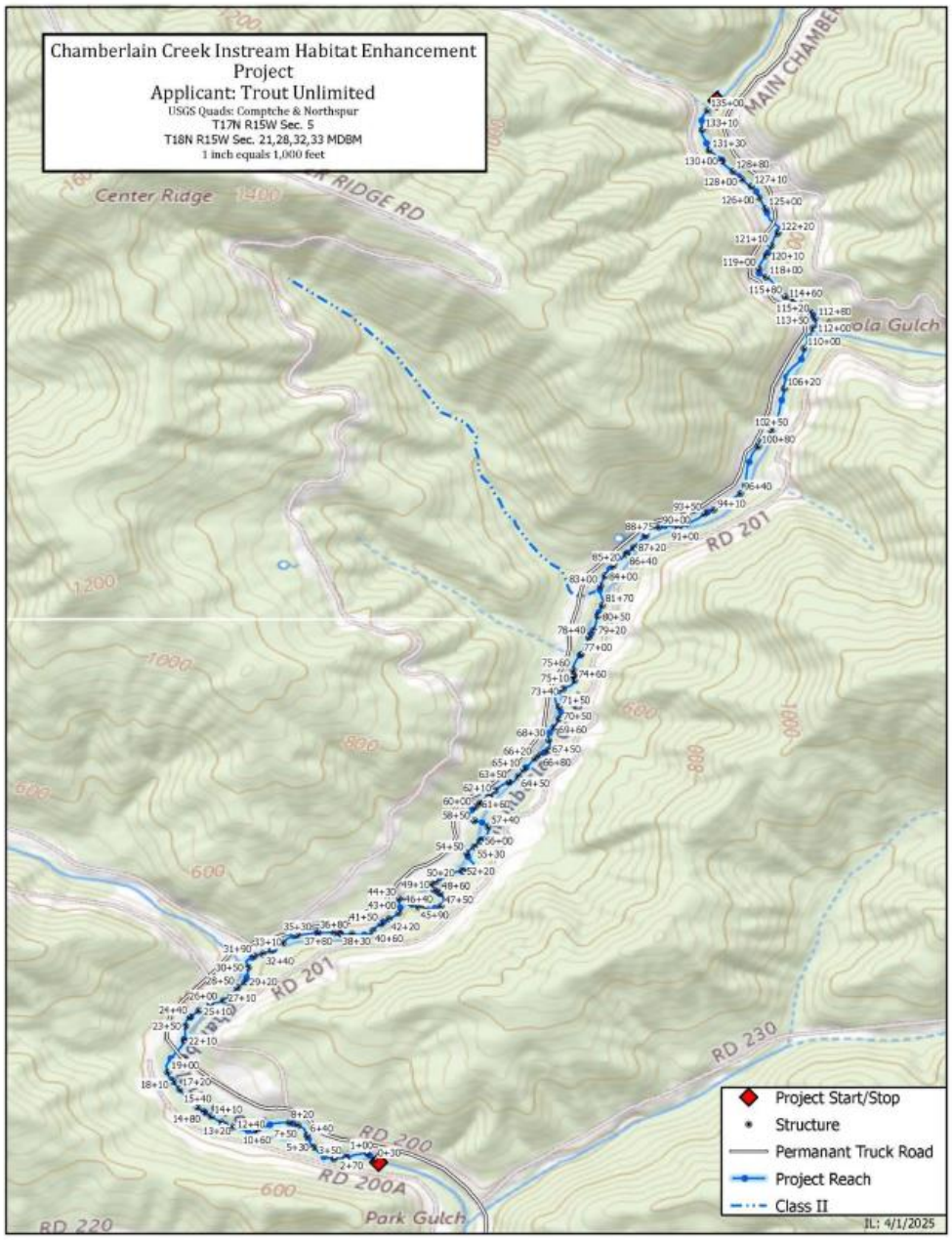
During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

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.


Chamberlain Creek Instream Habitat Enhancement
Project Watershed Map
Project endpoints
Project reach
Streams
Chamberlain Creek Basin
North Fork Jamison
Olds Creek
Three Chop Ridge
Chamberlain Creek
Chamberlain Ridge
Parlin Creek
South Fork Noyo River
Kreathy Creek
Dunlap Pass
North Fork Big River
Log Creek
TROUT UNLIMITED
Applicant: Trout Unlimited
USGS Quads: Comptche & Northspur
0 0.5 1 1.5 2
Miles


Chamberlain Creek Instream Habitat Enhancement Project
Applicant: Trout Unlimited
USGS Quads: Comptche & Northspur
T17N R15W Sec. 5
T18N R15W Sec. 21,28,32,33 MDBM
1 inch equals 1,000 feet
Center Ridge
RIDGE RD
MAIN CHAMBE
Gulch
RD 201
RD 230
RD 200
RD 200A
RD 220
Park Gulch
Project Start/Stop
Structure
Permanant Truck Road
Project Reach
Class II
IL: 4/1/2025

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	-

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	PMLIL0U0F0	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	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 boylii pop. 1	foothill yellow-legged frog -	AAABH01051	None	None	SSC
Veratrum fimbriatum	fringed false-hellebore	PMLIL25030	None	None	-

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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-
Castilleja mendocinensis	Mendocino Coast paintbrush	PDSCR0D3N0	None	None	-
Calileptoneta wapiti	Mendocino leptonetid spider	ILARAU6040	None	None	-
Mendocino Pygmy Cypress Forest	Mendocino Pygmy Cypress Forest	CTT83161CA	None	None	-
Hemizonia congesta ssp. calyculata	Mendocino tarplant	PDAST4R063	None	None	-
Usnea longissima	Methuselahs beard lichen	NLLEC5P420	None	None	-
Fissidens pauperculus	minute pocket moss	NBMUS2W0U0	None	None	-
Danaus plexippus plexippus pop. 1	monarch - California overwintering	IILEPP2012	Proposed Threatened	None	-
Trifolium trichocalyx	Monterey clover	PDFAB402J0	Endangered	Endangered	-
Cypripedium montanum	mountain ladys-slipper	PMORC0Q080	None	None	-
Pleuropogon refractus	nodding semaphore grass	PMPOA4Y080	None	None	-
Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-

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

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ascaphus truei	Pacific tailed frog	AAABA01010	None	None	SSC
Ceanothus gloriosus var. gloriosus	Point Reyes ceanothus	PDRHA040F5	None	None	-
Sidalcea calycosa ssp. rhizomata	Point Reyes checkerbloom	PDMAL11012	None	None	-
Horkelia marinensis	Point Reyes horkelia	PDROS0W0B0	None	None	-
Helminthoglypta arrosa pomoensis	Pomo bronze shoulderband	IMGASC2033	None	None	-
Progne subis	purple martin	ABPAU01010	None	None	SSC
Sidalcea malviflora ssp. purpurea	purple-stemmed checkerbloom	PDMAL110FL	None	None	-
Hesperocyparis pygmaea	pygmy cypress	PGCUP04032	None	None	-

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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL
Hesperevax sparsiflora var. brevifolia	short-leaved evax	PDASTE5011	None	None	-
Lasionycteris noctivagans	silver-haired bat	AMACC02010	None	None	-
Kopsiopsis hookeri	small groundcone	PDORO01010	None	None	-
Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC
Rhyacotriton variegatus	southern torrent salamander	AAAAJ01020	None	None	SSC
Sphagnum Bog	Sphagnum Bog	CTT51110CA	None	None	-
Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	SSC
Oncorhynchus mykiss irideus	steelhead - northern	AFCHA0213Q	Threatened	None	SSC
Eastwoodiella californica	swamp harebell	PDCAM02060	None	None	-
Corynorhinus townsendii	Townsends big-eared bat	AMACC08010	None	None	SSC
Hemizonia congesta ssp.	Tracys tarplant	PDAST4R067	None	None	-

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	ABNKC06010	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 plot, 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

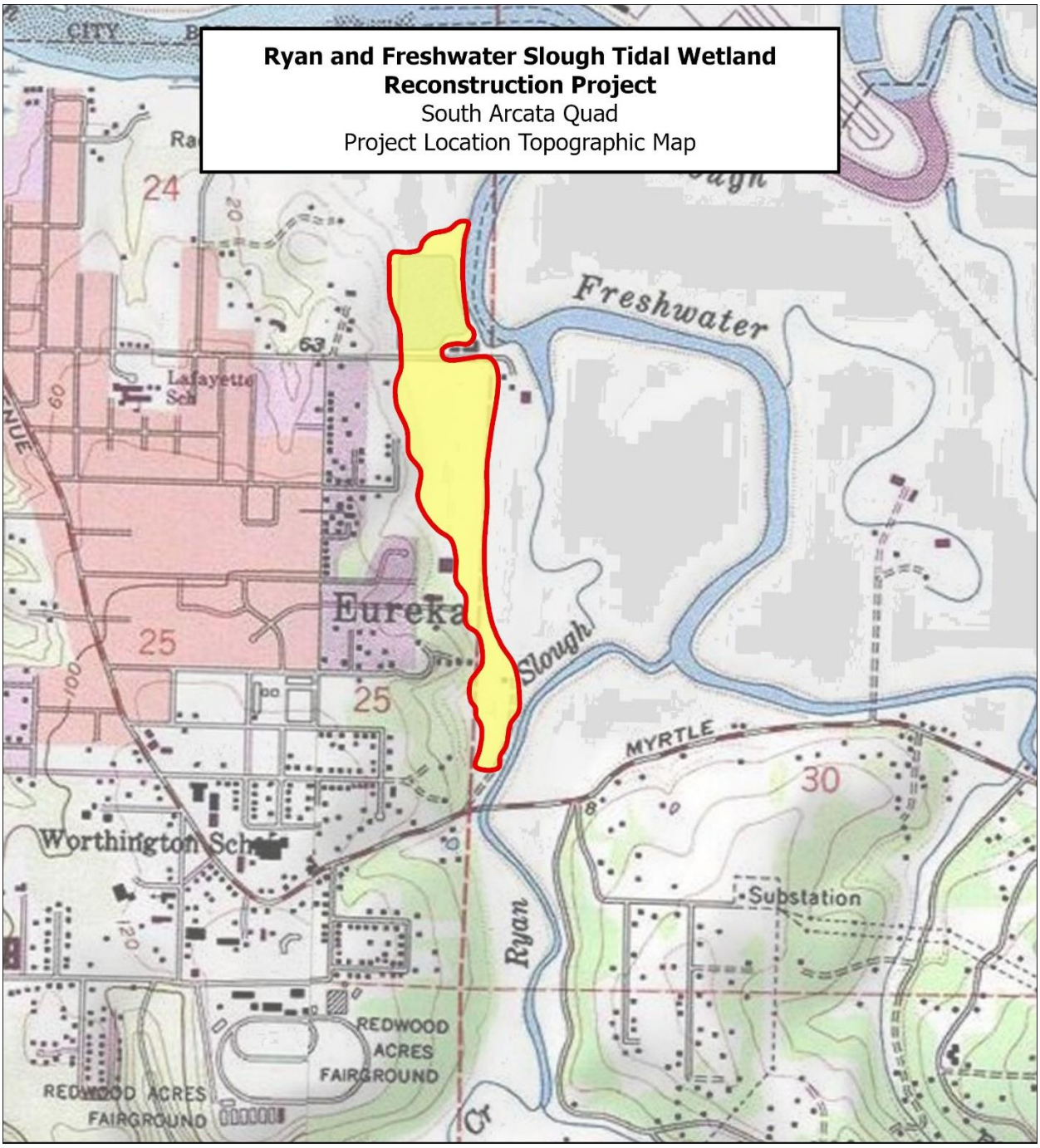
Task Name	Start Date	Activity Description	Deliverables
		and seasonally by the project. Water level monitoring will occur in Ryan Slough and Freshwater Slough as well as in the existing marshes on the County parcels. Water quality monitoring will consist of loggers measuring surface and bottom salinity 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

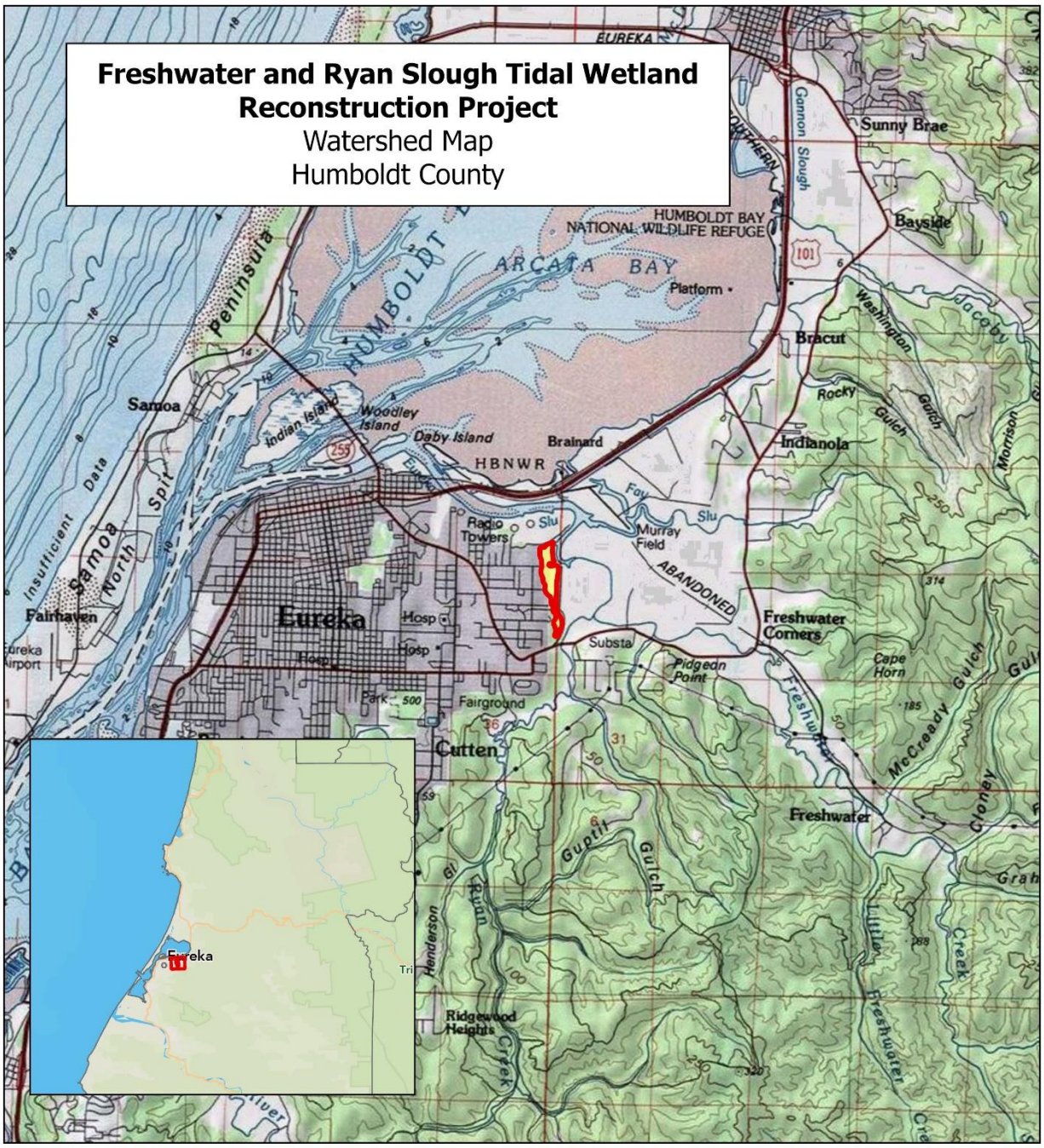
Task Name	Start Date	Activity Description	Deliverables
		at Murray Field collected by Cal Poly Humboldt will also be utilized. Once calibrated, the model will be used to assess different alternatives relative to tidal inundation extents, tidal prism and channel sizes, and sizing of road crossing openings. 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 patterns 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 incorporated into the designs as areas that construction work will not occur.	Cultural Resource Report due on March 31, 2027


Ryan and Freshwater Slough Tidal Wetland Reconstruction Project
South Arcata Quad
Project Location Topographic Map
Freshwater
Eureka
Slough
MYRTLE
Substation
Ryan
Worthington Sch
REDWOOD ACRES FAIRGROUND
Lafayette Sch
24
25
30
N
0 0.1 0.2 0.3 0.4 0.5 Miles
Legend
Project Polygon
ERWIG


Freshwater and Ryan Slough Tidal Wetland Reconstruction Project
Watershed Map
Humboldt County
EUREKA
Gannon Slough
Sunny Brae
HUMBOLDT BAY NATIONAL WILDLIFE REFUGE
Bayside
ARCATA BAY
Platform
Peninsula
Bracut
Samoa
Woodley Island
Indian Island
Daby Island
Brainard
HBNWR
Indianola
Rocky Gulch
Jacoby Creek
Morrison
Fay Slu
Radio Towers
Slu
Murray Field
ABANDONED
Insufficient Data
Samoa North Spit
Fairhaven
Eureka
Hosp
Freshwater Corners
Substa
Pidgeon Point
Cape Horn
Park
Fairground
Cutten
McCready Gulch
Freshwater
Guptill Gulch
Ryan Slough
Henderson
Ridgewood Heights
Little Freshwater Creek
Clonay
Eureka
Tri
N
0 0.8 1.5 2.3 3 Miles
Project Area
ERWIG

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 boylii 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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Egretta thula	snowy egret	ABNGA06030	None	None	-
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 columbarius	merlin	ABNKD06030	None	None	WL
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Antigone canadensis canadensis	lesser sandhill crane	ABNMK01011	None	None	SSC
Antigone canadensis tabida	greater sandhill crane	ABNMK01014	None	Threatened	FP
Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-
Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC
Thalasseus elegans	elegant tern	ABNNM08040	None	None	WL
Pandion haliaetus	osprey	ABNKC01010	None	None	WL
Poecile atricapillus	black-capped chickadee	ABPAW01010	None	None	WL
Passerculus sandwichensis alaudinus	Bryants savannah sparrow	ABPBX99011	None	None	SSC
Pelecanus occidentalis californicus	California brown pelican	ABNFC01021	Delisted	Delisted	-

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

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

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	AMAFA01017	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

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	Townsends 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	-

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	PDAPI070G0	None	None	-
Glehnia littoralis ssp. leiocarpa	American glehnia	PDAPI13011	None	None	-
Hemizonia congesta ssp. tracyi	Tracys tarplant	PDAST4R067	None	None	-
Hesperevax 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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Spergularia canadensis var. occidentalis	western sand-spurrey	PDCAR0W032	None	None	-
Carex arcta	northern clustered sedge	PMCYP030X0	None	None	-
Carex leptalea	bristle-stalked sedge	PMCYP037E0	None	None	-
Carex lyngbyei	Lyngbyes sedge	PMCYP037Y0	None	None	-
Carex praticola	northern meadow sedge	PMCYP03B20	None	None	-
Eleocharis parvula	small spikerush	PMCYP091G0	None	None	-
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	PDFAB0F7B2	None	None	-
Astragalus rattanii var. rattanii	Rattans milk-vetch	PDFAB0F7E2	None	None	-
Hosackia gracilis	harlequin lotus	PDFAB2A0D0	None	None	-
Lathyrus glandulosus	sticky pea	PDFAB251A0	None	None	-
Lathyrus japonicus	seaside pea	PDFAB250C0	None	None	-
Lathyrus palustris	marsh pea	PDFAB250P0	None	None	-
Ribes laxiflorum	trailing black currant	PDGRO020V0	None	None	-
Erythronium oregonum	giant fawn lily	PMLIL0U0C0	None	None	-
Erythronium revolutum	coast fawn lily	PMLIL0U0F0	None	None	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Fritillaria purdyi	Purdys fritillary	PMLIL0V0H0	None	None	-
Lilium kelloggii	Kelloggs lily	PMLIL1A0A0	None	None	-
Lilium occidentale	western lily	PMLIL1A0G0	Endangered	Endangered	-
Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-
Lycopodium clavatum	running-pine	PPLYC01080	None	None	-
Iliamna latibracteata	California globe mallow	PDMAL0K040	None	None	-
Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	PDMAL110F9	None	None	-
Sidalcea oregana ssp. eximia	coast checkerbloom	PDMAL110K9	None	None	-
Monotropa uniflora	ghost-pipe	PDMON03030	None	None	-
Pityopus californicus	California pinefoot	PDMON05010	None	None	-
Lewisia kelloggii ssp. kelloggii	Kelloggs lewisia	PDPOR040M1	None	None	-
Montia howellii	Howells montia	PDPOR05070	None	None	-
Abronia umbellata var. breviflora	pink sand-verbena	PDNYC010N4	None	None	-
Epilobium septentrionale	Humboldt County fuchsia	PDONA06110	None	None	-
Oenothera wolfii	Wolfs evening-primrose	PDONA0C1K0	None	None	-
Listera cordata	heart-leaved twayblade	PMORC1N060	None	None	-
Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Castilleja ambigua var. humboldtiensis	Humboldt Bay owls-clover	PDSCR0D402	None	None	-
Castilleja litoralis	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.

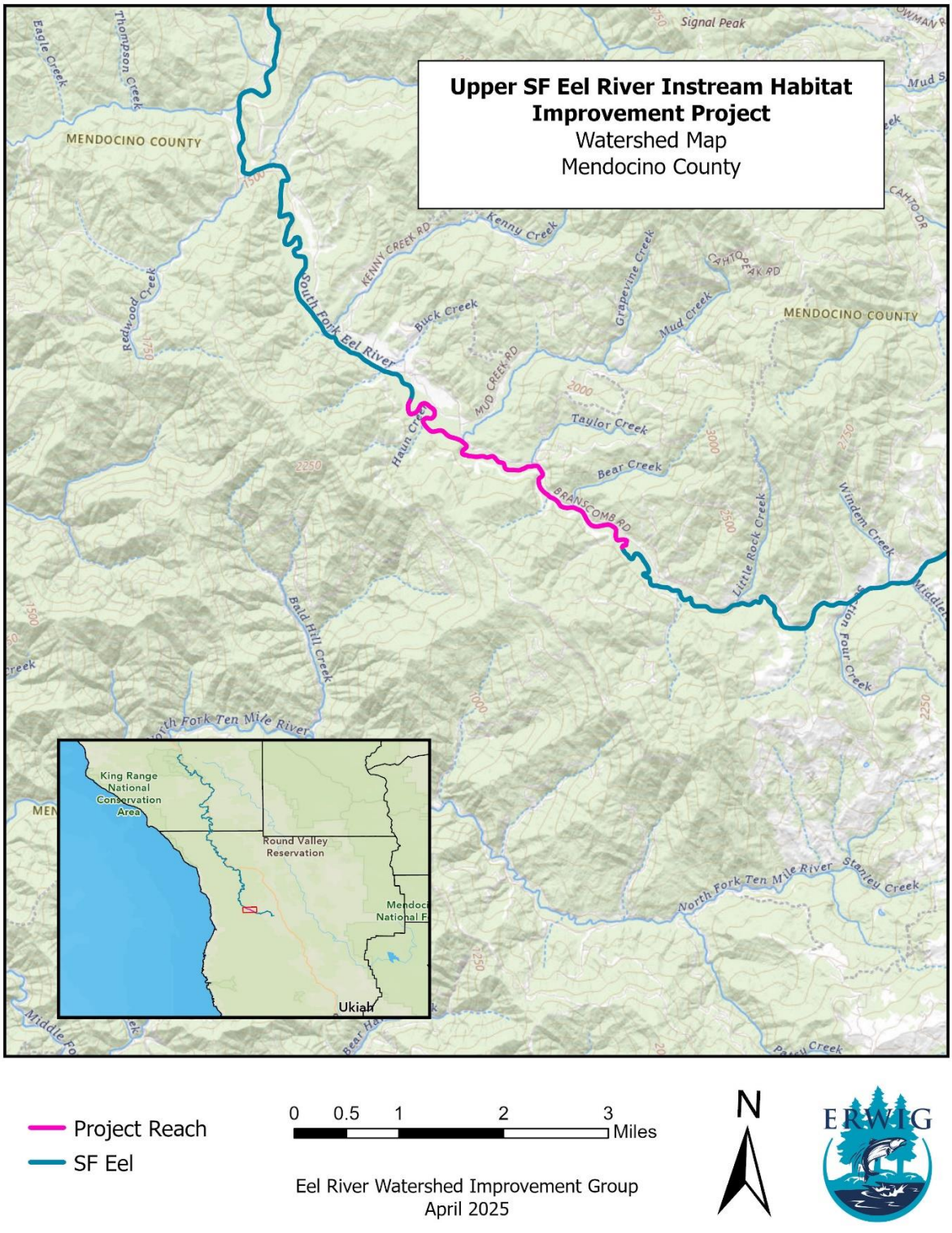
During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

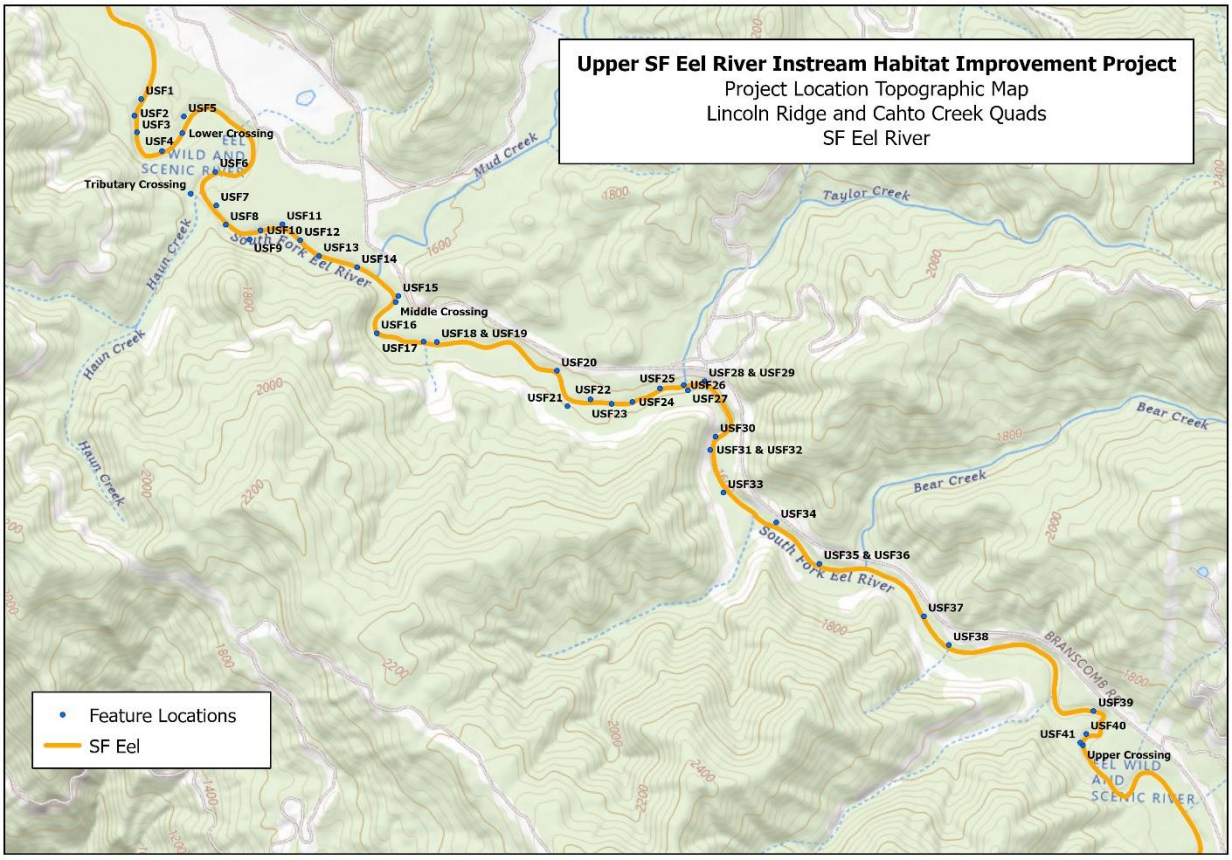
All habitat improvements will follow techniques described in the *California Salmonid Stream Habitat Restoration Manual, 4th Edition (CA Restoration Manual)* or *other approved guidelines and manuals for salmon and steelhead habitat restoration*.

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




Upper SF Eel River Instream Habitat Improvement Project
Project Location Topographic Map
Lincoln Ridge and Cahto Creek Quads
SF Eel River
USF1
USF2
USF3
USF4
USF5
Lower Crossing
USF6
Tributary Crossing
USF7
USF8
USF9
USF10
USF11
USF12
USF13
USF14
USF15
Middle Crossing
USF16
USF17
USF18 & USF19
USF20
USF21
USF22
USF23
USF24
USF25
USF26
USF27
USF28 & USF29
USF30
USF31 & USF32
USF33
USF34
USF35 & USF36
USF37
USF38
USF39
USF40
USF41
Upper Crossing
Mud Creek
Taylor Creek
Haun Creek
Bear Creek
South Fork Eel River
BRANSCOMB RD
EEL WILD AND SCENIC RIVER
Feature Locations
SF Eel
Eel River Watershed Improvement Group
April 2025
0 0.13 0.25 0.5 0.75 1
Miles
N
ERWIG

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 boylii 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

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	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	Crotchs bumble bee	IIHYM24480	None	Candidate Endangered	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-
Cervus canadensis	tule elk	AMALC01011	None	None	-

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	Townsends 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	-

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	-

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	-

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	-

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	PMLIL0U0F0	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	-

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	-

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, approximatley 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 environemntal 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.

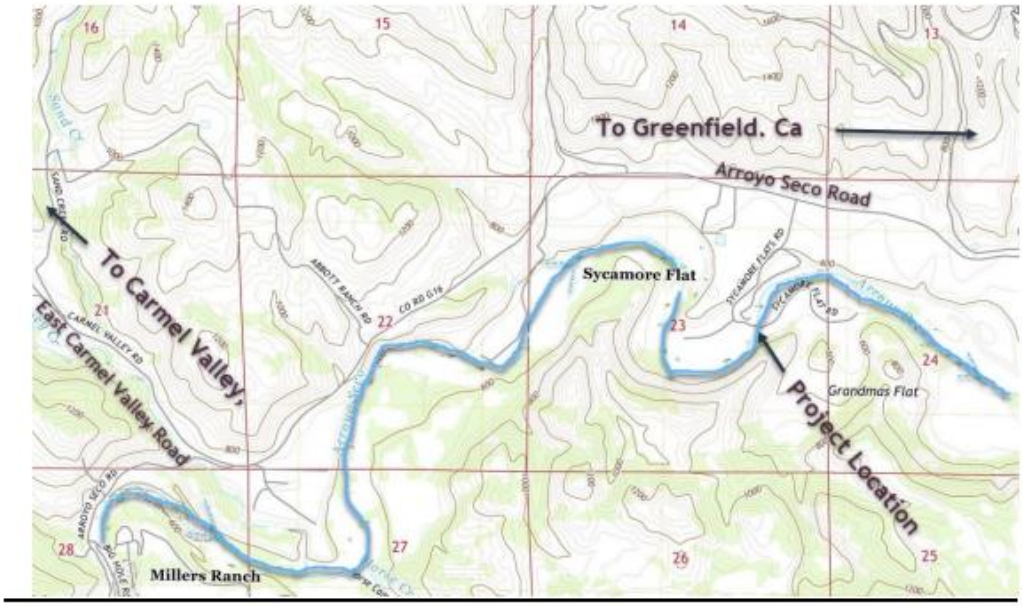
Project Location Topographic Map

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

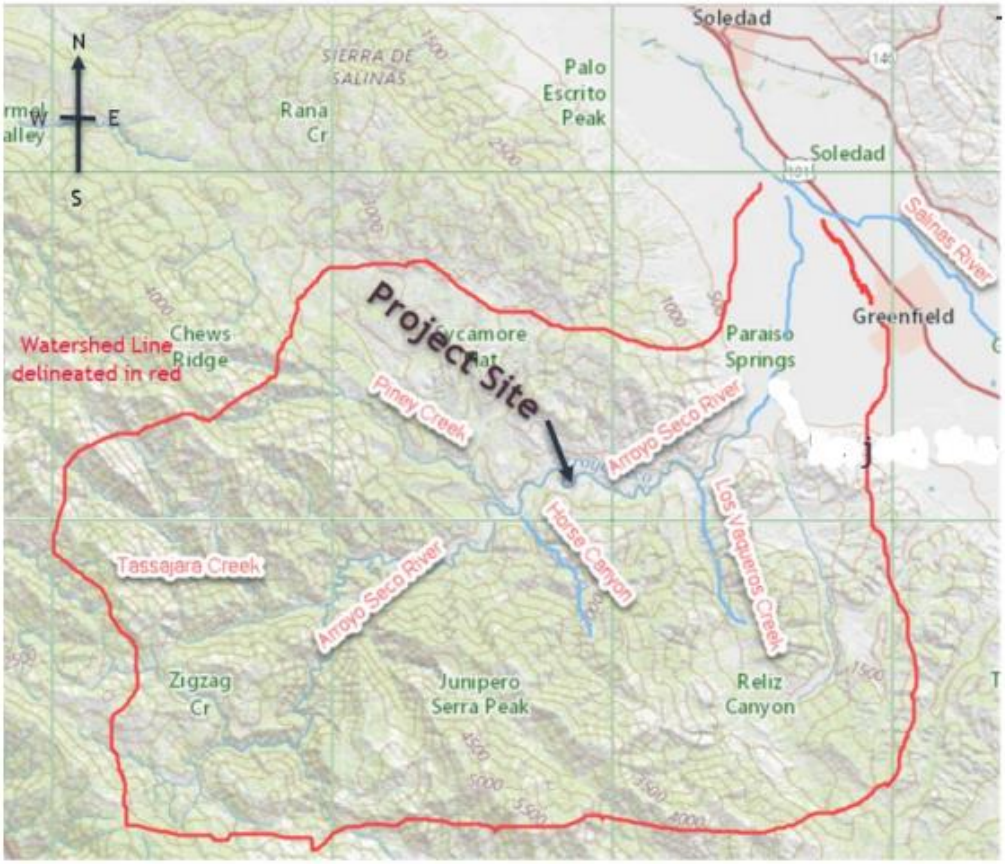
Watershed Map

Arroyo Seco River Fish Passage Project – Sycamore Flats

Proposal Number: 1734307 Proposal Type: FP

Supplemental Information

Watershed Map



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 boylii 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 hammondii	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

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

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Oncorhynchus mykiss irideus pop. 9	steelhead - south-central California coast DPS	AFCHA0209H	Threatened	None	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	-
Chrysis tularensis	Tulare cuckoo wasp	IIHYM72010	None	None	-
Optioservus canus	Pinnacles optioservus riffle beetle	IICOL5E020	None	None	-
Euphydryas editha bayensis	Bay checkerspot butterfly	IILEPK4055	Threatened	None	-
Vulpes macrotis mutica	San Joaquin kit fox	AMAJA03041	Endangered	Threatened	-
Neotoma macrotis luciana	Monterey dusky-footed woodrat	AMAFF08083	None	None	SSC
Dipodomys heermanni goldmani	Salinas kangaroo rat	AMAFD03065	None	None	-
Dipodomys venustus elephantinus	big-eared kangaroo rat	AMAFD03041	None	None	-
Dipodomys venustus sanctiluciae	Santa Lucia Mountain kangaroo rat	AMAFD03043	None	None	-

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	Townsends 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 hammondii	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	-

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	-

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 hypecoides	San Benito poppy	PDPAP0A060	None	None	-
Mimulus subsecundus	one-sided monkeyflower	PDSCR1B2K0	None	None	-
Abies bracteata	bristlecone fir	PGPIN01030	None	None	-
Eriastrum virgatum	virgate eriastrum	PDPLM030D0	None	None	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Gilia tenuiflora ssp. amplifaucalis	trumpet-throated gilia	PDPLM041P4	None	None	-
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 butterworthianum	Butterworths buckwheat	PDPGN080X0	None	Rare	-
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	-
Systenotheca vortriedei	Vortriedes spineflower	PDPGN0W010	None	None	-
Delphinium umbraculorum	umbrella larkspur	PDRAN0B1W0	None	None	-
Horkelia yadonii	Santa Lucia horkelia	PDROS0W0K0	None	None	-
Rosa pinetorum	pine rose	PDROS1J0W0	None	None	-
Galium andrewsii ssp. gatense	phlox-leaf serpentine bedstraw	PDRUB0N032	None	None	-

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	-

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, approximatley 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:

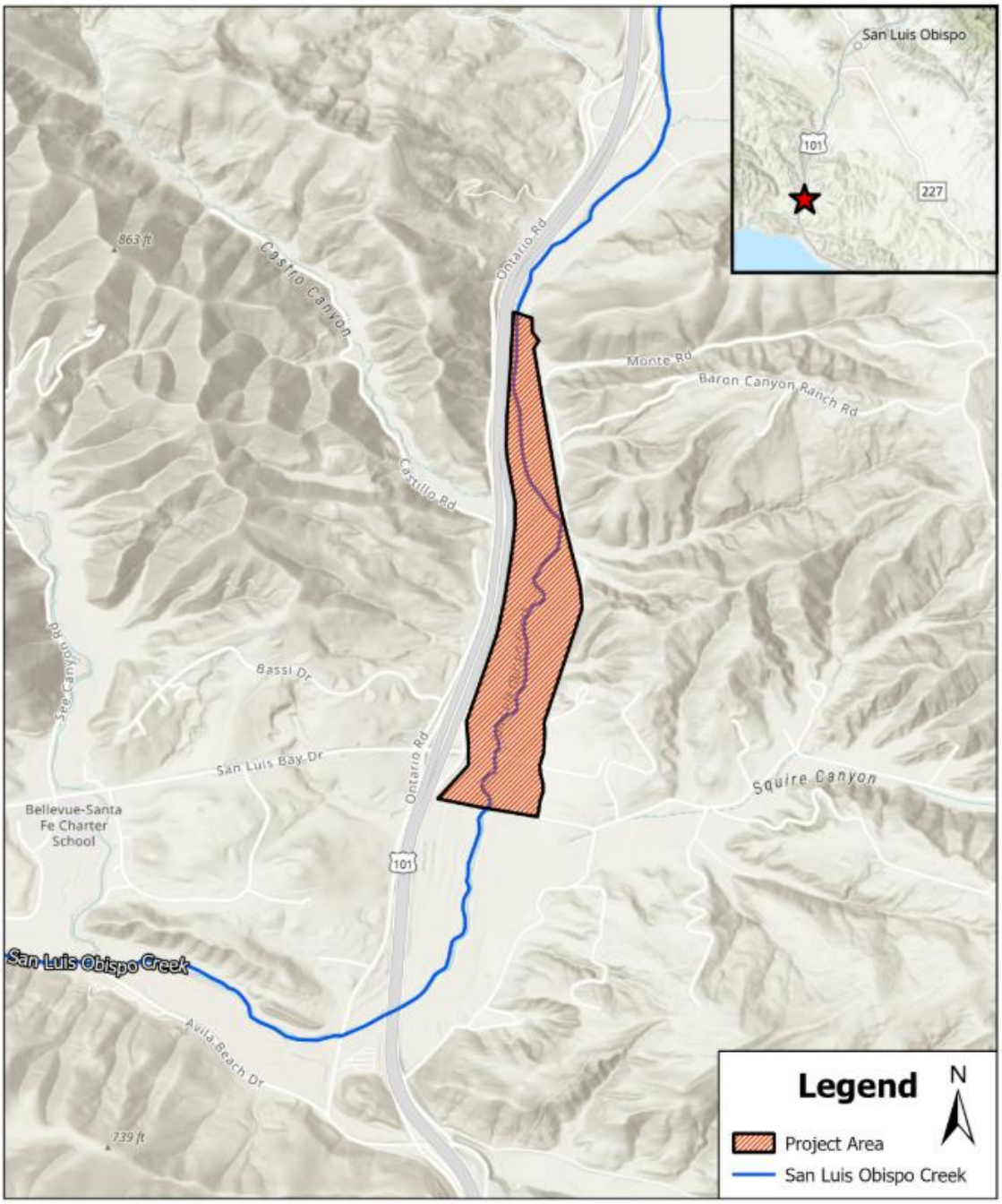
Grantee will not proceed until all necessary permits and authorizations are secured. Deviances to Project Tasks and implementation timeframes are at the discretion of the California Department of Fish and Wildlife (CDFW).

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



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

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	-
Areniscythris 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	-

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	Crotchs 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	Swainsons hawk	ABNKC19070	None	Threatened	-
Calandrinia breweri	Brewers calandrinia	PDPOR01020	None	None	-
Callorhinus ursinus	northern fur-seal	AMAJC01010	None	None	-

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	-

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. blancheae	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	-

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	-

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	Townsends 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	Hutchinsons 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	-

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	-

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	PDAPI0Z043	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	PMLIL0V010	None	None	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Fritillaria ojaiensis	Ojai fritillary	PMLIL0V0N0	None	None	-
Galium californicum ssp. luciense	Cone Peak bedstraw	PDRUB0N0E3	None	None	-
Galium cliftonsmithii	Santa Barbara bedstraw	PDRUB0N0J0	None	None	-
Gasterosteus aculeatus	unarmored threespine	AFCPA03011	Endangered	Endangered	FP
Gavia immer	common loon	ABNBA01030	None	None	SSC
Gilia tenuiflora ssp. amplifaucalis	trumpet-throated gilia	PDPLM041P4	None	None	-
Grindelia hirsutula var. maritima	San Francisco gumplant	PDAST470D3	None	None	-
Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP
Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP
Haliotis	pinto abalone	IMGASV2040	None	None	-
Helminthoglypta walkeriana	Morro shoulderband	IMGASC2510	Threatened	None	-
Horkelia cuneata var. puberula	mesa horkelia	PDROS0W045	None	None	-
Horkelia cuneata var. sericea	Kelloggs horkelia	PDROS0W043	None	None	-
Hydroprogne caspia	Caspian tern	ABNNM08020	None	None	-
Icaricia icarioides moroensis	Morro Bay blue butterfly	IILEPG801B	None	None	-
Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ixobrychus exilis	least bittern	ABNGA02010	None	None	SSC
Juncus acutus ssp. leopoldii	southwestern spiny rush	PMJUN01051	None	None	-
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	-
Lasiurus frantzii	western red bat	AMACC05080	None	None	SSC
Lasthenia californica ssp.	perennial goldfields	PDAST5L0C5	None	None	-
Lasthenia glabrata ssp.	Coulters goldfields	PDAST5L0A1	None	None	-
Laterallus jamaicensis	California black rail	ABNME03041	None	Threatened	FP
Layia erubescens	blushing layia	PDAST5N0H0	None	None	-
Layia jonesii	Jones layia	PDAST5N090	None	None	-
Leptosiphon grandiflorus	large-flowered leptosiphon	PDPLM090K0	None	None	-
Lichnanthe albipilosa	white sand bear scarab beetle	IICOL67010	None	None	-
Linanthus californicus ssp. tomentosus	fuzzy prickly-phlox	PDPLM08021	None	None	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-
Lomatium parvifolium	small-leaved lomatium	PDAPI1B1F0	None	None	-
Lupinus ludovicianus	San Luis Obispo County lupine	PDFAB2B2G0	None	None	-
Lupinus nipomensis	Nipomo Mesa lupine	PDFAB2B550	Endangered	Endangered	-
Malacothamnus jonesii var. gracilis	slender bushmallow	PDMAL0Q0J0	None	None	-
Malacothamnus jonesii var. niveus	fragrant-snow bushmallow	PDMAL0Q0H0	None	None	-
Malacothrix incana	dunedelion	PDAST66070	None	None	-
Monardella palmeri	Palmers monardella	PDLAM180H0	None	None	-
Monardella sinuata ssp.	southern curly-leaved	PDLAM18161	None	None	-
Monardella undulata ssp.	crisp monardella	PDLAM18070	None	None	-
Monardella undulata ssp.	San Luis Obispo monardella	PDLAM180X0	None	None	-
Monolopia gracilens	woodland woollythreads	PDAST6G010	None	None	-
Mucronea californica	California spineflower	PDPGN0F010	None	None	-
Muhlenbergia utilis	aparejo grass	PMPOA481X0	None	None	-

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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Pelecanus erythrorhynchos	American white pelican	ABNFC01010	None	None	SSC
Pelecanus occidentalis	California brown pelican	ABNFC01021	Delisted	Delisted	-
Pelochrista hennei	Hennes eucosman moth	IILEM0R390	None	None	-
Perideridia pringlei	adobe yampah	PDAPI1N0D0	None	None	-
Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC
Pica nuttalli	yellow-billed magpie	ABPAV09020	None	None	-
Piperia michaelii	Michaels rein orchid	PMORC1X110	None	None	-
Plagiobothrys chorisianus var. hickmanii	Hickmans popcornflower	PDBOR0V062	None	None	-
Plagiobothrys uncinatus	hooked popcornflower	PDBOR0V170	None	None	-
Poa diaboli	Diablo Canyon blue grass	PMPOA4Z390	None	None	-
Polyphylla morroensis	Morro Bay June beetle	IICOL68200	None	None	-
Polyphylla nubila	Atascadero June beetle	IICOL68040	None	None	-
Progne subis	purple martin	ABPAU01010	None	None	SSC

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Prunus fasciculata var. punctata	sand almond	PDROS1C0E2	None	None	-
Ptychoramphus aleuticus	Cassins auklet	ABNNN08010	None	None	SSC
Pyrgulopsis taylori	San Luis Obispo pyrg	IMGASJ0A50	None	None	-
Rallus obsoletus obsoletus	California Ridgways rail	ABNME05011	Endangered	Endangered	FP
Rana boylii pop. 6	foothill yellow-legged frog -	AAABH01056	Endangered	Endangered	-
Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC
Ribes sericeum	Santa Lucia gooseberry	PDGRO021F0	None	None	-
Sanicula hoffmannii	Hoffmanns sanicle	PDAPI1Z090	None	None	-
Sanicula maritima	adobe sanicle	PDAPI1Z0D0	None	Rare	-
Scrophularia atrata	black-flowered figwort	PDSCR1S010	None	None	-
Selasphorus rufus	rufous hummingbird	ABNUC51020	None	None	-
Senecio aphanactis	chaparral ragwort	PDAST8H060	None	None	-
Senecio blochmaniae	Blochmans ragwort	PDAST8H0G0	None	None	-
Serpentine Bunchgrass	Serpentine Bunchgrass	CTT42130CA	None	None	-
Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Sidalcea hickmanii ssp.	Cuesta Pass checkerbloom	PDMAL110A1	None	Rare	-
Spinus lawrencei	Lawrences goldfinch	ABPBY06100	None	None	-
Sternula antillarum browni	California least tern	ABNNM08103	Endangered	Endangered	FP
Streptanthus albidus ssp.	most beautiful jewelflower	PDBRA2G012	None	None	-
Strix occidentalis occidentalis	California Spotted Owl	ABNSB12013	Proposed Endangered	None	SSC
Suaeda californica	California seablite	PDCHE0P020	Endangered	None	-
Sulcaria isidiifera	splitting yarn lichen	NLTEST0020	None	None	-
Sulcaria spiralifera	twisted horsehair lichen	NLT0042560	None	None	-
Symphyotrichum defoliatum	San Bernardino aster	PDASTE80C0	None	None	-
Synthliboramphus scrippsi	Scrippss murrelet	ABNNN07012	None	Threatened	-
Taricha torosa	Coast Range newt	AAAAF02032	None	None	SSC
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Thalasseus elegans	elegant tern	ABNNM08040	None	None	WL

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Thamnophis hammondii	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. SmiR7.1.7.3, SmiR.7.1.7.4 and SmiR7.1.7.5: 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 CNDDB 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.

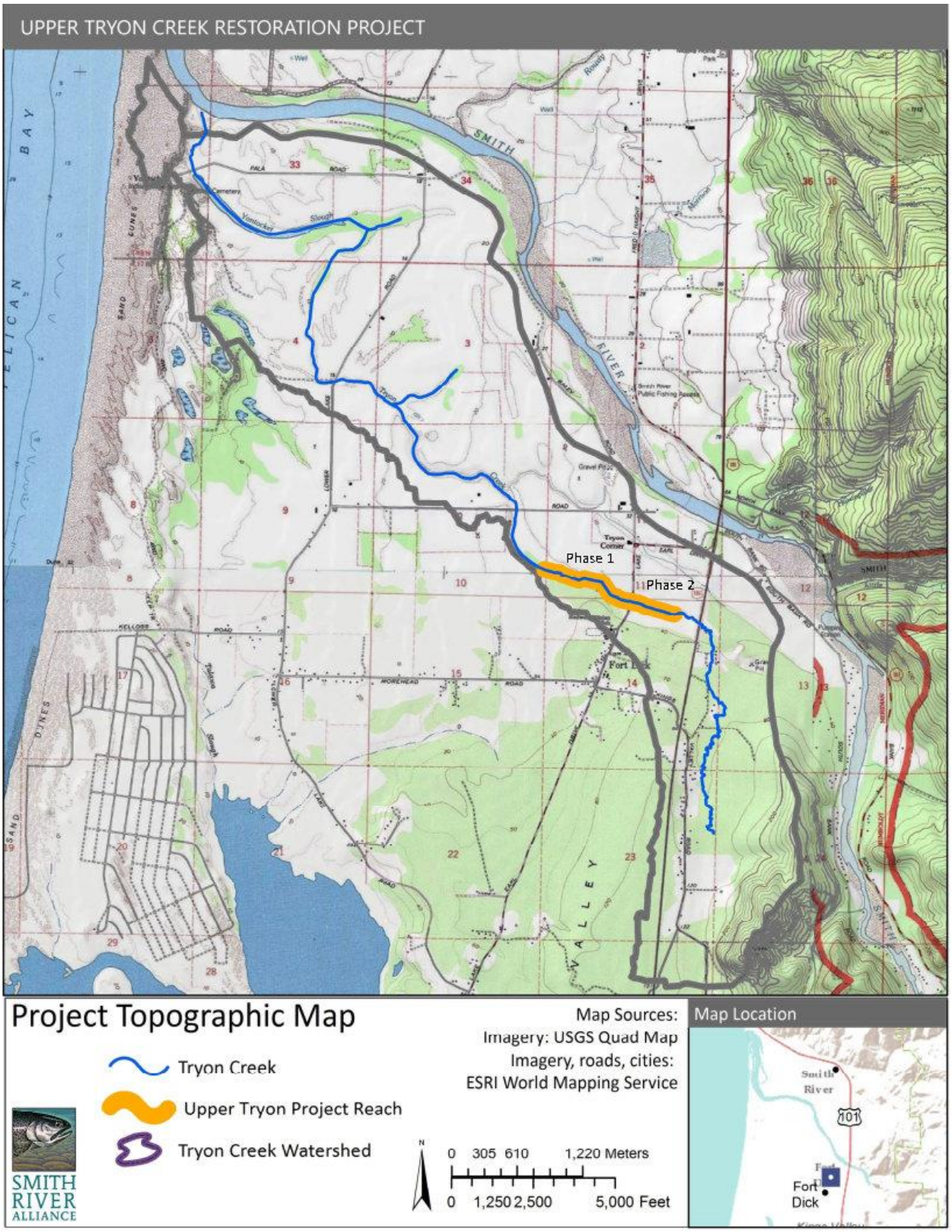
The Grantee/landowner will maintain the new crossing, inspect the crossing in a timely manner and remove debris as necessary during the storm season.

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
0 37.5 75 Kilometers
0 20 40 80 Miles
Map Location
Crescent City
Del Norte County
Orick
CALIFORNIA
HIGH PLATEAU MOUNTAIN
UPPER COON MOUNTAIN
SHIP MOUNTAIN
SISKIYOU MOUNTAINS
TEDS RIDGE
Lake Earl
Smith River
Klamath


UPPER TRYON CREEK RESTORATION PROJECT
Phase 1
Phase 2
Project Topographic Map
Tryon Creek
Upper Tryon Project Reach
Tryon Creek Watershed
SMITH RIVER ALLIANCE
Map Sources:
Imagery: USGS Quad Map
Imagery, roads, cities:
ESRI World Mapping Service
0 305 610 1,220 Meters
0 1,250 2,500 5,000 Feet
Map Location
Smith River
101
Fort Dick

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 boylii 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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Botaurus lentiginosus	American bittern	ABNGA01020	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
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Antigone canadensis canadensis	lesser sandhill crane	ABNMK01011	None	None	SSC
Antigone canadensis tabida	greater sandhill crane	ABNMK01014	None	Threatened	FP
Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-
Hydrobates furcatus	fork-tailed storm-petrel	ABNDC04010	None	None	SSC
Pandion haliaetus	osprey	ABNKC01010	None	None	WL
Poecile atricapillus	black-capped chickadee	ABPAW01010	None	None	WL
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
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Selasphorus rufus	rufous hummingbird	ABNUC51020	None	None	-
Empidonax traillii brewsteri	little willow flycatcher	ABPAE33041	None	Endangered	-
Acipenser medirostris pop. 2	green sturgeon - northern DPS	AFCAA01032	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 kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-
Oncorhynchus mykiss irideus pop. 1	steelhead - Klamath Mountains Province DPS	AFCHA0209D	None	None	SSC
Oncorhynchus tshawytscha pop. 14	chinook salmon - southern Oregon/northern California coastal	AFCHA0205P	Candidate	None	SSC

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	Townsends big-eared bat	AMACC08010	None	None	SSC

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 adspersum	spiral-spored gilded-head pin lichen	NLT0005640	None	None	-
Usnea longissima	Methuselahs beard lichen	NLLEC5P420	None	None	-

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	PDASTEC030	None	None	-
Erigeron cervinus	Siskiyou daisy	PDAST3M0U0	None	None	-
Hesperevax sparsiflora var. brevifolia	short-leaved evax	PDASTE5011	None	None	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Lasthenia californica ssp. macrantha	perennial goldfields	PDAST5L0C5	None	None	-
Packera bolanderi var. bolanderi	seacoast ragwort	PDAST8H0H1	None	None	-
Packera macounii	Siskiyou Mountains ragwort	PDAST8H1Z0	None	None	-
Pyrrocoma racemosa var. congesta	Del Norte pyrrocoma	PDASTDT0F4	None	None	-
Vancouveria chrysantha	Siskiyou inside-out-flower	PDBER09010	None	None	-
Arabis aculeolata	Waldo rockcress	PDBRA06010	None	None	-
Arabis mcdonaldiana	McDonalds rockcress	PDBRA06150	Endangered	Endangered	-
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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Sabulina howellii	Howells sandwort	PDCAR0G0F0	None	None	-
Silene hookeri	Hookers catchfly	PDCAR0U2M0	None	None	-
Silene serpentinicola	serpentine catchfly	PDCAR0U2B0	None	None	-
Calystegia atriplicifolia ssp. buttensis	Butte County morning-glory	PDCON04012	None	None	-
Sedum patens	Smith River stonecrop	PDCRA0A250	None	None	-
Carex arcta	northern clustered sedge	PMCYP030X0	None	None	-
Carex lenticularis var. limnophila	lagoon sedge	PMCYP037A7	None	None	-
Carex lyngbyei	Lyngbyes sedge	PMCYP037Y0	None	None	-
Carex praticola	northern meadow sedge	PMCYP03B20	None	None	-
Carex scabriuscula	Siskiyou sedge	PMCYP03C40	None	None	-
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 hispidula	Howells manzanita	PDERI04230	None	None	-
Arctostaphylos nortensis	Del Norte manzanita	PDERI04092	None	None	-

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	PMLIL0U070	None	None	-
Erythronium howellii	Howells fawn lily	PMLIL0U080	None	None	-
Erythronium oregonum	giant fawn lily	PMLIL0U0C0	None	None	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
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	-
Sidalcea elegans	Del Norte checkerbloom	PDMAL110F5	None	None	-
Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	PDMAL110F9	None	None	-
Sidalcea oregana ssp. eximia	coast checkerbloom	PDMAL110K9	None	None	-
Veratrum insolitum	Siskiyou false-hellebore	PMLIL25040	None	None	-
Monotropa uniflora	ghost-pipe	PDMON03030	None	None	-
Pityopus californicus	California pinefoot	PDMON05010	None	None	-
Lewisia oppositifolia	opposite-leaved lewisia	PDPOR040B0	None	None	-
Montia howellii	Howells montia	PDPOR05070	None	None	-
Lysimachia europaea	arctic starflower	PDPRI0A020	None	None	-
Abronia umbellata var. breviflora	pink sand-verbena	PDNYC010N4	None	None	-
Epilobium rigidum	Siskiyou Mountains willowherb	PDONA060V0	None	None	-

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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Gilia millefoliata	dark-eyed gilia	PDPLM04130	None	None	-
Polemonium carneum	Oregon polemonium	PDPLM0E050	None	None	-
Eriogonum nudum var. paralinum	Del Norte buckwheat	PDPGN08498	None	None	-
Eriogonum pendulum	Waldo wild buckwheat	PDPGN084Q0	None	None	-
Eriogonum ternatum	ternate buckwheat	PDPGN085R0	None	None	-
Potamogeton foliosus ssp. fibrillosus	fibrous pondweed	PMPOT030B1	None	None	-
Moneses uniflora	woodnymph	PDPYR02010	None	None	-
Coptis laciniata	Oregon goldthread	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	-

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.

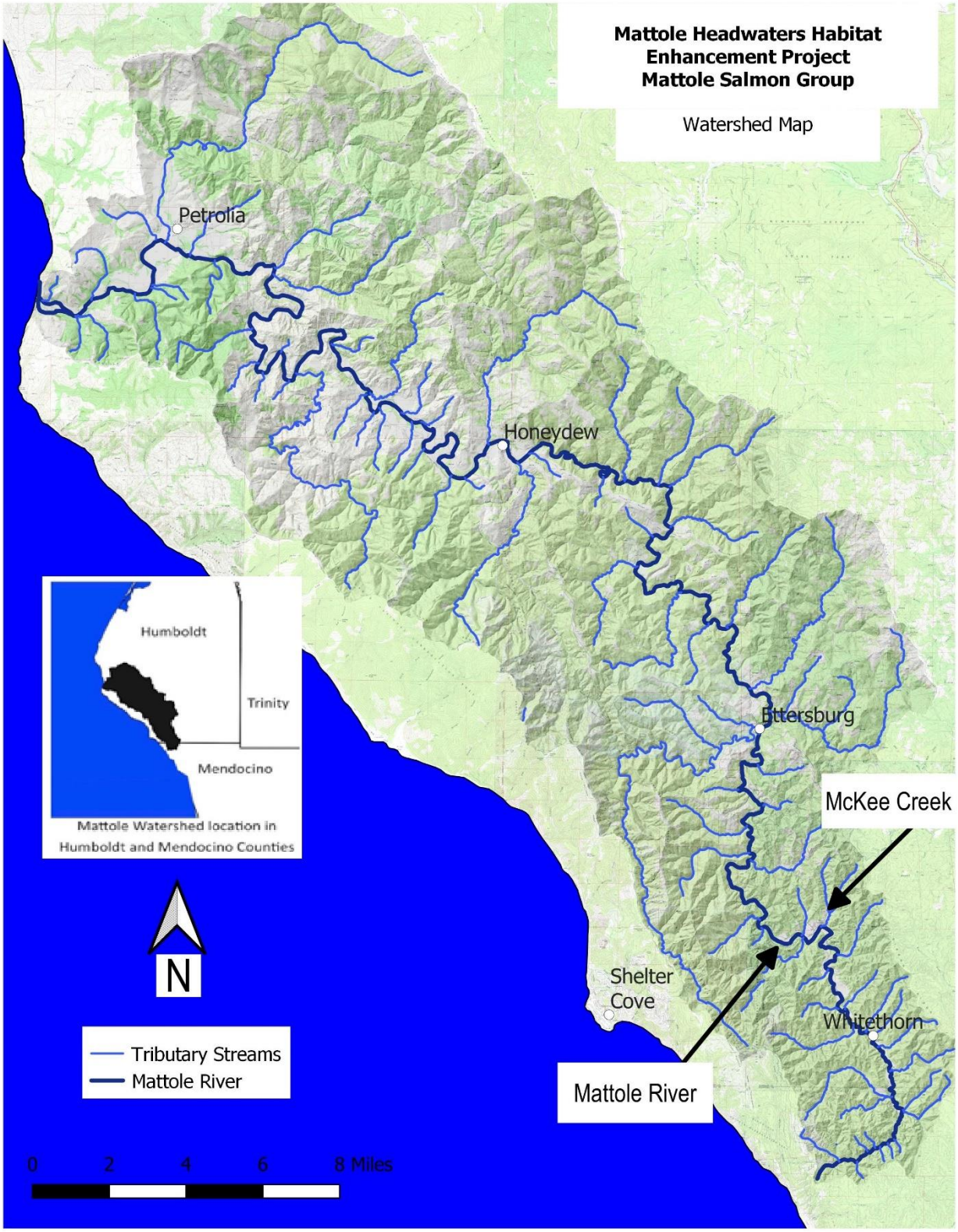
During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

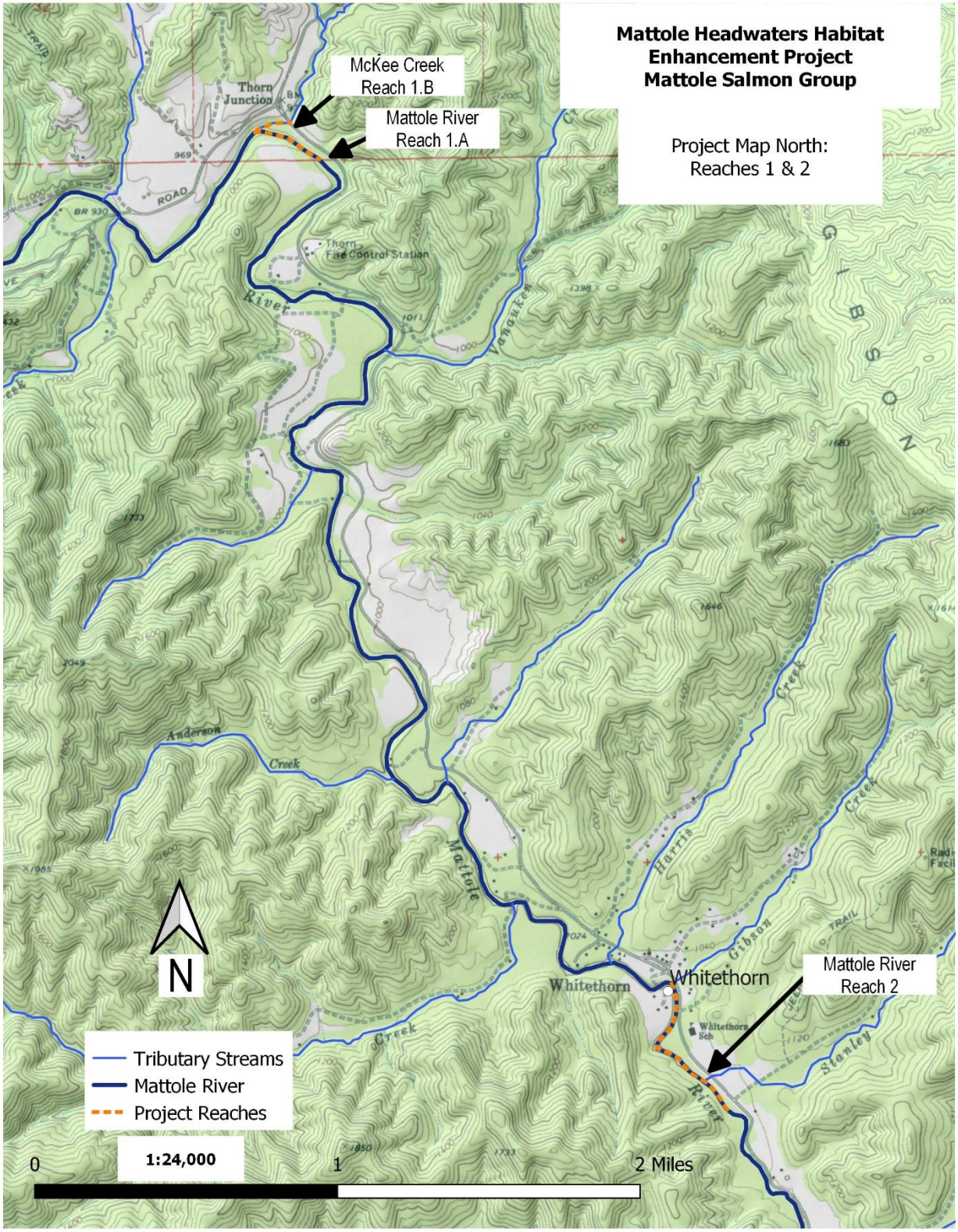
All habitat improvements will follow techniques described in the *California Salmonid Stream Habitat Restoration Manual, 4th Edition (CA Restoration Manual)* or *other approved guidelines and manuals for salmon and steelhead habitat restoration*.

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.


Mattole Headwaters Habitat
Enhancement Project
Mattole Salmon Group
Watershed Map
Petrolia
Honeydew
Bttersburg
McKee Creek
Shelter
Cove
Whitethorn
Mattole River
Humboldt
Trinity
Mendocino
Mattole Watershed location in
Humboldt and Mendocino Counties
N
Tributary Streams
Mattole River
0
2
4
6
8 Miles


Mattole Headwaters Habitat
Enhancement Project
Mattole Salmon Group
Project Map North:
Reaches 1 & 2
McKee Creek
Reach 1.B
Mattole River
Reach 1.A
Thorn Junction
Thorn Fire Control Station
Whitethorn
Mattole River
Reach 2
N
Tributary Streams
Mattole River
Project Reaches
0
1:24,000
1
2 Miles

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 boylii 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

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC
Pelecanus occidentalis californicus	California brown pelican	ABNFC01021	Delisted	Delisted	-
Asio otus	long-eared owl	ABNSB13010	None	None	SSC
Psiloscops flammeolus	flammulated owl	ABNSB01020	None	None	-
Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-
Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC
Empidonax traillii brewsteri	little willow flycatcher	ABPAE33041	None	Endangered	-
Pacifastacus leniusculus	Klamath crayfish	ICMAL31042	None	None	-
Acipenser medirostris pop. 2	green sturgeon - northern DPS	AFCAA01032	None	None	SSC
Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon	AFCHA02032	Threatened	Threatened	-
Oncorhynchus mykiss irideus	steelhead - northern	AFCHA0213P	Threatened	Endangered	-
Oncorhynchus mykiss irideus pop. 49	steelhead - northern California DPS	AFCHA0213Q	Threatened	None	SSC
Oncorhynchus	chinook salmon -	AFCHA0205S	Threatened	None	SSC
Bombus	obscure bumble	IIHYM24380	None	None	-
Bombus occidentalis	western bumble bee	IIHYM24252	None	Candidate Endangered	-

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	Townsends 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	-

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	-

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	PMLIL0U0C0	None	None	-
Erythronium revolutum	coast fawn lily	PMLIL0U0F0	None	None	-
Lilium rubescens	redwood lily	PMLIL1A0N0	None	None	-
Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	PDMAL110F9	None	None	-
Pityopus californicus	California pinefoot	PDMON05010	None	None	-
Montia howellii	Howells montia	PDPOR05070	None	None	-
Clarkia amoena ssp. whitneyi	Whitneys farewell-to-spring	PDONA05025	None	None	-
Epilobium septentrionale	Humboldt County fuchsia	PDONA06110	None	None	-
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	-

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	-

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.

<u>Materials:</u>

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 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.

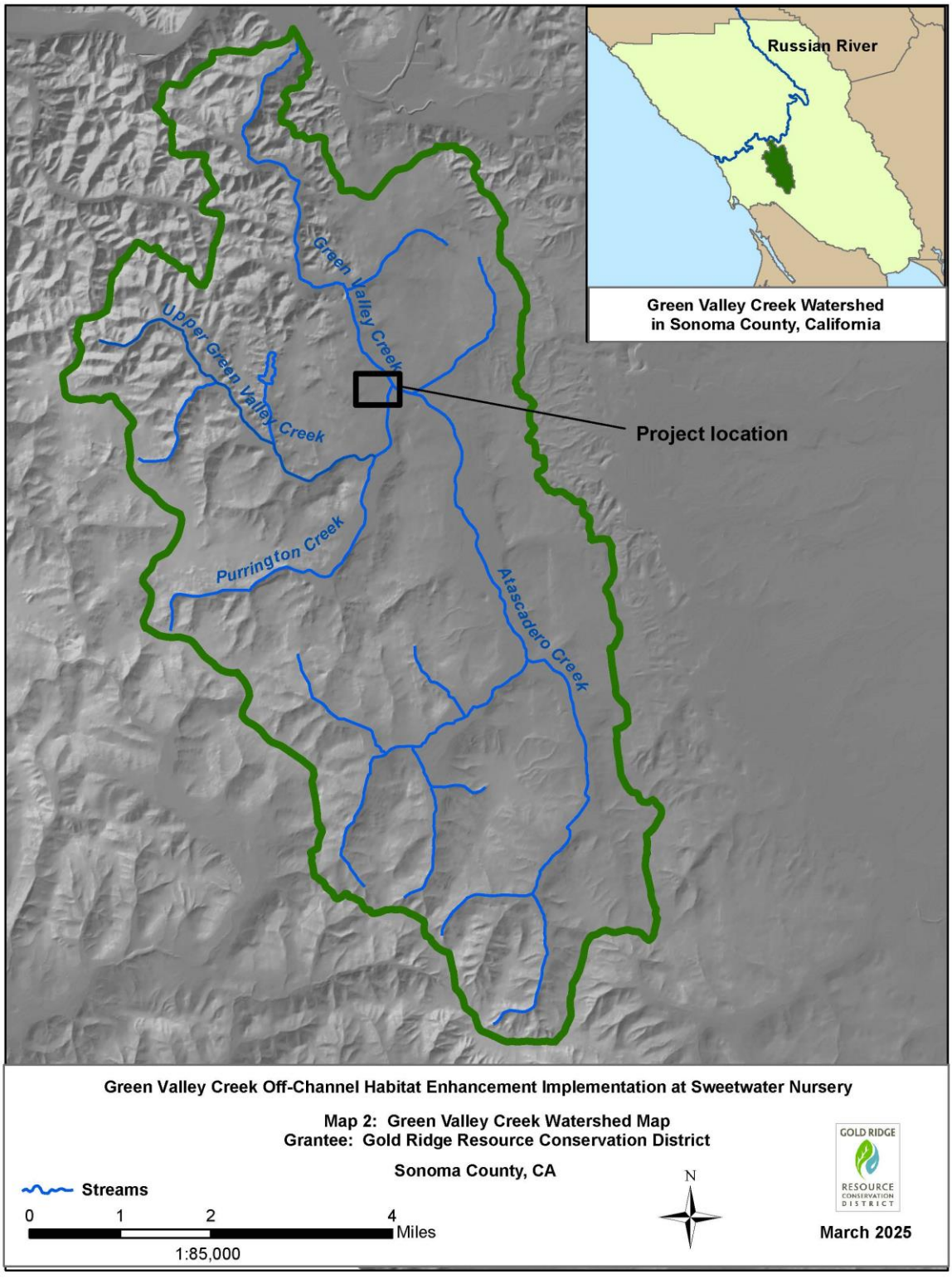


Figure 1. Green Valley Creek Watershed and Sonoma County map.

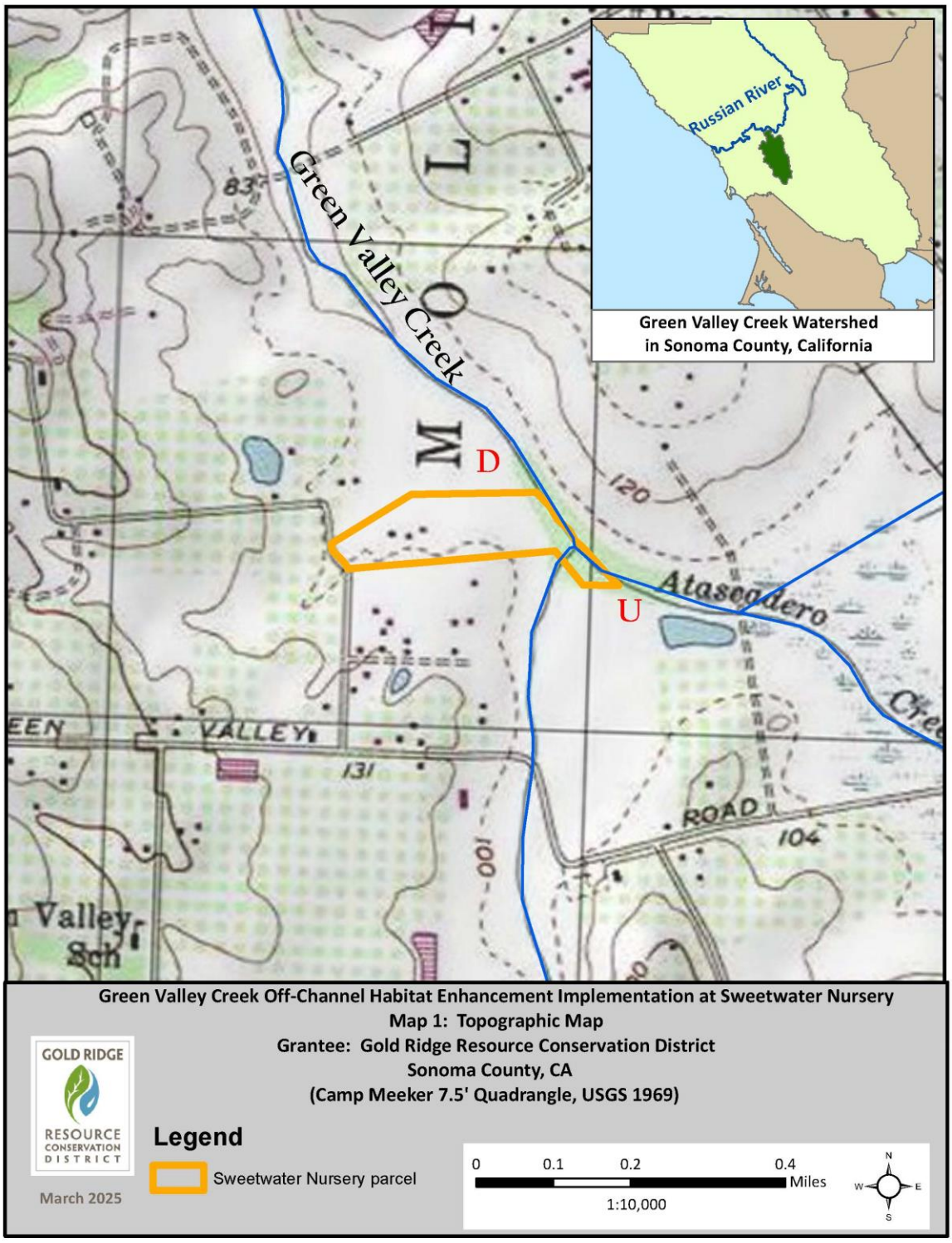


Figure 2. Project topographic map.

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 boylii 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

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	-

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	-

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
Hysterocarpus 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	-

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	-
Bombus pensylvanicus	American bumble bee	IIHYM24260	None	None	-
Dubiraphia giulianii	Giulianis dubiraphian riffle beetle	IICOL5A020	None	None	-
Lichnanthe ursina	bumblebee	IICOL67020	None	None	-
Callophrys mossii	Marin elfin	IILEPE2207	None	None	-
Danaus plexippus plexippus pop. 1	monarch - California	IILEPP2012	Proposed Threatened	None	-
Speyeria zerene myrtleae	Myrtles silverspot butterfly	IILEPJ608C	Endangered	None	-
Coelus globosus	globose dune beetle	IICOL4A010	None	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
Taxidea taxus	American badger	AMAJF04010	None	None	SSC
Eumetopias jubatus	Steller sea lion	AMAJC03010	Delisted	None	-
Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC
Corynorhinus townsendii	Townsends big-eared bat	AMACC08010	None	None	SSC

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
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 evotis	long-eared myotis	AMACC01070	None	None	-
Myotis thysanodes	fringed myotis	AMACC01090	None	None	-
Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-
Tryonia imitator	mimic tryonia (=California	IMGASJ7040	None	None	-
Vespericola marinensis	Marin hesperian	IMGASA4140	None	None	-
Anodonta californiensis	California floater	IMBIV04220	None	None	-
Anodonta oregonensis	Oregon floater	IMBIV04110	None	None	-
Gonidea angulata	western ridged mussel	IMBIV19010	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	-
Coastal Terrace Prairie	Coastal Terrace Prairie	CTT41100CA	None	None	-
Northern Coastal	Northern Coastal	CTT52110CA	None	None	-

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	-

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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Lessingia arachnoidea	Crystal Springs lessingia	PDAST5S0C0	None	None	-
Lessingia hololeuca	woolly-headed lessingia	PDAST5S030	None	None	-
Microseris paludosa	marsh microseris	PDAST6E0D0	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	Morrisons jewelflower	PDBRA2G0S3	None	None	-
Downingia pusilla	dwarf downingia	PDCAM060C0	None	None	-
Eastwoodiella californica	swamp harebell	PDCAM02060	None	None	-

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	-

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	-

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 ladys-slipper	PMORC0Q040	None	None	-
Cypripedium montanum	mountain ladys-slipper	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	-

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	-

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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Gilia capitata ssp. tomentosa	woolly-headed gilia	PDPLM040B9	None	None	-
Gilia millefoliata	dark-eyed gilia	PDPLM04130	None	None	-
Leptosiphon aureus	bristly leptosiphon	PDPLM09010	None	None	-
Leptosiphon grandiflorus	large-flowered leptosiphon	PDPLM090K0	None	None	-
Leptosiphon jepsonii	Jepsons leptosiphon	PDPLM09140	None	None	-
Leptosiphon rosaceus	rose leptosiphon	PDPLM09180	None	None	-
Navarretia leucocephala	Bakers navarretia	PDPLM0C0E1	None	None	-
Navarretia leucocephala ssp. plieantha	many-flowered navarretia	PDPLM0C0E5	Endangered	Endangered	-
Polemonium carneum	Oregon polemonium	PDPLM0E050	None	None	-
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	PDPGN04081	None	None	-
Chorizanthe cuspidata var. villosa	woolly-headed spineflower	PDPGN04082	None	None	-
Chorizanthe valida	Sonoma spineflower	PDPGN040V0	Endangered	Endangered	-
Eriogonum cedrorum	Cedars buckwheat	PDPGN087A0	None	None	-
Eriogonum ternatum	ternate buckwheat	PDPGN085R0	None	None	-

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	-

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 (Oncohynchus 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.

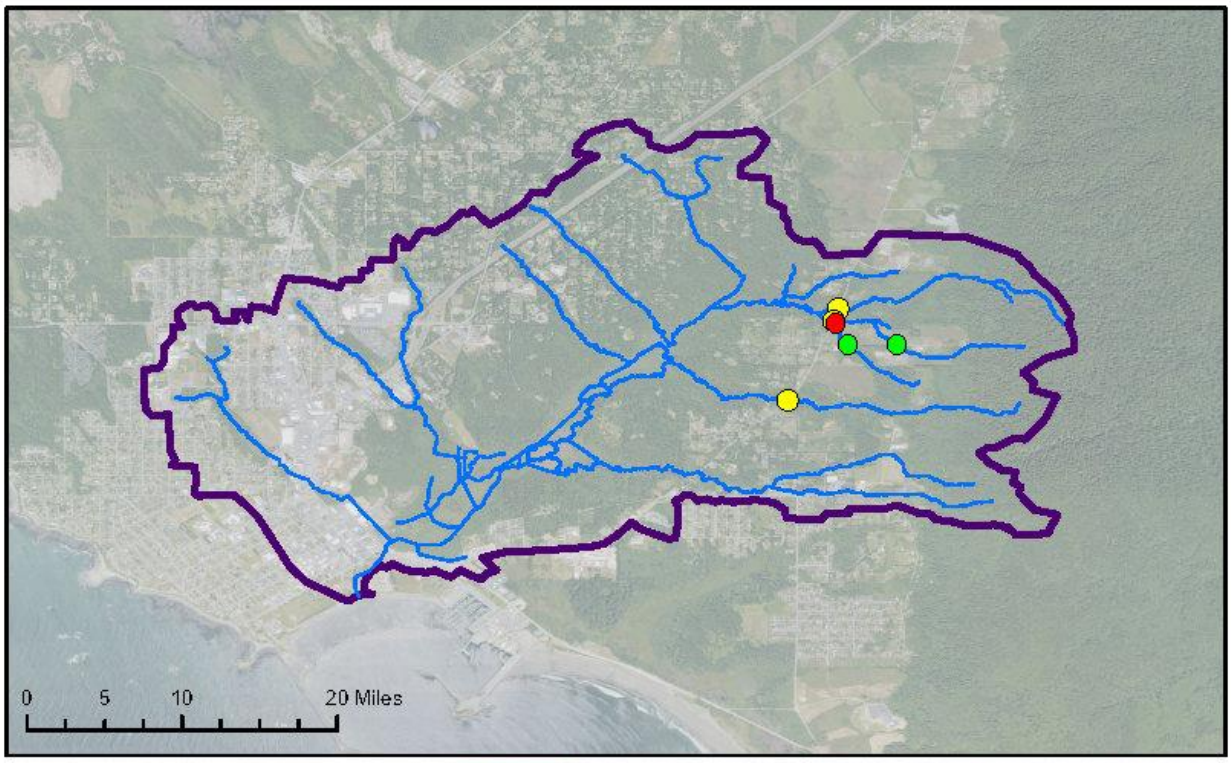
The bridge (culvert) design and installation will meet flow carrying capacity required for a 100-year flood event as identified by specifications determined by National Oceanic and Atmospheric Administration (NOAA) Fisheries and the CDFW, for adult and juvenile salmonid fish passage. The project will 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

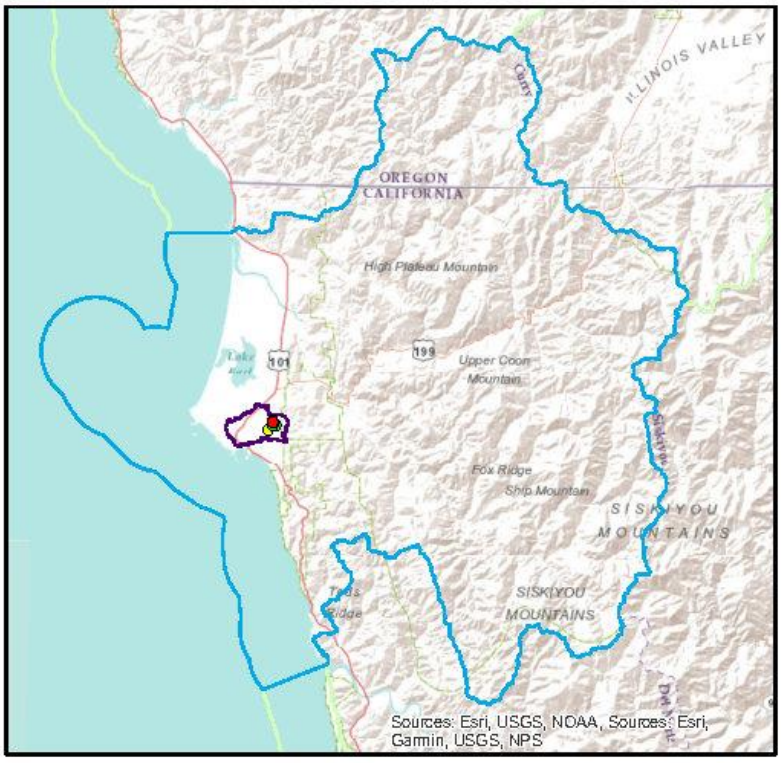


Watershed Map

N

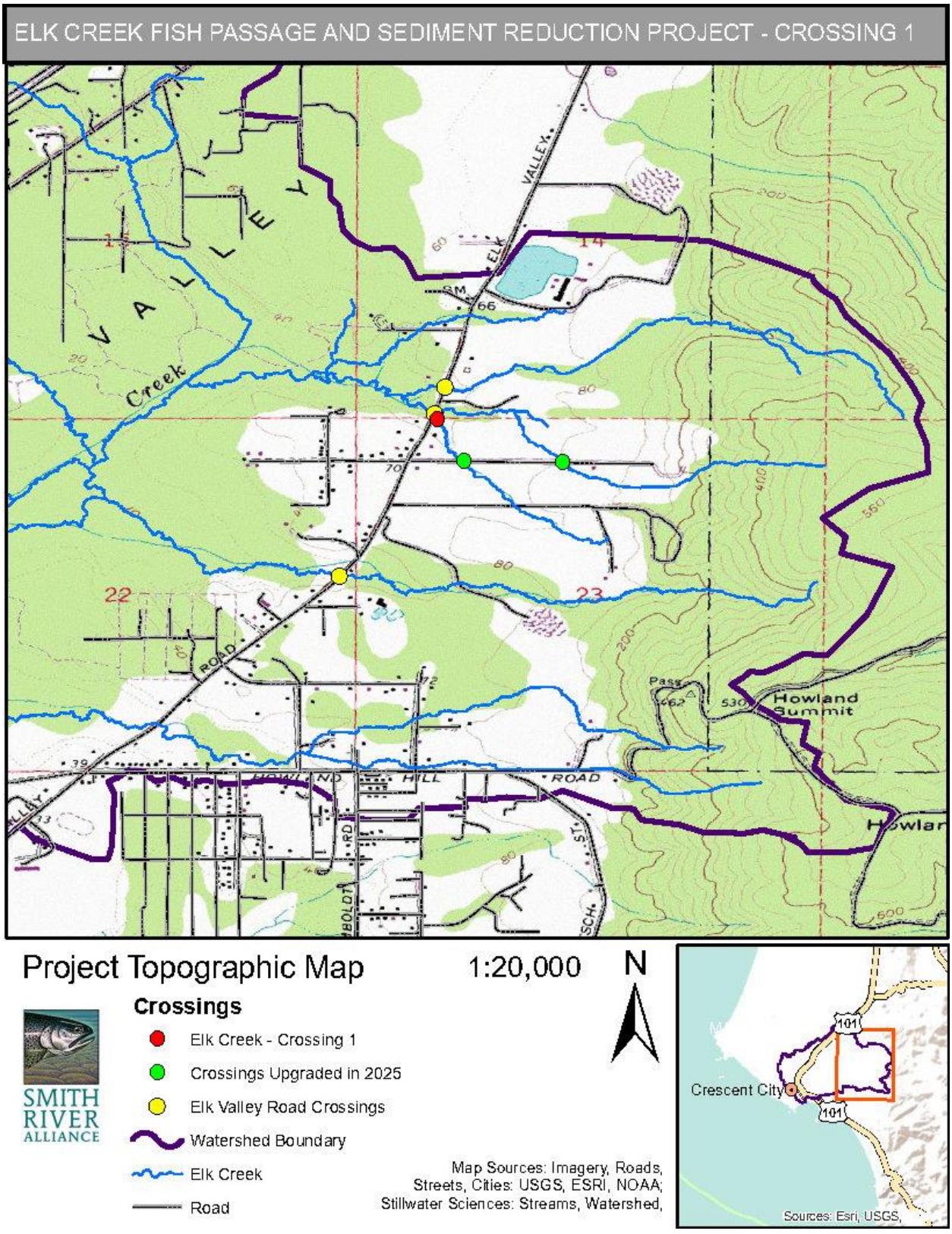
Crossings

- 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
N
Crossings
Elk Creek - Crossing 1
Crossings Upgraded in 2025
Elk Valley Road Crossings
Watershed Boundary
Elk Creek
Road
SMITH RIVER ALLIANCE
Map Sources: Imagery, Roads, Streets, Cities: USGS, ESRI, NOAA; Stillwater Sciences: Streams, Watershed,
Crescent City
101
Sources: Esri, USGS,

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 boylii 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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Botaurus lentiginosus	American bittern	ABNGA01020	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
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	-
Antigone canadensis canadensis	lesser sandhill crane	ABNMK01011	None	None	SSC
Antigone canadensis tabida	greater sandhill crane	ABNMK01014	None	Threatened	FP
Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-
Hydrobates furcatus	fork-tailed storm-petrel	ABNDC04010	None	None	SSC
Pandion haliaetus	osprey	ABNKC01010	None	None	WL
Poecile atricapillus	black-capped chickadee	ABPAW01010	None	None	WL
Pelecanus occidentalis californicus	California brown pelican	ABNFC01021	Delisted	Delisted	-

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	AFCAA01032	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

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Oncorhynchus tshawytscha pop.	chinook salmon - southern	AFCHA0205P	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	-

Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status
Corynorhinus townsendii	Townsends 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	-

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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 adspersum	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	-

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Tauschia glauca	glaucous tauschia	PDAPI27020	None	None	-
Asplenium trichomanes ssp.	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	PDASTEC030	None	None	-
Erigeron cervinus	Siskiyou daisy	PDAST3M0U0	None	None	-
Hesperevax sparsiflora var.	short-leaved evax	PDASTE5011	None	None	-
Lasthenia californica ssp.	perennial goldfields	PDAST5L0C5	None	None	-
Packera bolanderi var.	seacoast ragwort	PDAST8H0H1	None	None	-
Packera macounii	Siskiyou Mountains	PDAST8H1Z0	None	None	-
Pyrrocoma racemosa var.	Del Norte pyrrocoma	PDASTDT0F4	None	None	-
Vancouveria chrysantha	Siskiyou inside-out-flower	PDBER09010	None	None	-
Arabis aculeolata	Waldo rockcress	PDBRA06010	None	None	-
Arabis mcdonaldiana	McDonalds rockcress	PDBRA06150	Endangered	Endangered	-

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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	-

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Sabulina howellii	Howells sandwort	PDCAR0G0F0	None	None	-
Silene hookeri	Hookers catchfly	PDCAR0U2M0	None	None	-
Silene scouleri ssp. scouleri	Scoulers catchfly	PDCAR0U1MC	None	None	-
Silene serpentinicola	serpentine catchfly	PDCAR0U2B0	None	None	-
Calystegia atriplicifolia ssp.	Butte County morning-glory	PDCON04012	None	None	-
Sedum patens	Smith River stonecrop	PDCRA0A250	None	None	-
Carex arcta	northern clustered sedge	PMCYP030X0	None	None	-
Carex lenticularis var. limnophila	lagoon sedge	PMCYP037A7	None	None	-
Carex lyngbyei	Lyngbyes sedge	PMCYP037Y0	None	None	-
Carex praticola	northern meadow sedge	PMCYP03B20	None	None	-
Carex scabriuscula	Siskiyou sedge	PMCYP03C40	None	None	-

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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	-

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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	PMLIL0U070	None	None	-
Erythronium howellii	Howells fawn lily	PMLIL0U080	None	None	-
Erythronium oregonum	giant fawn lily	PMLIL0U0C0	None	None	-
Erythronium revolutum	coast fawn lily	PMLIL0U0F0	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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Sidalcea elegans	Del Norte checkerbloom	PDMAL110F5	None	None	-
Sidalcea malachroides	maple-leaved checkerbloom	PDMAL110E0	None	None	-
Sidalcea malviflora ssp.	Siskiyou checkerbloom	PDMAL110F9	None	None	-
Sidalcea oregana ssp.	coast checkerbloom	PDMAL110K9	None	None	-
Veratrum insolitum	Siskiyou false-hellebore	PMLIL25040	None	None	-
Monotropa uniflora	ghost-pipe	PDMON03030	None	None	-
Pityopus californicus	California pinefoot	PDMON05010	None	None	-
Lewisia oppositifolia	opposite-leaved lewisia	PDPOR040B0	None	None	-
Montia howellii	Howells montia	PDPOR05070	None	None	-
Lysimachia europaea	arctic starflower	PDPRI0A020	None	None	-
Abronia	pink sand-	PDNYC010N4	None	None	-
Epilobium rigidum	Siskiyou	PDONA060V0	None	None	-
Oenothera wolfii	Wolfs evening-	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	-

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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 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	-
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	PMPOT030B1	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	-
Mitellastra 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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Viola palustris	alpine marsh violet	PDVIO041G0	None	None	-
Viola primulifolia ssp. occidentalis	western white bog violet	PDVIO040Y2	None	None	-