

# Julias Creek Sediment Reduction and Salmonid Recovery Project

2019

## **Introduction:**

Trout Unlimited, Inc. (TU) will decommission 5.23 miles of streamside riparian roads including 25 stream crossings, 18 fill failures, two springs and one bank erosion feature along the mainstem of Julius Creek. The project will also upgrade two stream crossings on two unnamed tributaries to South Fork Usal Creek. This project is necessary because excessive sediment inputs from legacy timber practices continue to adversely impact the channel geomorphology and fish habitat of the Julias Creek watershed, in the form of channel-stored sediments within the upper main stem and its tributaries, and as high turbidity levels during wet weather conditions. Furthermore, altered hillside hydrology, along with an extreme lack of large wood in the channel system, has led to simplified channel geometry in mainstem reaches, where the altered stream channel lacks habitat complexity. By reducing both chronic and episodic sediment delivery to the stream system and normalizing the hillside hydrology this project will accelerate the natural recovery of anadromous fish in the watershed.

The Grantee shall not proceed with on the ground implementation until all necessary permits, consultations, and/or Notice to Proceed are secured. All habitat improvement(s) will follow techniques in the *California Salmonid Stream Habitat Restoration Manual* Volume II Part X (<https://www.wildlife.ca.gov/Grants/FRGP/Guidance>).

## **Objective(s):**

This project will result in the permanent removal of 5.23 miles of streamside riparian road which represents almost 100% of the streamside road under Redwood Forest Foundation Inc. management along Julius Creek. It will also reduce future anthropogenic sediment impacts from the streamside road system to the watershed by eliminating approximately 14,445 cubic yards of future potential sediment from the decommissioned road system and normalizing the hillside hydrology.

## **Project Description:**

### **Location:**

The Julias Creek Watershed is located west of Leggett, California in the Usal Creek Watershed. Specifically, the project includes permanent road removal of almost all of the streamside riparian roads in the watershed. Julius Creek intersects Usal Creek approximately 3.10 miles upstream of its confluence with the Pacific Ocean. From streamside road removal will occur on the mainstem and largest tributaries for approximately 5.23 stream miles. The project is located on the Hales Grove United States Geologic Survey 24k Quad. Project

# Julias Creek Sediment Reduction and Salmonid Recovery Project

2019

coordinates are: 39.849124 north latitude, - 123.801951 west longitude (center point of the road decommission project).

## **Project Set Up:**

The TU Project Manager will provide all grant and contract oversight and administration tasks including but not limited to obtaining permits, securing contracts (e.g. grantors, subcontractors, landowner, etc.), scheduling, implementation oversight, invoicing, reporting, and agency and landowner communications. All reporting and billing will be pursuant to the grant and regulatory guidelines. Upon final execution of the Grant and prior to receiving a Final Notice to Proceed, deliver the Final Landowner Agreement, subcontracts, and assure all permits are finalized (if required). This task will occur throughout the life of the project. Anna Halligan will be available on a full-time basis to manage this project. Elizabeth Mackey may assist with some aspects of grant management, administration, and project coordination. In addition to the TU Project Manager, the TU California Grants Assistant, Valerie Wasem, will assist with processing invoices and vendor payments, grant tracking, and reporting.

The implementation of the road decommissioning will be completed by Pacific Watershed Associates (PWA) (construction manager). PWA professionals will be under the charge of Engineering Geologist, Thomas H. Leroy (CEG #2593), who will provide project and construction oversight and Quality Assurance /Quality Control of project products. The PWA Project Leader will manage project layout, construction oversight, monitoring, and reporting. The PWA Biologists will assist with frog identification and minimization measures and the PWA paleontologist (Senior Geologist) will provide paleontology surveys required for the California Environmental Quality Act. PWA Technical Staff will conduct surveys, be on-site to layout the heavy equipment construction treatments in the project area, construction oversight, pre-, during, and post-construction monitoring as required by the Forest Land Anadromous Restoration program (FLAR), and data entry. PWA Geographic Information Systems staff will provide field layout maps, digitize layout and as-built project data, and develop report maps. PWA clerical staff will track and monitor hours and create invoices during the project. All PWA work elements will be supervised by a PWA Principal. The final reporting of the project will be done by the PWA Engineering Geologist and Project Leader with assistance and oversight from TU's Project Manager. The final summary report will include project accomplishments such as the final project budget, photographic monitoring, as-built road logs, and other project information as required by the grant agreement.

Rice Construction will be the heavy equipment contractor for the project. Rice Construction will be providing all heavy equipment for the project including

# Julias Creek Sediment Reduction and Salmonid Recovery Project

2019

Excavator, Dozer, Water Truck, Dump Truck, Low Boy, Pilot Car, Labor for erosion control, and Truck and trailer.

Revegetation will be conducted by Woodbenders.

Fish identification, relocation and monitoring will be implemented by Ross Taylor and Associates (RTA) and PWA. A qualified RTA Biologist, PWA Biologist, and RTA Employee will conduct Electrofishing, de-watering, and fish relocation activities, as needed.

Redwood Forest Foundation Inc. (RFFI) forestry and botanical staff will conduct a cultural resource survey and a botanical resource survey. This information will be provided to the California Department of Fish and Wildlife (CDFW) prior to implementation. RFFI will also provide planting materials (e.g. trees) required to complete this project. These services will be contributed as in-kind cost share.

## **Materials:**

RFFI Trees (planting): Approximately 1,267 trees will be planted by specialized laborers. Trees will be provided by landowner as cost share.

PWA Straw: Approximately 350 bales. PWA Seed: Approximately 240 pounds of native seed will be used to re-plant bare earth areas and reduce surface erosion in areas that have been disturbed by restoration activities as needed. Seed is the fastest and most efficient way to provide medium-term erosion control on disturbed areas, and it has a relatively short life span of one or two years before being shaded out by native, woody species. PWA Debris/Trash Pump: Implementation of the proposed project is estimated to require the use/rental of one pump intermittently for most of the work season. Pumps are used during construction to pump clean stream flow around the construction features and manage turbidity. They are critical to protecting water quality and are required as part of the permit to operate in the stream channels. PWA Pressure washer: A (hot water) pressure washer is used to decontaminate heavy equipment between each use in different waterbodies and watersheds to prevent the spread of invasive species as per the equipment decontamination methods. It will be the responsibility of the equipment subcontractor to decontaminate all heavy equipment prior to entering the project area. PWA Culvert: The project will require 300 feet of six foot flex pipe as part of the stream dewatering to assure water quality protection in active construction areas. The project will also require 80 feet of 60 inch; 80 feet of 36 inch; 120 feet of 30 inch, and 160 feet of 18 inch diameter culvert to upgrade the two stream crossings on the M&M road and construct Spittler crossings where the road network crosses class I streams. Secured by subcontractor. PWA Office Supplies: Many small office supplies will be used to complete the project including photo duplication for final reports,

copying/binding for final reports, report maps, and postage. PWA Mileage and per diem: PWA staff require mileage, lodging and per diem to accommodate travel needs to visit the site and meet with partners. PWA Field Supplies: Field materials may include, but are not limited to flagging, metal identification tags, nails, rite-in-the rain paper, gloves, spray paint and measuring field tapes.

Rice Construction Mileage: One-way contractor mileage is required for transportation costs to get the contractor (heavy equipment operators) to the project site on a daily basis. Heavy equipment: An Excavator, Dozer, Water Truck, Dump Truck, Low Boy, Pilot Car, and Truck and trailer will be required for equipment mobilization and construction. Rice construction will provide necessary equipment and operation labor.

TU Mileage: Mileage reimbursement for five round trips to the project site. TU Supplies: Includes costs associated with field supplies, meeting materials, and supporting supplies such as flagging, measuring tapes, wooden stakes, rite-in-the-rain paper, notebooks and notepads, writing utensils, charting pads, envelopes, poster board, and fastening supplies. TU Permit Fee: Required for Notification of Lake or Streambed Alteration Fee.

RTA Supplies: Electrofishing gear to conduct fish relocations; three inch centrifugal pump for drawing down larger pools; exclusion fencing; water quality equipment required to conduct de-watering and fish relocations. These items will be secured by RTA staff. RTA Travel Miles: Required to travel to/from project site. RTA Per Diem: Per diem to accomodate overnight travel.

## **Tasks:**

**Task A. Grant Oversight and Project Administration:** TU personnel will provide all contracting oversight and administration as pursuant to grant and regulatory guidelines. This includes but is not limited to obtaining permits, securing contracts, scheduling, implementation oversight, invoicing, reporting, and agency and landowner communications. Upon final execution of the Grant and prior to receiving a Final Notice to Proceed, TU personnel will deliver the Final Landowner Agreement, subcontracts, and assure all permits are finalized. Additionally, the TU Grants Assistant will be available to assist with invoicing and vendor payment. This task will occur throughout the life of the project.

**Task B. Implementation of the road decommissioning (PWA):** PWA will be responsible for executing project implementation.

**Task B-1. Environmental Compliance and Pre-project layout:** PWA will coordinate with RFFI to conduct the appropriate surveys for listed species. RFFI staff will complete necessary cultural resource and botanical surveys. Prior to

implementation all required botanical, biotic, cultural, and paleontological survey information will be provided to TU and CDFW. Exclusionary fencing for salmonids and other aquatic species will be installed at the confluence of flowing tributaries to prevent upstream migration into the construction areas as deemed necessary by the grant manager, Biologist, and the project manager. This component of the project may require fish and amphibian exclusion and relocation. This task will be conducted by Ross Taylor and Associates (RTA) and the PWA Biologist. PWA will flag heavy equipment access routes and construction boundaries (layout) as well as spoils disposal sites, equipment exclusion areas for biologic or cultural resource protection, and LWD staging areas. They will also document the existing conditions on a subset of the stream crossings and setup photo point monitoring stations at the construction locations for final reporting. Pre-construction monitoring will be performed by PWA in a manner consistent with CDFW guidelines and as required by FLAR.

**Task B-2. Road opening, feature treatment, and erosion control:** PWA will work with Rice Construction heavy equipment operators to reopen the road sites for equipment access and decommissioning treatments. All equipment, vehicles and materials used to implement this project will be cleaned and treated in accordance with the TU Aquatic Invasive Species Decontamination Plan. Personal field gear and heavy equipment working in or near a stream will be decontaminated as well. Several methods will be employed to avoid the spread of invasive species during the implementation of the project.

**Task B-2-1.** Low bed trucks will be used to move heavy equipment in and out of the project area at the beginning and end of the work season, these will require two pilot cars to move through the road system.

**Task B-2-2.** An excavator and bulldozer will be used to reopen the road for decommissioning by removing the vegetation and developing temporary stream crossings if prudent. A gasoline powered water pump will be used to protect water quality during installation of temporary crossings; these will be managed by a laborer.

**Task B-2-3.** The excavator, bulldozer and dump truck will be used to remove the anthropogenic road fill material from the stream crossing decommissioning features and other site specific features specified for treatment. Similarly, they will be used to treat and restore all road surface drainage as they work their way out from the end of the road. A gas powered water pump will be used to divert flow and protect water quality during decommissioning of live stream crossings; these will be managed by a laborer. Concurrently working with the excavator and bulldozer, the dump truck will end-haul spoils from decommission areas to designated spoil disposal sites. The water truck will be used for dust abatement to protect water quality and riparian vegetation, and laborers will be used to

spread seed and straw, and plant trees at completed construction sites. In accordance with the invasive species protocol all heavy equipment will be cleaned before and after entering/leaving the work area.

**Task B-2-4.** Post-construction monitoring, including photographic monitoring, and stream crossing profiles, will be performed by PWA consistent with the CDFW guidelines and as required by the FLAR focus. This task could begin as early as June 2020, assuming that the appropriate level of biotic, floristic and cultural resource surveys have been completed prior to implementation.

**Task C. Reporting:** PWA will conduct post-decommissioning surveys on a subset of the stream crossings and reoccupy photo points to document pre- and post-conditions at the feature locations. TU and PWA will develop a report based on CDFW requirements that documents the work completed and the total costs to implement the project. Reports will be submitted annually by November 15, and a Final Project Report will be prepared and submitted prior to grant close-out (including Final Project Budget and Final Invoice). Annual and final reports will include summaries of the following information as required: (1) general grant information, (2) location of work, (3) project access, (4) participating landowners name and address, (5) a description and analysis of the restoration and planning person hours expended, (6) a quantified description of the results of the project, including as-built road logs, (7) dates of work and the number of person hours expended, (8) labeled before-and-after photos of selected restoration activities and techniques, (10) GIS generated maps and shapefiles of the project area, and (11) monitoring checklists, databases, spreadsheets and any other data products produced during the grant term.

## **Deliverables:**

**Task A. Grant Oversight and Project Administration:** Project deliverables will include the information listed below as well as everything that will be delivered to the CDFW Project Manager during the life of the project: Final Landowner Agreements (prior to receiving Notice to Proceed); Executed subcontractor agreements (prior to receiving the Notice to Proceed), and Invoices and Progress Reports (submitted at least quarterly).

**Task B. Implementation of the road decommissioning (PWA):** Deliverables include interim cultural resource, botanical, biological, and paleontological reports (completed prior to receiving Notice to Proceed); Final Cultural resource, botanical, and paleontological reports (to be completed prior to project Final Report); as-built road log and all associated data (to be included with final report).



# Julias Creek Sediment Reduction and Salmonid Recovery Project

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2019

**Task C. Reporting:** Progress Reports (pdf format); Annual Reports (pdf format); and Final Grant Report (cd and hard copy), including all pre-and post-project data produced as a part of the project; Final Invoice and Final Budget.

## **Timelines:**

**Task A. Grant Oversight and Project Administration:** 04/01/2020 to 03/31/2022.

**Task B. Implementation of the road decommissioning (PWA):** 06/30/2020 to 03/31/2022.

**Task C. Reporting:** 11/15/2021 to 03/31/2022.

## **Additional Requirements:**

Provide survey data demonstrating steelhead trout (*Oncorhynchus mykiss*) are not present at feature 2029 before construction.

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

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. Any and 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 California Department of Fish & Wildlife 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 the Grantor Project Manager a minimum of five working days before the project site is de-watered and the stream flow diverted. The

notification will provide a reasonable time for Grantor 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 NMFS Biological Opinion.
- d. All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service, 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 Grant Manager 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 California Department of Fish and Wildlife (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 California Department of Fish and Wildlife engineers prior to commencement of work.

All habitat improvements will follow techniques described in the *California Salmonid Stream Habitat Restoration Manual*, Volume I, and Volume II Part XI and Part XII. The Grantee/landowner will maintain the new crossing, inspect the crossing in a timely manner and remove debris as necessary during the storm season.

All road decommissioning will be done in accordance with techniques described in the Handbook for Forest and Ranch Roads, (PWA, 1994c.) and the *California*



*Salmonid Stream Habitat Restoration Manual*, Volume II, Part X. All road upgrade and decommissioning sites and techniques shall be approved by the Grantor Project Manager before any equipment work takes place.

All crossings treated in fish bearing reaches of streams will follow the National Marine Fisheries Service (NMFS 2001) Guidelines for Salmonid Passage at Stream Crossings and the criteria for adult and juvenile salmonid fish passage as described in Volume II, Part IX of the *California Salmonid Stream Habitat Restoration Manual*.

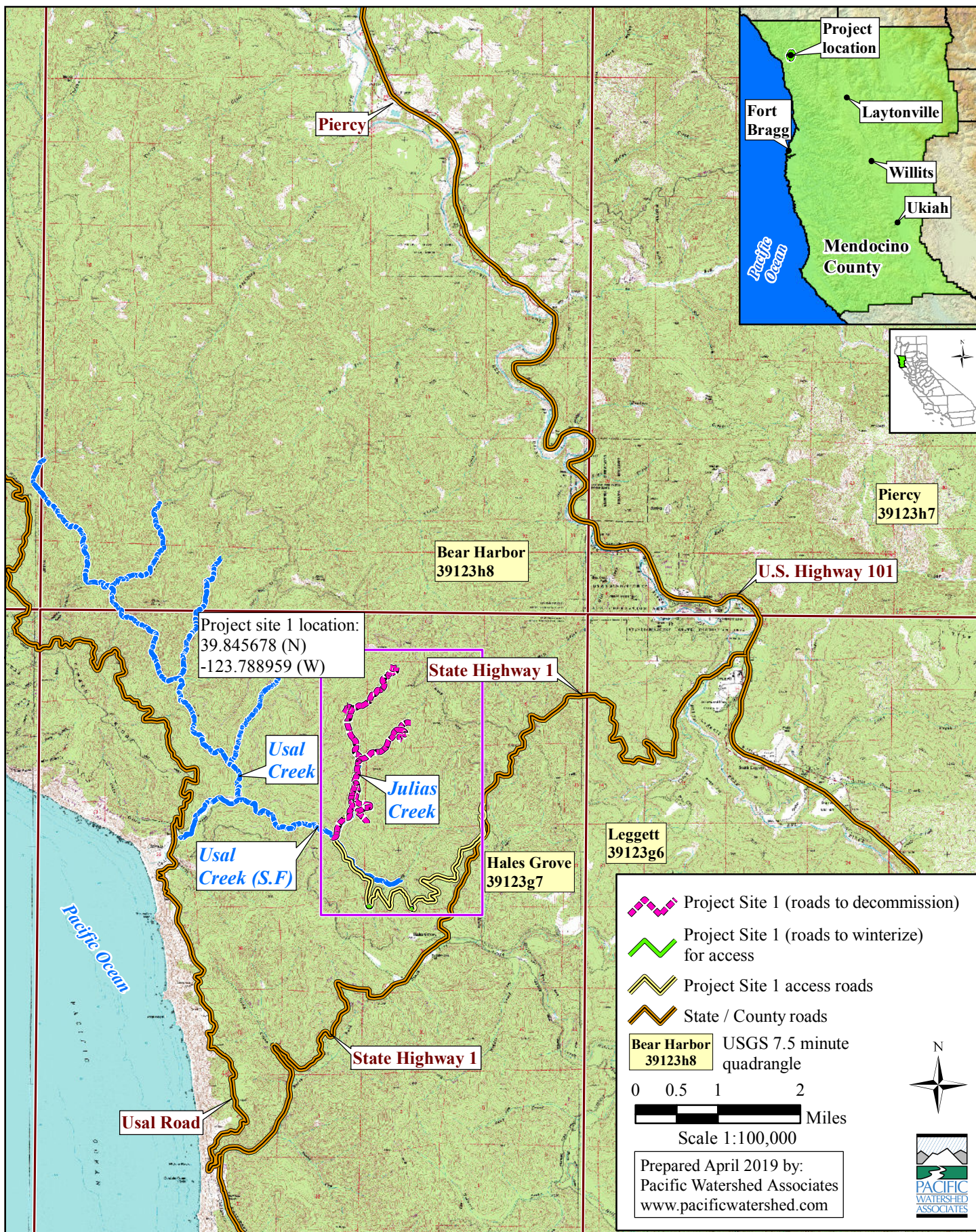
Seeding and mulching of all exposed soils shall be done for all slopes which may deliver sediment to a stream. Woody debris will be concentrated on finished slopes adjacent to stream crossings. The standard for success is 80% ground cover for broadcast planting of seed, after a period of three years. Mulching and seeding will take place as sites are completed to avoid unforeseen erosion. Planting of tree seedlings will take place after December 1 or when sufficient rainfall has occurred to insure the best chance of survival of the seedlings.

Sites that are expected to erode and deliver sediment to the stream are the only locations where work will be authorized for reimbursement under the terms of this agreement. Reimbursement will not be authorized for work done to improve aesthetics only.

The landowner or responsible party must sign an access agreement stating they agree to maintain the erosion control project for a period of not less than 10 years. Maintenance will consist of repair to the road or stream crossing to a level that will effectively reduce sediment from entering the stream. In the event of an act of nature which results in partial or complete failure of the project, the landowner or applicant will not be held responsible for costs incurred after the act of nature. Acts of nature include, but are not limited to floods, earthquakes, volcanic eruptions, and wind storms.

All habitat improvements will follow techniques described in the *California Salmonid Stream Habitat Restoration Manual*. Planting of tree seedlings will take place after December 1 or when sufficient rainfall has occurred to insure the best chance of survival of the seedlings.





Map 1. Project location topographic map for the Julias Creek Sediment Reduction and Salmonid Recovery Project, Mendocino County, California. Grantee: Trout Unlimited





## Selected Elements by Scientific Name

### California Department of Fish and Wildlife

### California Natural Diversity Database



**Query Criteria:** Quad< IS </span>(Hales Grove (3912377)<span style="color:Red"> OR </span>Noble Butte (3912386)<span style="color:Red"> OR </span>Leggett (3912376)<span style="color:Red"> OR </span>Lincoln Ridge (3912366)<span style="color:Red"> OR </span>Westport (3912367)<span style="color:Red"> OR </span>Mistake Point (3912378)<span style="color:Red"> OR </span>Bear Harbor (3912388)<span style="color:Red"> OR </span>Piercy (3912387))

Possible species within the Hales Grove and surrounding quads for 3074 Julius Creek Sediment Reduction and Salmonid Recovery Project, Mendocino County

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Abronia umbellata</i> var. <i>breviflora</i></b> pink sand-verbena	PDNYC010N4	None	None	G4G5T2	S2	1B.1
<b><i>Accipiter cooperii</i></b> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<b><i>Accipiter gentilis</i></b> northern goshawk	ABNKC12060	None	None	G5	S3	SSC
<b><i>Agrostis blasdalei</i></b> Blasdale's bent grass	PMPOA04060	None	None	G2	S2	1B.2
<b><i>Anodonta californiensis</i></b> California floater	IMBIV04020	None	None	G3Q	S2?	
<b><i>Antrozous pallidus</i></b> pallid bat	AMACC10010	None	None	G5	S3	SSC
<b><i>Arabis mcdonaldiana</i></b> McDonald's rockcress	PDBRA06150	Endangered	Endangered	G3	S3	1B.1
<b><i>Arboreus pomo</i></b> Sonoma tree vole	AMAFF23030	None	None	G3	S3	SSC
<b><i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i></b> Raiche's manzanita	PDERI041G2	None	None	G3T2	S2	1B.1
<b><i>Ascaphus truei</i></b> Pacific tailed frog	AAABA01010	None	None	G4	S3S4	SSC
<b><i>Astragalus agnicidus</i></b> Humboldt County milk-vetch	PDFAB0F080	None	Endangered	G2	S2	1B.1
<b><i>Bombus caliginosus</i></b> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
<b><i>Bombus crotchii</i></b> Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
<b><i>Bombus occidentalis</i></b> western bumble bee	IIHYM24250	None	None	G2G3	S1	
<b><i>Calamagrostis foliosa</i></b> leafy reed grass	PMPOA170C0	None	Rare	G3	S3	4.2
<b><i>Cardamine angulata</i></b> seaside bittercress	PDBRA0K010	None	None	G4G5	S3	2B.1
<b><i>Castilleja litoralis</i></b> Oregon coast paintbrush	PDSCR0D012	None	None	G3	S3	2B.2
<b><i>Castilleja mendocinensis</i></b> Mendocino Coast paintbrush	PDSCR0D3N0	None	None	G2	S2	1B.2
<b><i>Ceanothus foliosus</i> var. <i>vineatus</i></b> Vine Hill ceanothus	PDRHA040D6	None	None	G3T1	S1	1B.1



Selected Elements by Scientific Name  
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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Clarkia amoena ssp. whitneyi</i></b> Whitney's farewell-to-spring	PDONA05025	None	None	G5T1	S1	1B.1
<b><i>Coptis laciniata</i></b> Oregon goldthread	PDRAN0A020	None	None	G4?	S3?	4.2
<b><i>Corynorhinus townsendii</i></b> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<b><i>Erethizon dorsatum</i></b> North American porcupine	AMAFJ01010	None	None	G5	S3	
<b><i>Eriogonum kelloggii</i></b> Kellogg's buckwheat	PDPGN083A0	None	Endangered	G2	S2	1B.2
<b><i>Erysimum concinnum</i></b> bluff wallflower	PDBRA160E3	None	None	G3	S2	1B.2
<b><i>Erythronium revolutum</i></b> coast fawn lily	PMLIL0U0F0	None	None	G4G5	S3	2B.2
<b><i>Gentiana setigera</i></b> Mendocino gentian	PDGEN060S0	None	None	G2	S2	1B.2
<b><i>Gilia capitata ssp. pacifica</i></b> Pacific gilia	PDPLM040B6	None	None	G5T3	S2	1B.2
<b><i>Hesperocyparis pygmaea</i></b> pygmy cypress	PGCUP04032	None	None	G1	S1	1B.2
<b><i>Horkelia marinensis</i></b> Point Reyes horkelia	PDROS0W0B0	None	None	G2	S2	1B.2
<b><i>Margaritifera falcata</i></b> western pearlshell	IMBIV27020	None	None	G4G5	S1S2	
<b><i>Mitellastra caulescens</i></b> leafy-stemmed mitrewort	PDSAX0N020	None	None	G5	S4	4.2
<b><i>Myotis thysanodes</i></b> fringed myotis	AMACC01090	None	None	G4	S3	
<b><i>Myotis yumanensis</i></b> Yuma myotis	AMACC01020	None	None	G5	S4	
<b>North Central Coast Fall-Run Steelhead Stream</b> North Central Coast Fall-Run Steelhead Stream	CARA2631CA	None	None	GNR	SNR	
<b>Northern Interior Cypress Forest</b> Northern Interior Cypress Forest	CTT83220CA	None	None	G2	S2.2	
<b><i>Oncorhynchus kisutch pop. 2</i></b> coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	G4T2Q	S2?	
<b><i>Oncorhynchus kisutch pop. 4</i></b> coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G4	S2?	
<b><i>Oncorhynchus mykiss irideus pop. 16</i></b> steelhead - northern California DPS	AFCHA0209Q	Threatened	None	G5T2T3Q	S2S3	
<b><i>Oncorhynchus mykiss irideus pop. 36</i></b> summer-run steelhead trout	AFCHA0213B	None	None	G5T4Q	S2	SSC



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Pekania pennanti</i></b> fisher - West Coast DPS	AMAJF01021	None	Threatened	G5T2T3Q	S2S3	SSC
<b><i>Piperia candida</i></b> white-flowered rein orchid	PMORC1X050	None	None	G3	S3	1B.2
<b><i>Rana aurora</i></b> northern red-legged frog	AAABH01021	None	None	G4	S3	SSC
<b><i>Rana boylei</i></b> foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
<b><i>Rhyacotriton variegatus</i></b> southern torrent salamander	AAAAJ01020	None	None	G3G4	S2S3	SSC
<b><i>Sedum laxum ssp. eastwoodiae</i></b> Red Mountain stonecrop	PDCRA0A0L1	None	None	G5T2	S2	1B.2
<b><i>Sidalcea malachroides</i></b> maple-leaved checkerbloom	PDMAL110E0	None	None	G3	S3	4.2
<b><i>Silene campanulata ssp. campanulata</i></b> Red Mountain catchfly	PDCAR0U0A2	None	Endangered	G5T3Q	S3	4.2
<b><i>Taricha rivularis</i></b> red-bellied newt	AAAAF02020	None	None	G4	S2	SSC
<b><i>Thermopsis robusta</i></b> robust false lupine	PDFAB3Z0D0	None	None	G2	S2	1B.2
<b><i>Upland Douglas Fir Forest</i></b> Upland Douglas Fir Forest	CTT82420CA	None	None	G4	S3.1	
<b><i>Usnea longissima</i></b> Methuselah's beard lichen	NLLEC5P420	None	None	G4	S4	4.2
<b><i>Viburnum ellipticum</i></b> oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3

Record Count: 53