Introduction:

The California Trout, Inc. will implement the Scott Bar Mill Creek Fish Passage Improvement project to restore fish passage for salmonids to 3 miles of spawning and rearing habitat within the Scott Bar Mill Creek watershed. This project will improve fish passage to all life stages from the confluence of the Scott River, upstream 200 feet by restoring stream channel morphology and decommissioning a cement, ford crossing that is a full passage barrier.

The project will benefit Coho Salmon by removing fish barriers and constructing a new stream channel for access to spawning and thermal refugia habitat. The implementation of this project will treat limiting conditions identified in Final Recovery Plan for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon National Marine Fisheries Service-SONCC- ScoR.5.1.11.2:

The SONCC Plan lists removing fish passage barriers as highest priority actions for recovering the Scott River Watershed coho salmon populations.

The Permittee 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 I, Volume II.

Objective(s):

The project will realign the Mill Creek channel to reduce the channel slope starting at the confluence working upstream by excavating a new 200-foot channel constructed with large rock, logs with root wads and engineered streambed material, the new channel will transition into the existing channel profile. The concrete ford crossing will be demolished and replace with a 70-foot prefabricated steel bridge supported on concrete abutments capable of conveying 100-year flow event.

Project Description:

Location:

This project is located at Scott Bar Mill Creek, a tributary to the Scott River, 3.3 miles from the confluence with the Klamath River in Siskiyou County, California. The project reach is in the first 200 feet of Scott Bar Mill Creek, project coordinates are: Latitude – 41.74314, Longitude – 123.00230.

Project Set Up:

The project will be implemented by the following personnel and subcontractors:

California Trout Regional Director (Permittee) will oversee project administration, and technical management of the project.

Permittee's Regional Grant and Contract Manager will adminstrate project subcontracts, track and process expenses and invoices, and grant reporting.

Permitee's Central Finance Administrator will support the Regional Grant and Contract Manager with budgetery tracking, invoicing, and grant compliance monitoring.

Permittee's Construction Management and Coordination will conduct daily oversight with implementation activities, task scheduling, permitting compliance, coordination with subcontractors and project partners. Conduct pre/post construction monitoring.

Permittee's Technical Subcontractor (Geomorphology) will conduct hydrologic and geomorphhic assessments for project planning and implementation. Conduct oversight with construction and enviromental compliance monitoring. Complete water quality monitoring and dewatering compliance requirements.

Permittee's Technical Subcontractor (Geotechnical) will conduct geotechnical services for the bridge installation.

Permittee's Technical Subcontractor (Permitting) will conduct NEPA and CEQA envirnomental compliance assessments and permit reporting services.

Permittee's Technical Subcontractor (Monitoring and Reporting) will conduct effectiveness post implementation surveys and assessments.

Permittee's Engineering Subcontractor will conduct technical oversight with design engineering, project planning, implementation of the channel restoration design plan.

Permittee's Construction Subcontractor will complete construction activities, provide labor and materials to implement the design plan for bridge installation, new stream channel. Conduct excavation/grading work, installation of wood structures, and riparian planting.

Permittee's Construction Subcontractor Labor) will provide labor compliance services.

Permittee's Biological Subcontractor (Fisheries) will conduct oversight with fisheries resource protective requirements for project implementation. Conduct pre and post project implementation monitoring. Develop post project management plan.

Materials:

All materials will be purchased by the applicant, California Trout Inc.

Material items and uses include: One pre-fabricated modular steel bridge and railings. The bridge will replace the existing ford crossing. The steel modular bridge will be placed and secured to the concrete abutments. The bridge will be designed to accommodate heavy equipment crossing Mill Creek.

Concrete: Concrete will be used for bridge footings, abutments and wingwalls. A stable base for the bridge is necessary to support heavy equipment ingress and egress, this is supported by substantial concrete structures. The extent of the bridges footing, abutment and wingwalls are included in the engineering drawings with additional information provided in the Technical Specifications.

Quarry Rock-Rock Slope Protection: Rock Slope Protection (RSP) will be used to protect the stream banks around the bridge abutments. The RSP will protect the bridge abutment from scouring of the footings and abutment due to high velocities. RSP use is a standard engineering specification around bridge abutments to protect the integrity of the bridge. The rock size specified for the RSP is Caltrans ½ Ton, Caltrans No. 1 for the backing layer, and a gravel filter layer.

Aggregate Base will be used on the road surfaces. Aggregate base is easily compacted and provides road stability and reduces erosion potential from road surfaces. Given the limited number of trips expected to occur across the bridge, aggregate base is the most reasonable and cost effective surface material. The Aggregate Base Course shall be Class 2 Aggregate Base, 3/4 inch maximum, conforming to Section 26 of the State Standard Specifications and is not required to be lime treated.

Engineered Fill: Engineered Fill will be used behind the constructed bridge foundation (abutment and wingwalls). Engineered fill has known gradation to allow for consistent compaction behind the bridge structures. Maximizing compaction behind and around bridge foundation supports whatever loads will be supported by the bridge.

Channel Boulders: Boulders are being incorporated into the project as part of the stream simulation approach to channel restoration. Incorporating boulders is a key component of the restoration and enhances fish passage conditions both

under high and low flow conditions.

Log Structures: Large wood is being incorporated within the project area to enhance protection of the ESM berm proposed for the mouth and provide in-channel complexity along the realigned channel.

Ballast Boulders: Ballast boulders are required for the project to counteract the buoyant force of the logs and rootwads that will be installed at worksite 1 of the project area and prevent them from floating away. Two ballast boulders per log will be required. Each ballast boulders shall be a minimum weight of 2 tons.

Engineered Streambed Material: Engineered streambed material is being utilized to reconstruct the embankment between the Scott River and the realigned portion of Mill Creek. The material is being specified as ESM to differentiate between this feature, which ultimately is expected to support growth of riparian vegetation while resisting hydraulic forces, and standard rock slope protection boulders. This material can be salvaged on site, or imported from off-site as long as the specifications are met. Material imported from off-site will be sourced at a certified quarry.

Stream Substrate: Stream substrate will enhance channel conditions within the restored section of the channel. All stream substrate will be sourced from on-site using material excavated from the channel upstream of the existing ford crossing.

Multiparameter Digital Water Quality Meter: Electronic instrument to measure turbitiy, temperature and dissolve oxygen for monitoring water quality.

Tasks:
Task 1: Project Administration; Permittee will conduct technical and administrative services for the grant agreement. Will secure all permits, administrate subcontracts, procurements, project tracking, invoicing, and submitting progress, quarterly and final reports.

Task 2: Project Permitting and Subcontracting; Permittee will secure subcontract agreements with Technical and Construction Contractors, for project implementation.
Permittee will complete all required regulatory NEPA and CEQA documentation including securing necessary permits, e.g., SWRCB 401, AOC 404, CDFW 1600.

Task 3: Project Management and Coordination: Permittee will conduct pre - project monitoring. Will submit dewatering and water quality plans for implementation. Coordinate a pre – implementation site and 100% final design review with landowner and agencies. Submit a construction schedule and site map that identifies areas for equipment storage, re-fuel, maintenance, staging sites for material storage, excavation spoils and installation of pre-construction erosion control measures.

Task 4: Project Implementation:

- Worksite 1 – Bridge Installation
  The Construction Contractor will demolish the concrete ford road crossings removing all cement, metal piping, and steel material. A prefabricated bridge anchored to concrete abutments will be installed in accordance with the approved 100% final design plan.

- Worksite 2 – Stream Channel Restoration

  From the confluence of Scott Bar Mill Creek and Scott River, upstream 200 feet to worksite 1, the new channel will be realigned to improve fish passage for adult and juvenile salmonids.
  The new channel realignment will be constructed in accordance with the approve 100% final design plan. Meet CDFW and NOAA fish passage criteria.
  The constructed channel features will include riparian planting, wood structures, reduced channel slope, engineered streambed to lower stream velocities.

Task 5: Monitoring and Reporting:

The Permittee will conduct post implementation surveys for; longitudinal channel profile with cross-sections, as-built drawings, pre & post construction photo documentation, total number of trees planted, habitat features installed. Project monitoring reports will be included in the project's final report
The Permittee will conduct effectiveness monitoring for fish habitat utilization, riparian survival, wood structure performance. Monitoring reports will be included with the project's final report

Deliverables:

Task 1: Project Administration: quarterly project reports, annual reports, draft, and final reports. Progress reports/invoices, Subcontractor agreements, landowner access agreements, as – built final design plan set, engineering reports, pre and post implementation monitoring data/reports and photos, effectiveness monitoring data/reports.

Task 2: Permitting and Subcontracting: Surveys for environmental compliance permitting (CEQA, NEPA), LSAA permit, signed subcontractor agreements,

Task 3: Project Management and Coordination: Pre implementation monitoring reports and photos, approved dewatering plan, approved final design plan, project construction schedule.

Task 4: Project Implementation: one prefabricated bridge, 200 feet of restored engineered stream channel.

Task 5: Monitoring and Reporting: Post implementation reports and photos, as – built plan set, effectiveness monitoring reports.

Timelines:

Task 1: Project Administration: 4/1/2022 to 12/31/2024

Task 2: Permitting and Subcontracting: 4/1/2022 to 6/30/2022

Task 3: Project Management and Coordination: 4/1/2022 to 10/31/2024

Task 4: Project Implementation: 7/1/2022 to 10/31/2024

Task 5: Monitoring and Reporting: 11/1/2022 to 10/31/2024

Additional Requirements:

The Permittee 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 projects 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 Permittee shall notify the CDFW 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 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 Permittee 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.

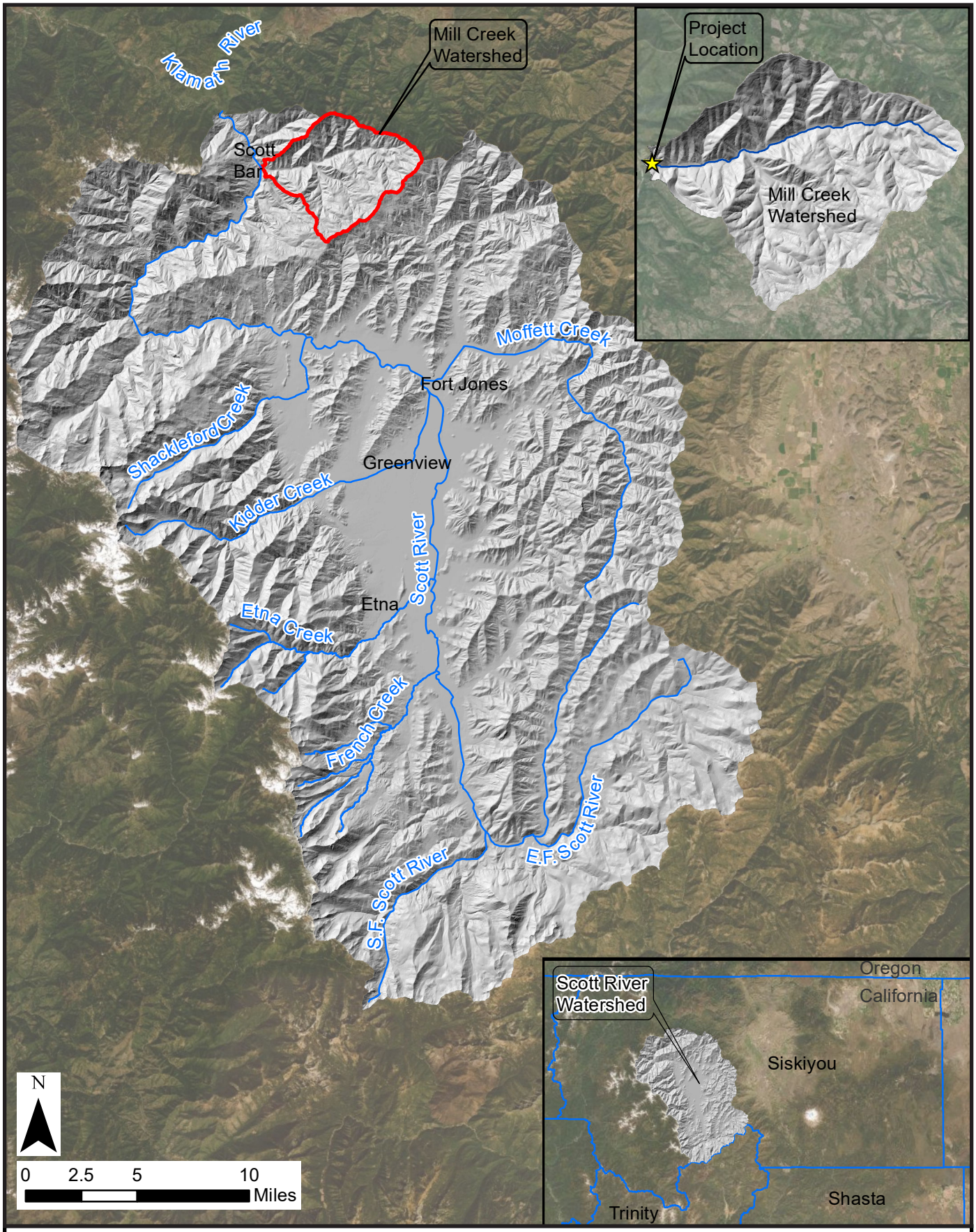
b. Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.

c. The Permittee 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 Permittee to the CDFW Grant Manager on a form provided by CDFW.

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.



Project Location/Watershed Overview

Scott Bar Mill Creek Fish Passage Improvements

WATERWAYS CONSULTING, INC.
Santa Cruz, CA | watways.com | Portland, OR

FIGURE 1

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Scott Bar (4112361) OR Russell Peak (4112268) OR Greenview (4112258) OR Boulder Peak (4112351) OR Marble Mountain (4112352) OR Grider Valley (4112362) OR Seiad Valley (4112372) OR Hamburg (4112371) OR Horse Creek (4112278))

Possible species within the Scott Bar and surrounding quads for 1725604 - Scott Bar Mill Creek Fish Passage Improvement Project, Siskiyou County

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Abies amabilis Pacific silver fir	PGPIN01010	None	None	G5?	S2	2B.3
Abies lasiocarpa var. lasiocarpa subalpine fir	PGPIN01072	None	None	G5T5	S3	2B.3
Accipiter gentilis northern goshawk	ABNKC12060	None	None	G5	S3	SSC
Ambystoma macrodactylum sigillatum southern long-toed salamander	AAAAA01085	None	None	G5T4	S3	SSC
Ancotrema voyanum hooded lancetooth	IMGAS36130	None	None	G1G2	S1S2	
Anemone multifida var. multifida cut-leaf anemone	PDRAN040E6	None	None	G5T5	S1S2	2B.2
Antigone canadensis tabida greater sandhill crane	ABNMK01014	None	Threatened	G5T5	S2	FP
Arabis aculeolata Waldo rockcress	PDBRA06010	None	None	G4	S2	2B.2
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Ascaphus truei Pacific tailed frog	AAABA01010	None	None	G4	S3S4	SSC
Atractelmis wawona Wawona riffle beetle	IICOL58010	None	None	G3	S1S2	
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Bombus franklini Franklin's bumble bee	IIHYM24010	Proposed Endangered	Candidate Endangered	G1	S1	
Bombus morrisoni Morrison bumble bee	IIHYM24460	None	None	G4G5	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
Campanula wilkinsiana Wilkin's harebell	PDCAM020Z0	None	None	G2	S2	1B.2
Carex nardina nard sedge	PMCYP03920	None	None	G4G5	S1	2B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Chaenactis suffrutescens Shasta chaenactis	PDAST200H0	None	None	G2G3	S2S3	1B.3
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Cottus klamathensis polyporus Lower Klamath marbled sculpin	AFC4E02153	None	None	G4T2T4	S2S4	SSC
Drosera anglica English sundew	PDDRO02010	None	None	G5	S2	2B.3
Entosphenus similis Klamath River lamprey	AFBAA02140	None	None	G3G4Q	S3	SSC
Epilobium oreganum Oregon fireweed	PDONA060P0	None	None	G2	S2	1B.2
Epilobium siskiyouense Siskiyou fireweed	PDONA06100	None	None	G3	S3	1B.3
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Eriogonum diclinum Jaynes Canyon buckwheat	PDPGN081S0	None	None	G3	S3	2B.3
Eriogonum hirtellum Klamath Mountain buckwheat	PDPGN082T0	None	None	G2G3	S2S3	1B.3
Eriogonum umbellatum var. glaberrimum Warner Mountains buckwheat	PDPGN086U2	None	None	G5T2?	S2	1B.3
Eriogonum umbellatum var. lautum Scott Valley buckwheat	PDPGN086UX	None	None	G5T1	S1	1B.1
Eriogonum ursinum var. erubescens blushing wild buckwheat	PDPGN08632	None	None	G3G4T3	S3	1B.3
Erythronium hendersonii Henderson's fawn lily	PMLIL0U070	None	None	G4	S2	2B.3
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Gentiana plurisetosa Klamath gentian	PDGEN060V0	None	None	G2G3	S2	1B.3
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S1S2	
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Juncus dudleyi Dudley's rush	PMJUN01390	None	None	G5	S1	2B.3
Klamath/No Coast Spring Run Chinook/Summer Steelhead Stream Klamath/No Coast Spring Run Chinook/Summer Steelhead Stream	CARB2333CA	None	None	GNR	SNR	
Lanx alta highcap lanx	IMGASL7010	None	None	G2G3	S1S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lewisia cotyledon var. heckneri Heckner's lewisia	PDPOR04052	None	None	G4T3	S3	1B.2
Margaritifera falcata western pearlshell	IMBIV27020	None	None	G4G5	S1S2	
Martes caurina Pacific marten	AMAJF01030	None	None	G4G5	S3	
Meesia longiseta long seta hump moss	NBMUS4L010	None	None	G5	S1	2B.3
Mielichhoferia mielichhoferiana Mielichhofer's copper moss	NBMUS4Q021	None	None	G2G3	S1	2B.3
Mitellastra caulescens leafy-stemmed mitrewort	PDSAX0N020	None	None	G5	S4	4.2
Monadenia callipeplus downy sideband	IMGASC7110	None	None	G1?	S1S2	
Oncorhynchus mykiss irideus pop. 36 summer-run steelhead trout	AFCHA0213B	None	Candidate Endangered	G5T4Q	S2	SSC
Oncorhynchus tshawytscha pop. 30 chinook salmon - upper Klamath and Trinity Rivers ESU	AFCHA02056	Candidate	Candidate Endangered	G5T3Q	S1S2	SSC
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Pekania pennanti Fisher	AMAJF01020	None	None	G5	S2S3	SSC
Phacelia greenei Scott Valley phacelia	PDHYD0C1V0	None	None	G2	S2	1B.2
Piperia candida white-flowered rein orchid	PMORC1X050	None	None	G3	S3	1B.2
Plethodon asupak Scott Bar salamander	AAAAD12560	None	Threatened	G1G2	S1S2	
Plethodon elongatus Del Norte salamander	AAAAD12050	None	None	G4	S3	WL
Plethodon stormi Siskiyou Mountains salamander	AAAAD12180	None	Threatened	G3?	S1S2	
Polemonium carneum Oregon polemonium	PDPLM0E050	None	None	G3G4	S2	2B.2
Potamogeton robbinsii Robbins' pondweed	PMPOT030Z0	None	None	G5	S3	2B.3
Potentilla cristae crested potentilla	PDROS1B2F0	None	None	G2	S2	1B.3
Ptilidium californicum Pacific fuzzwort	NBHEP2U010	None	None	G4G5	S3S4	4.3
Rana boylii foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Rana cascadae Cascades frog	AAABH01060	None	Candidate Endangered	G3G4	S3	SSC
Rhyacotriton variegatus southern torrent salamander	AAAAJ01020	None	None	G3G4	S2S3	SSC
Saxifraga cespitosa tufted saxifrage	PDSAX0U0C0	None	None	G5	S1	2B.3
Sedum marmorense Marble Mountains stonecrop	PDCRA0A230	None	None	G1G2	S1S2	1B.2
Smilax jamesii English Peak greenbrier	PMSMI010D0	None	None	G3G4	S3S4	4.2
Stygobromus mysticus Secret Cave amphipod	ICMAL05A00	None	None	G1	S1	
Trifolium siskiyouense Siskiyou clover	PDFAB402S0	None	None	GH	SH	1B.1
Trilobopsis tehamana Tehama chaparral	IMGASA2040	None	None	G2	S1	
Vaccinium scoparium little-leaved huckleberry	PDERI180Y0	None	None	G5	S3	2B.2

Record Count: 69