

South Fork Rowdy/Savoy Creeks Salmonid Habitat Improvement Project (Project ID: 1728001) 2022

Introduction:

The Pacific Coast Fish, Wildlife and Wetlands Restoration Association will implement the South Fork Rowdy/Savoy Creeks Salmonid Habitat Improvement Project. This project will locate and design instream habitat structures and riparian treatments to improve coho habitat and restore riparian function in stream reaches currently lacking quality salmonid habitat and LWM. LWM structures create habitat complexity and enhance valuable spawning and rearing habitat for all anadromous life stages. The LWM habitat designs and riparian treatments will address limiting factors by improving fluvial geomorphic function and instream habitat conditions.

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*

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

Objectives:

The goal of this project is to develop fully permittable 100% design plans to improve instream habitat conditions through the introduction of LWM habitat structures and riparian restoration to increase the rate at which LWM recruitment will occur. Specifically, at least 4 Engineered Log Jams (ELJ) and 60 Non-Engineered Log Jam designs will be created to lead to the treatment of the top 10 highest priority stream reaches, as identified by the field investigation. Assuming the design phase does not identify insurmountable obstacles or unacceptable risks, the designs resulting from this project will be implemented in one or more follow-up projects.

Project Description:

Location:

The project is located along the South Fork Rowdy Creek and Savoy Creek, 2 miles upstream of the Rowdy Creek confluence with Smith River. Project

coordinates are: 41.918112999999998 west, 124.101737 north.

Project Set Up:

Pacific Coast Fish, Wildlife and Wetlands Restoration Association (PCFWRA) will provide all contracting oversight and administration including but not limited to obtaining permits; securing contracts (grantors, subcontractors, landowners); project scheduling; invoicing; report preparation; as well as facilitating agency, landowner and Native American Tribe communications.

The Project Manager oversees all aspects of the project. This includes coordination and problem solving with agencies, landowner subcontractors and informal consultation and collaboration with the Tolowa dee Ni' Nation, the identified CA Native American Tribe for the project location. Permits, landowner agreements, and grant agreements are the PM's responsibility to make sure they are in place and they are followed. The PM regularly reviews the progress of the project and completed work with respect to the approved budget, as well as working regularly with technical consultants to make sure work is being done to the required standards. The Project Manager will also expend time on tasks for compliance with requirements contained in the Agreement's Exhibit 1.b Non-Public Entities General Grant Provisions and Exhibit 2 Federal Grant Provisions during the entire project. The PM is responsible for the review, editing, and submission of all invoices and reporting on projects. The PM's time is split between the field, meetings and the office.

Engineering and Geologic Subcontractor (Pacific Watershed Associates (PWA) field characterization and 100% design plan development). Pacific Watershed Associates will be the lead in conducting the assessments to characterize the historic watershed and channel disturbances, biological habitat and utilization by species at age, geomorphology, riparian composition, and topography (Tasks 2 below), and hydrologic modeling outlined in Tasks 1 - 6, below. In the priority stream reaches, the Tolowa Dee-ni' Nation Environmental Department Staff Scientists will assist in characterization and designs with limited field visits and technical review.

Provides technical expertise in developing and reviewing design options, geologic and geomorphic investigations, and draft and final work plan review, editing, and guidance for project scientists and engineers. The Principal Scientist is also in charge of final report technical editing and review.

Lead scientist for conducting site characterization, consideration of design options, hydrologic and hydraulic analyses and modeling, development of a grading plan (if necessary), 100% design of ELJ in- stream structures, risk analysis, development of comprehensive erosion control and revegetation plan, and developing a cost estimate that includes all plans and specifications for

construction of the project. The Senior Engineer will stamp the final 100% design with their professional seal.

The Engineering Geologist is the responsible charge of geologic and geomorphic characterization (surface and subsurface) and provides input on complex geological issues. Ensures compliance with Geologist and Geophysicists Act (California Business and Professions Code 7800).

Staff Scientist: Provides project support by working with the Senior and Associate Engineers, Associate Scientist(s), and NR Specialist to collect field data, provide survey assistance, conduct field investigations, and assists with processing data and preparing conceptual designs of non-engineered LWM habitat structures.

Responsible for documenting existing conditions through, fish habitat assessments, large wood and riparian surveys, juvenile salmonid habitat utilization surveys, spawning surveys, macroinvertebrate investigations by functional group, and water quality testing. This position is also responsible for analyzing data to providing biological assessments that will include habitat suitability ranking and limiting factor identification, recommendations for restoration actions specific to salmonids at age, and providing expertise for the ELJs and non-engineered LWM structure locations and designs. Works with the geologists and engineers in developing design options, biological section of the BOD, and participates in all TAC meetings.

GIS Specialist: Provides project support through technical drafting of design plans, development of GIS maps and products, and produces field maps in support of site characterization surveys, produces fish habitat suitability and geologic maps, and reporting.

Tolowa Dee-ni Nation (TDN) Environmental Department: Assists with existing conditions surveys. TDN staff will be TAC members and will participate in all meetings and material reviews. TDN heavy equipment operator (approved licensed heavy equipment contractor) will operate backhoe or excavator to assist with the subsurface exploration and monitoring well installation if they are needed. Cultural resource monitoring will also provide observational oversight for all activities requiring ground disturbance.

Archeologist - Bill Rich and Associates will be responsible for completing archeology and cultural resource surveys consistent with requirements for CEQA (Task 2.7). The Tolowa Dee-ni Nation Environmental Department and Tribal Heritage Protection Officer will assist with the archeological and cultural surveys.

Materials:

Field supplies may include, but are not limited to: Batteries for time-lapse cameras and other electronic equipment; Flagging and spray paint for marking

survey/gage/feature locations; wooden stakes, notebooks (Rite -in-Rain), gloves for manual labor; cameras, measuring tapes, etc: Miscellaneous sharpies, pens, pencils, clipboards; Ziplock plastic bags for soil samples; 5-gallon plastic buckets for hauling materials.

Equipment rental (PWA): Total station rental for topographic surveys; Water level readers and data loggers rental (pressure transducers PT); Hand auger rental for subsurface exploration waders for instream work, mask, snorkel, and a dry suit or wet suit for juvenile fish surveys, multi-meter and turbidity meters, thermometers.

Stream gage (and potential subsurface well) materials: Three-inch diameter blank and slotted PVC casing and caps; Filter fabric for wrapping slotted PVC pipe to prevent sediment filling of the casing; Steel T-posts, screw clamps for holding PVC casing to T-stakes, spikes/nails for setting gage elevations; Pre-fabricated staff plates.

Heavy Equipment Subcontractor: The Heavy Equipment Subcontractor will purchase a backhoe or excavator rental for subsurface investigation

Tasks:

Task 1 - Project Scoping Meeting

A project meeting will be held with the landowner, Tolowa Dee-ni' Nation (TDN), PCFWWRA, PWA, and CDFW. This meeting will occur after completion of the field characterization, including project geomorphic and topographic surveys, habitat assessment, large woody material (LWM) survey, biological survey, and preliminary hydrologic and hydraulic assessment (Task 2). The meeting is designed to help identify project objectives and constraints, discuss different potential design options to be considered, and agree on the approach that should be used in developing the 30% design.

Task 2 - Existing Site Characterizations

Site characterization of the current fluvial geomorphic, habitat suitability, large woody material (LWM), riparian composition and large wood recruitment potential within the 1.8 miles of the streams by PWAs multidisciplinary project design team (project team) with support from the Tolowa Dee-ni'. This data will inform us of the primary limiting factors affecting summer and winter rearing habitats, spawning habitats, identify existing LWM and large LWM jams, and identify the reference reach and analogue side channels or floodplain habitats, should they exist. This will ultimately provide the project team with the data needed to identify priority reaches and determine the location and construction specifications for feature designs to address the limiting factors affecting fisheries recovery in the South Fork Rowdy and in Savoy Creeks. These combined surveys and analysis of feature designs for both the engineered and non-engineered LWM structures will then be developed targeting the life cycle stages of the target species (coho),

while supporting other salmonids, in a data driven, process-based approach. Additionally, data from quantitatively documenting existing conditions, will provide baseline information from which to compare and evaluate future post-implementation actions with respect to performance and responses in the stream channel and in the target species.

Task 2.1 - Topographic Survey and Geomorphic Mapping

A topographic survey of the ELJ locations or engineering reaches will be conducted and will use submeter LiDAR data from GDRC, where available, and traditional total station surveying methods where LiDAR data is not available or is insufficient to capture existing conditions and subaqueous topography (bathymetry). The survey will capture topography of the ground within the existing channel(s) and floodplains of South Fork Rowdy and Savoy Creeks at the ELJ locations. The survey will collect topographic points following a several break-lines that include the top of bank, toe of bank, and channel thalweg, plus additional floodplain topography within 20 ft of the top of bank. The thalweg profile will be made at least five (5) channel widths upstream and downstream through the engineering reaches and include representative cross-sectional surveys with in these engineering reaches to include any hydraulic control features that are present, if any.

Control points will be established in the engineering reaches for use during the future implementation phase of the project. The topographic survey data will be processed into a base map with 1-ft contours using AutoCAD Civil 3D.

During the surveying task, field mapping will be used to characterize existing geomorphic conditions within the project study area. This will include a quantitative assessment of grade-controlling LWM distribution, bed material gradation through pebble counts, a qualitative assessment of streambank and floodplain stability, assessment of sediment transport, and photo documentation of any reference cross sections used for roughness and bankfull measurements.

Task 2.2 - Water level and Groundwater Monitoring

Groundwater monitoring wells (for water surface elevation only) will be installed in the vicinity of South Fork and Savoy Creeks and water levels will be monitored for at least one full 12-month season using pressure transducers (PTs). A minimum of 5 shallow (7ft-14ft) monitoring wells will be installed using a backhoe/hydraulic excavator and/or a hand auger to excavate the boreholes/test pits (Task 2.8). Additionally, stream discharge measurements at varying flows will be collected and correlated with the pressure transducer water level data and localized rainfall data. Discharge measurement will be taken at least three (3) locations with two (2) in South Fork Rowdy (one above and the other below Savoy Creek confluence) and one in Savoy Creek. These discharge cross section locations will be staked with rebar or some other semi-fixed marker so that they may be easily returned to during various phases of the project. Discharge measurements will be collected using a pygmy current meter. A T-post

with a pressure transducer will be installed and surveyed at each cross section for continuous stage measurements. This data will be used to calibrate the 2-D hydraulic model (Task 2.3) and to determine preferable design alternatives.

Task 2.3 - Hydrologic and Hydraulic Analysis

Streamflows in South Fork Rowdy and Savoy Creeks have not been gaged. Therefore, indirect methods will be used to estimate both peak flows and daily average exceedance flows. Flows associated with the 2-, 5-, 10-, 25-, 50-, and 100-year return periods will be estimated for South Fork Rowdy and Savoy Creeks using the USGS Regional Regression Equations for the North Coast. In addition, for comparative analysis, we will be using peak flows from nearby USGS stream gaging stations scaled to drainage area and statistically analyzed using flow transference methods outlined in USGS Bulletin 17B. A regional flow duration curve will be developed and used to estimate daily average exceedance flows. Hydraulic and/or inundation modeling will be completed using a 2D HEC-RAS software, or comparable modeling programs. This analysis will help guide the design process.

Task 2.4 - Assessment of Existing Habitat Conditions

A late summer habitat assessment of the 1.8 combined miles in South Fork Rowdy Creek and Savoy Creek will be conducted. This assessment will be conducted to provide current information on the existing fish habitat conditions, key LWM within bankful width, and riparian conditions within the project area. The habitat data will be used to evaluate fish habitat suitability with respect to primary pool frequency, pool shelter values, LWM density and distribution, substrate composition, and habitat type ratios for stream process and productivity potential. These data will help to identify current limiting factors and determine site-specific habitat needs that will be addressed through designing four (4) ELJs and sixty (60) non-engineered LWM features to improve the habitats and address identified limiting factors in the project streams. These surveys will follow the protocols as described in the California Salmonid Stream Habitat Restoration Manual for Level II Habitat Typing Methods (CDFW 2017).

Pacific Lamprey: Pacific lamprey (*Entosphenus tridentatus*) and other lamprey species (*Lampetra spp.*) also occur in salmonid watersheds. During these summer habitat assessments their habitat requirements for spawning and rearing will also be identified for relative occurrence. Through identifying existing habitat for lamprey species, we will be able to provide protection for these existing habitats and use this information to help guide the project's design to include feature elements to improve and create additional habitat for lamprey species. The design's intent to increase LWM and create slow water velocity refugia and shelter within the project streams will also benefit lamprey spp. at age. This will increase lamprey rearing areas and velocity shelter for larval lamprey, and adult holding areas as they wait until velocities abate and are favorable for migration and spawning, typically in the late spring to early summer. LWM, when placed

properly, will also create scour depth and sort substrates into the pool tails and the riffles below which spawning habitat availability for lamprey will increase.

Task 2.5 - Biological Surveys

Following the habitat assessment, data will be analyzed for habitat suitability for juvenile coho (the target species) winter and summer rearing within surveyed stream lengths to include, but not limited to, primary and secondary pools, cover complexity ranges, and LWM presence or absence. Pools throughout the project length will be selected for sampling using snorkel survey techniques to inventory fish presence and utilization of LWM habitat structural elements for cover.

Instream sampling will follow the Fish Sampling Methods as described in the California Salmonid Stream Habitat Restoration Manual.

Winter spawning surveys in this pre-implementation phase will be conducted a minimum of three times to determine if adults are gaining access through the temporal barriers, and what habitats they are utilizing. Spawning surveys will follow the Salmon Spawner Survey methods as described in the California Salmonid Stream Habitat Restoration Manual.

These data will provide meaningful information with respect to current fish passage and timing of fish access through the temporal barriers. It will also reveal the utilization of habitat elements by the adult target species that can then be used to guide the identification and design of desired adult habitats for spawning, the importance of channel connectivity, and the placement of engineered or non-engineered instream habitat features.

In addition to physical habitat, prey diversity and abundance are just as important for salmonid species to persist and thrive in streams. To better understand and further quantify instream habitat suitability, random net sweeps and kick-net sampling (D-net) for macroinvertebrates will be conducted, keyed in the field to the functional and/or family group as described by Barbour et al. (1999) and in Fisheries Techniques (American Fisheries Society 2013). Water quality parameters will be sampled to include, but not limited to, temperature, pH, dissolved oxygen (DO), and turbidity. These water quality parameters are directly tied to growth rates, foraging, predator avoidance, and competition success when at optimal values within known suitable ranges.

Task 2.6 - Site Geologic Characterization, Subsurface Characterization, Monitoring Well Installation

Site Geologic Characterization

PWA will conduct a geologic site characterization including local and regional geological and geomorphic setting, faulting and seismicity, and estimated peak ground accelerations. This will include a description of associated geologic risks and potential constraints to the project design alternatives.

Subsurface Characterization and Monitoring Well Installation

To support geologic site characterization and groundwater monitoring efforts, a limited number of excavated test pits and/or hand-augured borings will be completed to characterize the in-situ subsurface stratigraphy and existing

groundwater conditions along or adjacent to potential preferred channel alignments. Where appropriate, groundwater monitoring wells will be installed in boreholes so that near-surface hydrogeologic conditions can be observed and monitored throughout at least one winter period. For the purposes of this study, a minimum of 5 excavated test pits and/or hand augured borings will be excavated at strategic locations in coordination with the Project Engineer. In addition, a minimum of five (5) shallow (7-13 ft BGS) monitoring wells will be installed where appropriate and as field conditions dictate (Note: This task will require a hydraulic excavator to excavate accessible test pit locations. MA hand auger will be utilized where equipment access is unavailable).

Evaluation of Soil Conditions

PWA will collect soil samples during the subsurface investigation using either a 2- or 3-inch diameter core-barrel sampler (semi-undisturbed), if appropriate, or grab samples (disturbed) to be used for laboratory analysis. A one-inch diameter gouge core will be utilized where saturated, fine-grained soils inhibit retrieval using standard hand auguring techniques. A field dynamic cone penetrometer will be driven at various locations to evaluate penetration resistance and compressive strength of soil types. Field penetrometer measurements will be used to estimate strength characteristics and relative density of soils to supplement hand auger and gouge core sampling for field-based characterization. Laboratory testing of selected samples will be conducted, as necessary, to identify soil material engineering properties such as grain size distribution, Atterberg Limits, and moisture density tests for compaction.

Task 2.7 - Archeological, Cultural Resource and Paleontological Surveys

A cultural resource investigation is required to comply with the California Environmental Quality Act and its guidelines (Title 14 CCR 15000 et seq.). This will be accomplished by identifying and recording significant cultural resources within the project area, assessing the potential impacts to cultural resources resulting from the implementation of possible side channel construction and habitat enhancement activities at the project site, and offering recommendations designed to protect resource integrity, as warranted. This work will include the completion of a records search, field survey, and project-specific report. The Archaeologist from WRA will perform the archaeological work for this project with the assistance of TDN. TDN will also provide cultural resource monitors for any ground disturbing activities associated with surveys conducted in Task 2. In addition, a paleontological records search and report will also be compiled by the PWA Senior Geologist.

Deliverables:

Minimum of 5 excavated test pits and/or hand augured borings will be excavated at strategic locations in coordination with the Project Engineer. In addition, a minimum of five (5) shallow (7-13 ft BGS).

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Final (100%) Construction Plans will be stamped and signed by a Licensed Civil Engineer registered in the State of California.

Timelines:

Topographic Survey and Geomorphic Mapping
06/01/2023 to 11/30/2024

Site Geologic Characterization, Subsurface Characterization, Monitoring Well Installation
06/01/2023 to 12/31/2024

Final Design (100% Submittal)
01/13/2026 to 03/31/2026

Additional Requirements:

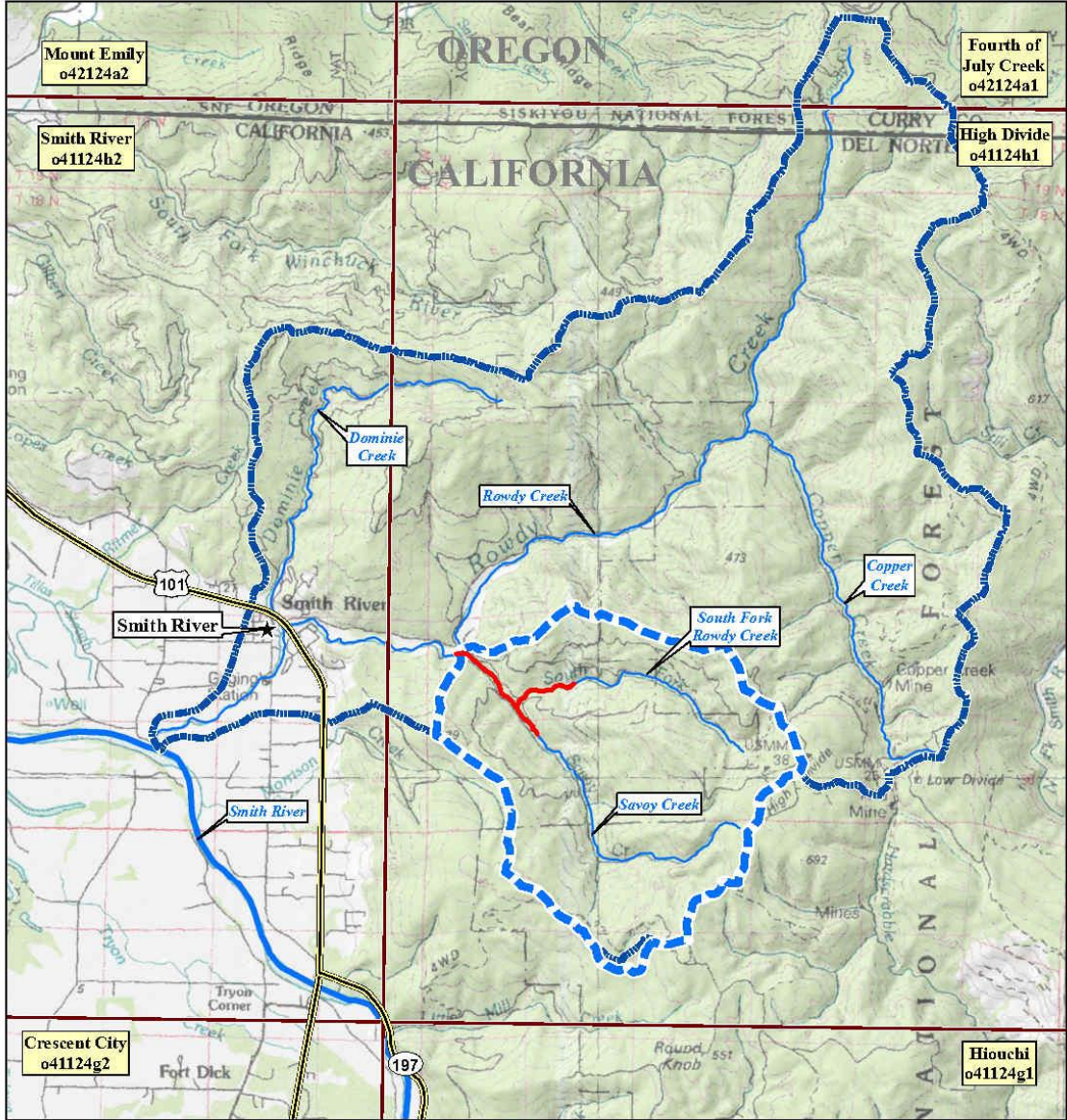
The Permittee will not proceed with on the ground implementation until all necessary permits and consultations are secured. Work in flowing streams is restricted per the United States Army Corp of Engineers (USACE) Regional General Permit. Actual project start and end dates, within this timeframe, are 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 Salmonids Stream Habitat Restoration Manual*, Volume I and Volume II.



Coho limit of anadromy	South Fork RowdyCreek watershed boundary	0 3,500 7,000 14,000 Feet Scale 1:84,000 1 inch = 7,000 feet Base map: USGS 7.5-minute quadrangle
Stream	Rowdy Creek watershed boundary (HUC12)	
Highway	USGS 7.5 minute quadrangle	Prepared March 2022 by: Pacific Watershed Associates www.pacificwatershed.com
State boundary		

Map 1. Project Location Map for South Fork Rowdy/Savoy Creeks Salmonid Habitat Improvement Project, Del Norte County, California. (Briceland and Bear Harbor USGS 7.5' quadrangles). Grantee: PCFWWA



Map 1. Watershed Map for South Fork Rowdy/Savoy Creeks Salmonid Habitat Improvement Project, Del Norte County, California. Grantee: PCFWWRA

CALIFORNIA DEPARTMENT OF
FISH and WILDLIFE *RareFind*

Query Summary:

Quad **IS** (High Divide (4112481) **OR** Smith River (4112482) **OR** High Plateau Mtn. (4112388) **OR** Mt. Emily (4212412) **OR** Fourth of July Creek (4212411) **OR** Biscuit Hill (4212318) **OR** Crescent City (4112472) **OR** Hiouchi (4112471) **OR** Gasquet (4112378))

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CNDDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
<i>Abronia umbellata</i> var. <i>breviflora</i>	pink sand-verbena	Dicots	PDNYC010N4	61	2	None	None	G4G5T2	S2	1B.1	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal dunes
<i>Ancotrema voyanum</i>	hooded lancetooth	Mollusks	IMGAS36130	173	1	None	None	G1G2	S1S2	null	null	Oldgrowth, Riparian forest, Talus slope
<i>Anthoxanthum nitens</i> ssp. <i>nitens</i>	vanilla-grass	Monocots	PMPOA35041	6	2	None	None	G5T5	S2	2B.3	null	Meadow & seep, Wetland
<i>Arabis aculeolata</i>	Waldo rockcress	Dicots	PDBRA06010	8	1	None	None	G4	S2	2B.2	SB_BerrySB-Berry Seed Bank	Broadleaved upland forest, Lower montane coniferous forest, Ultramafic, Upper montane coniferous forest
<i>Arabis mcdonaldiana</i>	McDonald's rockcress	Dicots	PDBRA06150	27	16	Endangered	Endangered	G3	S3	1B.1	SB_BerrySB-Berry Seed Bank, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Lower montane coniferous forest, Ultramafic, Upper montane coniferous forest
<i>Ardea alba</i>	great egret	Birds	ABNGA04040	43	1	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
<i>Ardea herodias</i>	great blue heron	Birds	ABNGA04010	156	6	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
<i>Ascaphus truei</i>	Pacific tailed frog	Amphibians	AAABA01010	491	26	None	None	G4	S3S4	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Aquatic, Klamath/North coast flowing waters, Lower montane coniferous forest, North coast coniferous forest, Redwood, Riparian forest
<i>Asplenium trichomanes</i> ssp. <i>trichomanes</i>	maidenhair spleenwort	Ferns	PPASP021K2	1	1	None	None	G5T5	S1	2B.1	null	Lower montane coniferous forest
<i>Atractelmis wawona</i>	Wawona riffle beetle	Insects	IICOL58010	80	3	None	None	G3	S1S2	null	null	Aquatic
<i>Boechera koehleri</i>	Koehler's stipitate rockcress	Dicots	PDBRA060Z0	29	11	None	None	G3G4	S3	1B.3	USFS_S-Sensitive	Chaparral, Lower montane coniferous forest, Ultramafic
<i>Bombus caliginosus</i>	obscure bumble bee	Insects	IIHYM24380	181	5	None	None	G2G3	S1S2	null	IUCN_VU-Vulnerable	null
<i>Bombus occidentalis</i>	western bumble bee	Insects	IIHYM24250	306	2	None	None	G2G3	S1	null	USFS_S-Sensitive	null
<i>Brachyramphus marmoratus</i>	marbled murrelet	Birds	ABNNN06010	110	3	Threatened	Endangered	G3	S2	null	CDF_S-Sensitive, IUCN_EN-Endangered,	Lower montane coniferous forest,

												NABCI_RWL-Red Watch List	Oldgrowth, Redwood
Branta hutchinsii leucopareia	cackling (=Aleutian Canada) goose	Birds	ABNJB05035	19	2	Delisted	None	G5T3	S3	null	CDFW_WL-Watch List	Artificial standing waters, Sacramento/San Joaquin standing waters, Valley & foothill grassland	
Calamagrostis crassiglumis	Thurber's reed grass	Monocots	PMPOA17070	15	3	None	None	G3Q	S2	2B.1	null	Coastal scrub, Freshwater marsh, Marsh & swamp, Wetland	
Calicium adpersum	spiral-spored gilded-head pin lichen	Lichens	NLT0005640	1	1	None	None	G3G4	S1	2B.2	USFS_S-Sensitive	Lower montane coniferous forest, North coast coniferous forest	
Calystegia atriplicifolia ssp. buttensis	Butte County morning-glory	Dicots	PDCON04012	121	3	None	None	G5T3	S3	4.2	null	Chaparral, Lower montane coniferous forest, Valley & foothill grassland	
Cardamine angulata	seaside bittercress	Dicots	PDBRA0K010	38	2	None	None	G4G5	S3	2B.1	null	Lower montane coniferous forest, North coast coniferous forest, Wetland	
Cardamine nuttallii var. gemmata	yellow-tubered toothwort	Dicots	PDBRA0K0R3	17	17	None	None	G5T3Q	S2	3.3	null	Lower montane coniferous forest, North coast coniferous forest, Ultramafic	
Carex arcta	northern clustered sedge	Monocots	PMCYP030X0	13	1	None	None	G5	S1	2B.2	IUCN_LC-Least Concern	Bog & fen, North coast coniferous forest, Wetland	
Carex lenticularis var. limnophila	lagoon sedge	Monocots	PMCYP037A7	4	1	None	None	G5T5	S1	2B.2	null	Bog & fen, Marsh & swamp, North coast coniferous forest	
Carex lyngbyei	Lyngbye's sedge	Monocots	PMCYP037Y0	37	1	None	None	G5	S3	2B.2	IUCN_LC-Least Concern	Marsh & swamp, Wetland	
Carex praticola	northern meadow sedge	Monocots	PMCYP03B20	14	1	None	None	G5	S2	2B.2	null	Meadow & seep, Wetland	
Carex serpenticola	serpentine sedge	Monocots	PMCYP03KM0	17	14	None	None	G4	S3	2B.3	null	Meadow & seep, Ultramafic, Wetland	
Carex viridula ssp. viridula	green yellow sedge	Monocots	PMCYP03EM5	8	3	None	None	G5T5	S2	2B.3	null	Bog & fen, Marsh & swamp, North coast coniferous forest, Wetland	
Cascadia nuttallii	Nuttall's saxifrage	Dicots	PDSAX0U160	2	2	None	None	G4?	S1	2B.1	null	North coast coniferous forest	
Castilleja elata	Siskiyou paintbrush	Dicots	PDSCR0D213	36	28	None	None	G3	S2S3	2B.2	null	Bog & fen, Lower montane coniferous forest, Ultramafic, Wetland	
Castilleja litoralis	Oregon coast paintbrush	Dicots	PDSCR0D012	44	2	None	None	G3	S3	2B.2	null	Coastal bluff scrub, Coastal dunes, Coastal scrub	
Cerorhinca monocerata	rhinoceros auklet	Birds	ABNNN11010	10	2	None	None	G5	S3	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	null	
Charadrius nivosus nivosus	western snowy plover	Birds	ABNNB03031	138	2	Threatened	None	G3T3	S2	null	CDFW_SSC-Species of Special Concern, NABCI_RWL-Red Watch List	Great Basin standing waters, Sand shore, Wetland	
Circus hudsonius	northern harrier	Birds	ABNKC11011	54	3	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal scrub, Great Basin grassland, Marsh & swamp, Riparian scrub, Valley & foothill grassland, Wetland	
Coastal Brackish Marsh	Coastal Brackish	Marsh	CTT52200CA	30	1	None	None	G2	S2.1	null	null	Marsh & swamp, Wetland	

Marsh												
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	Marsh	CTT52410CA	60	1	None	None	G3	S2.1	null	null	Marsh & swamp, Wetland
Cochlearia groenlandica	Greenland cochlearia	Dicots	PDBRA0S020	1	1	None	None	G4	S1	2B.3	null	Coastal bluff scrub
Coenonympha tullia yontockett	Yontockett satyr	Insects	IILEPN6035	1	1	None	None	G5T1T2	S1	null	null	Coastal dunes
Coptis laciniata	Oregon goldthread	Dicots	PDRAN0A020	122	5	None	None	G4?	S3?	4.2	null	Meadow & seep, North coast coniferous forest, Wetland
Coturnicops noveboracensis	yellow rail	Birds	ABNME01010	45	1	None	None	G4	S1S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Meadow & seep
Cypseloides niger	black swift	Birds	ABNUA01010	46	1	None	None	G4	S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, NABCI_YWL-Yellow Watch List, USFWS_BCC-Birds of Conservation Concern	null
Darlingtonia Seep	Darlingtonia Seep	Marsh	CTT51120CA	70	2	None	None	G4	S3.2	null	null	Bog & fen, Wetland
Downingia willamettensis	Cascade downingia	Dicots	PDCAM060E0	8	1	None	None	G4	S2	2B.2	null	Cismontane woodland, Valley & foothill grassland, Vernal pool
Egretta thula	snowy egret	Birds	ABNGA06030	20	1	None	None	G5	S4	null	IUCN_LC-Least Concern	Marsh & swamp, Meadow & seep, Riparian forest, Riparian woodland, Wetland
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	184	1	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Empetrum nigrum	black crowberry	Dicots	PDEMP03020	4	2	None	None	G5	S1?	2B.2	null	Coastal bluff scrub, Coastal prairie
Empidonax traillii brewsteri	little willow flycatcher	Birds	ABPAE33041	2	1	None	Endangered	G5T3T4	S1S2	null	null	Meadow & seep, Riparian woodland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1404	3	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Erethizon dorsatum	North American porcupine	Mammals	AMAFJ01010	523	34	None	None	G5	S3	null	IUCN_LC-Least Concern	Broadleaved upland forest, Cismontane woodland, Closed-cone coniferous forest, Lower montane

												coniferous forest, North coast coniferous forest, Upper montane coniferous forest
Eriogonum nudum var. paralinum	Del Norte buckwheat	Dicots	PDPGN08498	4	2	None	None	G5T2	S1	2B.2	null	Coastal bluff scrub, Coastal prairie
Eriogonum pendulum	Waldo wild buckwheat	Dicots	PDPGN084Q0	28	27	None	None	G4	S2S3	2B.2	null	Lower montane coniferous forest, Ultramafic, Upper montane coniferous forest
Erysimum concinnum	bluff wallflower	Dicots	PDBRA160E3	30	5	None	None	G3	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal dunes, Coastal prairie
Erythronium hendersonii	Henderson's fawn lily	Monocots	PMLIL0U070	7	1	None	None	G4	S2	2B.3	USFS_S-Sensitive	Lower montane coniferous forest
Erythronium howellii	Howell's fawn lily	Monocots	PMLIL0U080	11	6	None	None	G3G4	S2	1B.3	null	Lower montane coniferous forest, North coast coniferous forest
Erythronium oregonum	giant fawn lily	Monocots	PMLIL0U0C0	37	4	None	None	G5	S2	2B.2	null	Cismontane woodland, Meadow & seep, Ultramafic
Erythronium revolutum	coast fawn lily	Monocots	PMLIL0U0F0	172	1	None	None	G4G5	S3	2B.2	null	Bog & fen, Broadleaved upland forest, North coast coniferous forest, Wetland
Eucyclogobius newberryi	tidewater goby	Fish	AFCQN04010	127	2	Endangered	None	G3	S3	null	AFS_EN-Endangered, IUCN_VU-Vulnerable	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters, South coast flowing waters
Eumetopias jubatus	Steller sea lion	Mammals	AMAJC03010	38	1	Delisted	None	G3	S2	null	IUCN_EN-Endangered, MMC_SSC-Species of Special Concern	Marine intertidal & splash zone communities, Protected deepwater coastal communities, Rock shore
Fissidens pauperculus	minute pocket moss	Bryophytes	NBMUS2W0U0	22	1	None	None	G3?	S2	1B.2	USFS_S-Sensitive	North coast coniferous forest, Redwood
Fratercula cirrhata	tufted puffin	Birds	ABNNN12010	17	2	None	None	G5	S1S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Protected deepwater coastal communities
Gentiana setigera	Mendocino gentian	Dicots	PDGEN060S0	11	9	None	None	G2	S2	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Lower montane coniferous forest, Meadow & seep, Ultramafic, Wetland
Gilia capitata ssp. pacifica	Pacific gilia	Dicots	PDPLM040B6	91	13	None	None	G5T3	S2	1B.2	null	Chaparral, Coastal bluff scrub, Coastal prairie, Valley & foothill grassland
Gilia millefoliata	dark-eyed gilia	Dicots	PDPLM04130	54	11	None	None	G2	S2	1B.2	BLM_S-Sensitive	Coastal dunes
Haliaeetus leucocephalus	bald eagle	Birds	ABNKC10010	332	1	Delisted	Endangered	G5	S3	null	BLM_S-Sensitive, CDFW_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern, USFS_S-Sensitive	Lower montane coniferous forest, Oldgrowth
Hesperevax sparsiflora var.	short-leaved evax	Dicots	PDASTE5011	72	6	None	None	G4T3	S3	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal

brevifolia												dunes, Coastal prairie
Hydrobates furcatus	fork-tailed storm-petrel	Birds	ABNDC04010	8	2	None	None	G5	S1	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Protected deepwater coastal communities
Juga chacei	Chace juga	Mollusks	IMGASK4180	11	10	None	None	G1	S1	null	USFS_S-Sensitive	Aquatic, Klamath/North coast flowing waters
Kopsiopsis hookeri	small groundcone	Dicots	PDORO01010	21	2	None	None	G4?	S1S2	2B.3	null	North coast coniferous forest
Lanx alta	highcap lanx	Mollusks	IMGASL7010	13	2	None	None	G2G3	S1S2	null	null	Aquatic
Lasionycteris noctivagans	silver-haired bat	Mammals	AMACC02010	139	1	None	None	G3G4	S3S4	null	IUCN_LC-Least Concern, WBWG_M-Medium Priority	Lower montane coniferous forest, Oldgrowth, Riparian forest
Lasthenia californica ssp. macrantha	perennial goldfields	Dicots	PDAST5L0C5	59	1	None	None	G3T2	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal dunes, Coastal scrub
Lathyrus japonicus	seaside pea	Dicots	PDFAB250C0	24	5	None	None	G5	S2	2B.1	IUCN_LC-Least Concern	Coastal dunes
Lathyrus palustris	marsh pea	Dicots	PDFAB250P0	13	4	None	None	G5	S2	2B.2	null	Bog & fen, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marsh & swamp, North coast coniferous forest, Wetland
Lewisia oppositifolia	opposite-leaved lewisia	Dicots	PDPOR040B0	14	10	None	None	G3	S2	2B.2	USFS_S-Sensitive	Lower montane coniferous forest, Ultramafic
Lilium occidentale	western lily	Monocots	PMLIL1A0G0	16	4	Endangered	Endangered	G1G2	S1	1B.1	SB_BerrySB-Berry Seed Bank	Bog & fen, Coastal bluff scrub, Coastal prairie, Coastal scrub, Freshwater marsh, Marsh & swamp, North coast coniferous forest, Wetland
Limnephilus atercus	Fort Dick limnephilus caddisfly	Insects	IITRI15020	2	1	None	None	G3G4	S1	null	null	Aquatic, Klamath/North coast flowing waters, Klamath/North coast standing waters
Lomatium martindalei	Coast Range lomatium	Dicots	PDAPI1B140	9	2	None	None	G5	S2	2B.3	null	Coastal bluff scrub, Lower montane coniferous forest, Meadow & seep, Ultramafic
Lysimachia europaea	arctic starflower	Dicots	PDPRI0A020	4	3	None	None	G5	S1	2B.2	null	Bog & fen, Meadow & seep, Wetland
Margaritifera falcata	western pearlshell	Mollusks	IMBIV27020	78	1	None	None	G4G5	S1S2	null	null	Aquatic
Martes caurina humboldtensis	Humboldt marten	Mammals	AMAJF01012	44	1	Threatened	Endangered	G4G5T1	S1	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	North coast coniferous forest, Oldgrowth, Redwood
Mitellastrca caulescens	leafy-stemmed mitrewort	Dicots	PDSAX0N020	21	1	None	None	G5	S4	4.2	null	Broadleaved upland forest, Lower montane coniferous forest, Meadow & seep, North coast coniferous forest
Monadenia fidelis pronotis	rocky coast Pacific sideband	Mollusks	IMGASC7032	1	1	None	None	G4G5T1	S1	null	null	Coastal bluff scrub
Moneses uniflora	woodnymph	Dicots	PDPYR02010	7	1	None	None	G5	S2	2B.2	null	Broadleaved upland forest,

												North coast coniferous forest
Monotropa uniflora	ghost-pipe	Dicots	PDMON03030	115	51	None	None	G5	S2	2B.2	null	Broadleaved upland forest, North coast coniferous forest
Montia howellii	Howell's montia	Dicots	PDPOR05070	123	1	None	None	G3G4	S2	2B.2	null	Meadow & seep, North coast coniferous forest, Vernal pool, Wetland
Myotis yumanensis	Yuma myotis	Mammals	AMACC01020	265	2	None	None	G5	S4	null	BLM_S-Sensitive, IUCN_LC-Least Concern, WBWG_LM-Low-Medium Priority	Lower montane coniferous forest, Riparian forest, Riparian woodland, Upper montane coniferous forest
Nannopterum auritum	double-crested cormorant	Birds	ABNFD01020	39	1	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Riparian forest, Riparian scrub, Riparian woodland
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	Marsh	CTT52110CA	53	1	None	None	G3	S3.2	null	null	Marsh & swamp, Wetland
Nycticorax nycticorax	black-crowned night heron	Birds	ABNGA11010	37	1	None	None	G5	S4	null	IUCN_LC-Least Concern	Marsh & swamp, Riparian forest, Riparian woodland, Wetland
Oenothera wolffii	Wolf's evening-primrose	Dicots	PDONA0C1K0	29	9	None	None	G2	S1	1B.1	SB_BerrySB-Berry Seed Bank	Coastal bluff scrub, Coastal dunes, Coastal prairie
Oncorhynchus clarkii clarkii	coast cutthroat trout	Fish	AFCHA0208A	45	7	None	None	G5T4	S3	null	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Aquatic, Klamath/North coast flowing waters
Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	Fish	AFCHA0213B	20	2	None	Candidate Endangered	G5T4Q	S2	null	CDFW_SSC-Species of Special Concern	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters
Packera bolanderi var. bolanderi	seacoast ragwort	Dicots	PDAST8H0H1	72	17	None	None	G4T4	S2S3	2B.2	null	Coastal scrub, North coast coniferous forest
Packera hesperia	western ragwort	Dicots	PDAST8H1L0	4	4	None	None	G3	S1	2B.2	USFS_S-Sensitive	Meadow & seep, Ultramafic, Upper montane coniferous forest
Pandion haliaetus	osprey	Birds	ABNKC01010	504	2	None	None	G5	S4	null	CDF_S-Sensitive, CDFW_WL-Watch List, IUCN_LC-Least Concern	Riparian forest
Pekania pennanti	Fisher	Mammals	AMAJF01020	555	1	None	None	G5	S2S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	North coast coniferous forest, Oldgrowth, Riparian forest
Phacelia argentea	sand dune phacelia	Dicots	PDHYD0C070	16	16	Proposed Threatened	None	G2	S1	1B.1	SB_BerrySB-Berry Seed Bank	Coastal dunes
Pinguicula macroceras	horned butterwort	Dicots	PDLNT01040	26	16	None	None	G4	S2	2B.2	IUCN_LC-Least Concern	Bog & fen, Ultramafic, Wetland
Piperia candida	white-flowered rein orchid	Monocots	PMORC1X050	222	3	None	None	G3?	S3	1B.2	null	Broadleaved upland forest, Lower montane coniferous forest, North coast coniferous forest, Ultramafic
Plethodon elongatus	Del Norte salamander	Amphibians	AAAAD12050	151	9	None	None	G4	S3	null	CDFW_WL-Watch List, IUCN_NT-Near Threatened	Oldgrowth
Polemonium carneum	Oregon polemonium	Dicots	PDPLM0E050	16	2	None	None	G3G4	S2	2B.2	null	Coastal prairie, Coastal scrub, Lower montane coniferous forest
Polites mardon	mardon skipper	Insects	IILEP66030	2	2	None	None	G2	S1	null	USFS_S-Sensitive	North coast coniferous forest

Pomatiopsis chacei	marsh walker	Mollusks	IMGASJ9030	6	2	None	None	G1	S1	null	null	null
Potamogeton foliosus ssp. fibrillosus	fibrous pondweed	Monocots	PM POT030B1	1	1	None	None	G5T2T4	S1S2	2B.3	null	Marsh & swamp, Wetland
Prosartes parvifolia	Siskiyou bells	Monocots	PMLIL0R014	14	2	None	None	G5T2?	S2	1B.2	USFS_S-Sensitive	Lower montane coniferous forest, Upper montane coniferous forest
Pyrocoma racemosa var. congesta	Del Norte pyrocoma	Dicots	PDASTDT0F4	13	12	None	None	G5T4	S2	2B.3	null	Chaparral, Lower montane coniferous forest, Ultramafic, Wetland
Ramalina thrausta	angel's hair lichen	Lichens	NLLEC3S340	21	8	None	None	G5?	S2S3	2B.1	null	North coast coniferous forest
Rana aurora	northern red-legged frog	Amphibians	AAABH01021	292	40	None	None	G4	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Klamath/North coast flowing waters, Riparian forest, Riparian woodland
Rana boylei	foothill yellow-legged frog	Amphibians	AAABH01050	2478	27	None	Endangered	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive	Aquatic, Chaparral, Cismontane woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
Rhyacotriton variegatus	southern torrent salamander	Amphibians	AAAAJ01020	416	26	None	None	G3G4	S2S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Lower montane coniferous forest, Oldgrowth, Redwood, Riparian forest
Rhynchospora alba	white beaked-rush	Monocots	PMCYP0N010	17	1	None	None	G5	S2	2B.2	IUCN_LC-Least Concern	Bog & fen, Marsh & swamp, Meadow & seep, Wetland
Riparia riparia	bank swallow	Birds	ABPAU08010	298	4	None	Threatened	G5	S2	null	BLM_S-Sensitive, IUCN_LC-Least Concern	Riparian scrub, Riparian woodland
Romanzoffia tracyi	Tracy's romanzoffia	Dicots	PDHYD0E030	9	3	None	None	G4	S2	2B.3	null	Coastal bluff scrub, Coastal scrub
Rosa gymnocarpa var. serpentina	Gasquet rose	Dicots	PDR0S1J1V1	7	1	None	None	G5T3T4	S2	1B.3	SB_BerrySB-Berry Seed Bank, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Ultramafic
Sabulina howellii	Howell's sandwort	Dicots	PDCAR0G0F0	24	21	None	None	G4	S3	1B.3	null	Chaparral, Lower montane coniferous forest, Ultramafic
Sagittaria sanfordii	Sanford's arrowhead	Monocots	PMALI040Q0	143	1	None	None	G3	S3	1B.2	BLM_S-Sensitive	Marsh & swamp, Wetland
Sanguisorba officinalis	great burnet	Dicots	PDR0S1L060	22	13	None	None	G5?	S2	2B.2	null	Bog & fen, Broadleaved upland forest, Marsh & swamp, Meadow & seep, North coast coniferous forest, Riparian forest, Ultramafic, Wetland
Scaphinotus behrensi	Behrens' snail-eating beetle	Insects	IICOL4L070	4	1	None	None	G2G4	S2S4	null	null	North coast coniferous forest
Sedum patens	Smith River stonecrop	Dicots	PDCRA0A250	6	2	None	None	G2	S2	1B.2	null	Lower montane coniferous

													forest, Talus slope, Ultramafic
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	Dicots	PDMAL110E0	136	1	None	None	G3	S3	4.2	null		Broadleaved upland forest, Coastal prairie, Coastal scrub, North coast coniferous forest, Riparian forest
<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	Dicots	PDMAL110F9	60	5	None	None	G5T2	S2	1B.2	null		Coastal bluff scrub, Coastal prairie, North coast coniferous forest
<i>Sidalcea oregana</i> ssp. <i>eximia</i>	coast checkerbloom	Dicots	PDMAL110K9	19	4	None	None	G5T1	S1	1B.2	null		Lower montane coniferous forest, Meadow & seep, North coast coniferous forest, Wetland
<i>Silene hookeri</i>	Hooker's catchfly	Dicots	PDCAR0U2M0	31	4	None	None	G4	S2	2B.2	null		Chaparral, Cismontane woodland, Lower montane coniferous forest, Ultramafic
<i>Silene serpentinicola</i>	serpentine catchfly	Dicots	PDCAR0U2B0	55	51	None	None	G3	S3	1B.2	USFS_S-Sensitive		Chaparral, Lower montane coniferous forest, Ultramafic
<i>Speyeria zerene hippolyta</i>	Oregon silverspot butterfly	Insects	IILEPJ6087	3	3	Threatened	None	G5T1	S1	null	null		Coastal dunes
<i>Streptanthus howellii</i>	Howell's jewelflower	Dicots	PDBRA2G0N0	28	27	None	None	G2G3	S2	1B.2	USFS_S-Sensitive		Lower montane coniferous forest, Ultramafic
<i>Sulcaria spiralis</i>	twisted horsehair lichen	Lichens	NLT0042560	18	2	None	None	G3G4	S2	1B.2	BLM_S-Sensitive		Coastal dunes, North coast coniferous forest
<i>Thaleichthys pacificus</i>	eulachon	Fish	AFCHB04010	10	1	Threatened	None	G5	S2	null	null		Aquatic, Klamath/North coast flowing waters
<i>Usnea longissima</i>	Methuselah's beard lichen	Lichens	NLLEC5P420	206	6	None	None	G4	S4	4.2	BLM_S-Sensitive		Broadleaved upland forest, North coast coniferous forest, Oldgrowth, Redwood
<i>Vaccinium scoparium</i>	little-leaved huckleberry	Dicots	PDER1180Y0	27	3	None	None	G5	S3	2B.2	null		Subalpine coniferous forest
<i>Viola langsdorffii</i>	Langsdorf's violet	Dicots	PDVIO04100	2	2	None	None	G4	S1	2B.1	null		Bog & fen, Wetland
<i>Viola palustris</i>	alpine marsh violet	Dicots	PDVIO041G0	10	4	None	None	G5	S1S2	2B.2	null		Bog & fen, Coastal scrub, Wetland
<i>Viola primulifolia</i> ssp. <i>occidentalis</i>	western white bog violet	Dicots	PDVIO040Y2	19	17	None	None	G5T2	S2	1B.2	USFS_S-Sensitive		Bog & fen, Marsh & swamp, Ultramafic, Wetland