

Duffy Gulch Fish Passage Improvement ***(Project ID: 1730099) 2023***

Introduction:

Trout Unlimited (Grantee) will implement the Duffy Gulch Fish Passage Improvement (Project) to restore access to 2.6 miles of high-quality habitat for Coho Salmon by replacing a fish passage barrier with a structure that allows for migration of all life stages of salmonids. The specific objectives of this project include removal of the existing crossing, construction of the replacement crossing, construction of a Mechanically Stabilized Earth (MSE) wall, and channel reconstruction. The existing concrete box culvert and outlet apron will be replaced with a 45-foot diameter steel plate arch that rests on precast concrete footings placed on bedrock. An MSE wall will support the fill and rail bed above the crossing. Downstream of the existing scour pool and outlet apron, the channel will be reconstructed at a 6.6% slope for a length of 50 feet. This channel was designed using the roughened channel design methodology, involves the use of engineered streambed material (ESM), and includes large boulders to control the profile. Based on geomorphic interpretation, the reconstructed channel will simulate the historical channel profile that was likely controlled by both bedrock and large wood prior to construction of the railroad crossing.

The Grantee shall not proceed with on the ground implementation until all necessary permits, consultations, and/or Notice to Proceed are secured. All habitat improvements will follow techniques in the California Department of Fish and Wildlife (CDFW) *California Salmonid Stream Habitat Restoration Manual, Volume 1, Part VII and Part VIII, Volume 2, Part XII*, (<https://www.wildlife.ca.gov/Grants/FRGP/Guidance>)

Does the project involve the construction of beaver analogs?

Yes or No

Is the project located in a tidally influenced [California coastal zone](#)?

Yes or No

Project Description:

Location:

The Project is located on Duffy Gulch, in the County of Mendocino, State of California. The Duffy Gulch project is at milepost 18 on the Mendocino Railway, approximately 22 miles northwest of Willits. The barrier is located 225 feet upstream from the confluence with the Noyo River. The center point for the Project

reach is 39.435378° north latitude, -123.589406° west longitude and is located on the Northspur 7.5 Minute U.S. Geological Survey (USGS) Quadrangle map.

Project Set Up:

Grantee Staff will manage the project and lead coordination of the project partners, grant administration, subcontract execution, meeting facilitation, invoicing and reporting.

Subcontractor, Mendocino Railway (MR) will assist in construction subcontractor selection, manage the construction subcontract, and manage the rail engineering oversight subcontract with AECOM. MR has extensive experience in managing track repairs and rail-related contracts in compliance with Federal Rail Standards.

Subcontractor, Michael Love and Associates (MLA) will provide a Sr. Project Engineer, Engineering Geomorphologist, Project Engineer and Staff Engineer to assist with contractor selection, permit assistance, provide construction observations and oversight assistance to AECOM for the channel re-construction portion of the project, and provide post-implementation fish passage monitoring.

Subcontractor, Ross Taylor and Associates (RTA) will provide fisheries and amphibian relocation services under the supervision of CDFW. This includes coordination with agencies, and coordination with construction contractors responsible for water management, relocation of fish and amphibians, and required reporting.

Qualified subcontractors (to be determined TBD), will conduct environmental compliance surveys.

Materials:

- SuperCor Plate Arch 45 foot Span by 57 feet in length that rests on precast concrete footings.
- PC Reinforced Concrete Relief Slab [5' x 8' module]
- PC Reinforced Concrete Arch Footing [4' x 8' module]
- MSE Wing Walls [2"x 2" mesh facing]
- Facing RSP, Method B
- Channel Grade Control Rock
- Cable Railing

Tasks:

Task 1. Project Oversight and Environmental Compliance Surveys

Project oversight and administrative activities will be conducted by the Grantee, including but not limited to, acquiring permits, subcontracts, access agreements, invoicing, data collection, water quality monitoring and reporting. Qualified

subcontractors will conduct archeological, botanical and paleontological surveys within the Project reach.

Task 2. Aquatic Species Relocation and Exclusion

A streamflow bypass will consist of coffer dams at the upstream and downstream ends of the project and a pipeline that gravity feeds streamflow around the entire isolated work area. Fish screens will be installed upstream and downstream of the pipeline to prevent fish from entering the pipe. Nuisance water seeping into the isolated work area will need to be pumped to upland areas and allowed to infiltrate.

RTA will conduct the fish relocation under the supervision of CDFW. Fish screens will be installed, and relocation will be conducted in conjunction with channel dewatering activities which will follow the plans outlined in Project design documents and will conform to all CDFW guidance and permit documents. At the instruction of RTA and Grantee, the Construction Contractor will install species exclusion fencing (e.g., silt fence) to isolate the construction areas from sensitive habitats or species.

Task 3. Construction

Construction will occur during low flow conditions. Construction activities will include clearing and grubbing; track removal and reconstruction; excavation; removing the existing culvert; installing the new structures; channel and bank restoration; and site restoration (e.g. revegetation and erosion control). The contractor will follow the design specifications and special provisions for construction of the project as guided by the grade stakes and AECOM and MLA oversight. The contractor will use heavy equipment and laborers to create the designed features.

Task 4. Post-Project Monitoring

Upon completion of the construction work, MLA will perform a topographic survey of the channel and stream bed in the culvert. MLA will record as-builts on the design plans to depict any alterations to the plans made during construction. These surveys will establish a baseline for future monitoring and evaluation of the grade control structures and channel bed. MLA will also conduct post-construction monitoring during two life stage design flows, following construction and prior to the end of project term to evaluate fish passage conditions through the stream simulation crossing and to document channel adjustments. The monitoring will occur at a flow that is within the fish migration flow range. Thalweg elevation, water depths, and water velocities will be surveyed within the stream simulation channel and within an adjacent reference reach. The measurements are intended to determine hydraulic conditions in the restored reach and compare to the hydraulic design fish passage guidelines.

Deliverables:

Deliverables include a 45-foot diameter steel plate arch that rests on precast concrete footings placed on bedrock. An MSE wall will support the fill and rail bed above the crossing. Downstream of the existing scour pool and outlet apron, the channel will be reconstructed at a 6.6% slope for a length of 50 feet.

Timelines:

June 15 through October 31 of the years 2024, 2025 and 2026, Grantee will oversee the implementation of the Project.

Additional Requirements:

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 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 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.

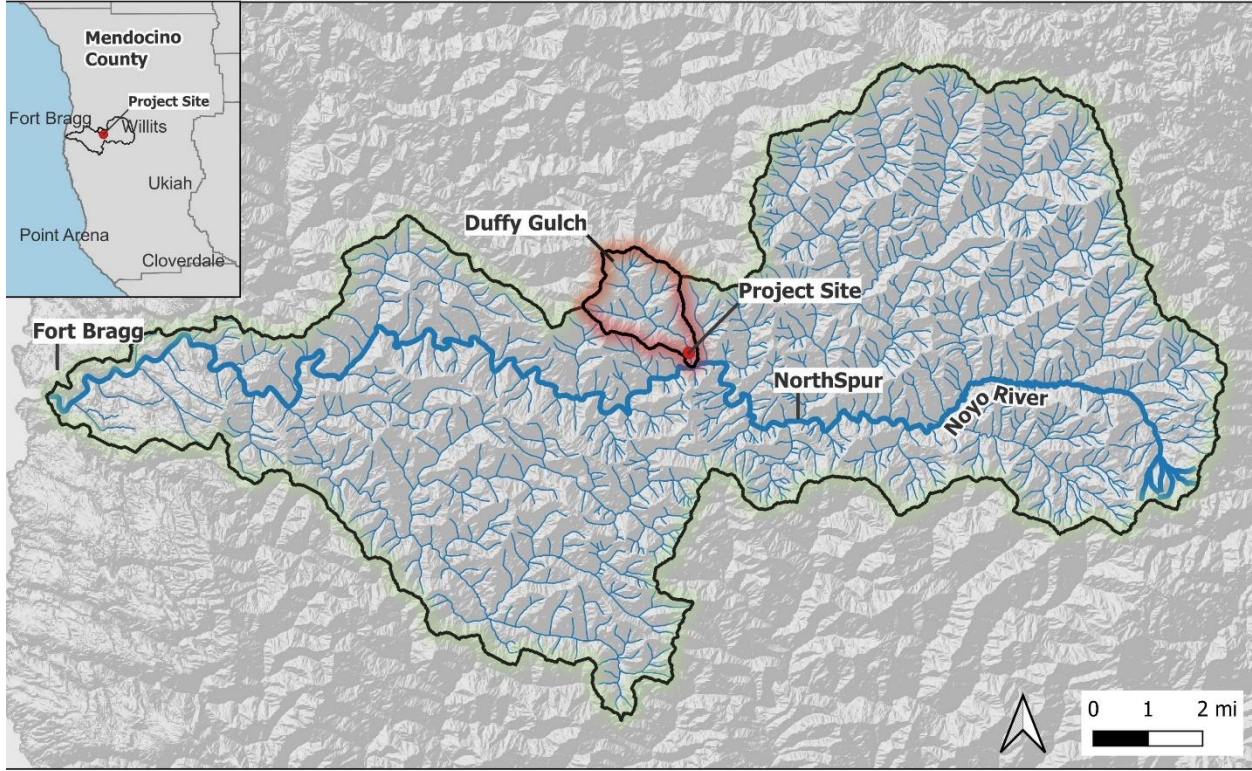
All habitat improvements will follow techniques described in the California Salmonids Stream Habitat Restoration Manual, Volume I and Volume II.

The Grantee shall notify the CDFW 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 Grantee will implement the following measures to minimize harm and mortality to listed salmonids:

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

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



Datums:
 Horizontal: NAD83 State Plane CA Zone 1
 Vertical: NAVD88

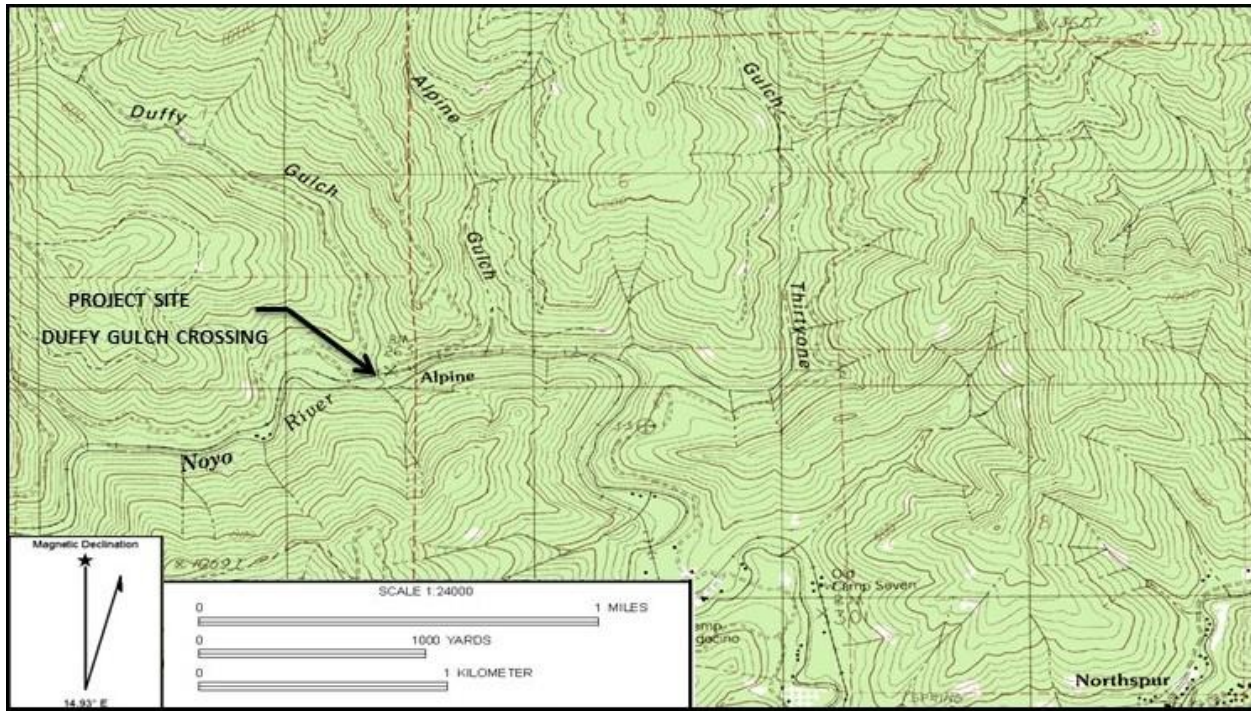
Sources:
 Elevation: U.S. Geological Survey, 20200123, USGS 1/3 arc-second
 n40w124 1 x 1 degree.
 Watershed Boundary: Derived from USGS StreamStats

- Duffy Gulch Watershed
- Noyo River Watershed

CDFW Fisheries Restoration Grant Program:
Project Watershed Map

Duffy Gulch Fish Passage Improvement &
 Crossing Replacements

Figure
 Focus watershed: Noyo River



LOCATION: 039° 26' 07.68" N 123° 35' 17.29" W NAD27
UNITED STATES GEOLOGICAL SURVEY
NORTHSPUR QUADRANGLE

CDFW RAREFIND

Query Summary:

Quad IS (Northspur (3912345) OR Dutchmans Knoll (3912356) OR Sherwood Peak (3912355) OR Longvale (3912354) OR Noyo Hill (3912346) OR Burbeck (3912344) OR Mathison Peak (3912336) OR Comptche (3912335) OR Greenough Ridge (3912334))

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
Accipiter gentilis	northern goshawk	Birds	ABNKC12060	433	2	None	None	G5	S3	null	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	North coast coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest
Accipiter striatus	sharp-shinned hawk	Birds	ABNKC12020	22	1	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Lower montane coniferous forest, Riparian forest, Riparian woodland
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	955	1	None	Threatened	G1G2	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Alisma gramineum	grass alisma	Monocots	PMALI01010	14	1	None	None	G5	S3	2B.2	null	Marsh & swamp, Wetland
Arborimus pomus	Sonoma tree vole	Mammals	AMAFF23030	222	41	None	None	G3	S3	null	CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	North coast coniferous forest, Oldgrowth, Redwood
Arctostaphylos nummularia ssp. mendocinoensis	pygmy manzanita	Dicots	PDERI04280	7	3	None	None	G3?T1	S1	1B.2	SB_UCSC-UC Santa Cruz	Closed-cone coniferous forest
Ardea herodias	great blue heron	Birds	ABNGA04010	156	1	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Ascaphus truei	Pacific tailed frog	Amphibians	AAABA01010	491	14	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
Astragalus agnicidus	Humboldt County milk-vetch	Dicots	PDFAB0F080	69	28	None	Endangered	G2	S2	1B.1	SB_BerrySB-Berry Seed Bank, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Broadleaved upland forest, North coast coniferous forest
Atractelmis wawona	Wawona ruffle beetle	Insects	IICOL58010	80	1	None	None	G3	S1S2	null	null	Aquatic
Bombus caliginosus	obscure bumble bee	Insects	IIHYM24380	181	2	None	None	G2G3	S1S2	null	IUCN_VU-Vulnerable	null
Bombus occidentalis	western bumble bee	Insects	IIHYM24252	306	2	None	Candidate Endangered	G3	S1	null	IUCN_VU-Vulnerable, USFS_S-Sensitive	null
Brasenia	watershield	Dicots	PDCAB01010	43	1	None	None	G5	S3	2B.3	IUCN_LC-Least	Marsh & swamp,
schreberi											Concern	Wetland

Carex californica	California sedge	Monocots	PMCYP032D0	41	6	None	None	G5	S2	2B.2	null	Bog & fen, Closed-cone coniferous forest, Coastal prairie, Freshwater marsh, Marsh & swamp, Meadow & seep, 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 saliniformis	deceiving sedge	Monocots	PMCYP03BY0	18	1	None	None	G2	S2	1B.2	null	Coastal prairie, Coastal scrub, Marsh & swamp, Meadow & seep, Wetland
Coastal Brackish Marsh	Coastal Brackish Marsh	Marsh	CTT52200CA	30	1	None	None	G2	S2.1	null	null	Marsh & swamp, Wetland
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	Marsh	CTT52410CA	60	3	None	None	G3	S2.1	null	null	Marsh & swamp, Wetland
Coptis laciniata	Oregon goldthread	Dicots	PDRAN0A020	122	49	None	None	G4?	S3?	4.2	null	Meadow & seep, North coast coniferous forest, Wetland
Corynorhinus townsendii	Townsend's big-eared bat	Mammals	AMACC08010	635	1	None	None	G4	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Broadleaved upland forest, Chaparral, Chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, Lower montane coniferous forest, Meadow & seep, Mojavean desert scrub, Riparian forest, Riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, Upper montane coniferous forest, Valley & foothill grassland
Eastwoodiella californica	swamp harebell	Dicots	PDCAM02060	155	9	None	None	G3	S3	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Bog & fen, Closed-cone coniferous forest, Coastal prairie, Marsh & swamp, Meadow & seep, North coast coniferous forest, Wetland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1477	6	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

Entosphenus tridentatus	Pacific lamprey	Fish	AFBAA02100	9	2	None	None	G4	S3	null	AFS_VU-Vulnerable, BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters, South coast flowing waters
Erethizon dorsatum	North American porcupine	Mammals	AMAFJ01010	523	1	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
Erythronium revolutum	coast fawn lily	Monocots	PMLIL0U0F0	172	4	None	None	G4G5	S3	2B.2	SB_UCSC-UC Santa Cruz	Bog & fen, Broadleaved upland forest, North coast coniferous forest, Wetland
Eucyclogobius newberryi	tidewater goby	Fish	AFCQN04010	127	1	Endangered	None	G3	S3	null	AFS_EN-Endangered, IUCN_NT-Near Threatened	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters, South coast flowing waters
Gilia millefoliata	dark-eyed gilia	Dicots	PDPLM04130	54	1	None	None	G2	S2	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal dunes
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Dicots	PDAST4R0W1	52	1	None	None	G5T2	S2	1B.2	SB_UCBG-UC Botanical Garden at Berkeley	Valley & foothill grassland
Hesperocyparis pygmaea	pygmy cypress	Gymnosperms	PGCUP04032	37	12	None	None	G1	S1	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Closed-cone coniferous forest
Hesperolinon adenophyllum	glandular western flax	Dicots	PDLIN01010	48	4	None	None	G2G3	S2S3	1B.2	BLM_S-Sensitive	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Horkelia marinensis	Point Reyes horkelia	Dicots	PDROS0W0B0	36	1	None	None	G2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_UCSC-UC Santa Cruz	Coastal dunes, Coastal prairie, Coastal scrub
Lasiurus cinereus	hoary bat	Mammals	AMACC05032	238	1	None	None	G3G4	S4	null	IUCN_LC-Least Concern	Broadleaved upland forest, Cismontane woodland, Lower montane coniferous forest, North coast coniferous forest
Lilium maritimum	coast lily	Monocots	PMLIL1A0C0	84	2	None	None	G2	S2	1B.1	BLM_S-Sensitive, SB_BerrySB-Berry Seed Bank, SB_UCBG-UC Botanical Garden at Berkeley	Broadleaved upland forest, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Marsh & swamp, North coast coniferous forest
Lupinus milobakeri	Milo Baker's lupine	Dicots	PDFAB2B4E0	11	1	None	Threatened	G1Q	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_UCBG-UC	Cismontane woodland, Valley & foothill grassland

												Botanical Garden at Berkeley	
Lycopodium clavatum	running-pine	Ferns	PPLYC01080	120	4	None	None	G5	S3	4.1	null		Lower montane coniferous forest, Marsh & swamp, North coast coniferous forest, Wetland
Mendocino Pygmy Cypress Forest	Mendocino Pygmy Cypress Forest	Forest	CTT83161CA	25	6	None	None	G2	S2.1	null	null		Closed-cone coniferous forest
Mitellastr caulescens	leafy-stemmed mitrewort	Dicots	PDSAX0N020	21	3	None	None	G5	S4	4.2	null		Broadleaved upland forest, Lower montane coniferous forest, Meadow & seep, North coast coniferous forest
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Dicots	PDPLM0C0E1	64	1	None	None	G4T2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		Cismontane woodland, Lower montane coniferous forest, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	Fish	AFCHA02034	23	1	Endangered	Endangered	G5T2Q	S2	null	AFS_EN-Endangered		Aquatic
Oncorhynchus mykiss irideus pop. 49	steelhead - northern California DPS winter-run	Fish	AFCHA0213Q	96	12	Threatened	None	G5T3Q	S3	null	AFS_TH-Threatened		Aquatic, Estuary, Klamath/North coast flowing waters
Packera bolanderi var. bolanderi	seacoast ragwort	Dicots	PDAST8H0H1	72	2	None	None	G4T4	S2S3	2B.2	null		Coastal scrub, North coast coniferous forest
Pandion haliaetus	osprey	Birds	ABNKC01010	504	1	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, IUCN_LC-Least Concern, USFS_S-Sensitive		North coast coniferous forest, Oldgrowth, Riparian forest
Pinus contorta ssp. bolanderi	Bolander's beach pine	Gymnosperms	PGPIN04081	28	7	None	None	G5T2	S2	1B.2	SB_UCSC-UC Santa Cruz		Closed-cone coniferous forest
Piperia candida	white-flowered rein orchid	Monocots	PMORC1X050	222	29	None	None	G3?	S3	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		Broadleaved upland forest, Lower montane coniferous forest, North coast coniferous forest, Ultramafic
Pleuropogon hooverianus	North Coast semaphore grass	Monocots	PMPOA4Y070	27	2	None	Threatened	G2	S2	1B.1	SB_BerrySB-Berry Seed Bank, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		Broadleaved upland forest, Meadow & seep, North coast coniferous forest, Wetland
Progne subis	purple martin	Birds	ABPAU01010	71	5	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern		Broadleaved upland forest, Lower montane coniferous forest
Ramalina thrausta	angel's hair lichen	Lichens	NLLEC3S340	21	2	None	None	G5?	S2S3	2B.1	null		North coast coniferous forest
Rana aurora	northern red-legged frog	Amphibians	AAABH01021	292	17	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 pop. 1	foothill yellow-legged frog - north coast DPS	Amphibians	AAABH01051	1608	110	None	None	G3T4	S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive		Aquatic, Klamath/North coast flowing waters, Riparian forest, Riparian

												scrub, Riparian woodland
Rhyacotriton variegatus	southern torrent salamander	Amphibians	AAAAJ01020	416	10	None	None	G3?	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
Sidalcea malachroides	maple-leaved checkerbloom	Dicots	PDMAL110E0	136	13	None	None	G3	S3	4.2	null	Broadleaved upland forest, Coastal prairie, Coastal scrub, North coast coniferous forest, Riparian forest
Silene bolanderi	Bolander's catchfly	Dicots	PDCAR0U2L0	30	1	None	None	G2	S2	1B.2	null	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadow & seep, North coast coniferous forest, Ultramafic
Speyeria zerene behrensii	Behren's silverspot butterfly	Insects	IILEPJ6088	12	1	Endangered	None	G5T1	S1	null	null	Coastal prairie
Sphagnum Bog	Sphagnum Bog	Marsh	CTT51110CA	12	1	None	None	G3	S1.2	null	null	Bog & fen, Wetland
Taricha rivularis	red-bellied newt	Amphibians	AAAAF02020	136	23	None	None	G2	S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Broadleaved upland forest, North coast coniferous forest, Redwood, Riparian forest, Riparian woodland
Taxidea taxus	American badger	Mammals	AMAJF04010	594	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Alkali marsh, Alkali playa, Alpine, Alpine dwarf scrub, Bog & fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin scrub, Interior dunes, lone formation, Joshua tree woodland, Limestone, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Mojavean desert scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain,

												Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley & foothill grassland
Trifolium buckwestiorum	Santa Cruz clover	Dicots	PDFAB402W0	64	1	None	None	G2	S2	1B.1	BLM_S-Sensitive, SB_SBBG-Santa Barbara Botanic Garden, SB_UCSC-UC Santa Cruz, SB_USDA-US Dept of Agriculture	Broadleaved upland forest, Cismontane woodland, Coastal prairie
Trifolium trichocalyx	Monterey clover	Dicots	PDFAB402J0	6	1	Endangered	Endangered	G1	S1	1B.1	SB_UCBG-UC Botanical Garden at Berkeley, SB_USDA-US Dept of Agriculture	Closed-cone coniferous forest
Usnea longissima	Methuselah's beard lichen	Lichens	NLLEC5P420	206	7	None	None	G4	S4	4.2	BLM_S-Sensitive	Broadleaved upland forest, North coast coniferous forest, Oldgrowth, Redwood