

WF Sproul Snip and Grip Wood Loading Project (Project ID: 1730021) 2023

Introduction:

The Eel River Watershed Improvement Group (ERWIG) (Grantee) will improve the geomorphic function and ecological complexity in West Fork Sproul Creek for salmonid habitat through a process-based restoration approach. A total of 36 large wood (LW) structures containing 160 pieces of LW, including 38 key pieces will be constructed along 1.7 miles of West Fork Sproul Creek. The roughness elements added to the stream for project will increase the frequency of flood-plain and side channel inundation, increase pool and flatwater shelter and depths, provide winter velocity refugia, sort substrate, and aggrade the channel.

The Grantee shall not proceed with on the ground implementation until all necessary permits, consultations, and/or Notice to Proceed are secured. All habitat improvement(s) will follow techniques in the *California Salmonid Stream Habitat Restoration Manual Volume 1 Section VII*, <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 West Fork Sproul Creek, tributary to Sproul Creek, tributary to the South Fork Eel River, tributary to the Eel River. The project site is near the town of Garberville, CA and is located in Township 05 South, Range 03 East, Section 4 of the Garberville 7.5 Minute U.S. Geological Survey Quadrangle. The downstream extent of the project reach is 4.1 miles upstream from the confluence of Sproul Creek with the South Fork Eel River. The upstream end of the reach is 1.7 miles upstream from West Fork's Confluence with Sproul Creek. Project coordinates are: 40.03842 north latitude, - 123.87887 west longitude.

Project Set Up:

Grantee and/or the California Conservation Corps (CCC) will move LW into place utilizing wire rope rigging techniques, grip hoists, and other hand tools. Grantee and/or CCC will

also anchor and/or pin the features according to designs, conduct forest floor rehab, and install small wood as instructed.

Qualified subcontractors (to be determined) will conduct environmental compliance surveys, fell approved redwood and Douglas-fir trees at feature locations and perform aquatic species surveys and monitoring required for mitigation.

Materials:

All materials will be purchased by applicant. Some logs will be donated by landowner. Anchoring hardware including 1" Rebar, 5/8" Wire Rope, 5/8" Clamps, Nuts and Plates (Washers) will be used to anchor logs to live trees, bedrock and other logs. Hilti epoxy glue is used to attach wire rope to bedrock.

Conifer logs are the primary elements of the habitat features.

Conifer trees will be used to plant areas disturbed by project activities and areas within the project reach that are lacking canopy cover.

Tasks:

Task 1: Project Oversight, Monitoring, and Environmental Compliance

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 subcontractor will conduct a site assessment for aquatic species and conduct on-site monitoring during construction as needed. Qualified subcontractors will conduct archeological, botanical, and paleontological surveys within the Project reach.

Task 2: Large Wood Selection and Structure Construction

Site construction on 36 large wood features will involve cutting down or uprooting trees accomplished by qualified subcontractors. The licensed equipment operator will place logs into the stream in accordance with design plans. When necessary, CCC Corpsmembers will move LW into position using a griphoist come along. The project will utilize living riparian trees as anchors by wedging the logs between them where feasible. CCC Corpsmembers will anchor the sites according to design and anchoring specifications. Corpsmembers will use one-inch threaded rebar to anchor logs to mature riparian trees and other logs. Holes will be drilled through the logs and their anchor trees using a hole hawg drill, timber bit, and drill bit extensions when necessary. One inch rebar will be strung through the log and secured with nuts and washers. Site construction, wood placement, and anchoring will be in accordance with the CDFW, California Salmonid Stream Habitat Restoration Manual, Section VII (Flosi et al. 2010). Erosion control methods will be employed by the CCC as required at each structure and along equipment corridors to eliminate the possibility of sediment transport to the stream. To address concerns over invasive species this project will follow the CDFW Aquatic Invasive Species Decontamination Protocol.

Task 3: Riparian Planting

The tree planting subcontractor will plant 400 redwood seedlings, with a primary focus in areas lacking sufficient conifer cover or riparian vegetation.

Deliverables:

Project specific reporting metrics include a total of 36 large wood (LW) structures containing 160 pieces of LW, including 38 key pieces will be constructed along 1.7 miles of West Fork Sproul Creek.

Timelines:

June 15 through October 31 of the years 2024, 2025, 2026 and 2027, Grantee will install large wood features within approved project reach. Erosion control will be installed as project features are completed.

Riparian planting will occur from December through April annually.

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.

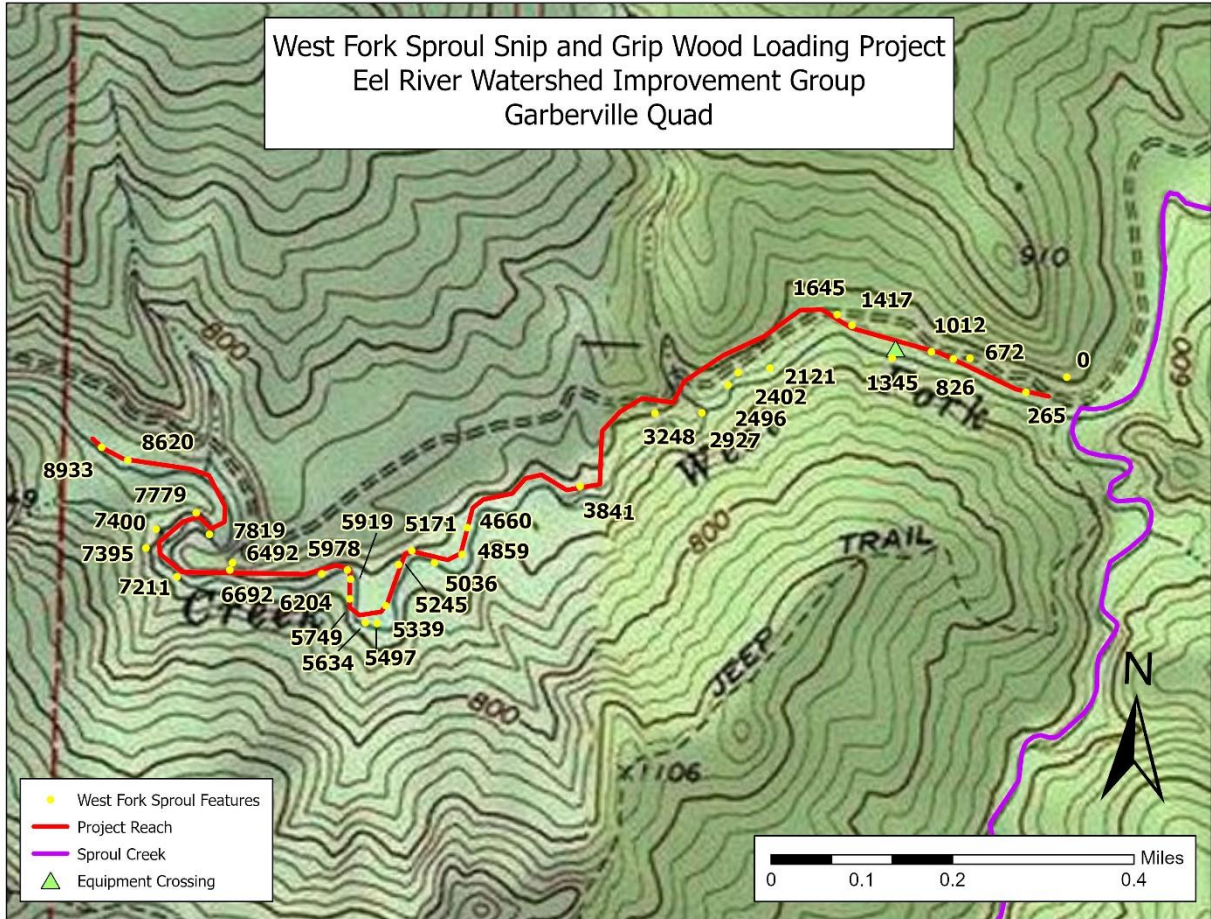
All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out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

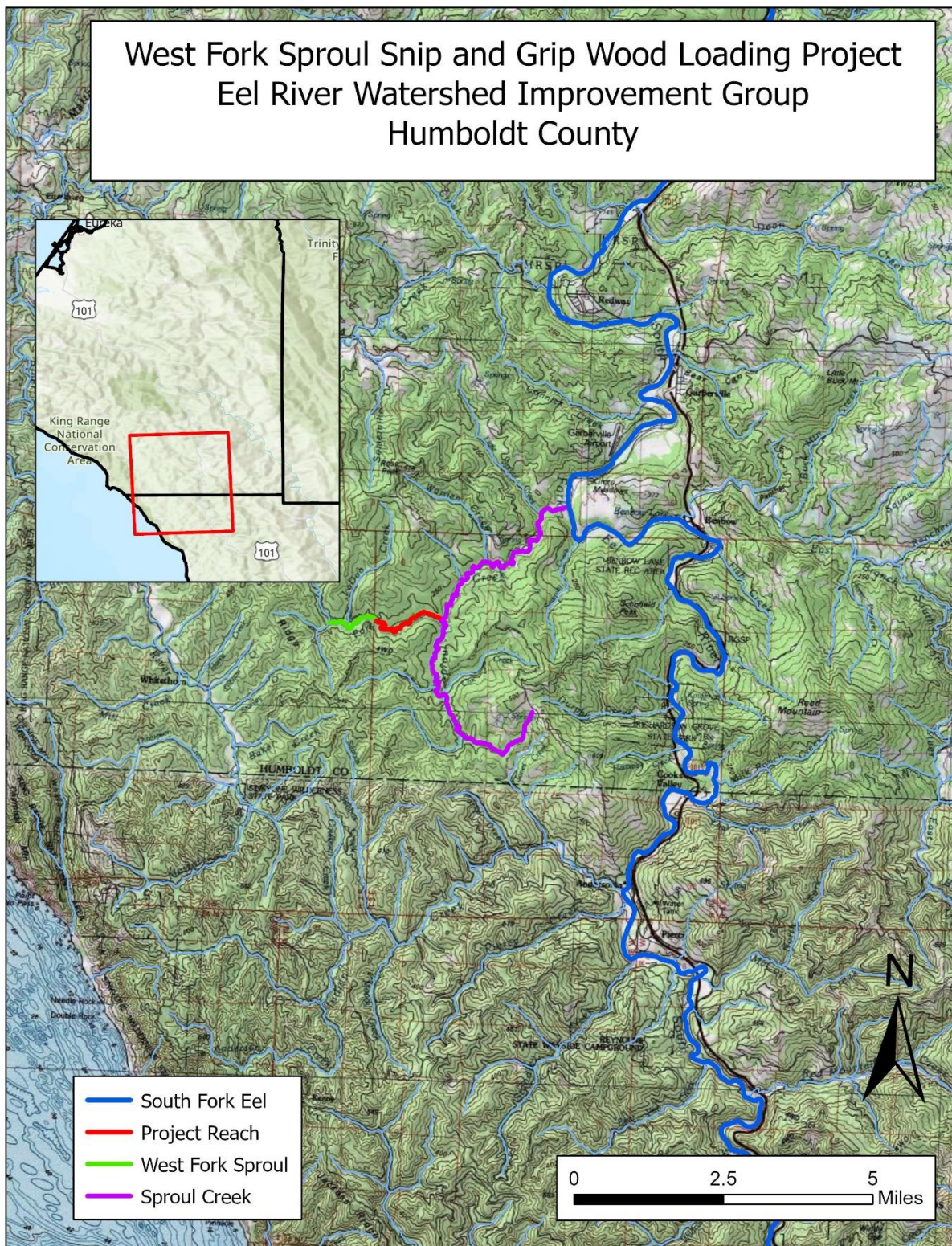
All habitat improvements will follow techniques described in the California Salmonids Stream Habitat Restoration Manual, Volume I and Volume II.

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

West Fork Sproul Snip and Grip Wood Loading Project
Eel River Watershed Improvement Group
Garberville Quad



West Fork Sproul Snip and Grip Wood Loading Project Eel River Watershed Improvement Group Humboldt County



CDFW RAREFIND

Query Summary:

Quad IS (Briceland (4012318) OR Honeydew (4012421) OR Ettersburg (4012328) OR Miranda (4012327) OR Shelter Cove (4012411) OR Garberville (4012317) OR Bear Harbor (3912388) OR Piercy (3912387))

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 cooperii	Cooper's hawk	Birds	ABNKC12040	118	2	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Riparian forest, Riparian woodland, Upper montane coniferous forest
Antrozous pallidus	pallid bat	Mammals	AMACC10010	420	2	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland
Aquila chrysaetos	golden eagle	Birds	ABNKC22010	325	2	None	None	G5	S3	null	BLM_S-Sensitive, CDFW_S-Sensitive, CDFW_FP-Fully Protected, CDFW_WL-Watch List, IUCN_LC-Least Concern	Broadleaved upland forest, Cismontane woodland, Coastal prairie, Great Basin grassland, Great Basin scrub, Lower montane coniferous forest, Pinon & juniper woodlands, Upper montane coniferous forest, Valley & foothill grassland
Arborimus pomio	Sonoma tree vole	Mammals	AMAFF23030	222	5	None	None	G3	S3	null	CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	North coast coniferous forest, Oldgrowth, Redwood
Ascaphus truei	Pacific tailed frog	Amphibians	AAABA01010	491	4	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	1	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
Bombus caliginosus	obscure bumble bee	Insects	IIHYM24380	181	6	None	None	G2G3	S1S2	null	IUCN_VU-Vulnerable	null
Bombus occidentalis	western bumble bee	Insects	IIHYM24252	306	5	None	Candidate Endangered	G3	S1	null	IUCN_VU-Vulnerable, USFS_S-Sensitive	null
Calamagrostis foliosa	leafy reed grass	Monocots	PMPOA170C0	22	7	None	Rare	G3	S3	4.2	null	Coastal bluff scrub, North coast coniferous forest

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
Castilleja litoralis	Oregon coast paintbrush	Dicots	PDSCR0D012	44	9	None	None	G3	S3	2B.2	null	Coastal bluff scrub, Coastal dunes, Coastal scrub
Castilleja mendocinensis	Mendocino Coast paintbrush	Dicots	PDSCR0D3N0	52	1	None	None	G2	S2	1B.2	BLM_S-Sensitive, SB_UCSC-UC Santa Cruz	Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub
Clarkia amoena ssp. whitneyi	Whitney's farewell-to-spring	Dicots	PDONA05025	8	1	None	None	G5T1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_UCBG-UC Botanical Garden at Berkeley	Coastal bluff scrub, Coastal scrub
Coptis laciniata	Oregon goldthread	Dicots	PDRAN0A020	122	2	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
Empidonax traillii brewsteri	little willow flycatcher	Birds	ABPAE33041	2	1	None	Endangered	G5T3T4	S3	null	null	Meadow & seep, Riparian woodland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1477	5	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	5	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 oregonum	giant fawn lily	Monocots	PMLIL0U0C0	37	1	None	None	G5	S2	2B.2	SB_UCSC-UC Santa Cruz	Cismontane woodland, Meadow & seep, Ultramafic
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
Eumetopias jubatus	Steller sea lion	Mammals	AMAJC03010	38	1	Delisted	None	G3	S2	null	IUCN_NT-Near Threatened, MMC_SSC-Species of Special Concern	Marine intertidal & splash zone communities, Protected deepwater coastal communities, Rock shore
Falco peregrinus anatum	American peregrine falcon	Birds	ABNKD06071	73	1	Delisted	Delisted	G4T4	S3S4	null	CDF_S-Sensitive	null
Gilia capitata ssp. pacifica	Pacific gilia	Dicots	PDPLM040B6	91	4	None	None	G5T3	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Coastal bluff scrub, Coastal prairie, Valley & foothill grassland
Helminthoglypta arrosa monticola	mountain shoulderband	Mollusks	IMGASC2035	2	2	None	None	G2G3T1	S1	null	null	Chaparral, Talus slope
Kopsiopsis hookeri	small groundcone	Dicots	PDORO01010	21	1	None	None	G4?	S1S2	2B.3	null	North coast coniferous forest
Lasthenia californica ssp. macrantha	perennial goldfields	Dicots	PDAST5L0C5	59	1	None	None	G3T2	S2	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal bluff scrub, Coastal dunes, Coastal scrub
Lathyrus palustris	marsh pea	Dicots	PDFAB250P0	13	1	None	None	G5	S2	2B.2	null	Bog & fen, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marsh & swamp, North coast coniferous forest, Wetland
Mitellastra 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
Montia howellii	Howell's montia	Dicots	PDPOR05070	123	3	None	None	G3G4	S2	2B.2	null	Meadow & seep, North coast coniferous forest, Vernal pool, Wetland
Myotis evotis	long-eared myotis	Mammals	AMACC01070	139	1	None	None	G5	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern	null
Myotis thysanodes	fringed myotis	Mammals	AMACC01090	86	1	None	None	G4	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFS_S-Sensitive	null
Myotis yumanensis	Yuma myotis	Mammals	AMACC01020	265	1	None	None	G5	S4	null	BLM_S-Sensitive, IUCN_LC-Least Concern	Lower montane coniferous forest, Riparian forest, Riparian woodland, Upper montane coniferous forest
Noyo intersessa	Ten Mile shoulderband	Mollusks	IMGASC5070	3	1	None	None	G2	S1S2	null	null	Coastal dunes, Coastal scrub, Redwood, Riparian forest
Oncorhynchus kisutch pop. 2	coho salmon - southern	Fish	AFCHA02032	10	3	Threatened	Threatened	G5T2Q	S2	null	AFS_TH-Threatened	Aquatic, Klamath/North

	Oregon / northern California ESU											coast flowing waters, Sacramento/San Joaquin flowing waters
Oncorhynchus mykiss irideus pop. 48	steelhead - northern California DPS summer-run	Fish	AFCHA0213P	10	2	Threatened	Endangered	G5T2Q	S2	null	AFS_TH-Threatened	Aquatic, Estuary, Klamath/North coast flowing waters
Oncorhynchus mykiss irideus pop. 49	steelhead - northern California DPS winter-run	Fish	AFCHA0213Q	96	8	Threatened	None	G5T3Q	S3	null	AFS_TH-Threatened	Aquatic, Estuary, Klamath/North coast flowing waters
Pandion haliaetus	osprey	Birds	ABNKC01010	504	3	None	None	G5	S4	null	CDF_S-Sensitive, CDFW_WL-Watch List, IUCN_LC-Least Concern	Riparian forest
Pekania pennanti	Fisher	Mammals	AMAJF01020	555	2	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
Piperia candida	white-flowered rein orchid	Monocots	PMORC1X050	222	27	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
Rana boylei pop. 1	foothill yellow-legged frog - north coast DPS	Amphibians	AAABH01051	1608	35	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	3	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
Sidalcea malachroides	maple-leaved checkerbloom	Dicots	PDMAL110E0	136	3	None	None	G3	S3	4.2	null	Broadleaved upland forest, Coastal prairie, Coastal scrub, North coast coniferous forest, Riparian forest
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	Dicots	PDMAL110F9	60	2	None	None	G5T2	S2	1B.2	SB_UCSC-UC Santa Cruz	Coastal bluff scrub, Coastal prairie, North coast coniferous forest
Taricha rivularis	red-bellied newt	Amphibians	AAAAF02020	136	4	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
Upland Douglas Fir Forest	Upland Douglas Fir Forest	Forest	CTT82420CA	15	1	None	None	G4	S3.1	null	null	North coast coniferous forest
Usnea longissima	Methuselah's beard lichen	Lichens	NLLEC5P420	206	13	None	None	G4	S4	4.2	BLM_S-Sensitive	Broadleaved upland forest, North coast coniferous forest, Oldgrowth, Redwood