

EXHIBIT A
Salt Creek Off-Channel Habitat Enhancement Project
SCOPE OF WORK

Under direction of the Department of Fish and Game, and under the following conditions and terms, the Grantee will:

1. Improve spawning and rearing habitat for Chinook salmon, coho salmon, steelhead trout, and cutthroat trout by increasing habitat diversity and improving riparian canopy in a selected section of Salt Creek, tributary to the Klamath River in Del Norte County. The objective is to improve the quality and quantity of salmonid habitat by expanding and enhancing off-channel habitat, placing large wood structures instream to increase habitat, and increasing riparian canopy.
2. The Grantee will conduct work along a selected section of Salt Creek beginning approximately 5,500 feet upstream from the Klamath River estuary and continuing approximately 600 feet upstream along the east bank. The project site is located in Township 14 North, Range 01 East, Section 33 of the Requa 7.5 Minute U.S.G.S. Quadrangle. The locations of the project boundaries are approximately 41.558 north latitude, 124.066 west longitude at the upstream end, and 41.557 north latitude, 124.063 west longitude at the downstream end as depicted in Exhibit C, Project Location Map, which is attached and made part of this agreement by this reference.
3. The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured.
4. Habitat improvements will be accomplished at three sites by excavating sediment materials to increase backwater pool depths, create side channels, and enhance wetlands. The Grantee will use heavy equipment to conduct the excavation. Approximately 30 pieces of large wood will be placed instream at the three sites. Final structure design and placement of will be determined by field consultation between the Grantee and the DFG Grant Manager.
5. Prior to project implementation the Grantee will conduct a longitudinal topographic survey of the channel, topographic survey of the associated floodplains, as well as cross section surveys through the project area. All topographic surveys will be conducted with standard survey protocols using a Nikon Total Station. The end points for the longitudinal survey and each cross section survey will be permanently marked with ½ inch rebar with end caps and geo-referenced, using a hand-held GPS unit (sub-meter accuracy). These surveys will provide the baseline topographic information necessary to monitor changes resulting from the project implementation. Surveys will be repeated immediately following implementation, during the first summer following construction, and then every 2-5 years based on flow events to document pond depth and related project stability over time. Permanent geo-referenced photographic monitoring sites will also be established throughout the project area to document pre- and post-restoration conditions.
6. The downstream-most site (“lower site”) is an existing backwater area that is currently approximately 7,500 square feet in size, of which half is less than one foot deep at most flow levels. This backwater feature would be further excavated to maximize its surface area within the confines of the existing livestock exclusionary fence approximately 11,000 square feet and deepened to an average depth of three feet. The expanded and enhanced site will be created to


maintain a year-round connectivity with Salt Creek to prevent any potential stranding issues during low flow conditions.

7. The middle site is located between Salt Creek and the exclusionary fencing, immediately upstream of the lower site. Available area within the fence at this site totals 19,500 square feet (278' long x 70' average width) and is presently a seasonally inundated grass and sedge covered floodplain. Two parallel side channels will be constructed with island habitat in between that connects with the lower off-channel site at the downstream end and connects with Salt Creek at the upper end. Inflow and outflow elevations will be constructed to maintain year-round connectivity with mainstem Salt Creek at the upstream end and the lower backwater site at the lower end to prevent any potential stranding issues during low flow conditions. The entrance and exit will be designed and located to remain stable over time. Side channel streambank and island elevations will be set to the bankfull elevation of the adjoining mainstem of Salt Creek.
8. The upper site is located immediately upstream of the exclusionary fencing and duck hunting blind at the top end of the project site. Presently this backwater covers approximately 20,000 square feet at an average depth of 6"-12" during elevated flow conditions. This wetland site will be excavated to a footprint of approximately 35,000 square feet with an average depth of three to four feet. The expanded and enhanced site will maintain a year-round connectivity with Salt Creek to prevent any potential stranding issues during low flow conditions.
9. Excavated fill will be properly disposed of in approved upland disposal sites on the landowner's adjoining property. Following construction, all disturbed soil areas at both the construction and disposal sites will be mulched with weed-free rice straw and seeded with native grass seed mix ("Humboldt State mix").
10. Approximately 30 pieces of large woody debris (LWD) will be gathered from adjoining upland areas and placed throughout the excavated off-channel habitat to create complex holding cover for juvenile fish. Select pieces of LWD will be driven into the stream banks and wetland bottom to secure LWD structures. Threaded rebar will be used as necessary to further anchor structures to minimize potential for floating and displacement during high stream flow or river backwater events.
11. Following excavation and LWD placement activities, the project area will be thoroughly revegetated with approximately 200 native deciduous and coniferous tree species to accelerate establishment of a diverse riparian canopy. Planting of tree seedlings will take place after December 1 or when sufficient rainfall has occurred to ensure the best chance of survival of the seedlings. The standard for success is 80% survival of plantings, after a period of three years. Site rehabilitation and erosion control, (mulching and seeding) can occur any time during construction but will need to be completed prior to October 15. The standard for success for seeding and mulching is 80% ground coverage after a period of three years.
12. Work in flowing streams is restricted to June 15 through October 31. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Game.
13. The Grantee shall notify the Grant Manager a minimum of five working days before any fish bearing stream reaches are dewatered and the stream flow diverted. The notification will provide a reasonable time for Department personnel to supervise the implementation of the water diversion plan and oversee the safe removal and relocation of salmonids and other aquatic species 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:

- Fish relocation and dewatering activities shall only occur between June 15 and October 31 of each year.
- The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible.
- All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
- The Grantee will provide fish relocation data to the Grant Manager on a form provided by the Department of Fish and Game.
- 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*.

14. All habitat improvements will follow techniques described in the Third Edition, January 1998, of the *California Salmonid Stream Habitat Restoration Manual*, Flosi et al., the *California Salmonid Stream Habitat Restoration Manual*, Third Edition, Volume II, Part XI, January 2004 and Part XII, April 2009.

15. If the project will not be completed by March 31, 2012, and therefore the grantee will be requesting an amendment for time, this request and a justification for the delay resulting in the time request must be submitted no later than December 1, 2011. 

16. An annual report will be submitted each year, no later than December 1, detailing the work completed that field season. The annual report will include, but not necessarily be limited to the following where applicable:

- Implementation start and end dates
- Percentage of the project completed in total to date
- Dewatering and fish relocation on DFG data sheet (to be provided by the DFG grant manager upon request)
- Project start and end dates for work to be implemented the following season

The annual report will also include, on a site by site basis:

- Stream length treated in feet (count one side only)
- Length of aquatic habitat disturbed (feet)
- Number of instream structures installed/modified
- Area of each structure installed within bankfull width (length x width)
- Length of instream habitat treated excluding bank stabilization
- Upslope area treated (sq ft) (landslides, bank stabilization)
- Amount of riparian area treated per site in acres
- Number of trees planted

17. Upon completion of the project, the Grantee shall submit two hard copies of a final written report and one electronic, Microsoft Word compatible, copy on a CD. The report shall include, but not

necessarily be limited to the following information:

- Grant number
- Project name
- Geographic area (e.g., watershed name)
- Location of work – show project location using U.S.G.S. 7.5 minute topographical map or appropriately scaled topographical map
- Geospatial reference/location (lat/long is preferred – defined as point, line, or polygon)
- Project start and end dates and the number of person hours expended
- Total of each fund source, by line item, expended to complete the project, breaking down Grant dollars, by line item, and any other funding, including type of match (cash or in-kind service)
- Expected benefits to anadromous salmonids from the project
- Labeled before and after photographs of any restoration activities and techniques
- Specific project access using public and private roads and trails, with landowner name and address
- Complete as built project description
- Results of the longitudinal and cross sections surveys
- A map depicting photographic monitoring sites; topographic survey end points; off-channel habitat construction / enhancement sites and LWD placement locations
- Report measurable metrics for the project by responding to the restoration project metrics listed below.

Habitat Protection and Restoration Projects– Reporting Metrics (HI)
(Report N/A to those that do not apply)

Habitat Projects: (all)

- Identify the watershed/sub-basin plan or assessment in which the project is identified as a priority.
- Name the priority habitat limiting factors identified in that plan that are addressed by the project
- Type of monitoring included in the project
 - Design spec achieved
 - Fish movement/abundance
- Number of stream miles treated/affected by the project within the project boundaries.

Instream Habitat Projects (HI)

- Description of instream treatments used, including site locations referenced to an established landmark, number of treatment sites, and any modifications to site/treatment design.
- Type of materials used for channel structure placement, select from: individual logs (unanchored); logs fastened together (logjam); rocks/boulders (unanchored); rocks/boulders (fastened or anchored); stumps with roots attached (rootwads); weirs; gabions; deflectors/barbs; or other engineered structures
- Miles of stream treated with channel structure placement
- Number of instream pools created by structure placement
- Number of structures placed in channel
- Type of channel reconfiguration and connectivity, select from: creation / connection to off channel habitat; creation of instream pools; channel bed restored; or meanders added
- Miles of stream treated for channel reconfiguration and connectivity

- Number of instream pools created for channel reconfiguration.

Riparian Habitat Projects (HR, HS)

- Miles of stream treated overall, count stream reach only once.
 - Miles of riparian stream bank treated, measure both sides of the bank.
 - Total acres of riparian area treated.
 - Acres of riparian area planted.
 - Species scientific names of plants planted.
18. The Grantee will acknowledge the participation of the Department of Fish and Game, Fisheries Restoration Grant funds on any signs, flyers, or other types of written communication or notice to advertise or explain the Salt Creek Off-Channel Habitat Enhancement Project.

Exhibit C
Salt Creek Off-Channel Habitat Enhancement Project
Project Location Map 1
T14N, R1E, S33 Requa Quad
Del Norte County

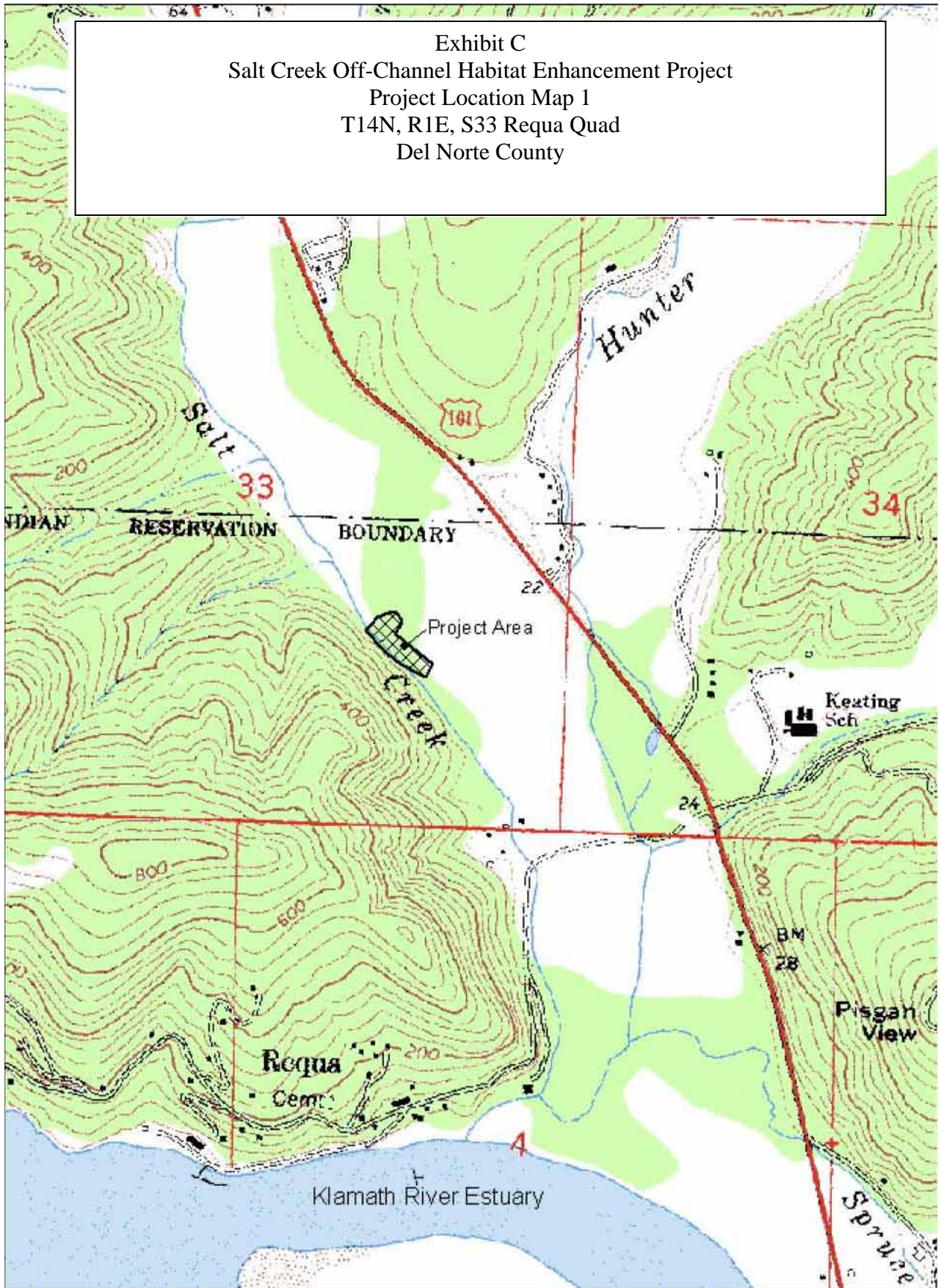
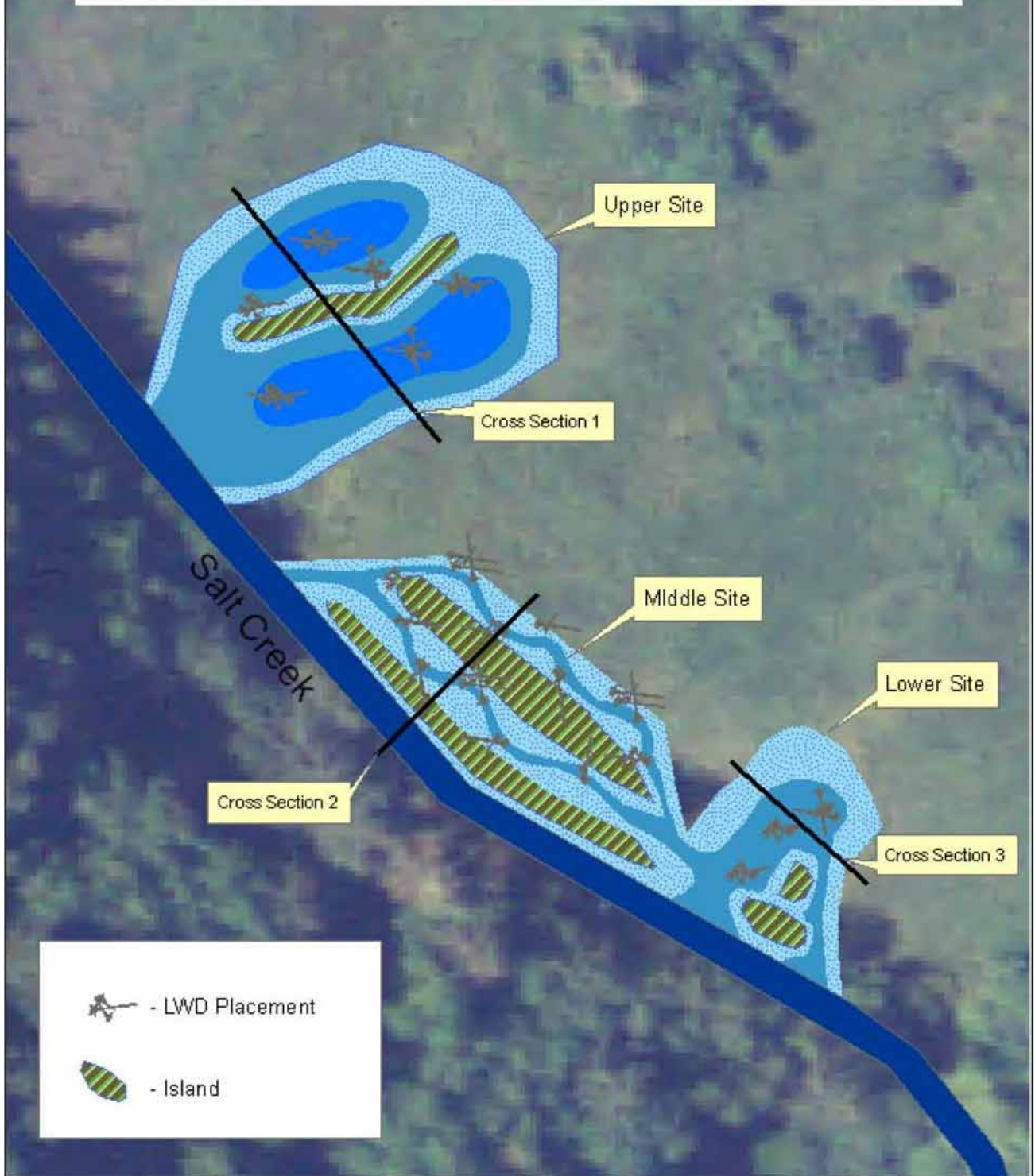


Exhibit C
Salt Creek Off-Channel Habitat Enhancement Project
Project Location Map 2
T14N, R1E, S33 Requa Quad
Del Norte County



California Department of Fish and Game

Natural Diversity Database

Selected Elements by Common Name - Portrait

Possible Species within the Requa Quad and Surrounding Quads for:

Salt Creek Off-Channel Habitat Enhancement Project

T14N, R1E, S 33

United States

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 California globe mallow <i>Iliamna latibracteata</i>	PDMAL0K040			G3	S2.2	1B.2
2 Del Norte buckwheat <i>Eriogonum nudum var. paralinum</i>	PDPGN08498			G5T2T4	S2?	2.2
3 Del Norte salamander <i>Plethodon elongatus</i>	AAAAD12050			G4	S3	SC
4 Fort Dick limnephilus caddisfly <i>Limnephilus atercus</i>	IITRI15020			G4	S1	
5 Humboldt marten <i>Martes americana humboldtensis</i>	AMAJF01012			G5T2T3	S2S3	SC
6 Lyngbye's sedge <i>Carex lyngbyei</i>	PMCYP037Y0			G5	S2.2	2.2
7 Oregon coast paintbrush <i>Castilleja affinis ssp. litoralis</i>	PDSCR0D012			G4G5T4	S2.2	2.2
8 Oregon goldthread <i>Coptis laciniata</i>	PDRAN0A020			G4G5	S2.2	2.2
9 Oregon polemonium <i>Polemonium carneum</i>	PDPLM0E050			G4	S1	2.2
10 Pacific fisher <i>Martes pennanti (pacifica) DPS</i>	AMAJF01021	Candidate	unknown code...	G5	S2S3	SC
11 Pacific gilia <i>Gilia capitata ssp. pacifica</i>	PDPLM040B6			G5T3T4	S2.2?	1B.2
12 Pacific tailed frog <i>Ascaphus truei</i>	AAABA01010			G4	S2S3	SC
13 Sonoma tree vole <i>Arborimus pomo</i>	AMAFF23030			G3	S3	SC
14 Thurber's reed grass <i>Calamagrostis crassiglumis</i>	PMPOA17070			G3Q	S1.2	2.1
15 Tracy's romanzoffia <i>Romanzoffia tracyi</i>	PDHYD0E030			G4	S1.3	2.3
16 Wolf's evening-primrose <i>Oenothera wolfii</i>	PDONA0C1K0			G1	S1.1	1B.1
17 Yuma myotis <i>Myotis yumanensis</i>	AMACC01020			G5	S4?	
18 alpine marsh violet <i>Viola palustris</i>	PDVIO041G0			G5	S1S2	2.2
19 arctic starflower <i>Trientalis arctica</i>	PDPRI0A030			G5	S1.2	2.2
20 bald eagle <i>Haliaeetus leucocephalus</i>	ABNKC10010	Delisted	Endangered	G5	S2	
21 bristle-stalked sedge <i>Carex leptalea</i>	PMCYP037E0			G5	S2?	2.2
22 coast cutthroat trout <i>Oncorhynchus clarkii clarkii</i>	AFCHA0208A			G4T4	S3	SC

California Department of Fish and Game

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Salt Creek Off-Channel Habitat Enhancement Project

T14N, R1E, S 33

United States

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
23 coast fawn lily <i>Erythronium revolutum</i>	PMLIL0U0F0			G4	S3	2.2
24 coastal triquetrella <i>Triquetrella californica</i>	NBMUS7S010			G1	S1.2	1B.2
25 double-crested cormorant <i>Phalacrocorax auritus</i>	ABNFD01020			G5	S3	
26 fibrous pondweed <i>Potamogeton foliosus var. fibrillosus</i>	PMPOT030B1			G5T2T4	S1S2	2.3
27 foothill yellow-legged frog <i>Rana boylei</i>	AAABH01050			G3	S2S3	SC
28 fork-tailed storm-petrel <i>Oceanodroma furcata</i>	ABNDC04010			G5	S1	SC
29 fringed myotis <i>Myotis thysanodes</i>	AMACC01090			G4G5	S4	
30 ghost-pipe <i>Monotropa uniflora</i>	PDMON03030			G5	S2S3	2.2
31 great blue heron <i>Ardea herodias</i>	ABNGA04010			G5	S4	
32 great burnet <i>Sanguisorba officinalis</i>	PDROS1L060			G5?	S2.2	2.2
33 green yellow sedge <i>Carex viridula var. viridula</i>	PMCYP03EM3			G5T5	S1.3	2.3
34 horned butterwort <i>Pinguicula macroceras</i>	PDLNT01040			G5	S3.2	2.2
35 lagoon sedge <i>Carex lenticularis var. limnophila</i>	PMCYP037A7			G5T5	S1S2.2	2.2
36 leafy reed grass <i>Calamagrostis foliosa</i>	PMPOA170C0		Rare	G3	S3.2	4.2
37 leafy-stemmed mitrewort <i>Mitella caulescens</i>	PDSAX0N020			G5	S4.2	4.2
38 long-beard lichen <i>Usnea longissima</i>	NLLEC5P420			G4	S4.2	
39 maple-leaved checkerbloom <i>Sidalcea malachroides</i>	PDMAL110E0			G3G4	S3S4.2	4.2
40 marbled murrelet <i>Brachyramphus marmoratus</i>	ABNNN06010	Threatened	Endangered	G3G4	S1	
41 marsh pea <i>Lathyrus palustris</i>	PDFAB250P0			G5	S2S3	2.2
42 minute pocket moss <i>Fissidens pauperculus</i>	NBMUS2W0U0			G3?	S1.2	1B.2
43 mountain crowberry <i>Empetrum nigrum ssp. hermaphroditum</i>	PDEMP03021			G5T5	S2?	2.2
44 naked flag moss <i>Discelium nudum</i>	NBMUS2E010			G3G4	S1.2	2.2

California Department of Fish and Game

Natural Diversity Database

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Salt Creek Off-Channel Habitat Enhancement Project

T14N, R1E, S 33

United States

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
45 northern red-legged frog <i>Rana aurora</i>	AAABH01021			G4T4	S2?	SC
46 northern spotted owl <i>Strix occidentalis caurina</i>	ABNSB12011	Threatened		G3T3	S2S3	SC
47 osprey <i>Pandion haliaetus</i>	ABNKC01010			G5	S3	
48 pink sand-verbena <i>Abronia umbellata ssp. breviflora</i>	PDNYC010N2			G4G5T2	S2.1	1B.1
49 ruffed grouse <i>Bonasa umbellus</i>	ABNLC11010			G5	S4	
50 seacoast ragwort <i>Packera bolanderi var. bolanderi</i>	PDAST8H0H1			G4T4	S1.2	2.2
51 seaside pea <i>Lathyrus japonicus</i>	PDFAB250C0			G5	S1.1	2.1
52 serpentine catchfly <i>Silene serpentinicola</i>	PDCAR0U2B0			G2	S2.2	1B.2
53 silver-haired bat <i>Lasionycteris noctivagans</i>	AMACC02010			G5	S3S4	
54 southern torrent salamander <i>Rhyacotriton variegatus</i>	AAAAJ01020			G3G4	S2S3	SC
55 summer-run steelhead trout <i>Oncorhynchus mykiss irideus</i>	AFCHA0213B			G5T4Q	S2	SC
56 western lily <i>Lilium occidentale</i>	PMLIL1A0G0	Endangered	Endangered	G1	S1.2	1B.1
57 white-flowered rein orchid <i>Piperia candida</i>	PMORC1X050			G3	S3.2	1B.2
58 willow flycatcher <i>Empidonax traillii</i>	ABPAE33040		Endangered	G5	S1S2	