

## Technical Memorandum

**Date:** April 30, 2015  
**To:** Mike Farmer, TRC  
10680 White Rock Road, Rancho Cordova, California, 95670  
**From:** North State Resources, Inc.  
5000 Bechelli Lane, Suite 203, Redding, California 96002  
**Project:** The Landing—Mt. Shasta Commerce Park  
**Subject:** Biological Resources Characterization

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### Introduction

North State Resources, Inc. (NSR) characterized the biological resources for The Landing—Mt. Shasta Commerce Park project. The study area is situated on an old mill site and is located in the city of Mt. Shasta, Siskiyou County, California, in Section 21 of Township 40N, Range 4E on the *City of Mt. Shasta, California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1, Appendix A).

The purpose of this report is to describe the environmental setting; characterize the vegetation communities and habitats present in the study area; evaluate the potential for special-status plant and animal species and other sensitive biological resources (e.g., riparian habitat, nesting raptors, tree resources) to occur in the study area; and provide technical information to support environmental review under the California Environmental Quality Act (CEQA) and regulatory permitting.

### Methods

#### *Review of Existing Information*

Multiple information sources were reviewed to assess the biological resources within the study area prior to commencing with the field review. The following list of principal resources was reviewed:

- The *City of Mt. Shasta, California* USGS 7.5-minute topographic quadrangle;
- Color aerial photographs of the study area and vicinity;
- The U.S. Fish and Wildlife Service (USFWS) official list of endangered and threatened species that may occur, or be affected by projects, as provided by the Yreka Fish and Wildlife Office (Consultation Code 08EYRE00-2015-SLI-0018, Appendix B);
- The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (California Department of Fish and Wildlife 2015a) records for the *City of Mt. Shasta, California* 7.5-minute quadrangle and the eight adjacent quadrangles (Appendix B);

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## The Landing—Mt. Shasta Commerce Park Biological Resources Characterization

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April 30, 2015

Page 2

- The California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants (California Native Plant Society 2015) records for the *City of Mt. Shasta, California* 7.5-minute quadrangle and the eight adjacent quadrangles (Appendix B);
- GIS shapefiles of designated critical habitat from the USFWS Critical Habitat Portal website;
- U.S. Department of Agriculture Web Soil Survey;
- CDFW publications including State and Federally Listed Endangered, Threatened and Rare Plants of California (California Department of Fish and Wildlife 2015b); Special Vascular Plants, Bryophytes, and Lichens (California Department of Fish and Wildlife 2015c); State and Federally Listed and Threatened Animals of California (California Department of Fish and Wildlife 2015d); and Special Animals List (California Department of Fish and Wildlife 2015e);
- Pertinent biological literature including the following: *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012) and *Bird Species of Special Concern in California* (Shuford and Gardali 2008); and
- The wetland delineation and biological characterization completed for the site by NSR in 2005.

### **Field Investigation**

On April 25, 2015, NSR biologist, Heather Kelly, conducted a reconnaissance-level biological survey. The survey was conducted by walking meandering transects to view all areas in the study area. All distinct habitats occurring in the study area were characterized and evaluated for their potential to support special-status species and other sensitive biological resources. Focused surveys for special-status plant species that could be in bloom during the reconnaissance visit were conducted. Protocol-level surveys for special-status plant or wildlife species that could occur in the study area, or a formal wetland delineation were not conducted as part of this field investigation.

## **Results**

### **Environmental Setting**

The study area is located in the southern portion of the city of Mt. Shasta. The study area is situated on an old mill site that ceased active operations in 1989. Several concrete slab structures, log decks and concrete paved surfaces are found throughout the study area. Sapling to pole sized trees have established throughout the mill site.

Elevations within the study area range from 3,300 to 3,500 feet above sea level. Topography in the study area is relatively level and consists of a series of compacted terraces that were once used as log decks and various mill buildings. The climate of this region is characterized as Mediterranean, with cool, wet winters and hot, dry summers. Precipitation in the study area falls as rain and snow and the average annual precipitation is approximately 40 inches (Western Regional Climate Center 2015). The soil map unit in the study area is Ponto-Neer Complex, 2 to 15 percent slopes and is composed of 40 percent Ponto sandy loam and 30 percent Neer gravelly sandy loam soils. The Ponto soil is very deep and well drained and is formed in volcanic ash with moderate to high permeability. The Neer soil series is moderately deep and well drained with rapid permeability (Natural Resources Conservation Service 2015).

# The Landing—Mt. Shasta Commerce Park Biological Resources Characterization

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April 30, 2015

Page 3

## Vegetation Communities/Habitat Types

Vegetation communities/habitat types in the study area were classified based on descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988) and consist of urban with mixed conifer saplings and pole sized trees. Representative photographs of the habitat are provided in Appendix C.

The plant community in the study area is classified as urban/mixed conifer due to significant disturbance from previous industrial activities prior to the mill's closure in 1989. Trees have colonized portions of the mill site and include ponderosa pine (*Pinus ponderosa*), incense cedar (*Calocedrus decurrens*), Douglas fir (*Pseudotsuga menziesii*), sugar pine (*P. lambertiana*), and California black oak (*Quercus kelloggii*). Shrub species include common manzanita (*Arctostaphylos manzanita*), white thorn (*Ceanothus cordulatus*), Himalayan blackberry (*Rubus armeniacus*), Scotch broom (*Cystis scoparius*), and tobacco brush (*Ceanothus velutinus*). Common grasses and forbs found throughout the mill site include, peavine (*Lathyrus latifolia*), Kentucky bluegrass (*Poa pratensis*), and redstem storksbill (*Erodium cicutarium*).

## Special-Status Species

For the purpose of this evaluation, special-status plant species include plants that are (1) listed as threatened or endangered under the California Endangered Species Act (CESA) or the federal Endangered Species Act (ESA); (2) proposed for federal listing as threatened or endangered; (3) identified as state or federal candidate species; (4) designated as rare by the CDFW; and/or (5) have a California Rare Plant Rank (RPR) of 1A, 1B, 2A, or 2B.

Special-status animal species include species that are (1) listed as threatened or endangered under the CESA or ESA; (2) proposed for federal listing as threatened or endangered; (3) identified as state or federal candidate species; and (4) identified by the CDFW as Species of Special Concern or Fully Protected Species.

A list of regionally occurring special-status animal species was compiled based on a review of pertinent literature; the results of the field assessment; and queries of the USFWS, CNDDDB, and CNPS database records and the California Wildlife Habitats Relationship system. For each species, general habitat requirements were assessed and compared to the habitats in the study area and immediate vicinity in order to determine their potential to be present in the study area. Based on this review of general habitat requirements and the results of the field assessment, habitat is present for two special-status plant species, and habitat for special-status animal species is absent from the study area (Tables 1 and 2).

**Table 1. Special-Status Plant Species Potentially Occurring in the Study Area**

Common Name Scientific Name	Status <sup>1</sup> (Fed/State/RPR)	General Habitat Description	Species <sup>2</sup> Present/Absent
<b>Federal and State Listed Species</b>			
Whitebark pine <i>Pinus albicaulis</i>	C/—/—	Upper red-fir forest to timberline; especially subalpine forest; elevations 6,560-12,136 feet.	Absent. Outside the elevational range.

**The Landing—Mt. Shasta Commerce Park  
Biological Resources Characterization**

April 30, 2015

Page 4

**Table 1. Special-Status Plant Species Potentially Occurring in the Study Area**

<b>Common Name Scientific Name</b>	<b>Status<sup>1</sup> (Fed/State/RPR)</b>	<b>General Habitat Description</b>	<b>Species<sup>2</sup> Present/Absent</b>
Chinese Camp brodiaea <i>Brodiaea pallida</i>	T/E/1B.1	Cismontane woodland, Valley and foothill grassland/vernal streambeds, often serpentinite. Elevation: 1,260 feet. Bloom: May-Jun.	Absent. Streams and serpentine soils are absent from the study area.
Siskiyou mariposa lily <i>Calochortus persistens</i>	C/R/1B.2	Lower montane coniferous forest, North Coast coniferous forest/Rocky, acidic. Elevation: 3,280-6,100 feet. Bloom: Jun-Jul.	Absent. Rocky soils are absent from the study area.
Gentner's fritillary <i>Fritillaria gentneri</i>	E/—/1B.1	Chaparral, Cismontane woodland/sometimes serpentinite. Elevation: 3,300-3,670 feet. Bloom: Apr-May.	Absent. Serpentine soils are absent from the study area.
Slender Orcutt grass <i>Orcuttia tenuis</i>	T/E/1B.1	Vernal pools; elevation 115 to 5,775 feet. Blooms May – October.	Absent. Vernal pools to support this species are absent from the study area.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	—/E/1B.2	Marshes and swamps (lake margins), vernal pools/clay. Elevation: 30-7,790 feet. Bloom: Apr-Aug.	Absent. Vernal pools and lakes to support this species are absent from the study area.
<b>Other Special-Status Species</b>			
Marbled wild-ginger <i>Asarum marmoratum</i>	—/—/2B.3	Lower montane coniferous forest. Elevation: 660-5,900 feet. Bloom: Apr-Aug.	Absent. This species generally occurs within late-seral coniferous forest, which is absent from the study area.
Woolly balsamroot <i>Balsamorhiza lanata</i>	—/—/1B.2	Cismontane woodland/rocky, volcanic. Elevation: 2,620-6,220 feet. Bloom: Apr-Jun.	Absent. Rocky outcrops are absent from the study area.
Shasta chaenactis <i>Chaenactis suffrutescens</i>	—/—/1B.3	Lower montane coniferous forest, Upper montane coniferous forest/sandy, serpentinite. Elevation: 2,460-9,180 feet. Bloom: May-Sep.	Absent. Rocky, serpentine soils are absent from the study area.
Northern clarkia <i>Clarkia borealis</i> ssp. <i>borealis</i>	—/—/1B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest/often roadcuts. Elevation: 1,310-4,560 feet. Bloom: Jun-Sep.	<b>Habitat present.</b> This species may establish in disturbed areas.

**The Landing—Mt. Shasta Commerce Park  
Biological Resources Characterization**

April 30, 2015  
Page 5

**Table 1. Special-Status Plant Species Potentially Occurring in the Study Area**

<b>Common Name Scientific Name</b>	<b>Status<sup>1</sup> (Fed/State/RPR)</b>	<b>General Habitat Description</b>	<b>Species<sup>2</sup> Present/Absent</b>
Pallid bird's-beak <i>Cordylanthus tenuis</i> ssp. <i>pallescens</i>	—/—/1B.2	Lower montane coniferous forest (gravelly, volcanic alluvium). Elevation: 2,280-5,400 feet. Bloom: Jul-Sep.	Absent. Gravelly soils are absent from the study area.
Waldo daisy <i>Erigeron bloomeri</i> var. <i>nudatus</i>	—/—/2B.3	Lower montane coniferous forest, Upper montane coniferous forest/serpentinite. Elevation: 1,970-7,540 feet. Bloom: Jun-Jul.	Absent. Serpentine soils are absent from the study area.
Scott Mountain bedstraw <i>Galium serpenticum</i> ssp. <i>scotticum</i>	—/—/1B.2	Lower montane coniferous forest (serpentinite). Elevation: 3,280-6,810 feet. Bloom: May-Aug.	Absent. Serpentine soils are absent from the study area.
Peck's lomatium <i>Lomatium peckianum</i>	—/—/2B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest, Pinyon and juniper woodland/volcanic. Elevation: 2,300-5,900 feet. Bloom: Apr-May (Jun).	Absent. This genus was not observed during the site visit conducted on April 25, 2015.
Thread-leaved beardtongue <i>Penstemon filiformis</i>	—/—/1B.3	Cismontane woodland, Lower montane coniferous forest/Rocky, often serpentinite. Elevation: 1,480-6,150 feet. Bloom: May-Aug (Sep).	Absent. Serpentine soils are absent from the study area.

<sup>1</sup>Status Codes: Federal and State: E = Endangered; T = Threatened; R = Rare  
California Rare Plant Rank (RPR) Codes:

List 1B Plants rare, threatened, or endangered in California and elsewhere.

List 2B Plants rare, threatened, or endangered in California but more common elsewhere.

Extensions:

- .1 Seriously endangered in California
- .2 Fairly endangered in California
- .3 Not very endangered in California

<sup>2</sup> Absent – no habitat present and no further work needed.

Habitat Present – suitable habitat is present and the species may be present.

Present – the species has been recorded in the study area.

**The Landing—Mt. Shasta Commerce Park  
Biological Resources Characterization**

April 30, 2015

Page 6

**Table 2. Special-Status Animal Species Potentially Occurring in the Study Area**

<b>Common Name Scientific Name</b>	<b>Status<sup>1</sup> (Fed/State)</b>	<b>General Habitat Description</b>	<b>Potential for Occurrence</b>
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	E/—	Large vernal pool habitats consisting of moderately turbid cool water.	Absent. Vernal pool habitat is absent from the study area.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T/—	Vernal pools, swales, and ephemeral freshwater habitats.	Absent. Vernal pool habitat is absent from the study area.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E/—	Vernal pools, swales, and ephemeral freshwater habitats.	Absent. Vernal pool habitat is absent from the study area.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T/—	Elderberry shrubs associated with riparian forests that occur along rivers and streams in the Central Valley.	Absent. Project is outside the elevational range for the species.
California red-legged frog <i>Rana draytonii</i>	T/C	Require aquatic habitat for breeding, also uses a variety of other habitat types including riparian and upland areas. Adults utilize emergent vegetation associated with deep-water pools with fringes of cattails & dense overhanging vegetation.	Absent. Out of the species known range.
Oregon spotted frog <i>Rana pretiosa</i>	T/—	Wet areas in mountainous woodlands and wet meadows.	Absent. Wet meadows are absent from the study area.
Northern spotted owl <i>Strix occidentalis caurina</i>	T/SC	In northern California, resides in large stands of old growth, multi-layered mixed conifer, redwood and Douglas-fir habitats	Absent. Late-successional forest is absent from the study area.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	T/E	Nesting habitat is cottonwood/willow riparian forest.	Absent. Out of the species known range.
Pacific fisher <i>Martes pennanti pacifica</i>	PT/SC	Intermediate to large dense stages of coniferous forests and deciduous riparian habitats with greater than 50% canopy closure.	Absent. Suitable forest habitat is not present in or adjacent to the study area.

**The Landing—Mt. Shasta Commerce Park  
Biological Resources Characterization**

April 30, 2015

Page 7

<b>Common Name Scientific Name</b>	<b>Status<sup>1</sup> (Fed/State)</b>	<b>General Habitat Description</b>	<b>Potential for Occurrence</b>
Gray wolf <i>Canis lupus</i>	E/E	Habitat generalist and will establish territories where there is a sufficient food source. Dispersal average between 40 and 60 miles depending on gender.	Absent. Habitat to support a breeding wolf population is absent.
Sierra Nevada red fox <i>Vulpes vulpes nector</i>	—/T	Red fir and lodgepole pine forests in the sub-alpine zone and alpine fell-fields of the Sierra Nevada.	Absent. Alpine and sub-alpine forests are absent from the study area.
Olive-sided flycatcher <i>Contopus cooperi</i>	—/SC	Breeds primarily in late-successional conifer forests with open canopies. Mostly associated with edges, openings, and clearings in otherwise relatively dense forests.	Absent. Late-successional forest is absent from the study area.

<sup>1</sup>Status Codes:

**Federal and State:** **E** = Endangered; **T** = Threatened; **C** = Candidate; **P** = Proposed; **SC** = Species of Special Concern.

**Waters of the United States**

Waters of the United States are not present in the study area. Erosional features (i.e., gullies and rills) that are found throughout the mill site drain sheet flow from flat, compacted surfaces to a drainage feature southwest of the railroad tracks. Gullies and rills are not tributary based on Corps guidance (U.S. Army Corps of Engineers 2011) and do not qualify as waters of the United States. Gullies and rills found on the site are formed where no previously defined channel existed and only channel sheet flow from compacted surfaces on the mill site. These features do not intercept any wetland or natural drainage.

Scouler’s willow (*Salix scouleriana*) and black cottonwood (*Populus balsamifera*) were observed in several locations in the study area. Data was taken at these areas to determine if the area met the U.S. Army Corps of Engineers definition of a wetland (Figure 2, Appendix A). Hydrology and hydric soil indicators were absent at each point, as well as a lack of dominant hydrophytic vegetation at data points 1 and 3, and the areas were determined to be upland (see data forms in Appendix D.) Photographs of data points taken are presented in Appendix C.

**Other Sensitive Biological Resources**

**Migratory Birds and Raptors**

Raptor species (birds of prey) and migratory birds may potentially nest in trees and other vegetation or structures in or near the study area. All raptors, including common species and their nests, are protected from “take” under California Fish and Game Code. All migratory birds and their nests are protected from “take” under the federal Migratory Bird Treaty Act and California Fish and Game Code. An osprey nest is present in the radio transmission tower approximately 570 feet southeast of the study area. Two adults were seen sitting on the nest during the reconnaissance survey conducted on April 25, 2015.

## The Landing—Mt. Shasta Commerce Park Biological Resources Characterization

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April 30, 2015

Page 8

### **Tree Ordinances**

The Mt. Shasta City tree ordinance (Chapter 12.10.150 of the Mt. Shasta City Municipal Code) applies to street trees and would not apply to trees that may be posed for removal during project development.

### **Discussion**

The Landing—Mt. Shasta Commerce Park project has the potential to affect northern clarkia (*Clarkia borealis* ssp. *borealis*) and nesting migratory birds and raptors if they are present in the study area during construction activities. Implementation of avoidance and minimization measures is recommended to reduce the potential for adverse impacts on special-status plant species and nesting migratory birds and raptors. These measures should be considered during the analysis of impacts in the CEQA document and would ensure that minimal to no impacts on sensitive biological resources and vegetation communities result from implementation of the proposed project.

**Conduct botanical surveys.** Impacts on northern clarkia could occur if work occurs in populations that could be found in the study area. The following measures may be implemented to avoid impacts on northern clarkia.

- If vegetation removal is required in the treed areas in the study area, a survey for northern clarkia should be conducted during their blooming period from June to September. If no special-status species are observed, then no further measures are necessary. If any of the species are observed in the area of proposed disturbance, the following measures may be implemented to reduce impacts.
- Prior to the start of construction activities in the project area, exclusionary fencing shall be erected around any known populations of northern clarkia. If necessary, a qualified botanist shall be present to assist with locating populations. The exclusionary fencing shall be periodically inspected throughout each period of construction and be repaired as necessary.
- If special-status plants cannot be fully avoided, CDFW shall be contacted to determine the appropriate salvage and relocation measures. Appropriate measures may include transplanting the individual special-status plants, collecting seeds, propagating the plants and then replanting the seedlings to a suitable location.

**Protect nesting migratory birds and raptors.** Vegetation removal and construction activities could affect nesting migratory birds and raptors. The following measures should be considered to avoid impacts on nesting birds:

- If vegetation removal or construction occurs outside of the breeding season (September 1 – February 14), no further measures are necessary.
- If vegetation removal and construction activities occur within 250 feet of habitat for migratory birds and 500 feet for raptors between February 15 and August 31, a qualified biologist should conduct a preconstruction survey no more than two weeks before construction activities begin.



**The Landing—Mt. Shasta Commerce Park**  
**Biological Resources Characterization**

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April 30, 2015

Page 9

- If an active nest is found, a qualified biologist, in consultation with CDFW, should establish a construction-free buffer zone around the nest until the young have fledged. A plan should be developed to monitor whether construction activity is disturbing the reproductive process and to determine when the young have fledged.

## The Landing—Mt. Shasta Commerce Park Biological Resources Characterization

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April 30, 2015

Page 10

### References

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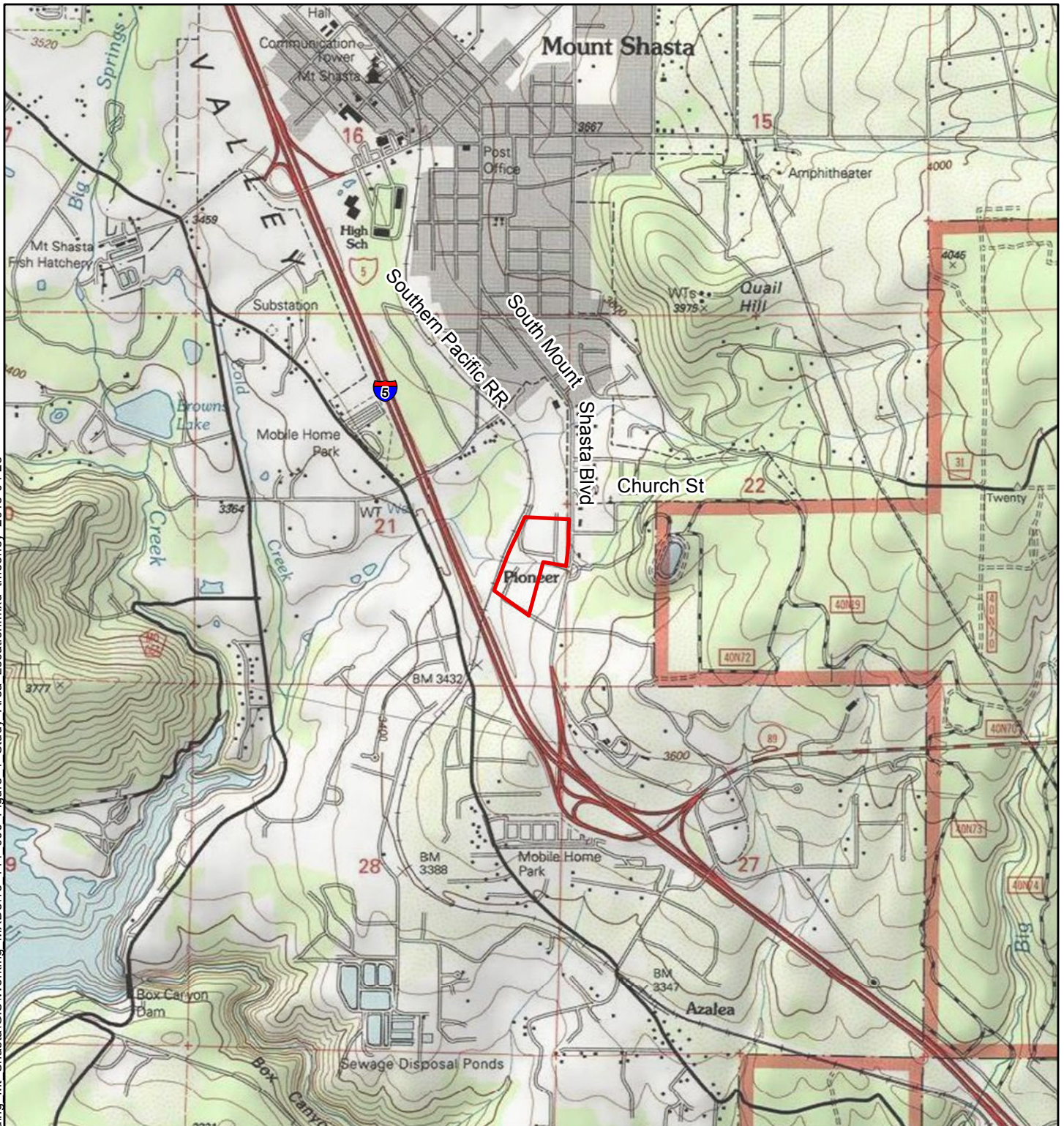
## APPENDIX A

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Figures



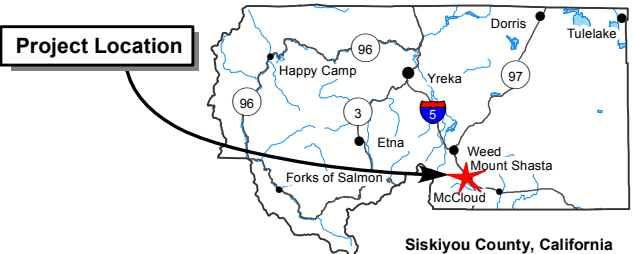
G:\Projects\15\_114\_000\_The Landing Mt Shasta\GIS\Working\_MXD\15\_114\_000\_Figure 1 Study Area Location.mxd tmooney 2015-04-28



Study Area (18.90 acres)

**Public Land Survey:**  
 Township 40N  
 Range 04W  
 Section 21



**USGS 7.5 Quad:**  
 City of Mount Shasta - Revised 1986

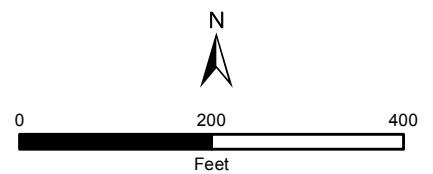


**Figure 1**  
**Study Area Location**





-  Study Area (18.90 acres)
-  3-Parameter Data Point



**Figure 2**  
**Study Area-Aerial View**

APPENDIX B

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USFWS List, CNDDDB Query, CNPS Electronic Inventory Query Results



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Yreka Fish and Wildlife Office  
1829 SOUTH OREGON STREET  
YREKA, CA 96097  
PHONE: (530)842-5763 FAX: (530)842-4517

Consultation Code: 08EYRE00-2015-SLI-0018

April 28, 2015

Event Code: 08EYRE00-2015-E-00007

Project Name: The Landing-Mt. Shasta Commerce Park

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies federally threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that this list does not reflect State listed species or fulfill requirements related to any California Department of Fish and Wildlife consultation. Additionally, this list does not include species covered by the National Marine Fisheries Service (NMFS). For NMFS species please see the related website at the following link:

[http://www.nwr.noaa.gov/protected\\_species/species\\_list/species\\_lists.html](http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html)

If your project does not involve Federal funding or permits and does not occur on Federal land, we recommend you review this list and determine if any of these species or critical habitat may be affected. If you determine that there will be no effects to federally listed or proposed species or critical habitat, there is no need to coordinate with the Service. If you think or know that there will be effects, please contact our office for further guidance. We can assist you in incorporating measures to avoid or minimize impacts, and discuss whether permits are needed.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential effects to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be



completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

If wetlands, springs, or streams are known to occur in the project area or are present in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (ACOE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the ACOE's Regulatory Section regarding the possible need for a permit.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)).

Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;



<http://www.towerkill.com>; and  
<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

The table below outlines lead Service field offices by county and land ownership/project type. Please refer to this table when you are ready to coordinate (including requests for section 7 consultation) with the field office corresponding to your project. Please send any documentation regarding your project to that office. Please note that the lead Service field office for your consultation may not be the office listed above in the letterhead. Please visit the following link to view a map of Service field office jurisdictional boundaries:

[http://www.fws.gov/yreka/specieslist/JurisdictionalBoundaryES\\_R8\\_20150313.pdf](http://www.fws.gov/yreka/specieslist/JurisdictionalBoundaryES_R8_20150313.pdf)

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of the letter you submit to our office along with any request for consultation or correspondence about your project.

**Lead FWS offices by County and Ownership/Program**

<b>County</b>	<b>Ownership/Program</b>	<b>Species</b>	<b>Office Lead*</b>
<b>Alameda</b>	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
<b>Alameda</b>	All ownerships but tidal/estuarine	All	SFWO
<b>Alpine</b>	Humboldt Toiyabe National Forest	All	RFWO
<b>Alpine</b>	Lake Tahoe Basin Management Unit	All	RFWO
<b>Alpine</b>	Stanislaus National Forest	All	SFWO
<b>Alpine</b>	El Dorado National Forest	All	SFWO
<b>Colusa</b>	Mendocino National Forest	All	AFWO
			By jurisdiction (see

<b>Colusa</b>	Other	All	map)
<b>Contra Costa</b>	Legal Delta (Excluding ECCHCP)	All	BDFWO
<b>Contra Costa</b>	Antioch Dunes NWR	All	BDFWO
<b>Contra Costa</b>	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
<b>Contra Costa</b>	All ownerships but tidal/estuarine	All	SFWO
<b>Del Norte</b>	All	All	AFWO
<b>El Dorado</b>	El Dorado National Forest	All	SFWO
<b>El Dorado</b>	LakeTahoe Basin Management Unit		RFWO
<b>Glenn</b>	Mendocino National Forest	All	AFWO
<b>Glenn</b>	Other	All	By jurisdiction (see map)
<b>Humboldt</b>	All except Shasta Trinity National Forest	All	AFWO
<b>Humboldt</b>	Shasta Trinity National Forest	All	YFWO
<b>Lake</b>	Mendocino National Forest	All	AFWO
<b>Lake</b>	Other	All	By jurisdiction (see map)

<b>Lassen</b>	Modoc National Forest	All	KFWO
<b>Lassen</b>	Lassen National Forest	All	SFWO
<b>Lassen</b>	Toiyabe National Forest	All	RFWO
<b>Lassen</b>	BLM Surprise and Eagle Lake Resource Areas	All	RFWO
<b>Lassen</b>	BLM Alturas Resource Area	All	KFWO
<b>Lassen</b>	Lassen Volcanic National Park	All (includes Eagle Lake trout on all ownerships)	SFWO
<b>Lassen</b>	All other ownerships	All	By jurisdiction (see map)
<b>Marin</b>	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
<b>Marin</b>	All ownerships but tidal/estuarine	All	SFWO
<b>Mendocino</b>	Russian River watershed	All	SFWO
<b>Mendocino</b>	All except Russian River watershed	All	AFWO
<b>Modoc</b>	Modoc National Forest	All	KFWO
<b>Modoc</b>	BLM Alturas Resource Area	All	KFWO
	Klamath Basin National Wildlife		

<b>Modoc</b>	Refuge Complex	All	KFWO
<b>Modoc</b>	BLM Surprise and Eagle Lake Resource Areas	All	RFWO
<b>Modoc</b>	All other ownerships	All	By jurisdiction (See map)
<b>Mono</b>	Inyo National Forest	All	RFWO
<b>Mono</b>	Humboldt Toiyabe National Forest	All	RFWO
<b>Napa</b>	All ownerships but tidal/estuarine	All	SFWO
<b>Napa</b>	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
<b>Nevada</b>	Humboldt Toiyabe National Forest	All	RFWO
<b>Nevada</b>	All other ownerships	All	By jurisdiction (See map)
<b>Placer</b>	Lake Tahoe Basin Management Unit	All	RFWO
<b>Placer</b>	All other ownerships	All	SFWO
<b>Sacramento</b>	Legal Delta	Delta Smelt	BDFWO
<b>Sacramento</b>	Other	All	By jurisdiction (see map)
		Salt marsh	

<b>San Francisco</b>	Tidal wetlands/marsh adjacent to San Francisco Bay	species, delta smelt	BDFWO
<b>San Francisco</b>	All ownerships but tidal/estuarine	All	SFWO
<b>San Mateo</b>	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
<b>San Mateo</b>	All ownerships but tidal/estuarine	All	SFWO
<b>San Joaquin</b>	Legal Delta excluding San Joaquin HCP	All	BDFWO
<b>San Joaquin</b>	Other	All	SFWO
<b>Santa Clara</b>	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
<b>Santa Clara</b>	All ownerships but tidal/estuarine	All	SFWO
<b>Shasta</b>	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
<b>Shasta</b>	Hat Creek Ranger District	All	SFWO
<b>Shasta</b>	Bureau of Reclamation (Central Valley Project)	All	BDFWO
<b>Shasta</b>	Whiskeytown National Recreation Area	All	YFWO

<b>Shasta</b>	BLM Alturas Resource Area	All	KFWO
<b>Shasta</b>	Caltrans	By jurisdiction	SFWO/AFWO
<b>Shasta</b>	Ahjumawi Lava Springs State Park	Shasta crayfish	SFWO
<b>Shasta</b>	All other ownerships	All	By jurisdiction (see map)
<b>Shasta</b>	Natural Resource Damage Assessment, all lands	All	SFWO/BDFWO
<b>Sierra</b>	Humboldt Toiyabe National Forest	All	RFWO
<b>Sierra</b>	All other ownerships	All	SFWO
<b>Siskiyou</b>	Klamath National Forest (except Ukonom District)	All	YFWO
<b>Siskiyou</b>	Six Rivers National Forest and Ukonom District	All	AFWO
<b>Siskiyou</b>	Shasta Trinity National Forest	All	YFWO
<b>Siskiyou</b>	Lassen National Forest	All	SFWO
<b>Siskiyou</b>	Modoc National Forest	All	KFWO
<b>Siskiyou</b>	Lava Beds National Volcanic Monument	All	KFWO
<b>Siskiyou</b>	BLM Alturas Resource Area	All	KFWO

<b>Siskiyou</b>	Klamath Basin National Wildlife Refuge Complex	All	KFWO
<b>Siskiyou</b>	All other ownerships	All	By jurisdiction (see map)
<b>Solano</b>	Suisun Marsh	All	BDFWO
<b>Solano</b>	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
<b>Solano</b>	All ownerships but tidal/estuarine	All	SFWO
<b>Solano</b>	Other	All	By jurisdiction (see map)
<b>Sonoma</b>	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
<b>Sonoma</b>	All ownerships but tidal/estuarine	All	SFWO
<b>Tehama</b>	Mendocino National Forest	All	AFWO
<b>Tehama</b>	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
<b>Tehama</b>	All other ownerships	All	By jurisdiction (see map)
<b>Trinity</b>	BLM	All	AFWO

<b>Trinity</b>	Six Rivers National Forest	All	AFWO
<b>Trinity</b>	Shasta Trinity National Forest	All	YFWO
<b>Trinity</b>	Mendocino National Forest	All	AFWO
<b>Trinity</b>	BIA (Tribal Trust Lands)	All	AFWO
<b>Trinity</b>	County Government	All	AFWO
<b>Trinity</b>	All other ownerships	All	By jurisdiction (See map)
<b>Yolo</b>	Yolo Bypass	All	BDFWO
<b>Yolo</b>	Other	All	By jurisdiction (see map)
<b>All</b>	FERC-ESA	All	By jurisdiction (see map)
<b>All</b>	FERC-ESA	Shasta crayfish	SFWO
<b>All</b>	FERC-Relicensing (non-ESA)	All	BDFWO
<b>*Office Leads:</b>			
<b>AFWO=Arcata Fish and Wildlife Office</b>			
<b>BDFWO=Bay Delta Fish and Wildlife Office</b>			



<b>KFWO=Klamath Falls Fish and Wildlife Office</b>		
<b>RFWO=Reno Fish and Wildlife Office</b>		
<b>YFWO=Yreka Fish and Wildlife Office</b>		

Attachment



United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

## Official Species List

**Provided by:**

Yreka Fish and Wildlife Office  
1829 SOUTH OREGON STREET  
YREKA, CA 96097  
(530) 842-5763

**Consultation Code:** 08EYRE00-2015-SLI-0018

**Event Code:** 08EYRE00-2015-E-00007

**Project Type:** Development

**Project Name:** The Landing-Mt. Shasta Commerce Park

**Project Description:** Commercial development on old mill site

**Please Note:** The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

### Project Location Map:



**Project Coordinates:** MULTIPOLYGON (((-122.3063561 41.2973169, -122.3064634 41.2960587, -122.3066136 41.2953018, -122.3076865 41.2954461, -122.308416 41.293447, -122.3103902 41.2943828, -122.3086521 41.2974943, -122.3063561 41.2973169)))

**Project Counties:** Siskiyou, CA



United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

## Endangered Species Act Species List

There are a total of 19 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	Status	Has Critical Habitat	Condition(s)
California red-legged frog ( <i>Rana draytonii</i> ) Population: Entire	Threatened	Final designated	
Oregon Spotted frog ( <i>Rana pretiosa</i> )	Threatened	Proposed	
<b>Birds</b>			
Northern Spotted owl ( <i>Strix occidentalis caurina</i> ) Population: Entire	Threatened	Final designated	
Yellow-Billed Cuckoo ( <i>Coccyzus americanus</i> ) Population: Western U.S. DPS	Threatened	Proposed	
<b>Conifers and Cycads</b>			
Whitebark pine ( <i>Pinus albicaulis</i> )	Candidate		
<b>Crustaceans</b>			
Conservancy fairy shrimp ( <i>Branchinecta conservatio</i> ) Population: Entire	Endangered	Final designated	



United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

Vernal Pool fairy shrimp ( <i>Branchinecta lynchi</i> ) Population: Entire	Threatened	Final designated	
Vernal Pool tadpole shrimp ( <i>Lepidurus packardi</i> ) Population: Entire	Endangered	Final designated	
<b>Fishes</b>			
Delta smelt ( <i>Hypomesus transpacificus</i> ) Population: Entire	Threatened	Final designated	
Longfin, San Francisco Bay Delta Population smelt ( <i>Spirinchus thaleichthys</i> ) Population: San Francisco Bay delta DPS	Candidate		
<b>Flowering Plants</b>			
Chinese Camp brodiaea ( <i>Brodiaea pallida</i> )	Threatened		
Gentner's Fritillary ( <i>Fritillaria gentneri</i> )	Endangered		
Hairy Orcutt grass ( <i>Orcuttia pilosa</i> )	Endangered	Final designated	
Hoover's spurge ( <i>Chamaesyce hooveri</i> )	Threatened	Final designated	
Siskiyou Mariposa lily ( <i>Calochortus persistens</i> )	Candidate		
Slender Orcutt grass ( <i>Orcuttia tenuis</i> )	Threatened	Final designated	
<b>Insects</b>			
Valley Elderberry Longhorn beetle	Threatened	Final designated	



United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

<p><i>(Desmocerus californicus dimorphus)</i> Population: Entire</p>			
<b>Mammals</b>			
<p>fisher (<i>Martes pennanti</i>) Population: West coast DPS</p>	<p>Proposed Threatened</p>		
<p>Gray wolf (<i>Canis lupus</i>) Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, KS, KY, LA, MA, MD, ME, MO, MS, NC, NE, NH, NJ, NV, NY, OK, PA, RI, SC, TN, TX, VA, VT and WV; and portions of AZ, IA, IN, IL, ND, NM, OH, OR, SD, UT, and WA. Mexico.</p>	<p>Endangered</p>		



United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

## **Critical habitats that lie within your project area**

There are no critical habitats within your project area.



United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

## **Appendix A: FWS National Wildlife Refuges**

There are no FWS National Wildlife Refuges within your project area.





United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

## Appendix B: FWS Migratory Birds

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no otherwise lawful activities. For more information regarding these Acts see: <http://www.fws.gov/migratorybirds/RegulationsandPolicies.html>.

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html>.

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tool links in the Bird Conservation Tools section at:

<http://www.fws.gov/migratorybirds/CCMB2.htm>.

For information about conservation measures that help avoid or minimize impacts to birds, please visit:

<http://www.fws.gov/migratorybirds/CCMB2.htm>.

### Migratory birds of concern that may be affected by your project:

There are 22 birds on your Migratory birds of concern list.

Species Name	Bird of Conservation Concern (BCC)	Seasonal Occurrence in Project Area
Sage Thrasher ( <i>Oreoscoptes montanus</i> )	Yes	Breeding
Loggerhead Shrike ( <i>Lanius</i> )	Yes	Year-round



United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

<i>ludovicianus</i> )		
Western grebe ( <i>aechmophorus occidentalis</i> )	Yes	Year-round
Swainson's hawk ( <i>Buteo swainsoni</i> )	Yes	Breeding
Williamson's Sapsucker ( <i>Sphyrapicus thyroideus</i> )	Yes	Year-round
Long-Billed curlew ( <i>Numenius americanus</i> )	Yes	Breeding
Peregrine Falcon ( <i>Falco peregrinus</i> )	Yes	Year-round
Short-eared Owl ( <i>Asio flammeus</i> )	Yes	Year-round
Oak Titmouse ( <i>Baeolophus inornatus</i> )	Yes	Year-round
Cassin's Finch ( <i>Carpodacus cassinii</i> )	Yes	Year-round
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	Yes	Year-round
Calliope Hummingbird ( <i>Stellula calliope</i> )	Yes	Breeding
Flammulated owl ( <i>Otus flammeolus</i> )	Yes	Breeding
Fox Sparrow ( <i>Passerella iliaca</i> )	Yes	Breeding
Lewis's Woodpecker ( <i>Melanerpes lewis</i> )	Yes	Year-round



United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

Nuttall's Woodpecker ( <i>Picoides nuttallii</i> )	Yes	Year-round
Green-tailed Towhee ( <i>Pipilo chlorurus</i> )	Yes	Breeding
White-headed Woodpecker ( <i>Picoides albolarvatus</i> )	Yes	Year-round
Olive-Sided flycatcher ( <i>Contopus cooperi</i> )	Yes	Breeding
Snowy Plover ( <i>Charadrius alexandrinus</i> )	Yes	Breeding
Willow Flycatcher ( <i>Empidonax traillii</i> )	Yes	Breeding
Purple Finch ( <i>Carpodacus purpureus</i> )	Yes	Year-round



United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

## Appendix C: NWI Wetlands

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

**Exclusions** - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

**Precautions** - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of



United States Department of Interior  
Fish and Wildlife Service

Project name: The Landing-Mt. Shasta Commerce Park

this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NWI Wetlands information is not available for your project location.



# Summary Table Report

## California Department of Fish and Wildlife

### California Natural Diversity Database



**Query Criteria:** Quad is (City of Mount Shasta (4112233) or Weed (4112244) or Hotlum (4112243) or McCloud (4112232) or Mount Eddy (4112234) or Mt. Shasta (4112242) or Seven Lakes Basin (4112224) or Dunsmuir (4112223) or Girard Ridge (4112222))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Accipiter gentilis</i> northern goshawk	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	3,000 6,800	427 S:6	0	1	1	0	0	4	3	3	6	0	0
<i>Anthoxanthum nitens ssp. nitens</i> nodding vanilla-grass	G5 S2	None None	Rare Plant Rank - 2B.3	4,920 4,920	5 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Aplodontia rufa californica</i> Sierra Nevada mountain beaver	G5T3T4 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern		131 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Arctostaphylos klamathensis</i> Klamath manzanita	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	5,200 6,700	29 S:7	1	4	0	0	0	2	1	6	7	0	0
<i>Ardea herodias</i> great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	2,815 3,420	133 S:2	1	0	0	0	0	1	1	1	2	0	0
<i>Asarum marmoratum</i> marbled wild-ginger	G3G4 S2	None None	Rare Plant Rank - 2B.3	3,600 3,600	12 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Ascaphus truei</i> Pacific tailed frog	G4 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	2,100 5,540	218 S:8	0	0	0	0	0	8	8	0	8	0	0
<i>Balsamorhiza lanata</i> woolly balsamroot	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	2,800 6,000	44 S:15	1	7	2	1	0	4	2	13	15	0	0
<i>Botrychium crenulatum</i> scalloped moonwort	G3 S2	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	5,609 6,143	74 S:3	1	1	0	0	0	1	0	3	3	0	0
<i>Botrychium minganense</i> mingan moonwort	G4G5 S2	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	5,609 6,143	57 S:2	1	1	0	0	0	0	0	2	2	0	0



# Summary Table Report

## California Department of Fish and Wildlife

### California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Botrychium pinnatum</i> northwestern moonwort	G4? S2	None None	Rare Plant Rank - 2B.3 USFS_S-Sensitive	6,000 6,000	5 S:1	0	1	0	0	0	0	1	0	1	0	0
<i>Botrychium pumicola</i> pumice moonwort	G3 S1	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	9,000 9,000	1 S:1	0	0	1	0	0	0	0	1	1	0	0
<i>Botrypus virginianus</i> rattlesnake fern	G5 S2	None None	Rare Plant Rank - 2B.2	2,390 3,900	34 S:11	2	5	4	0	0	0	0	11	11	0	0
<i>Calochortus greenei</i> Greene's mariposa-lily	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	5,600 5,600	50 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Campanula shetleri</i> Castle Crags harebell	G2 S2	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive USFS_S-Sensitive	4,000 6,000	7 S:7	1	1	0	0	0	5	7	0	7	0	0
<i>Campanula wilkinsiana</i> Wilkin's harebell	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	6,400 8,500	24 S:8	0	3	4	0	0	1	1	7	8	0	0
<i>Cardamine angulata</i> seaside bittercress	G5 S1	None None	Rare Plant Rank - 2B.1		5 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Carex limosa</i> mud sedge	G5 S3	None None	Rare Plant Rank - 2B.2	5,715 5,715	34 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Chaenactis suffrutescens</i> Shasta chaenactis	G3 S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive SB_BerrySB-Berry Seed Bank USFS_S-Sensitive	2,800 6,800	38 S:9	0	0	1	0	0	8	7	2	9	0	0
<i>Clarkia borealis ssp. borealis</i> northern clarkia	G3T3 S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive USFS_S-Sensitive	4,150 4,150	107 S:1	0	0	1	0	0	0	0	1	1	0	0
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	G5T3Q S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	2,880 3,400	119 S:2	0	0	0	0	2	0	2	0	0	1	1
<i>Cordylanthus tenuis ssp. pallescens</i> pallid bird's-beak	G4G5T1 S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	3,520 5,300	12 S:12	0	4	6	0	0	2	0	12	12	0	0
<i>Cryptochia shasta</i> confusion caddisfly	G1G2 S1S2	None None		2,500 2,500	1 S:1	0	0	0	0	0	1	1	0	1	0	0



## Summary Table Report

### California Department of Fish and Wildlife California Natural Diversity Database



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<i>Cypseloides niger</i> black swift	G4 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern NABCI_YWL-Yellow Watch List USFWS_BCC-Birds of Conservation Concern	2,480 2,480	46 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Darlingtonia Seep</i> Darlingtonia Seep	G4 S3.2	None None		6,640 6,800	70 S:3	1	0	0	0	0	2	3	0	3	0	0
<i>Draba aureola</i> golden alpine draba	G4 S2	None None	Rare Plant Rank - 1B.3	7,600 8,800	6 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Draba carnosula</i> Mt. Eddy draba	G2 S2	None None	Rare Plant Rank - 1B.3 USFS_S-Sensitive	7,800 8,400	13 S:4	0	0	0	0	0	4	4	0	4	0	0
<i>Empidonax traillii</i> willow flycatcher	G5 S1S2	None Endangered	IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	2,900 3,050	87 S:3	1	2	0	0	0	0	1	2	3	0	0
<i>Emys marmorata</i> western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	2,820 2,820	1138 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Epilobium oreganum</i> Oregon fireweed	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	2,600 3,800	40 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Epilobium siskiyouense</i> Siskiyou fireweed	G3 S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive SB_BerrySB-Berry Seed Bank	6,800 7,800	45 S:13	1	0	0	0	0	12	13	0	13	0	0
<i>Erigeron bloomeri var. nudatus</i> Waldo daisy	G5T4 S3	None None	Rare Plant Rank - 2B.3		16 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Erigeron nivalis</i> snow fleabane daisy	G4G5 S3	None None	Rare Plant Rank - 2B.3	9,000 9,500	12 S:4	0	0	0	0	0	4	3	1	4	0	0
<i>Eriogonum alpinum</i> Trinity buckwheat	G3 S3	None Endangered	Rare Plant Rank - 1B.2 USFS_S-Sensitive	6,900 8,600	17 S:8	3	1	0	0	0	4	7	1	8	0	0





**Summary Table Report**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



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<i>Eriogonum pyrolifolium</i> var. <i>pyrolifolium</i> pyrola-leaved buckwheat	G4T4 S3	None None	Rare Plant Rank - 2B.3	6,800 9,000	15 S:7	3	0	0	0	0	4	4	3	7	0	0
<i>Erythranthe trinitiensis</i> pink-margined monkeyflower	G2 S2	None None	Rare Plant Rank - 1B.3	6,000 6,000	11 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Erythronium klamathense</i> Klamath fawn lily	G4 S2	None None	Rare Plant Rank - 2B.2	5,400 6,500	14 S:2	1	0	0	0	0	1	1	1	2	0	0
<i>Erythronium revolutum</i> coast fawn lily	G4 S2S3	None None	Rare Plant Rank - 2B.2		127 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Euderma maculatum</i> spotted bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_H-High Priority	2,120 5,436	68 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Eumops perotis californicus</i> western mastiff bat	G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority	2,290 3,200	293 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Eurybia merita</i> subalpine aster	G5 S1	None None	Rare Plant Rank - 2B.3	3,900 3,900	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Falco peregrinus anatum</i> American peregrine falcon	G4T4 S3S4	Delisted Delisted	CDF_S-Sensitive CDFW_FP-Fully Protected USFWS_BCC-Birds of Conservation Concern	4,760 4,760	38 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Fen</i> Fen	G2 S1.2	None None		3,450 3,450	6 S:1	0	1	0	0	0	0	1	0	1	0	0
<i>Galium serpenticum</i> ssp. <i>scotticum</i> Scott Mountain bedstraw	G4G5T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	6,800 6,800	53 S:1	0	0	1	0	0	0	0	1	1	0	0
<i>Geum aleppicum</i> Aleppo avens	G5 S2	None None	Rare Plant Rank - 2B.2	3,360 4,500	5 S:3	0	1	0	0	0	2	2	1	3	0	0



**Summary Table Report**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



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<i>Gulo gulo</i> California wolverine	G4 S1	None Threatened	CDFW_FP-Fully Protected IUCN_NT-Near Threatened USFS_S-Sensitive	5,000 5,000	173 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Haliaeetus leucocephalus</i> bald eagle	G5 S2	Delisted Endangered	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	3,000 4,400	317 S:2	0	0	0	0	0	2	0	2	2	0	0
<i>Hesperarion plumbeus</i> leaden slug	G1G3 S1S3	None None		3,850 4,210	2 S:2	0	0	0	0	0	2	0	2	2	0	0
<i>Howellanthus dalesianus</i> Scott Mountain howellanthus	G3 S3	None None	Rare Plant Rank - 4.3	5,600 6,800	46 S:7	0	4	1	0	0	2	7	0	7	0	0
<i>Hulsea nana</i> little hulsea	G4 S3	None None	Rare Plant Rank - 2B.3 SB_RSABG-Rancho Santa Ana Botanic Garden	9,000 10,400	20 S:4	0	0	0	0	0	4	4	0	4	0	0
<i>Hymenoxys lemmonii</i> alkali hymenoxys	G3? S2	None None	Rare Plant Rank - 2B.2	2,950 9,000	13 S:4	0	0	0	0	0	4	4	0	4	0	0
<i>Iliamna bakeri</i> Baker's globe mallow	G4 S3	None None	Rare Plant Rank - 4.2	4,800 4,800	48 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Ivesia longibracteata</i> Castle Crags ivesia	G1 S1	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive USFS_S-Sensitive	4,500 4,500	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Ivesia pickeringii</i> Pickering's ivesia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	3,160 3,160	13 S:1	0	0	1	0	0	0	0	1	1	0	0
<i>Larus californicus</i> California gull	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	2,800 2,800	8 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Lasionycteris noctivagans</i> silver-haired bat	G5 S3S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority	3,460 3,630	138 S:3	0	0	0	0	0	3	3	0	3	0	0



## Summary Table Report

### California Department of Fish and Wildlife California Natural Diversity Database



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<i>Lepus americanus klamathensis</i> Oregon snowshoe hare	G5T3T4Q S2?	None None	CDFW_SSC-Species of Special Concern	3,400 3,400	9 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Lomatium peckianum</i> Peck's lomatium	G4 S1	None None	Rare Plant Rank - 2B.2	2,930 2,930	13 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Martes caurina</i> Pacific marten	G5 S3	None None	IUCN_LC-Least Concern USFS_S-Sensitive	4,800 7,300	41 S:4	0	0	0	0	0	4	4	0	4	0	0
<i>Meesia triquetra</i> three-ranked hump moss	G5 S4	None None	Rare Plant Rank - 4.2	3,600 3,600	19 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Meesia uliginosa</i> broad-nerved hump moss	G4 S3	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	3,600 3,600	46 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Megomphix californicus</i> Natural Bridge megomphix	G1G2 S1S2	None None		2,600 2,600	2 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Moneses uniflora</i> woodnymph	G5 S3	None None	Rare Plant Rank - 2B.2		7 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Ochotona princeps schisticeps</i> gray-headed pika	G5T2T4 S2S4	None None	IUCN_NT-Near Threatened	4,740 9,000	328 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Ophioglossum pusillum</i> northern adder's-tongue	G5 S1	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	3,560 3,560	4 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Orthocarpus pachystachyus</i> Shasta orthocarpus	G1 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	5,000 5,000	4 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Pandion haliaetus</i> osprey	G5 S4	None None	CDF_S-Sensitive CDFW_WL-Watch List IUCN_LC-Least Concern	2,100 3,580	482 S:8	4	0	3	0	0	1	0	8	8	0	0
<i>Parnassia cirrata var. intermedia</i> Cascade grass-of-Parnassus	G5T3 S3	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	2,555 6,562	25 S:5	2	1	0	0	0	2	0	5	5	0	0
<i>Pekania pennanti</i> fisher - West Coast DPS	G5T2T3Q S2S3	Proposed Threatened Candidate Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern USFS_S-Sensitive	2,040 6,550	680 S:18	1	1	0	0	0	16	11	7	18	0	0
<i>Penstemon filiformis</i> thread-leaved beardtongue	G3 S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive	5,000 5,400	91 S:3	1	0	0	0	0	2	2	1	3	0	0



## Summary Table Report

### California Department of Fish and Wildlife California Natural Diversity Database



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<i>Phacelia leonis</i> Siskiyou phacelia	G3 S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive	3,560 7,200	18 S:3	0	2	0	0	0	1	1	2	3	0	0
<i>Pinguicula macroceras</i> horned butterwort	G5 S2S3	None None	Rare Plant Rank - 2B.2	6,000 6,000	22 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Polemonium eddyense</i> Mt. Eddy sky pilot	G1 S1	None None	Rare Plant Rank - 1B.2	8,600 8,800	2 S:2	0	1	0	0	0	1	1	1	2	0	0
<i>Polemonium pulcherrimum var. shastense</i> Mt. Shasta sky pilot	G5T2 S2	None None	Rare Plant Rank - 1B.2	8,200 12,400	14 S:10	0	0	0	0	0	10	2	8	10	0	0
<i>Potentilla cristae</i> crested potentilla	G2 S2	None None	Rare Plant Rank - 1B.3	6,000 7,880	7 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Ptilidium californicum</i> Pacific fuzzwort	G3G4 S3?	None None	Rare Plant Rank - 4.3 BLM_S-Sensitive	3,400 4,850	177 S:5	0	0	0	0	0	5	0	5	5	0	0
<i>Raillardella pringlei</i> showy raillardella	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,000 6,800	25 S:5	1	2	0	0	0	2	1	4	5	0	0
<i>Rana boylei</i> foothill yellow-legged frog	G3 S2S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	1,910 3,650	805 S:13	2	1	0	0	0	10	4	9	13	0	0
<i>Rana cascadae</i> Cascades frog	G3G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	3,080 7,816	180 S:37	2	0	0	0	0	35	5	32	37	0	0
<i>Rhyacophila lineata</i> Castle Crags rhyacophilan caddisfly	G1G3 S1S2	None None		3,250 3,250	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Rhyacophila mosana</i> bilobed rhyacophilan caddisfly	G1G2Q S1S2	None None			1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Riparia riparia</i> bank swallow	G5 S2	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	3,200 3,200	296 S:1	0	0	0	0	0	1	0	1	1	0	0



**Summary Table Report**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



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<i>Rosa gymnocarpa</i> var. <i>serpentina</i> Gasquet rose	G5T2 S2	None None	Rare Plant Rank - 1B.3	5,000 5,000	7 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Scutellaria galericulata</i> marsh skullcap	G5 S2	None None	Rare Plant Rank - 2B.2		31 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Silene suksdorfii</i> Cascade alpine campion	G4 S3	None None	Rare Plant Rank - 2B.3	7,720 8,200	8 S:2	0	0	0	0	0	2	1	1	2	0	0
<i>Trichodon cylindricus</i> cylindrical trichodon	G4G5 S2	None None	Rare Plant Rank - 2B.2	5,300 5,300	14 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Trifolium siskiyouense</i> Siskiyou clover	GH SH	None None	Rare Plant Rank - 1B.1		4 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Vaccinium scoparium</i> little-leaved huckleberry	G5 S3	None None	Rare Plant Rank - 2B.2	6,000 6,200	19 S:3	1	1	0	0	0	1	1	2	3	0	0
<i>Vespericola sierranus</i> Siskiyou hesperian	G2 S1S2	None None		3,490 3,490	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Vulpes vulpes necator</i> Sierra Nevada red fox	G5T1T2 S1	None Threatened	USFS_S-Sensitive	3,500 9,000	201 S:5	0	1	0	0	0	4	3	2	5	0	0

Status: search results - Sat, Apr. 25, 2015 11:09 ET c

{COUNTIES} =~ m/SIS/ and {CNPS\_LIST} =~ m/ 1B| 2/ and {ELEV\_HIGH} &gt;= 1000 and {ELEV\_LOW} &lt;= 1050 and {NATCOMS} =~ m/Chpr|CmWldScr|CmWld|LCFr|UCFr/ and {

Search

Tip: Terms prefixed by "+" are required, and by "-" excluded.[all tips and help.][search history]

**Your Quad Selection:** City Of Mount Shasta (699D) 4112233, Dunsmuir (682A) 4112223, Seven Lakes Basin (682B) 4112224, Mount Shasta (698B) 4112242, Mccloud (698C) 4112232, Girard Ridge (681B) 4112222, Hotlum (699A) 4112243, Weed (699B) 4112244, Mount Eddy (699C) 4112234

Hits 1 to 20 of 20

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press  check all  check none

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
	<input checked="" type="checkbox"/>	1	<u><a href="#">Asarum marmoratum</a></u>	marbled wild-ginger	Aristolochiaceae	List 2B.3
	<input checked="" type="checkbox"/>	1	<u><a href="#">Balsamorhiza lanata</a></u>	woolly balsamroot	Asteraceae	List 1B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Botrypus virginianus</a></u>	rattlesnake fern	Ophioglossaceae	List 2B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Calochortus greenei</a></u>	Greene's mariposa lily	Liliaceae	List 1B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Castilleja elata</a></u>	Siskiyou paintbrush	Orobanchaceae	List 2B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Chaenactis suffrutescens</a></u>	Shasta chaenactis	Asteraceae	List 1B.3
	<input checked="" type="checkbox"/>	1	<u><a href="#">Clarkia borealis ssp. borealis</a></u>	northern clarkia	Onagraceae	List 1B.3
	<input checked="" type="checkbox"/>	1	<u><a href="#">Cordylanthus tenuis ssp. pallescens</a></u>	pallid bird's-beak	Orobanchaceae	List 1B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Epilobium oregonum</a></u>	Oregon fireweed	Onagraceae	List 1B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Erigeron bloomeri var. nudatus</a></u>	Waldo daisy	Asteraceae	List 2B.3
	<input checked="" type="checkbox"/>	1	<u><a href="#">Erythranthe trinitensis</a></u>	pink-margined monkeyflower	Phrymaceae	List 1B.3
	<input checked="" type="checkbox"/>	1	<u><a href="#">Galium serpicum ssp. scotticum</a></u>	Scott Mountain bedstraw	Rubiaceae	List 1B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Geum aleppicum</a></u>	Aleppo avens	Rosaceae	List 2B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Hymenoxys lemmonii</a></u>	alkali hymenoxys	Asteraceae	List 2B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Ivesia pickeringii</a></u>	Pickering's ivesia	Rosaceae	List 1B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Lomatium peckianum</a></u>	Peck's lomatium	Apiaceae	List 2B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Penstemon filiformis</a></u>	thread-leaved beardtongue	Plantaginaceae	List 1B.3
	<input checked="" type="checkbox"/>	1	<u><a href="#">Rosa gymnocarpa var. serpentina</a></u>	Gasquet rose	Rosaceae	List 1B.3
	<input checked="" type="checkbox"/>	1	<u><a href="#">Scutellaria galericulata</a></u>	marsh skullcap	Lamiaceae	List 2B.2
	<input checked="" type="checkbox"/>	1	<u><a href="#">Trichodon cylindricus</a></u>	cylindrical trichodon	Ditrichaceae	List 2B.2

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press  check all  check none

Selections will appear in a new window.

No more hits.



## APPENDIX C

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### Representative Photographs



# The Landing—Mt. Shasta Commerce Park Biological Resources Characterization

*Photographs Taken April 25, 2015*



Photograph 1. Upland area typical of locations with willow present. Data point 1 documents this area as upland. Orientation: south.



Photograph 2. Urban/mixed conifer habitat typical of log decks and compact, level surfaces in the study area. Orientation: north.





Photograph 3. Gully formed by sheet flow from compact surface upslope. This feature does not meet the Corps definition of tributary. Orientation: west.



Photograph 4. Willow patch. Data point 2 documents this feature as upland. Orientation: west.





Photograph 5. Urban/mixed conifer forest typical of the southern portion of the site. Skid trails and level terraces are found throughout the southern portion of the study area. Orientation: north.



Photograph 6. Black cottonwoods interspersed with upland shrubs. Data point 3 documents this area as upland. Orientation: north.

APPENDIX D

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Wetland Determination Data Forms



Wetland Determination Data Form—Western Mountains, Valleys, & Coast Region

Data Point 1  
Feature Type upland

Project/Site: Mt. Shasta - The Landing City/County: Siskiyou Date: 4/25/15

Applicant/Owner: TRC State: California

Investigator(s): Heather Kelly Section, Township, Range \_\_\_\_\_

Landform (hillslope, terrace, etc.) level terrace Local relief (concave, convex, none) CONCAVE Slope % 0

Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_

Soil Map Unit Name: Ponto-Near Complex, 2-15% Slopes NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year?  Y  N (If no, explain in Remarks.)

Are vegetation Y  N soil Y  N or hydrology Y  N significantly disturbed? Are normal circumstances present?  Y  N Undisturbed since 1987

Are vegetation Y  N soil Y  N, or hydrology Y  N naturally problematic? (If needed, explain in Remarks.)

Summary of Findings (Attach site map showing sampling point locations, transects, important features, etc.)

Hydrophytic vegetation? Y  N Hydric soil? N/A Wetland hydrology? Y  N Is sampled area a wetland? Y  N Other waters? Y  N

USACE Jurisdiction

Adjacent to Waters \_\_\_\_\_ Tributary to Waters \_\_\_\_\_ Isolated (with interstate commerce) N/A Isolated (non jurisdictional) \_\_\_\_\_

Explain: \_\_\_\_\_

Evaluation of features designated "Other Waters of the United States"

Indicators: Defined bed and bank \_\_\_\_\_ Scour \_\_\_\_\_ Ordinary High Water Mark Mapped \_\_\_\_\_ Stream Width \_\_\_\_\_

Feature Designation: Perennial \_\_\_\_\_ Intermittent \_\_\_\_\_ Ephemeral \_\_\_\_\_ Blue-line on USGS Quad \_\_\_\_\_ Substrate \_\_\_\_\_

Natural Drainage \_\_\_\_\_ Artificial Drainage \_\_\_\_\_ Navigable Water \_\_\_\_\_

Remarks Area, blocked by concrete may have funneled water to a shallow deep rooted hydrophyte veg but does not support wetland w/in 12 inches of surface. Open manhole to soil did not reveal any subsurface water.

Vegetation (Use Scientific Names)

Tree Stratum (Plot Size: 20' radius)

1.	Absolute % Cover	Dominant Species?	Indicator Status
<u>Alnus sp</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
<u>Salix scouleriana</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>
<u>Cytisus decurvens</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>
<u>Pinus ponderosa</u>	<u>5</u>	<u>N</u>	<u>FACU</u>

50% = 27.50 20% = 11 Total Cover: 55

Sapling/Shrub Stratum (Plot Size: \_\_\_\_\_)

1.	% Cover	Species?	Status
<u>Ceanothus cordulatus</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>
<u>Arctostaphylos manzanita</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>
<u>Quercus kelloggii</u>	<u>5</u>	<u>N</u>	<u>UPL</u>

50% = 22.5 20% = 9 Total Cover: 45

Herb Stratum (Plot Size: \_\_\_\_\_)

1.	% Cover	Species?	Status

50% = \_\_\_\_\_ 20% = \_\_\_\_\_ Total Cover: \_\_\_\_\_

Woody/Vine Stratum (Plot Size: \_\_\_\_\_)

1.	% Cover	Species?	Status

50% = \_\_\_\_\_ 20% = \_\_\_\_\_ Total Cover: \_\_\_\_\_

% Bare Ground in Herb Stratum \_\_\_\_\_ % Cover of Biotic Crust \_\_\_\_\_

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 2 (A)

Total number of dominant species across all strata: 5 (B)

Percent of dominant species that are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by

OBL Species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW Species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC Species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU Species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL Species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

Hydrophytic Vegetation Indicators

\_\_\_\_\_ Rapid Test for Hydrophytic Vegetation

\_\_\_\_\_ Dominance Test is >50%

\_\_\_\_\_ Prevalence Index is ≤ 3.0<sup>1</sup>

\_\_\_\_\_ Morphological Adaptations<sup>1</sup> (provide supporting data in Remarks or on a separate sheet)

\_\_\_\_\_ Wetland Non-Vascular Plants<sup>1</sup>

\_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Y  N

Notes: \_\_\_\_\_

**Soils**

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
<i>No pit → able to observe in manhole lack of dominant hydrophytic veg</i>								

<sup>1</sup>Types: C = Concentration D = Depletion RM = Reduced Matrix      <sup>2</sup>Location: PL = Pore Lining M = Matrix

**Hydric Soil Indicators:** (Applicable to all LRRs, unless otherwise noted)

**Indicators for Problematic Hydric Soils<sup>3</sup>**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (except MLRA 1) (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10)
- Red Parent Materials (TF21)
- Very Shallow Dark Surface (TF12)
- Vegetated Sand/Gravel Bars
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: \_\_\_\_\_ Depth (Inches) \_\_\_\_\_ Hydric Soil Present? Y/N N/A

Remarks *No water observed @ 24"*

**Hydrology**

**Wetland Indicators**

Primary Indicators (Minimum of one is required. Check all that apply.)

Secondary Indicators (2 or more required)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water Stained Leaves (B9) **except MLRA 1,2,4A, and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

- Water Stained Leaves (B9) **except MLRA 1,2,4A, and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Natural Test (D5)
- Raised Ant Mounds (D6) (LRR A)
- Frost-Heave Hummocks (D7)

**Field Observations**

Surface Water Present? Yes \_\_\_\_\_ No X Depth (inches) \_\_\_\_\_ Wetland Hydrology? Y (N)

Water Table Present? Yes \_\_\_\_\_ No X Depth (inches) \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No X Depth (inches) \_\_\_\_\_ (includes capillary fringe)

**Describe Recorded Data** (stream gauge, monitoring well, aerial photos, and previous inspections), if available:

Remarks *N/A  
No indicators*



# Wetland Determination Data Form—Western Mountains, Valleys, & Coast Region

Data Point 2  
Feature Type Upland

Project/Site: Mt. Shasta - The Landing City/County: Siskiyou State: CA Date: 4/25/15  
Applicant/Owner: JRC  
Investigator(s): Heather Kelly Section, Township, Range \_\_\_\_\_  
Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope % 0  
Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
Soil Map Unit Name: Ponto-Neer Complex 2-19% Slopes NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year?  Y  N (If no, explain in Remarks.)  
Are vegetation  Y  N soil  Y  N or hydrology  Y  N significantly disturbed? Are normal circumstances present?  Y  N  
Are vegetation  Y  N soil  Y  N or hydrology  Y  N naturally problematic? (If needed, explain in Remarks.)

### Summary of Findings (Attach site map showing sampling point locations, transects, important features, etc.)

Hydrophytic vegetation?  Y  N Hydric soil?  Y  N Wetland hydrology?  Y  N Is sampled area a wetland?  Y  N Other waters?  Y  N

### USACE Jurisdiction

Adjacent to Waters \_\_\_\_\_ Tributary to Waters \_\_\_\_\_ Isolated (with interstate commerce) \_\_\_\_\_ Isolated (non jurisdictional) N/A  
Explain: \_\_\_\_\_

### Evaluation of features designated "Other Waters of the United States"

Indicators: Defined bed and bank \_\_\_\_\_ Scour \_\_\_\_\_ Ordinary High Water Mark Mapped \_\_\_\_\_ Stream Width N/A  
Feature Designation: Perennial \_\_\_\_\_ Intermittent \_\_\_\_\_ Ephemeral \_\_\_\_\_ Blue-line on USGS Quad \_\_\_\_\_ Substrate \_\_\_\_\_  
Natural Drainage \_\_\_\_\_ Artificial Drainage \_\_\_\_\_ Navigable Water \_\_\_\_\_

Remarks: Small strip of willows. No indication of hydrology or hydric soils. Area disturbed from mill site/industry; does not support hydrophytic vegetation upper 12 inches. Convex location.

### Vegetation (Use Scientific Names)

Tree Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

50%= \_\_\_\_\_ 20%= \_\_\_\_\_ Total Cover: \_\_\_\_\_

Sampling/Shrub Stratum (Plot Size: <u>15' radius</u> )	% Cover	Species?	Status
1. <u>Saxifraga scouleriana</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

50%= \_\_\_\_\_ 20%= \_\_\_\_\_ Total Cover: 100

Herb Stratum (Plot Size: _____)	% Cover	Species?	Status
1. <u>Caltha latifolia</u>	<u>5</u>	<u>Y</u>	<u>WPC</u>
2. <u>Rosa sp</u>	<u>5</u>	<u>Y</u>	<u>WPC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

50%= 5 20%= 2 Total Cover: 10

Woody/Vine Stratum (Plot Size: _____)	% Cover	Species?	Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____

50%= \_\_\_\_\_ 20%= \_\_\_\_\_ Total Cover: \_\_\_\_\_

% Bare Ground in Herb Stratum \_\_\_\_\_ % Cover of Biotic Crust \_\_\_\_\_

### Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1 (A)  
Total number of dominant species across all strata: 3 (B)  
Percent of dominant species that are OBL, FACW, or FAC: 33% (A/B)

### Prevalence Index Worksheet

Total % Cover of: Multiply by  
OBL Species \_\_\_\_\_ x 1 = \_\_\_\_\_  
FACW Species \_\_\_\_\_ x 2 = \_\_\_\_\_  
FAC Species \_\_\_\_\_ x 3 = \_\_\_\_\_  
FACU Species \_\_\_\_\_ x 4 = \_\_\_\_\_  
UPL Species \_\_\_\_\_ x 5 = \_\_\_\_\_  
Column Totals \_\_\_\_\_ (A) \_\_\_\_\_ (B)  
Prevalence Index = B/A = \_\_\_\_\_

### Hydrophytic Vegetation Indicators

- \_\_\_\_\_ Rapid Test for Hydrophytic Vegetation
  - \_\_\_\_\_ Dominance Test is >50%
  - \_\_\_\_\_ Prevalence Index is ≤ 3.0<sup>1</sup>
  - \_\_\_\_\_ Morphological Adaptations<sup>1</sup> (provide supporting data in Remarks or on a separate sheet)
  - \_\_\_\_\_ Wetland Non-Vascular Plants<sup>1</sup>
  - \_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present?  Y  N

Notes:



**Soils**

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-12	7.5YR 4/4	100					Sandy/gravelly loam	

<sup>1</sup>Types: C = Concentration D = Depletion RM = Reduced Matrix      <sup>2</sup>Location: PL = Pore Lining M = Matrix

**Hydric Soil Indicators:** (Applicable to all LRRs, unless otherwise noted)

**Indicators for Problematic Hydric Soils<sup>3</sup>**

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                         | <input type="checkbox"/> 2 cm Muck (A10)   |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                     | <input type="checkbox"/> Red Parent Materials (TF21)                                     |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (except MLRA 1) (F1) | <input type="checkbox"/> Very Shallow Dark Surface (TF12)                                |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                 | <input type="checkbox"/> Vegetated Sand/Gravel Bars                                      |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                     | <input type="checkbox"/> Other (Explain in Remarks)                                      |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)                  |  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)               | <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present. |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                   |  |

Restrictive Layer (if present): Type: \_\_\_\_\_ Depth (Inches) \_\_\_\_\_ Hydric Soil Present? Y (N)

Remarks *No hydric soil indicators; sandy loam is well drained*

**Hydrology**

**Wetland Indicators**

Primary Indicators (Minimum of one is required. Check all that apply.)

Secondary Indicators (2 or more required)

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water Stained Leaves (B9) <b>except MLRA 1,2,4A, and 4B)</b> | <input type="checkbox"/> Water Stained Leaves (B9) <b>except MLRA 1,2,4A, and 4B)</b> |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)   | <input type="checkbox"/> Drainage Patterns (B10)                                      |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                                  | <input type="checkbox"/> Dry-Season Water Table (C2)                                  |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                                   | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                    |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres (C3)                                   | <input type="checkbox"/> Geomorphic Position (D2)                                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                                | <input type="checkbox"/> Shallow Aquitard (D3)  |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                   | <input type="checkbox"/> FAC-Natural Test (D5)  |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)                      | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)                               |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)                                   | <input type="checkbox"/> Frost-Heave Hummocks (D7)                                    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |   |   |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |   |   |

**Field Observations**

Surface Water Present? Yes \_\_\_\_\_ No X      Depth (inches) \_\_\_\_\_      Wetland Hydrology? Y (N)  
 Water Table Present? Yes \_\_\_\_\_ No X      Depth (inches) \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No X      Depth (inches) \_\_\_\_\_ (includes capillary fringe)

**Describe Recorded Data** (stream gauge, monitoring well, aerial photos, and previous inspections), if available:

Remarks *No hydrologic indicators*

**Wetland Determination Data Form—Western Mountains, Valleys, & Coast Region**

Data Point 3  
Feature Type Upland

Project/Site: The Landing-Mt. Shasta City/County: Butte Date: 4/25/15

Applicant/Owner: JRC State: CA

Investigator(s): Heather Kelly Section, Township, Range \_\_\_\_\_

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none) convex Slope % 0

Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_

Soil Map Unit Name: Ponto-Near Complex 2-15% Slope NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year?  Y  N (If no, explain in Remarks.)

Are vegetation  Y  N soil  Y  N or hydrology  Y  N significantly disturbed? Are normal circumstances present?  Y  N

Are vegetation  Y  N soil  Y  N or hydrology  Y  N naturally problematic? (If needed, explain in Remarks.)

**Summary of Findings** (Attach site map showing sampling point locations, transects, important features, etc.)  
Hydrophytic vegetation?  Y  N Hydric soil?  Y  N Wetland hydrology?  Y  N Is sampled area a wetland?  Y  N Other waters?  Y  N

**USACE Jurisdiction**  
Adjacent to Waters \_\_\_\_\_ Tributary to Waters \_\_\_\_\_ Isolated (with interstate commerce) \_\_\_\_\_ Isolated (non jurisdictional) N/A  
Explain: \_\_\_\_\_

**Evaluation of features designated "Other Waters of the United States"**  
Indicators: Defined bed and bank \_\_\_\_\_ Scour \_\_\_\_\_ Ordinary High Water Mark Mapped \_\_\_\_\_ Stream Width N/A  
Feature Designation: Perennial \_\_\_\_\_ Intermittent \_\_\_\_\_ Ephemeral \_\_\_\_\_ Blue-line on USGS Quad \_\_\_\_\_ Substrate \_\_\_\_\_  
Natural Drainage \_\_\_\_\_ Artificial Drainage \_\_\_\_\_ Navigable Water \_\_\_\_\_

**Remarks**

Vegetation (Use Scientific Names)		Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot Size: <u>15'</u> )				
1.	<u>Calocedrus decurrens</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>
2.	<u>Pinus ponderosa</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
50% = <u>7.5</u> 20% = <u>3</u> Total Cover: <u>15</u>				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> )				
1.	<u>Populus balsamifera</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>
2.	<u>Arctostaphylos manzanita</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>
3.	<u>Quercus kelloggii</u>	<u>5</u>	<u>N</u>	<u>UPL</u>
4.	_____	_____	_____	_____
50% = <u>32.5</u> 20% = <u>13</u> Total Cover: <u>65</u>				
Herb Stratum (Plot Size: _____)				
1.	<u>Lathyrus latifolius</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>
2.	<u>Hypocnemum perforatum</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
50% = <u>5</u> 20% = <u>2</u> Total Cover: <u>10</u>				
Woody/Vine Stratum (Plot Size: _____)				
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
50% = _____ 20% = _____ Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

**Dominance Test Worksheet**  
Number of dominant species that are OBL, FACW, or FAC: 1 (A)  
Total number of dominant species across all strata: 6 (B)  
Percent of dominant species that are OBL, FACW, or FAC: 17% (A/B)

**Prevalence Index Worksheet**  
Total % Cover of: \_\_\_\_\_ Multiply by:  
OBL Species \_\_\_\_\_ x 1 = \_\_\_\_\_  
FACW Species \_\_\_\_\_ x 2 = \_\_\_\_\_  
FAC Species \_\_\_\_\_ x 3 = \_\_\_\_\_  
FACU Species \_\_\_\_\_ x 4 = \_\_\_\_\_  
UPL Species \_\_\_\_\_ x 5 = \_\_\_\_\_  
Column Totals \_\_\_\_\_ (A) \_\_\_\_\_ (B)  
Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤ 3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present?  Y  N  
Notes: \_\_\_\_\_



**Soils**

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					

<sup>1</sup>Types: C = Concentration D = Depletion RM = Reduced Matrix      <sup>2</sup>Location: PL = Pore Lining M = Matrix

**Hydric Soil Indicators:** (Applicable to all LRRs, unless otherwise noted)

**Indicators for Problematic Hydric Soils<sup>3</sup>**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (**except MLRA 1**) (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10)
- Red Parent Materials (TF21)
- Very Shallow Dark Surface (TF12)
- Vegetated Sand/Gravel Bars
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: \_\_\_\_\_ Depth (Inches) \_\_\_\_\_ Hydric Soil Present? Y / N

Remarks *No pit - did not make hydrophytic veg.*

**Hydrology**

**Wetland Indicators**

Primary Indicators (Minimum of one is required. Check all that apply.)

Secondary Indicators (2 or more required)

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water Stained Leaves (B9) <b>except MLRA 1,2,4A, and 4B</b> | <input type="checkbox"/> Water Stained Leaves (B9) <b>except MLRA 1,2,4A, and 4B</b> |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)  | <input type="checkbox"/> Drainage Patterns (B10)                                     |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                                 | <input type="checkbox"/> Dry-Season Water Table (C2)                                 |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                                  | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                   |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres (C3)                                  | <input type="checkbox"/> Geomorphic Position (D2)                                    |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                               | <input type="checkbox"/> Shallow Aquitard (D3)                                       |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)                  | <input type="checkbox"/> FAC-Netural Test (D5)                                       |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )            | <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> )                     |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)                                  | <input type="checkbox"/> Frost-Heave Hummocks (D7)                                   |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |  |  |

**Field Observations**

Surface Water Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches) \_\_\_\_\_ Wetland Hydrology? Y / N

Water Table Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches) \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches) \_\_\_\_\_ (includes capillary fringe)

**Describe Recorded Data** (stream gauge, monitoring well, aerial photos, and previous inspections), if available:

Remarks *No pit - did not make hydrophytic veg.*