

Donner Summit Public Utilities District

Wastewater Treatment Plant Upgrade Project and  
Soda Springs Irrigation Disposal Expansion Project

Botanical Survey Report for  
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### **1. Project and Site description**

#### **1.1 Description of proposed projects.**

The projects are known as the Donner Summit Public Utility District's Wastewater Treatment Plant Upgrade Project and the Soda Springs Irrigation Disposal Expansion Project. Two parcels of approximately 10 acres and 25 acres will be effected by the proposed facilities upgrade and both are located within Section 22 of the Soda Springs USGS 7.5' quadrangle map in Nevada County, California. Both are within the watershed of the South Yuba River at elevations between 6,500 and 7,000 feet (1,981 to 2,133 meters).

The first parcel, APN #47-021-04, is at the location of the Donner Summit Public Utilities District (DS PUD) office at 53823 Sherrit Lane, north of Interstate 80 and the Norden exit road. This parcel is approximately 10 acres of land managed by Tahoe National Forest. The existing Wastewater Treatment Plant next to the DS PUD office will expand to occupy 50% of the parcel. The expansion will require ground disturbance, removal of trees and boulders, new buildings, utility installation, and new access roads. A small area of this parcel includes the banks of the South Yuba River where the river flows out of a culvert under Interstate 80. This riparian zone of less than one acre will be protected by the requirement of a 100-foot setback from the river.

The second parcel, APN#47-021-51, is located south of Interstate 80 and south of the Donner Summit PUD office. This parcel will be the location of the Soda Springs Irrigation Disposal Expansion Project and covers approximately 25 acres owned by the Boreal Ridge Corporation. The access to the parcel is from west of Soda Springs Road and through the parking lot of the Soda Springs ski area. The Southern Pacific Railroad tracks and utility road form the northern border of the parcel. The Soda Springs ski area forms the eastern border and land managed by Tahoe National Forest forms the western border. The parcel's southern border is a rocky volcanic ridge above 7,000 feet.

The 25-acre parcel is proposed as an alternative site for the disposal of treated wastewater. During times when the treated water cannot be discharged directly into the

South Yuba River from the Wastewater Treatment Plant the effluent will be irrigated onto a selected portion of the 25 acres. The project will require removal of trees, construction of utility roads, and installation of pipelines. The project plans are to avoid direct impact to the alder-willow wetland that occupies about 20% of the total area of the parcel.

### 1.2 Maps of project location and study areas.

Parcel #1 and #2: Project Vicinity and Project location.

Parcel #1: Potential Improvements and Limits of Anticipated Disturbance Donner Summit PUD WWTP.

Parcel #2: Conceptual Design of Irrigation Expansion Project.

### 1.3 Written description of biological setting, vegetation, and structure of the vegetation.

The vegetation on both parcels involved in the DS PUD projects is a mixed conifer forest of Jeffrey pine (*Pinus jeffreyi*), lodgepole pine (*Pinus contorta* ssp. *murrayana*), white fir (*Abies concolor*), and red fir (*Abies magnifica*). The forest habitat of mid-size conifers occupies north slopes on both parcels with numerous very large erratic granite boulders left by glacier alluvial deposits. The forest understory has a variety of low-growing native shrubs and forbs. Common species found in the understory are double honeysuckle, (*Lonicera conjugialis*), cow parsnip (*Heracleum lanatum*), creeping snowberry, (*Symphoricarpos mollis*), pinemat manzanita, (*Arctostaphylos nevadensis*), mountain monardella, (*Monardella odoratissima*), Jacob's ladder, (*Polemonium californicum*), and bracken fern, (*Pteridium aquilinum* var. *pubescens*).

#### Parcel #1

For this 10-acre parcel one general vegetation type is delineated on the Tahoe National Forest's *Vegetation Map*, an unpublished reference atlas available at the Ranger district office in Nevada City, California.

The vegetation is described as MC-AW "Mixed Conifer-Alder/Willow" in the Tahoe National Forest's *Vegetation Map Legend, 1981*:

"Typically 80% mixed conifer (as described in MC) and 25% alders and/or willow with some openings and fringes of sedges; sometimes aspen, cottonwood or lodgepole."

The vegetation type (referenced above as MC "Mixed Conifer") is described in the *Map Legend* as:

"Mostly a mix of white fir, Jeffrey pine, and red fir (some western white pine or sugar pine), near transition to red fir forest; or mix of Jeffrey, ponderosa and white fir near transition to JP vegetative map units. Lodgepole are along drainways and in depressions; some whitethorn and wyethia understory."

#### Soils for Parcel #1 are mapped as:

TIE, Tinker-Rock outcrop, Glacial Alluvial, Granitic-Cryumbrepts, wet complex, 2-30% slope. Lodgepole Pine, Brown cobbly loam.

TBE, Tallac-Cryumbrepts, wet complex, 2-30% slope. Glacial Alluvial, gravelly, high amount of volcanic andesite rock fragments. Mixed Conifer-Fir.

## Parcel #2

There are four areas within the 25-acre Soda Springs ski area parcel that are delineated on the Tahoe National Forest's *Vegetation Map*, an unpublished reference atlas available at the Ranger district office in Nevada City, California. The following are descriptions of these areas from the Tahoe National Forest's *Vegetation Map Legend, 1981*:

### MC/AW: Mixed Conifer-Alder/Willow

"Typically 80% mixed conifer (as described in MC) and 20% alders and/or willow with some openings and fringes of sedges; sometimes aspen, cottonwood or lodgepole."

### RF-AW: Red Fir-Alder/Willow

"Typically 80% red fir (as described in RF), 20% alder stringers with some openings and fringes of sedges. Some lodgepole, aspen, willow, wyethia, and meadows."

### WY-RF: Wyethia-Red Fir

"Typically 60% wyethia (as described in WY) and 40% red fir with some western white pine and lodgepole pine."

### WY: Wyethia

"Mostly wyethia [*Wyethia mollis*, *mountain mules'-ears*], 10-40% barren with few sagebrush and bitterbrush. Squirrel tail is the common grass."

## Comments on vegetation descriptions for Parcel #2:

The Tahoe National Forest maps of vegetation types were consistent with what we found on field surveys with the exception of the southern area. The southern area is the highest elevation and consists of steep slopes on a rocky ridge. This is designated as "Wyethia" on the vegetation maps, but is closer to the Forest Service's MB-WY "Mixed Brush-Wyethia" which is described as:

"Typically 70% mixed brush, 30% wyethia with up to 10% mixed conifers. Brush consists mainly of huckleberry oak, green leaf manzanita, and whitethorn."

From our observation of these rocky slopes, bittercherry, pine mat manzanita, and huckleberry oak are the most common shrubs with patches of mountain mule's- ears, *Wyethia mollis*. We did not find large areas where *Wyethia mollis* was the dominant ground cover.

## The soils for Parcel #2 are mapped as following:

RSG: Granitic Tinker Cryumbrepts, 30-75% slope.

TAF: Tallac, very gravelly, 30-50% slope.

TBE: Tallac Cryumbrepts, 2-30%, wet complex.

ACF: Ahart Waca, rhyolitic sub-stratum, Cryumbrepts, 30-50% slope.

## **2. Survey methodology.**

### **2.1 Dates of field surveys:**

Parcel #1, 10 acres: June 29, July 8, July 20, and August 12, 2010.

Parcel #2, 25 acres: July 27, August 12, August 20, and August 27, 2010.

### **2.2 Timing of surveys**

Both parcels of the project area are north facing and are mostly shaded by the conifer tree canopy. Our surveys were timed to capture the flowering and fruiting season of the majority of plants at this elevation. This was a year of heavy snowfall and late snowmelt. The last snowfall was in mid-June, 2010, according to DS PUD personnel. Rain with hail was observed in early July, not uncommon in summer for Soda Springs. On our first visit on June 29 there were still a few patches of snow in shady areas. By the date of our last field visits on August 29, most species were setting seed and bearing fruit. Very few new flowering species were found during our late August surveys. The first snowfall was in the third week of October 2010 in the Donner-Soda Springs area.

### **2.3 Potential special status species or natural communities.**

The *Protocols* (2009) published by the California Department of Fish and Game specify that botanical surveys should be “floristic in nature, meaning that every plant taxon that occurs on site is identified to the taxonomic level necessary to determine rarity and listing status”. Our field surveys for the DS PUD followed this protocol and all plants encountered were identified to the necessary taxonomic level.

Lists from three sources were reviewed for potential special status species and their habitats. These sources were the California Department of Fish and Game’s *California Natural Diversity Data Base*, California Native Plant Society’s *Inventory of Rare and Endangered Plants*, and Tahoe National Forest’s *Sensitive Plants and Fungi List* and *Watchlist Plants and Plant Communities List*.

A review of the California Natural Diversity Data Base resulted in the list on Figure 3.4-2: Special Status FLORA known to occur within Ten Miles of DS PUD WWTP (CNDDDB, 2011). Because the CNDDDB includes only the most rare species (List 1B and Rare & Endangered species), 8 species included in the CNPS Inventory (List 4) and several Tahoe National Forest species are not included in the CNDDDB report. Locally significant species and the California Native Plant Society’s List 4 species could be overlooked by surveys conducted only for List 1B and R&E species. In addition, Tahoe National Forest maintains its own watch list and sensitive plant lists that include plants on List 2 “those for which more information is needed about the distribution of the species”.

Bogs, fens, lakes, creeks, ponds, alpine habitats, and Great Basin scrub were not found at Parcels #1 and #2 during the field surveys, making it unlikely to find rare plants of those specific habitats.

As part of the survey for Parcel #1, forms were completed for the Truckee Ranger District Botanist, Tahoe National Forest. These forms included the Botanical Survey Request, Crew Daily Field Survey Form, and Noxious/Invasive Exotic Plant Location Form and are included in Appendix E.

#### 2.4 Description of reference sites

We visited a flowering population of *Erigeron miser*, starved daisy, on July 25, 2010. This List 1B species is located on a trail off Donner Pass Road about 4 miles east of the project site. In 2010 we also visited Nevada County populations of *Phacelia stebbinsii*, *Lewisia cantelovii*, *Meesia triquetra*, *Rhynchospora alba*, *Eriophorum gracile*, and *Lycopus uniflorus*. The purpose of these visits was to compare habitats and plant phenology with those found in the survey areas.

2.5 Detailed data and maps for special status species found: A search of the Natural Diversity Data Base gave GIS locations. Figure 1A: Special-status FLORA Known to Occur within Ten Miles of the DSPUD WWTP (CNDDDB, 2009).

#### 2.6 Field survey methods

##### Parcel #1:

Field surveys were on June 29, July 8, July 20, and August 12, 2010.

Field surveys required 21.5 person/hours by K. Callahan and C. Brinkhurst.

Additional field time by G. Matuzak, 3.5 hours and B. Bezy, 1 hour.

Plant identification off site required 13.5 hours.

No defined trails and just one access road were found on the unoccupied portion of this parcel on Forest Service land. The understory plants are low growing (mostly less than 4 feet tall) and did not block access for surveys. The parcel has numerous large granite boulders, many over 10 feet tall. The boundaries of the parcel were visible from the detailed map. Investigations included a complete walk-through. Our survey method was to walk to cover as much of the project area as possible. All plants encountered were identified to species level with attention to special status species habitats. We collected plant specimens when field identification was not practical or required use of a microscope.

##### Parcel #2:

Field surveys were on July 27, August 12, August 20, and August 27, 2010.

Field surveys required 31.5 person/hours by K. Callahan and C. Brinkhurst.

Additional field time by G. Matuzak, 7.0 hours and B. Bezy, 3.5 hours.

Plant identification off site required 16 hours.

The survey consisted of walking to cover as much of the project area as possible. Two persons surveyed on foot following parallel paths during the four visits. There are no roads or defined trails on this rectangular parcel. We used an Etrex GPS unit with a detailed aerial map by Andregg and a USGS quad map to track the boundaries. All plants encountered were identified to species level with attention to potential special status species habitats. Plant specimens were collected when large numbers of specimens made field identification impractical and/or required use of microscope. Some areas such as the dense alder-willow thickets were sampled by crossing through in several places and focusing on the plants of the wetland understory. Numerous large granite boulders are found on this parcel.

We also followed several seasonal drainages to their origins on the upper slope. We did not survey the extreme southernmost 20% of the upper slope because this is not designated as being in or near the project area. We surveyed the eastern border of parcel #2 where the forest interfaced with the open slopes under the ski lifts of the Soda Springs ski areas. This was a location of moist, sunny areas that were potential habitats for *Epilobium howellii*, *Juncus luciensis*, *Carex limosa*, *Rhamnus alnifolia*, and other

special status species found in sub-alpine meadows. The adjacent irrigated parcel, (APN# 47-021-48), is used by the Soda Springs ski areas for ski lifts. This was a reference area for observing the results of long-term irrigation.

### **3.Results**

#### **3.1 Plant lists for both parcels are included in Appendices A & B.**

#### **3.2 Parcel #1:**

No special status species were found by our field surveys. We identified a total of 125 species. Fifteen species were non-native species and grow next to roads and disturbed areas. Relatively small occurrences of 3 noxious weed species (*Bromus tectorum*, *Verbascum thapsis*, and *Hypericum perforatum*) were found along the driveways and near buildings. Reports of these were included in the written report to Tahoe National Forest. These weed populations are small enough to control by hand methods and persistent eradication.

A group of 11 quaking aspen trees, (*Populus tremuloides*), were found next to the South Yuba River in the eastern-most corner of the parcel. A Habitat Site Report is included with the reports to Tahoe National Forest. Aspen groves are plant communities on the Tahoe National Forest's watchlist.

#### **3.3 Parcel #2:**

Although no special status species were found on Parcel #2, there was high species-richness and plant diversity. Of the total 154 plant species identified, there were just 4 non-native grass species found along the forest edge interface with the disturbed Soda Springs ski area parcel. It is remarkable that all species found within the boundaries of Parcel #2 were California native species.

Double honeysuckle, (*Lonicera conjugialis*), is dominant in much of the understory and is designated as a facultative wetland species (USDA). At least 25% of the northern portion of the parcel is wetland covered by dense thickets of mountain alder (*Alnus incanus* ssp. *tenuifolia*), Willows (*Salix* species), and numerous shrubs and forbs. The project area surveys found a mesic forest habitat on a north-facing slope. The forest habitat becomes drier upslope and transitions to volcanic rock outcrops and sparse vegetation.

#### **3.4 Species to include in any re-surveys.**

Both subspecies of *Lewisia kelloggii* (ssp. *hutchinsonii* and ssp. *kelloggii*) are on the Tahoe National Forest Sensitive Plants and Fungi List (2010). We contacted two knowledgeable persons about their observations in 2010. Both told us that very few *Lewisia kelloggii* were observed flowering in 2010 at known locations near the Soda Springs area, perhaps due to late spring weather conditions. *Lewisia kelloggii* are small plants with a brief flowering time and are often predated by rodents and deer. The southern area of Parcel #2 has potential habitat for *Lewisia kelloggii* species on the slopes of volcanic gravel. A re-survey is recommended prior to any disturbance.

There is potential habitat for the five species of rare grape-ferns or moonworts (*Botrychium* species) on Tahoe National Forest's Sensitive Plant List in the forest openings and alder-willow thickets on both Parcel #1 and #2. Moonworts are small, inconspicuous plants, often hidden under other vegetation, and their green leaves may not appear above ground every year.

### 3.6 Additional results.

At both parcels we identified *Carex deflexa* Hornem. variety *boottii* L.H. Bailey, mountain mat sedge. This species was included with *Carex rossii* in the *Jepson Manual* (1993). Mountain mat sedge is described in the *Field Guide to Sedges of the Pacific Northwest* and according to our correspondence with Barbara Wilson of the Carex Working Group, it is expected to be described as a separate species in the next edition of the *Jepson Manual of Higher Plants of California*. We collected herbarium specimens from the 25-acre site and these were sent to the California State University, Chico, Herbarium. We also sent a specimen to the Carex Working Group in Corvallis, Oregon. *Carex deflexa* var. *boottii* was found on both parcels and grows in grass-like tufts. The plants have both basal and terminal inflorescences. It is not considered a special status species, according to Barbara Wilson.

## **4. Assessment of potential impacts.**

### 4.1 The South Yuba River watershed.

The Soda Springs-Donner Summit area has a long history of industrial and recreational uses. For over a hundred years this scenic area has been a transportation corridor and recreation center. The Southern Pacific Railroad, ski resorts, businesses, and homes occupy much of the area, shrinking and cutting off natural habitats and diverting water flows. Interstate 80 bisects the Donner Summit area and is a major impediment to water drainage and the movement of wildlife.

Both parcels are within a short distance of the South Yuba River and include seeps and wet areas. Wet areas were observed in late summer during the botanical surveys. These parcels are part of the high elevation watershed for the river. Both parcels are about a mile from Lake Van Norden, the major water source for the South Yuba River on the south side of Interstate 80. The DS PUD projects present an opportunity to correct some of the watershed problems we observed. For example, culverts need to be installed under driveways to protect natural water seeps.

Both parcels have high value in this location as refuges for wildlife. The forest provides a wide diversity of food sources and shelter for animals. Surface water is also close by in seeps and drainages. The numerous thickets and rock caves provide shelter. Double honeysuckle, wax currant, bittercherry, thimbleberry, gooseberry, huckleberry oak, manzanita, and ceanothus are common at both project sites and are important sources of browse and fruit for birds and mammals. The Donner Summit Utilities District projects' activities will have the impact of eliminating many acres that supply food and shelter sources for wildlife.

In contrast to the disturbed areas nearby, Parcel #2 has an important value as a biological reference site for use in future research and restoration projects. Virtually no trails, roads, or evidence of recent wildfire, timber harvest, or cattle grazing were observed on the parcel. Recent disturbance is minimal compared to the very disturbed areas surrounding the parcels. Some animal trails and cross-country ski trail markers were found.

### 4.2 Potential for erosion and change in vegetation type.

Parcel #1: The existing forest and vegetation will be altered by the removal of many trees and ground cover vegetation for the DS PUD Wastewater Treatment Facility



Upgrade Project. The ground disturbance from removing boulders and grading will cause soil compaction and increase the potential for erosion and invasive plant species.

Parcel #2: The existing forest and vegetation will be changed by the removal of trees and adding significant overhead moisture from sprinklers in late summer, normally a low-rainfall season at this elevation. There will be less canopy shade and less soil protection by vegetation. The clearing necessary for this project will change the plant species to those that will adapt to the irrigated areas. We surveyed the reference site to the east where clearing of the forest for ski lifts and irrigation with treated wastewater has been ongoing apparently for many years. We observed grasses, sedges, and forbs (fivefinger cinquefoil, for example) growing into unusually large sizes. We observed soil exposure and erosion between the plants and around their roots from seasonal snowmelt and irrigation watering.

#### 4.3 Potential to spread noxious weeds and non-native species.

Parcel #1 and #2: Tahoe National Forest has written policies specifying the use of native species for seeding in disturbed areas and for erosion control. Lists of plant species suitable for seeding areas after construction and disturbance are included in Appendix C.

Parcel #2: An estimated 800+ *Hypericum perforatum*, Klamathweed or St. John's wort, plants were found adjacent to parking lots and driveways at the Soda Springs ski area. Although the parking lot is not part of the specific project area, a report was written using Tahoe National Forest's report form and is included in Appendix D. The ski area parking lot is also used for neighborhood green waste collection and there is potential from this activity to spread noxious weeds.

## **5. References used.**

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## Appendix D

Table 1. Examples of plant materials **unsuitable** for use on the Tahoe National Forest (TNF)<sup>1</sup>  
 Van Zuuk, Kathy, 2006. *Seeding Guidelines for Tahoe National Forest*.

Common Name	Scientific Name	Common Use
Intermediate & pubescent wheatgrass	<i>Elytrigia intermedia</i>	Forage, erosion control
Crested wheatgrass	<i>Agropyron desertorum</i>	Forage, erosion control
Smooth brome	<i>Bromus inermis</i>	Forage, erosion control
Quackgrass	<i>Elytrigia repens</i>	Forage, erosion control
Orchardgrass	<i>Dactylis glomerata</i>	Forage, erosion control
Annual & perennial ryegrass	<i>Lolium</i> species	Forage, erosion control
Birdsfoot trefoil	<i>Lotus corniculatus</i>	Forage, erosion control
Yellow or white sweet clover	<i>Melilotus</i> species	Forage, erosion control
Red, crimson, or white clover	<i>Trifolium pratense</i> , <i>T. incarnatum</i> , <i>T. repens</i>	Forage, erosion control, cover crops
Alfalfa, medics, & bur-clover	<i>Medicago</i> species	Forage, erosion control
Common timothy	<i>Phleum pratense</i>	Forage, erosion control
Zorro fescue	<i>Vulpia myuros</i> (was <i>Festuca myuros</i> var. <i>hirsute</i> )	Forage, erosion control
Tree-of-heaven	<i>Ailanthus altissima</i>	Ornamental <sup>2</sup>
Black locust	<i>Robinia pseudoacacia</i>	Ornamental
Saltcedar	<i>Tamarix ramosissima</i>	Ornamental
Giant reed	<i>Arundo donax</i>	Ornamental
Spanish broom	<i>Spartium junceum</i>	Ornamental
Scotch broom	<i>Cytisus scoparius</i>	Ornamental
French broom	<i>Genista monspessulana</i>	Ornamental
Perennial sweet pea	<i>Lathyrus latifolius</i>	Ornamental
Ox-eye daisy	<i>Leucanthemum vulgare</i>	Ornamental

<sup>1</sup> These plants have a tendency to naturalize and permanently displace native species.

<sup>2</sup> Some of the ornamentals listed here are on the state of California noxious weed list.

Table 2. Native species **suitable** for use in the TNF Ecological Sections  
 Van Zuuk, Kathy, 2006. *Seeding Guidelines for Tahoe National Forest.*

Common Name	Scientific Name	Comments
California brome	<u>Bromus carinatus</u>	Germinates easily
Slender hairgrass	<i>Deschampsia elongata</i>	Germinates easily
Blue wildrye	<i>Elymus glaucus</i>	Germinates easily
Squirreltail	<i>Elymus elymoides</i>	Germinates easily
California fescue	<i>Festuca californica</i>	Germinates easily
Idaho fescue	<i>Festuca idahoensis</i>	Germinates easily
Sandberg bluegrass	<i>Poa secunda</i>	Germinates easily
Annual fescue	<i>Vulpia microstachys</i>	Germinates easily
Needlegrass	<i>Achnatherum occidentale</i>	Plug planting may be needed.
Native bentgrass	<i>Agrostis</i> species	Plug planting may be needed.
Sedges	<i>Carex</i> species	Plug planting may be needed.
California oatgrass	<i>Danthonia californica</i>	Plug planting may be needed.
Tufted hairgrass	<i>Deschampsia caespitosa</i>	Plug planting may be needed.
Meadow barley	<i>Hordeum brachyantherum</i>	Plug planting may be needed.
Rushes	<i>Juncus</i> species	Plug planting may be needed.
Annual lotus	<i>Lotus purshianus</i>	Good germination success on TNF
Melic grass	<i>Melica</i> species	Plug planting may be needed.
Alpine timothy	<i>Phleum alpinum</i>	Plug planting may be needed.
Sandberg bluegrass	<i>Poa secunda</i>	Plug planting may be needed.
Bluebunch wheatgrass	<i>Pseudoregneria spicata</i>	Plug planting may be needed.
Yarrow	<i>Achillea millefolium</i>	Wildlife wildflowers, ornamentals
Columbine	<i>Aquilegia formosa</i>	Wildlife wildflowers, ornamentals
Mugwort	<i>Artemisia ludoviciana</i>	Wildlife wildflowers, ornamentals
Western aster	<i>Aster occidentalis</i>	Wildlife wildflowers, ornamentals
Sulfur buckwheat	<i>Eriogonum umbellatum</i>	Wildlife wildflowers, ornamentals
Woolly sunflower	<i>Eriophyllum lanatum</i>	Wildlife wildflowers, ornamentals
Bush penstemon	<i>Keckiella lemmonii</i>	Wildlife wildflowers, ornamentals
Cinquefoil	<i>Potentilla glandulosa</i>	Wildlife wildflowers, ornamentals
Red-osier dogwood	<i>Cornus stolonifera</i>	Wildlife wildflowers, ornamentals

**Results of Floristic Surveys For the Donner Summit Public Utilities District Wastewater Treatment Facility Upgrade Project. Surveys were conducted by Karen I. Callahan on June 29, July 8, July 20 and August 12, 2010 for APN #47-021-04, Soda Springs, California.  
An asterisk (\*) at the end of a common name indicates a non-native species.**

<b>Phylum</b>	<b>Family</b>	<b>Genus species</b>	<b>Common Name</b>
Dicot	Apiaceae – Carrot Family	<i>Perideridia lemmonii</i>	Lemmon’s Yampah
		<i>Sanicula tuberosa</i>	Tuberous Sanicle, Turkey Pea
	Apocynaceae – Dogbane Family	<i>Apocynum androsaemifolium</i>	Bitter Dogbane, Spreading Dogbane
	Asteraceae – Sunflower Family	<i>Achillea millefolium</i>	Yarrow
		<i>Anaphalis margaritacea</i>	Pearly Everlasting
		<i>Antennaria rosea</i>	Rosy Pussytoes
		<i>Artemisia tridentata</i>	Sagebrush
		<i>Aster breweri</i>	Brewer’s Aster
		<i>Chamomilla suaveolens</i>	Pineapple Weed*
		<i>Chrysothamnus nauseosus ssp. albicaulis</i>	Whitestem Rabbitbrush
		<i>Cirsium vulgare</i>	Bull Thistle*
		<i>Erigeron peregrinus</i>	Wandering Daisy
		<i>Helianthella californica var. nevadensis</i>	California Helianthella
		<i>Hieracium albiflorum</i>	White Hawkweed
		<i>Senecio integerrimus</i>	Tower Butterweed
		<i>Tragopogon dubius</i>	Yellow Salsify*
	Boraginaceae – Borage Family	<i>Cryptantha ambigua</i>	Wilke’s Cryptantha
	Brassicaceae – Mustard Family	<i>Arabis hirsuta</i>	Hairy Rock Cress
		<i>Arabis rectissima var. rectissima</i>	Bristly-leafed Rock Cress
		<i>Lepidium virginicum</i>	Virginia Peppergrass
		<i>Rorippa curvisiliqua</i>	Western Yellow Cress
		<i>Thlaspi arvense</i>	Fan Weed, Field Pennycress*
	Caprifoliaceae – Honeysuckle Family	<i>Lonicera conjugialis</i>	Double Honeysuckle
		<i>Symphoricarpos mollis</i>	Creeping Snowberry, Trip Vine
	Caryophyllaceae – Pink Family	<i>Silene douglasii</i>	Douglas’ Catchfly
	Chenopodiaceae – Goosefoot Family	<i>Chenopodium botrys</i>	Jerusalem Oak*
	Cornaceae – Dogwood Family	<i>Cornus sericea ssp. sericea</i>	American Dogwood

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Phylum	Family	Genus species	Common Name
Dicot	Ericaceae – Heath Family	<i>Arctostaphylos nevadensis</i>	Pinemat Manzanita
		<i>Chimaphila menziesii</i>	Little Prince’s Pine
		<i>Pyrola picta</i>	White-veined Wintergreen
	Fabaceae – Pea Family	<i>Lotus nevadensis</i> var. <i>nevadensis</i>	Sierra Nevada Lotus
		<i>Lotus purshianus</i> var. <i>purshianus</i>	Spanish Lotus
		<i>Lupinus fulcratus</i>	Green-stipuled Lupine
	Fagaceae – Oak Family	<i>Quercus vaccinifolia</i>	Huckleberry Oak
	Grossulariaceae – Gooseberry Family	<i>Ribes cereum</i> var. <i>cereum</i>	Wax Currant
		<i>Ribes roezlii</i> var. <i>roezlii</i>	Sierra Gooseberry
	Hydrophyllaceae – Waterleaf Family	<i>Phacelia hydrophylloides</i>	Ballhead Phacelia
	Hypericaceae – St. John’s Wort Family	<i>Hypericum perforatum</i>	Klamath Weed, St. John’s Wort*
	Lamiaceae – Mint Family	<i>Monardella odoratissima</i> ssp. <i>pallida</i>	Pallid Mountain Monardella
	Malvaceae – Mallow Family	<i>Sidalcea glaucescens</i>	Waxy Checkerbloom, Glauous Checker-mallow
	Onagraceae – Evening Primrose Family	<i>Epilobium angustifolium</i> ssp. <i>circumvagum</i>	Fireweed
	Papaveraceae – Poppy Family	<i>Dicentra uniflora</i>	Steer’s Head
	Plantaginaceae – Plantain Family	<i>Plantago lanceolata</i>	English Plantain, Buckhorn*
		<i>Plantago major</i>	Common Plantain*
	Polemoniaceae – Phlox Family	<i>Phlox diffusa</i>	Spreading Phlox
		<i>Polemonium californicum</i>	Jacob’s Ladder, Low Polemonium
	Polygonaceae – Buckwheat Family	<i>Eriogonum marifolium</i>	Marumleaf Buckwheat
		<i>Eriogonum nudum</i> var. <i>nudum</i>	Naked-stem Buckwheat
		<i>Polygonum phytolaccifolium</i>	Alpine Knotweed
		<i>Rumex acetosella</i>	Sheep Sorrel*
	Portulacaceae – Purslane Family	<i>Calyptidium umbellatum</i>	Pussypaws
		<i>Lewisia triphylla</i>	Three-leaf Lewisia
	Ranunculaceae – Buttercup Family	<i>Aquilegia formosa</i>	Crimson Columbine
		<i>Delphinium nuttallianum</i>	Nuttall’s Larkspur
		<i>Thalictrum fendleri</i> var. <i>fendleri</i>	Fendler’s Meadow Rue

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Phylum	Family	Genus species	Common Name
Dicot	Rhamnaceae – Buckthorn Family	<i>Ceanothus cordulatus</i>	Mountain Whitethorn
		<i>Ceanothus velutinus</i>	Tobacco Bush
	Rosaceae – Rose Family	<i>Amelanchier utahensis</i>	Utah Serviceberry
		<i>Potentilla glandulosa ssp. ashlandica</i>	Sticky Cinquefoil
		<i>Prunus emarginata</i>	Bittercherry
		<i>Rubus parviflorus</i>	Thimbleberry
		<i>Sorbus californica</i>	California Mountain Ash
		<i>Spiraea densiflora</i>	Mountain Spiraea
		Rubiaceae – Madder Family	<i>Galium trifidum var. pacificum</i>
	<i>Kelloggia galioides</i>		Kelloggia
	Salicaceae – Willow Family	<i>Populus balsamifera ssp. trichocarpa</i>	Black Cottonwood
		<i>Populus tremuloides</i>	Quaking Aspen
		<i>Salix jepsonii</i>	Jepson's Willow
		<i>Salix lemmonii</i>	Lemmon's Willow
		<i>Salix lucida ssp. lasiandra</i>	Shining Willow
		<i>Salix scouleriana</i>	Scouler's Willow
	Saxifragaceae – Saxifrage Family	<i>Saxifraga bryophora</i>	Bud Saxifrage
	Scrophulariaceae – Figwort Family	<i>Castilleja miniata ssp. miniata</i>	Giant Red Paintbrush, Scarlet Paintbrush
		<i>Mimulus breweri</i>	Brewer's Monkeyflower
		<i>Mimulus floribundus</i>	Long-flowering Monkeyflower
		<i>Mimulus lewisii</i>	Lewis' Monkeyflower
		<i>Pedicularis semibarbata</i>	Dwarf Lousewort
		<i>Penstemon newberryi var. newberryi</i>	Mountain Pride
		<i>Verbascum thapsus</i>	Woolly Mullein*
	Valerianaceae – Valerian Family	<i>Valeriana californica</i>	California Valerian
	Violaceae – Violet Family	<i>Viola purpurea ssp. purpurea</i>	Mountain Violet, Oak Violet

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<b>Phylum</b>	<b>Family</b>	<b>Genus species</b>	<b>Common Name</b>
Gymnosperm	Pinaceae – Pine Family	<i>Abies concolor</i>	White Fir
		<i>Abies magnifica</i>	Red Fir
		<i>Pinus contorta ssp. murrayana</i>	Lodgepole Pine
		<i>Pinus jeffreyi</i>	Jeffrey Pine
		<i>Pinus monticola</i>	Western White Pine
Monocot	Cyperaceae – Sedge Family	<i>Carex deflexa var. boottii</i>	Mountain Mat Sedge
		<i>Carex raynoldsii</i>	Raynolds' Sedge
		<i>Carex specifica</i>	Narrow Fruited Sedge
		<i>Carex subfusca</i>	Rusty Sedge
		<i>Carex whitneyi</i>	Whitney's Sedge
	Juncaceae – Rush Family	<i>Juncus bufonius var. bufonius</i>	Toad Rush
		<i>Juncus bufonius var. occidentalis</i>	Western Toad Rush
		<i>Juncus longistylis</i>	Longstyle rush
		<i>Juncus occidentalis</i>	Slender Rush
		<i>Juncus xiphioides</i>	Iris-leaf Rush
		<i>Luzula comosa</i>	Hairy Woodrush
		<i>Luzula divaricata</i>	Spreading Woodrush
	Liliaceae – Lily Family	<i>Calochortus leichtlinii</i>	Leichtlin's Mariposa Lily
		<i>Lilium parvum</i>	Alpine Lily
		<i>Smilacina racemosa</i>	Western False Solomon's Seal
		<i>Triteleia ixioides var. ixioides</i>	Prettyface, Golden Brodiaea
		<i>Veratrum californicum var. californicum</i>	Corn Lily, False Hellebore
	Poaceae – Grass Family	<i>Achnatherum occidentale ssp. occidentale</i>	Western Needlegrass
		<i>Agrostis idahoensis</i>	Idaho Bentgrass
		<i>Bromus carinatus var. carinatus</i>	California Brome
		<i>Bromus carinatus var. marginatus</i>	Mountain Brome
		<i>Bromus tectorum</i>	Downy Brome, Cheatgrass*
		<i>Danthonia unispicata</i>	One-spike Oatgrass



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Phylum	Family	Genus species	Common Name
Monocot	Poaceae – Grass Family	<i>Deschampsia danthonioides</i>	Annual Hairgrass
		<i>Elymus elymoides ssp. californicus</i>	Squirreltail
		<i>Elymus glaucus ssp. glaucus</i>	Blue Wildrye
		<i>Elymus trachycaulus</i>	Slender Wheatgrass
		<i>Festuca idahoensis</i>	Idaho Fescue, Blue Fescue
		<i>Glyceria elata</i>	Tall Mannagrass
		<i>Hordeum brachyantherum ssp. brachyantherum</i>	Meadow Barley
		<i>Phalaris arundinacea</i>	Reed Canary Grass
		<i>Poa annua</i>	Annual Bluegrass*
		<i>Poa bolanderi</i>	Bolander’s Bluegrass
		<i>Poa bulbosa</i>	Bulbous Bluegrass*
		<i>Poa compressa</i>	Canadian Bluegrass*
		<i>Poa pratensis ssp. pratensis</i>	Kentucky Bluegrass*
Pteridophyta	Dennstaedtiaceae – Bracken Family	<i>Pteridium aquilinum var. pubescens</i>	Bracken Fern
	Dryopteridaceae – Wood Fern Family	<i>Athyrium alpestre var. americanum</i>	Alpine Lady Fern
Sphenophyta	Equisetaceae – Horsetail Family	<i>Equisetum arvense</i>	Common Horsetail

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<b>Phylum</b>	<b>Family</b>	<b>Genus species</b>	<b>Common Name</b>
Dicot	Aceraceae – Maple Family	<i>Acer glabrum</i>	Mountain Maple
	Apiaceae – Carrot Family	<i>Angelica breweri</i>	Brewer’s Angelica
		<i>Cymopterus terebinthinus</i>	Cymopterus
		<i>Heracleum lanatum</i>	Cow Parsnip
		<i>Ligusticum grayi</i>	Gray’s Lovage
		<i>Osmorhiza chilensis</i>	Mountain Sweet Cicely
		<i>Perideridia lemmonii</i>	Lemmon’s Yampah
	Asteraceae – Sunflower Family	<i>Achillea millefolium</i>	Yarrow
		<i>Agoseris glauca</i> var. <i>monticola</i>	Mountain Agoseris
		<i>Anaphalis margaritacea</i>	Pearly Everlasting
		<i>Aster breweri</i>	Brewer’s Aster
		<i>Aster eatonii</i>	Eaton’s Aster
		<i>Aster foliaceus</i> var. <i>parryi</i>	Parry’s Aster
		<i>Aster integrifolius</i>	Entire-leafed Aster
		<i>Cirsium andersonii</i>	Anderson’s Thistle, Rose Thistle
		<i>Erigeron coulteri</i>	Coulter’s Daisy
		<i>Erigeron peregrinus</i>	Wandering Daisy
		<i>Helianthella californica</i> var. <i>nevadensis</i>	California Helianthella
		<i>Hieracium albiflorum</i>	White Hawkweed
		<i>Madia glomerata</i>	Mountain Tarweed
		<i>Senecio triangularis</i>	Arrowhead Butterweed
		<i>Solidago canadensis</i> ssp. <i>elongata</i>	Canada Goldenrod
	<i>Wyethia mollis</i>	Mountain Mule Ears, Woolly Mule Ears	
	Betulaceae – Birch Family	<i>Alnus incana</i> ssp. <i>tenuifolia</i>	Mountain Alder
	Boraginaceae – Borage Family	<i>Hackelia micrantha</i>	Smallflower Stickseed
	Brassicaceae – Mustard Family	<i>Streptanthus tortuosus</i> var. <i>orbiculatus</i>	Mountain Jewelflower

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Phylum	Family	Genus species	Common Name
Dicot	Caprifoliaceae – Honeysuckle Family	<i>Lonicera conjugialis</i>	Double Honeysuckle
		<i>Sambucus racemosa</i> var. <i>microbotrys</i>	Red Elderberry
		<i>Symphoricarpos mollis</i>	Creeping Snowberry, Trip Vine
	Caryophyllaceae – Pink Family	<i>Arenaria kingii</i> var. <i>glabrescens</i>	King’s Sandwort
		<i>Silene douglasii</i>	Douglas’ Catchfly
	Ericaceae – Heath Family	<i>Arctostaphylos nevadensis</i>	Pinemat Manzanita
		<i>Chimaphila menziesii</i>	Little Prince’s Pine
		<i>Orthilia secunda</i>	One-sided Wintergreen, Sidebells
		<i>Pterospora andromedea</i>	Pinedrops
		<i>Pyrola picta</i>	White-veined Wintergreen
	Fabaceae – Pea Family	<i>Lotus purshianus</i> var. <i>purshianus</i>	Spanish Lotus
		<i>Lupinus arbustus</i>	Spur Lupine
		<i>Trifolium longipes</i>	Long-stalked Clover
	Fagaceae – Oak Family	<i>Quercus vaccinifolia</i>	Huckleberry Oak
	Gentianaceae – Gentian Family	<i>Gentiana calycosa</i>	Explorer’s Gentian
	Grossulariaceae – Gooseberry Family	<i>Ribes cereum</i> var. <i>cereum</i>	Wax Currant
		<i>Ribes roezlii</i> var. <i>roezlii</i>	Sierra Gooseberry
		<i>Ribes viscosissimum</i>	Sticky Currant
	Hydrophyllaceae – Waterleaf Family	<i>Phacelia hastata</i> ssp. <i>compacta</i>	Timberline Phacelia
		<i>Phacelia hydrophylloides</i>	Ballhead Phacelia
	Lamiaceae – Mint Family	<i>Monardella odoratissima</i> ssp. <i>pallida</i>	Pallid Mountain Monardella
	Malvaceae – Mallow Family	<i>Sidalcea glaucescens</i>	Waxy Checkerbloom, Glaucous Checker-mallow
	Onagraceae – Evening Primrose Family	<i>Circaea alpina</i> ssp. <i>pacifica</i>	Enchanter’s Nightshade
<i>Epilobium angustifolium</i> ssp. <i>circumvagum</i>		Fireweed	
<i>Epilobium ciliatum</i> ssp. <i>glandulosum</i>		Glandular Willowherb	
<i>Gayophytum diffusum</i> ssp. <i>parviflorum</i>		Spreading Groundsmoke	

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Phylum	Family	Genus species	Common Name
Dicot	Polemoniaceae – Phlox Family	<i>Gilia leptalea</i>	Bridges' Gilia
		<i>Linanthus ciliatus</i>	Whisker Brush
		<i>Phlox diffusa</i>	Spreading Phlox
		<i>Polemonium californicum</i>	Jacob's Ladder, Low Polemonium
	Polygonaceae – Buckwheat Family	<i>Eriogonum incanum</i>	Frosty Buckwheat
		<i>Eriogonum lobbii</i> var. <i>lobbii</i>	Lobb's Buckwheat
		<i>Eriogonum umbellatum</i> var. <i>nevadense</i>	Nevada Sulfur Buckwheat
		<i>Polygonum douglasii</i> ssp. <i>douglasii</i>	Douglas' Knotweed
		<i>Polygonum phytolaccifolium</i>	Alpine Knotweed
	Portulacaceae – Purslane Family	<i>Calyptidium umbellatum</i>	Pussypaws
		<i>Lewisia triphylla</i>	Three-leaf Lewisia
	Ranunculaceae – Buttercup Family	<i>Aconitum columbianum</i>	Monkshood
		<i>Actaea rubra</i>	Red Baneberry
		<i>Aquilegia formosa</i>	Crimson Columbine
		<i>Delphinium nuttallianum</i>	Nuttall's Larkspur
		<i>Thalictrum fendleri</i> var. <i>fendleri</i>	Fendler's Meadow Rue
	Rhamnaceae – Buckthorn Family	<i>Ceanothus cordulatus</i>	Mountain Whitethorn
		<i>Ceanothus velutinus</i>	Tobacco Bush
	Rosaceae – Rose Family	<i>Amelanchier utahensis</i>	Utah Serviceberry
		<i>Geum macrophyllum</i>	Bigleaf Avens
		<i>Horkelia fusca</i> ssp. <i>parviflora</i>	Dusky Horkelia
		<i>Potentilla glandulosa</i> ssp. <i>ashlandica</i>	Sticky Cinquefoil
		<i>Potentilla gracilis</i> ssp. <i>fastigiata</i>	Fivefinger Cinquefoil
		<i>Prunus emarginata</i>	Bittercherry
		<i>Rubus parviflorus</i>	Thimbleberry
		<i>Sorbus californica</i>	California Mountain Ash
	<i>Spiraea densiflora</i>	Mountain Spiraea	

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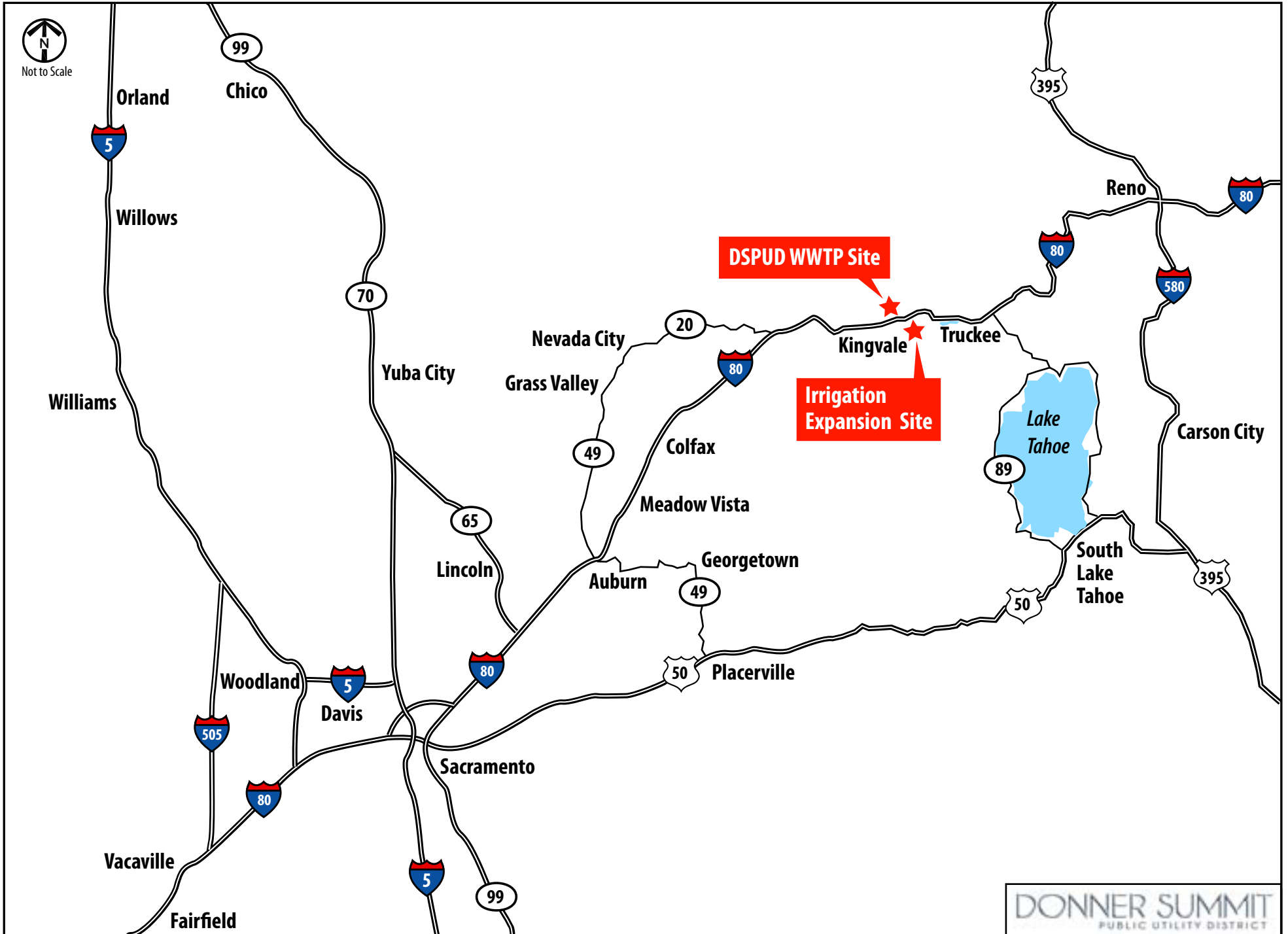
Phylum	Family	Genus species	Common Name
Dicot	Rubiaceae – Madder Family	Galium triflorum	Sweet-scented Bedstraw
		Kelloggia galioides	Kelloggia
	Salicaceae – Willow Family	Salix lasiolepis	Arroyo Willow
		Salix lemmonii	Lemmon’s Willow
		Salix lucida ssp. lasiandra	Shining Willow
		Salix scouleriana	Scouler’s Willow
	Saxifragaceae – Saxifrage Family	Mitella breweri	Brewer’s Bishop’s Cap
	Scrophulariaceae – Figwort Family	Castilleja applegatei	Applegate’s Paintbrush
		Castilleja miniata ssp. miniata	Giant Red Paintbrush, Scarlet Paintbrush
		Castilleja tenuis	Hairy Owl’s Clover
		Mimulus floribundus	Long-flowering Monkeyflower
		Mimulus lewisii	Lewis’ Monkeyflower
		Mimulus primuloides ssp. primuloides	Primrose Monkeyflower
		Pedicularis racemosa	Leafy Lousewort
		Pedicularis semibarbata	Dwarf Lousewort
		Penstemon azureus ssp. azureus	Azure Penstemon
		Penstemon heterodoxus var. heterodoxus	Whorled Penstemon
		Penstemon newberryi var. newberryi	Mountain Pride
Violaceae – Violet Family	Viola glabella	Stream Violet	
	Viola purpurea ssp. purpurea	Mountain Violet, Oak Violet	
Gymnosperm	Pinaceae – Pine Family	Abies concolor	White Fir
		Abies magnifica	Red Fir
		Pinus contorta ssp. murrayana	Lodgepole Pine
		Pinus monticola	Western White Pine

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Phylum	Family	Genus species	Common Name
Monocot	Cyperaceae – Sedge Family	Carex deflexa var. boottii	Mountain Mat Sedge
		Carex filifolia var. erostrata	Shorthair Sedge
		Carex multicosata	Many Ribbed Sedge
		Carex raynoldsii	Raynolds' Sedge
		Carex specifica	Narrow Fruited Sedge
		Carex subfusca	Rusty Sedge
		Carex whitneyi	Whitney's Sedge
		Eleocharis macrostachya	Pale Spikerush
	Juncaceae – Rush Family	Juncus chlorcephalus	Greenhead Rush
		Juncus longistylis	Longstyle rush
		Juncus parryi	Parry's Rush
		Juncus xiphioides	Iris-leaf Rush
		Luzula comosa	Hairy Woodrush
	Liliaceae – Lily Family	Allium obtusum	Red Sierra Onion
		Calochortus leichtlinii	Leichtlin's Mariposa Lily
		Lilium parvum	Alpine Lily
		Smilacina racemosa	Western False Solomon's Seal
		Triteleia ixioides	Prettyface
		Veratrum californicum var. californicum	Corn Lily, False Hellebore
	Orchidaceae – Orchid Family	Corallorhiza maculata	Spotted Coralroot Orchid
		Listera convallarioides	Broad-leaf Twayblade
Platanthera sparsiflora		Sparsely Flowered Bog Orchid	

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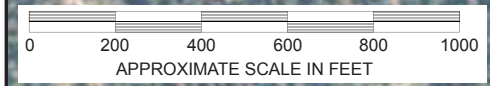
Phylum	Family	Genus species	Common Name
Monocot	Poaceae – Grass Family	<i>Achnatherum occidentale</i> ssp. <i>californicum</i>	California Needlegrass
		<i>Agrostis idahoensis</i>	Idaho Bentgrass
		<i>Agrostis pallens</i>	Leafy Bentgrass
		<i>Agrostis scabra</i>	Tickle Grass, Rough Bentgrass
		<i>Bromus carinatus</i> var. <i>marginatus</i>	Mountain Brome
		<i>Bromus inermis</i> ssp. <i>inermis</i>	Smooth Brome*
		<i>Bromus laevipes</i>	Chinook Brome
		<i>Bromus suksdorfii</i>	Suksdorf's Brome
		<i>Calamagrostis canadensis</i>	Bluejoint
		<i>Dactylis glomerata</i>	Orchard Grass*
		<i>Danthonia unispicata</i>	One-spike Oatgrass
		<i>Elymus elymoides</i> ssp. <i>californicus</i>	Squirreltail
		<i>Elymus glaucus</i> ssp. <i>glaucus</i>	Blue Wildrye
		<i>Elytrigia intermedia</i> ssp. <i>intermedia</i>	Intermediate Wheatgrass*
		<i>Glyceria elata</i>	Tall Mannagrass
		<i>Hordeum brachyantherum</i> ssp. <i>brachyantherum</i>	Meadow Barley
		<i>Melica subulata</i>	Alaska Onion Grass
		<i>Phleum pratense</i>	Cultivated Timothy*
		<i>Poa bolanderi</i>	Bolander's Bluegrass
		<i>Poa secunda</i> ssp. <i>secunda</i>	One-sided Bluegrass
<i>Trisetum canescens</i>	Nodding Oatgrass, Tall Trisetum		
Pteridophyta	Dennstaedtiaceae – Bracken Family	<i>Pteridium aquilinum</i> var. <i>pubescens</i>	Bracken Fern
	Dryopteridaceae – Wood Fern Family	<i>Athyrium alpestre</i> var. <i>americanum</i>	Alpine Lady Fern
		<i>Athyrium filix-femina</i> var. <i>cyclosorum</i>	Lady Fern
		<i>Cystopteris fragilis</i>	Fragile Fern
	Ophioglossaceae – Adders Tongue Family	<i>Botrychium multifidum</i>	Leather Grapefern
	Pteridaceae – Brake Family	<i>Cheilanthes gracillima</i>	Lace Fern
<i>Cryptogramma acrostichoides</i>		Parsley Fern, Rock Brake	
Sphenophyta	Equisetaceae – Horsetail Family	<i>Equisetum arvense</i>	Common Horsetail



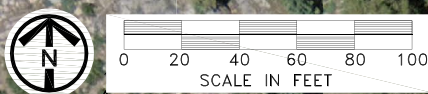




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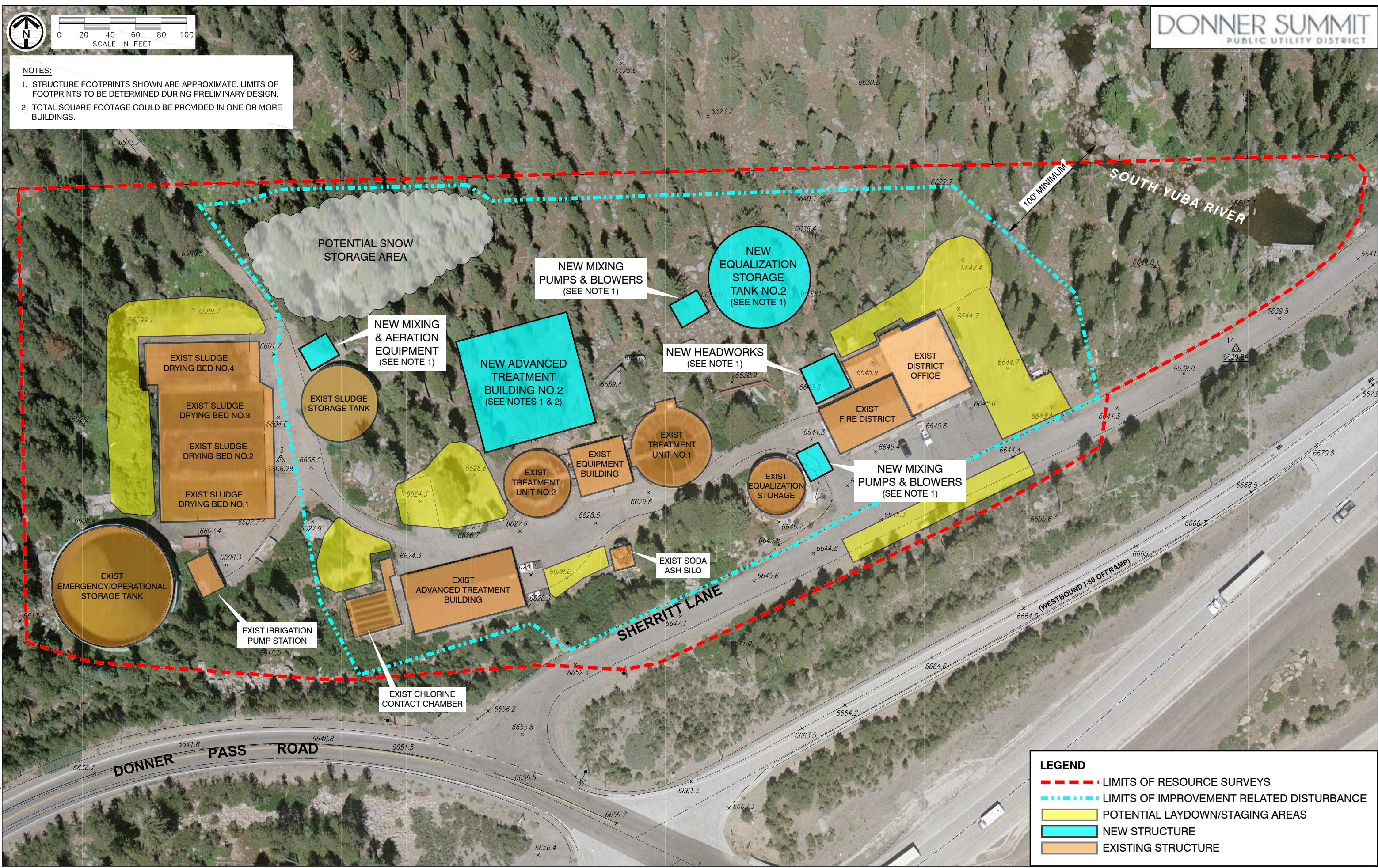


**DONNER SUMMIT**  
PUBLIC UTILITY DISTRICT



**NOTES:**

1. STRUCTURE FOOTPRINTS SHOWN ARE APPROXIMATE. LIMITS OF FOOTPRINTS TO BE DETERMINED DURING PRELIMINARY DESIGN.
2. TOTAL SQUARE FOOTAGE COULD BE PROVIDED IN ONE OR MORE BUILDINGS.



**LEGEND**

- - - LIMITS OF RESOURCE SURVEYS
- - - LIMITS OF IMPROVEMENT RELATED DISTURBANCE
- POTENTIAL LAYDOWN/STAGING AREAS
- NEW STRUCTURE
- EXISTING STRUCTURE

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Potential Improvements and Limits of Anticipated Disturbance Donner Summit PUD WWTP

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Area for Potential Runoff Collection Trench Extension and Irrigation Main Extension



**Legend**

- Existing Sprinkler
- Existing Drainage Ditch
- Existing Runoff Collection Trench
- Potential Irrigation Main
- Potential lateral Location
- Potential Runoff Collection Trench
- Wetland to Avoid
- Possible Pump Station
- 0 100 200 400 600 800 1,000 Feet
- Irrigation Area (Potential 5.3 Acres)
- Soil Profile
- Putt Variant fine sandy loam, 9% to 16% slopes
- Putt Variant fine sandy loam, 16% to 20% slopes
- Putt Variant fine sandy loam, 20% to 25% slopes
- Geko Variant loamy fine sand, 9% to 16% slopes
- Toem Variant loamy fine sand, 16% to 25% slopes

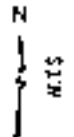
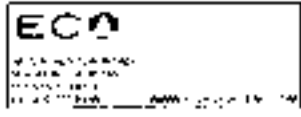
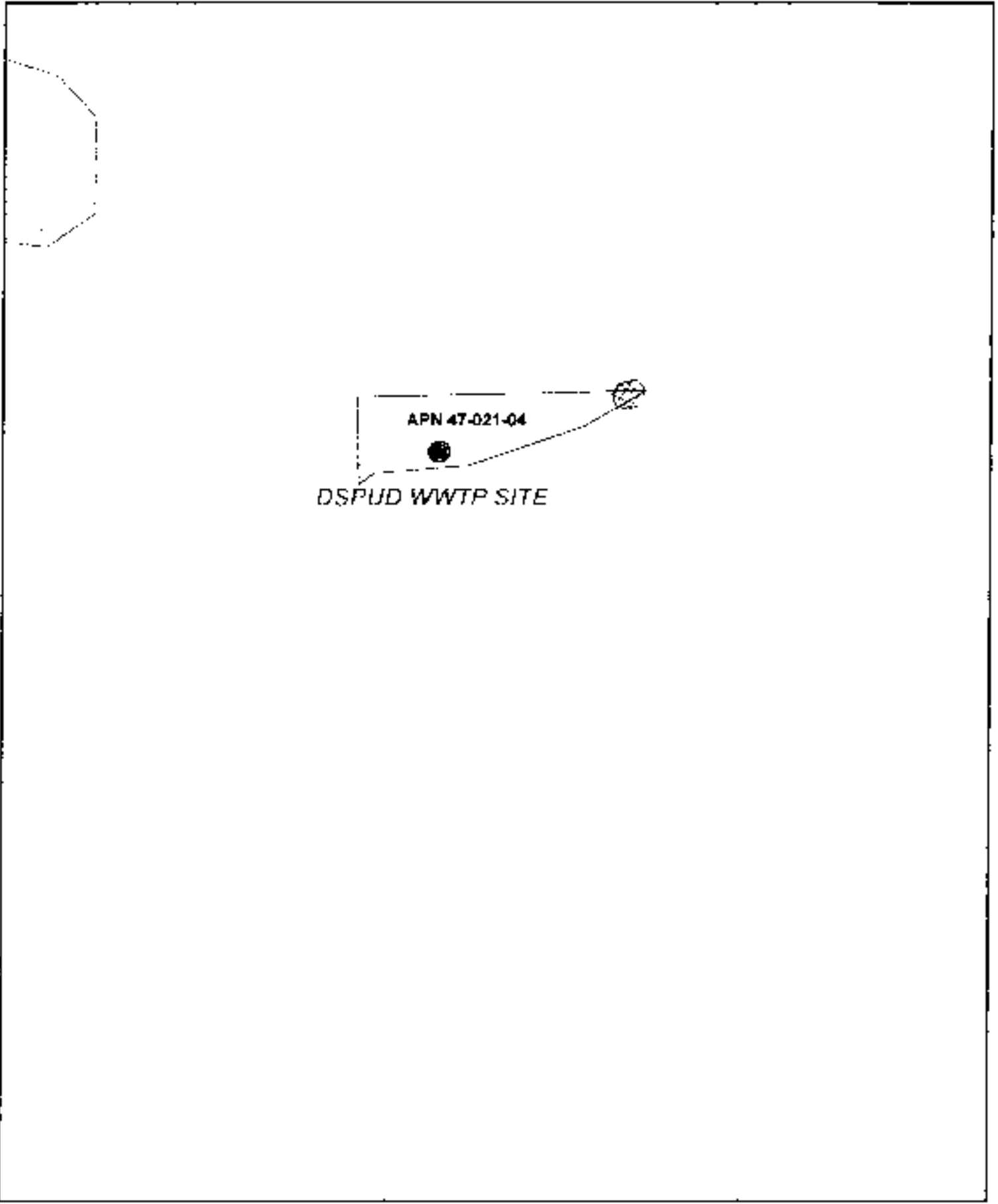


Figure 2-4  
Conceptual Design of Irrigation Expansion Project





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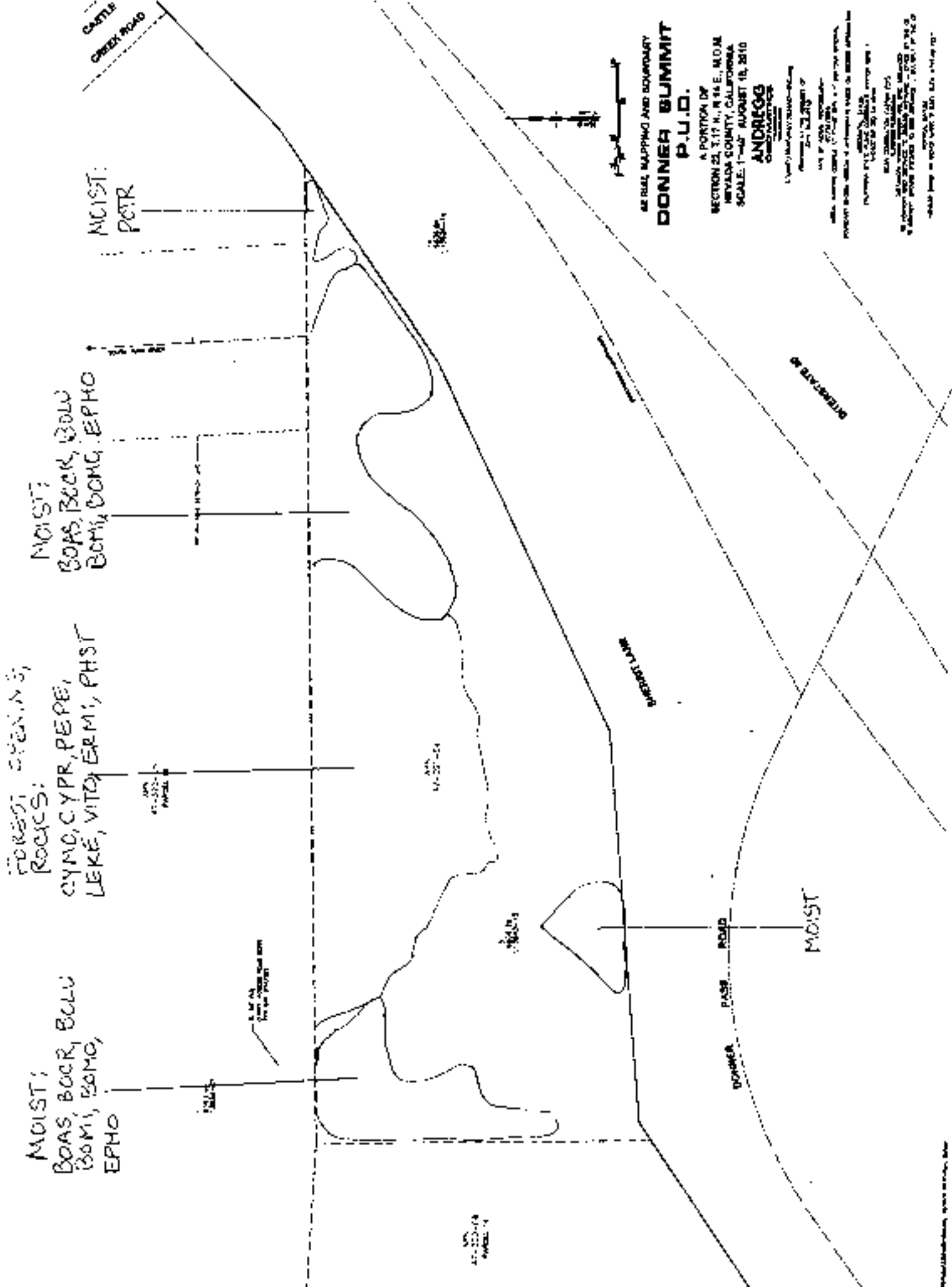


LEGEND

- DASHED LINE BOUNDARY
- DSPUD WWTP SITE

DSPUD WWTP SITE





AS PER MAPPING AND BOUNDARY  
**DONNER SUMMIT**  
 P.U.D.

A PORTION OF  
 SECTION 21, T.17 N., R.14 E., M.14 N.  
 HEYWARD COUNTY, CALIFORNIA  
 SCALE: 1"=40' AUGUST 18, 2010

**ANDRZEJCZAK**  
 CONSULTANT  
 10000 DONNER SUMMIT ROAD  
 DONNER, CALIFORNIA 94508  
 TEL: 925.255.1111  
 FAX: 925.255.1112  
 WWW.ANDRZEJCZAK.COM

PROJECT AREA RECONNAISSANCE MAP

## Noxious/Invasive Exotic Plant Location Form Tahoe National Forest

Plant Scientific Name: *Bromus tectorum*. Common Name: Cheatgrass

Location: Quad.: Soda Springs. Section: 22 Township & Range: 17N, 14E

\*\*\* Remember to attach a map with the location highlighted!

Any specific directions to the location (landmarks etc.): Just west of the Donner Summit Public Utility District Office, on Sherrit Lane, north of I-80, take the access road toward the drying ponds. The *Bromus tectorum* plants are located next to Treatment Unit #2 and a high voltage switch box.

Type land use (i.e. plantation, mine site, roadside, etc...) Wastewater Treatment Facility and access roads.

Natural site condition (riparian, closed-canopy mixed conifer, etc...) Sierra mixed conifer (*Pinus jeffreyi*, *Pinus contorta*, *Abies magnifica*) with an understory of low-growing shrubs and forbs.

Percent bare ground: 10%. Is this a repeat visit? Yes -X No

If this is a repeat visit, change in occurrence size / plant numbers:

Project name (if applicable): Donner Summit Public Utility District Wastewater Facility Upgrade Project. Estimate occurrence size: 50 square feet

Land Owner: Tahoe National Forest. Proximity to private lands: 100 ft.

Proximity to streams/lakes: 300 ft. Proximity to roads/railroads etc.: within 10 ft. of road.

Number of plants (estimate if large): 1,000. Herbarium specimen taken: Yes - X No

Plant Phenology: 0% vegetative, 0% flowering, 100% fruiting/seed set

Any signs of introduction method (roadside, equipment, livestock, erosion control efforts): BRTE plants are next to driveway and tank.

Eradication methods (if just discovered put none, if discovered and treated state action, if it is a known treatment site, state actions under way and future needs.

The Cheatgrass, BRTE, population is now confined to a relatively small area, but there is potential for this annual grass to spread rapidly around the buildings and roads at the Wastewater Facility to compacted soils and bare ground.

Are there any current activities that might spread the plants further? Yes, construction is planned.

Has the County Agricultural Commission been notified? No

Reporter(s): Karen I. Callahan Date: August 12, 2010

**\*Send a copy of this form with a map to the TNF Noxious Weed Coordinator\***



## Noxious/Invasive Exotic Plant Location Form Tahoe National Forest

Plant Scientific Name: *Hypericum perforatum*. Common Name: Klamathweed.

Location: Quad.: Soda Springs. Section: 22, Township & Range: 17N, 14E.

\*\*\* Remember to attach a map with the location highlighted!!

Any specific directions to the location (landmarks etc.)

From the Donner Summit Public Utilities District Office, on Sherrit Lane, north of I 80, take the driveway west toward the drying ponds. The *Hypericum perforatum* plants are located next to the ponds and north of where the paved road ends.

Type land use (i.e. plantation, mine site, roadside, etc...) Wastewater Treatment Facility and access roads.

Natural site condition (riparian, closed canopy mixed conifer, etc...) Sierra mixed conifer (*Pinus jeffreyi*, *Pinus contorta*, *Abies magnifica*) with an understory of low-growing shrubs and forbs.

Percent bare ground: 15% Is this a repeat visit? Yes - X No

If this is a repeat visit, change in occurrence size/plant numbers: \_\_\_\_\_

Project name (if applicable): Donner Summit Public Utility District Wastewater Facility Upgrade Project. Estimate occurrence size: small

Land Owner: Tahoe National Forest Proximity to private lands: 100 ft.

Proximity to streams/lakes: 300 ft. Proximity to roads/railroads etc.: 10 ft.

Number of plants (estimate if large): 10. Herbarium specimen taken: Yes - X No

Plant Phenology: 10% vegetative, 80% flowering, 10% fruiting/seed set

Any signs of introduction method (roadside, equipment, livestock, erosion control efforts): *Hypericum perforatum* plants are next to roads.

Eradication methods (if just discovered put none, if discovered and treated state action, if it is a known treatment site, state actions under way and future needs.

The small number of *Hypericum perforatum* plants near the road can easily be pulled out by hand.

Are there any current activities that might spread the plants further? Yes, construction is planned.

Has the County Agricultural Commission been notified? No

Reporter(s): Karen I. Callahan Date: August 12, 2010

**\*Send a copy of this form with a map to the TNF Noxious Weed Coordinator\***

## Noxious/Invasive Exotic Plant Location Form Tahoe National Forest

Plant Scientific Name: *Verbascum thapsus* Common Name: Woolly Mullein

Location: Quad.: Soda Springs Section: 22 Township & Range: 17N, 14E

\*\*\* Remember to attach a map with the location highlighted!

Any specific directions to the location (landmarks etc.) From the DSPUD Office, on Sherrit Lane, north of I 80, take the driveway west toward the drying ponds. The *Verbascum thapsus* plants are located starting from around the Advanced Treatment Building and continuing north of where the paved road ends.

Type land use (i.e. plantation, mine site, roadside, etc...) Wastewater Treatment Facility and access roads.

Natural site condition (riparian, closed-canopy mixed conifer, etc...) Sierra mixed conifer (*Pinus jeffreyi*, *Pinus contorta*, *Abies magnifica*) with an understory of low-growing shrubs and forbs.

Percent bare ground: 10% Is this a repeat visit? Yes -  No

If this is a repeat visit, change in occurrence: size/plant numbers:

Project name (if applicable): Donner Summit Public Utility District Wastewater Facility Upgrade Project Estimate occurrence size: small

Land Owner: Tahoe National Forest Proximity to private lands: 100 ft.

Proximity to streams/lakes: 300 ft. Proximity to roads/railroads etc.: 10 ft.

Number of plants (estimate if large): 50 Herbarium specimen taken: Yes -  No

Plant Phenology: 25% vegetative, 70% flowering, 5% fruiting/seed set.

Any signs of introduction method (roadside, equipment, livestock, erosion control efforts): VETII plants are growing near the buildings and roads.

Eradication methods (if just discovered put none, if discovered and treated state action, if it is a known treatment site, state actions under way and future needs.

VETII plants are scattered along the driveways at the facility. See map. Population is small enough to control by hand methods.

Are there any current activities that might spread the plants further?

Yes, construction is planned.

Has the County Agricultural Commission been notified? No

Reporter(s): Karen L. Callahan Date: August 12, 2010

**\*Send a copy of this form with a map to the TNF Noxious Weed Coordinator\***

# CNPS

California Native Plant Society

## Inventory of Rare and Endangered Plants

### Plant List

29 matches found. [Click on scientific name for details](#)

#### Search Criteria

Found in 9 Quads around 3912004

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
	woolly-leaved milk-witch	Fabaceae	perennial herb	4.3	S3.3	G5171
	Polander's brucea	Bruchiaceae	moss	2.2	S2	G3
	thread-leaved beakseed	Cyperaceae	annual herb	4.2	S3.2	G6
	mud sedge	Cyperaceae	perennial rhizomatous herb	2.2	S3	G5
	yellow-folds claytonia	Portulacaceae	perennial herb	2.3	S2S3	G4G5
	English succoweed	Croseraceae	perennial herb (caulivorous)	2.3	S2S3	G5
	subulpine freeweed	Onagraceae	perennial stoloniferous herb	4.3	S4	G4
	starwort daisy	Asteraceae	perennial herb	1B.3	S2.3	G2
	Corner Pass buckwheat	Polygonaceae	perennial herb	1B.2	S2.2	G6T2
	slender cordgrass	Cyperaceae	perennial rhizomatous herb	4.3	S3.3	G6
	Plumas ivyleaf	Rosaceae	perennial herb	1B.2	S2S3	G2G3
	Webber's ivyleaf	Rosaceae	perennial herb	1B.1	S2.1	G2
	Santa Lucia dwarf rush	Juncaceae	annual herb	1B.2	S2S3	G2G3
	long-petaled jewelflower	Portulacaceae	perennial herb	1B.3	S2.2	G2

sea-coolhead lewisia	Portulacaceae	perennial herb	1B.1	S2.2	G2
northern bugleweed	Lamiaceae	perennial herb	4.3	S3.3	G5
three-rod jump moss	Messecaceae	moss	4.2	S4	G5
broad-nerved humio moss	Messecaceae	moss	2.2	S2	G4
Stebbins phacelia	Hydrophyllaceae	annual herb	1B.2	S3	G3
white-stemmed pondweed	Polymniaceae	perennial rhizomatous herb	2.3	S1S2	G5
Robbins' pondweed	Polymniaceae	perennial rhizomatous herb	2.3	S2.3?	G5
Santa starwort	Caryophyllaceae	perennial rhizomatous herb	4.2	S3S4	G3G4
alder buckhorn	Rhamnaceae	perennial deciduous shrub	2.2	S2.2	G5
white beaked-rush	Cyperaceae	perennial rhizomatous herb	2.2	S2	G5
water bulrush	Cyperaceae	perennial rhizomatous herb	2.3	S2S3	G4G5
Western carnation	Caryophyllaceae	perennial herb	4.3	S3	G4T3
Munro's desert mallow	Malvaceae	perennial herb	2.2	S1.2	G4
water willow	Grassicaceae	annual herb	4.3	S4.3	G5T5
feathered violet	Violaceae	perennial herb	4.2	S3.2	G3

**Suggested Citation**

California Native Plant Society (CNPS). 2011. Inventory of Rare and Endangered Plants (online edition, v8-Q1a). California Native Plant Society, Sacramento, CA. Accessed on Monday, January 31, 2011

Search the Inventory	Information	Contributors
		Jenkins Family Blissey Bequest Grant

**Special-Status Plant and Wildlife Species That Have Potential to Occur in the Project Area (CNDDDB/USFWS/CNPS, 2011)**

Common Name Scientific Name	Legal Status <sup>a</sup>			Geographic Distribution/ Floristic Province	Preferred Habitat	Identification Period	Level of Potential for Occurrence Within Project Sites
	Federal	State	CNPS				
<b>Plants</b>							
Common moonwort <i>Botrychium lunaria</i>	-	-	2	1980-3400 meters	Meadows and seeps, subalpine montane coniferous forest, upper montane coniferous forest	August	<b>Low.</b> Last reported in Sagehen Creek area north of Truckee with no other occurrences in area (CNDDDB, 2010).
Bolander's bruchia <i>Bruchia bolanderi</i>	-	-	2	1700-2800 meters	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest on damp soil	All year	<b>Low.</b> Last reported in Castle Valley in Tahoe National Forest with no other occurrences in area (CNDDDB, 2010).
Constance's sedge <i>Carex constanceana</i>	-	-	1B	2000 meters	Subalpine coniferous forest on shady, mesic soils	August	<b>Low.</b> Last reported in Sagehen Creek Experimental Forest in 2008 with no other occurrences in area (CNDDDB, 2010).
Mud sedge <i>Carex limosa</i>	-	-	2	1200-2700 meters	Bogs and fens, lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest	June-August	<b>Low.</b> Known in the Eagle Lakes area from a 1973 list of ferns and seed plants of Nevada County (CNDDDB, 2010).
Fell-fields claytonia <i>Claytonia megarhiza</i>	-	-	2	2600-3532 meters	Subalpine coniferous forest on rocky or gravelly soils	July-September	<b>Low.</b> Last reported on the north side of Mount Lola Summit in 1975 with no other occurrences in area (CNDDDB, 2010).
English sundew <i>Drosera anglica</i>	-	-	2	1300-2000 meters	Bogs and fens, meadows and seeps on mesic soils	June-September	<b>Low.</b> Last reported near the Sagehen Creek Field Station in 1975 (CNDDDB, 2010).
Supalpine fireweed <i>Epilobium howellii</i>	-	-	1B	2000-2700 meters	Meadows and seeps, subalpine coniferous forest on mesic soils	July-August	<b>Low.</b> Last reported sightings in 2007 at 4 Sierra Pacific locations (CNDDDB, 2010).
Starved daisy <i>Erigeron miser</i>	-	-	1B	1840-2620 meters	Upper montane coniferous forest on rocky soils	June-October	<b>Moderate.</b> Last reported sighting in 2006 near Donner Peak with older reports near DSPUD facilities (CNDDDB, 2010).

Common Name Scientific Name	Legal Status <sup>a</sup>			Geographic Distribution/ Floristic Province	Preferred Habitat	Identification Period	Level of Potential for Occurrence Within Project Sites
	Federal	State	CNPS				
<b>Plants (continued)</b>							
Donner pass buckwheat <i>Eriogonum umbellatum</i> <i>var. torreyanum</i>	–	–	1B	1855 – 2620 meters	Meadows and seeps, upper montane coniferous forest on volcanic and rocky soils. Prefers steep slopes and ridge tops usually in bare or sparsely vegetated areas.	July-September	<b>Low.</b> Last reported sighting in 2001 on Tahoe National Forest property (CNDDDB, 2010).
Plumas ivesia <i>Ivesia sericoleuca</i>	–	–	1B	1465-2200 meters	Great Basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools on vernal mesic, usually volcanic soils	May-October	<b>Low.</b> Last sighted near Independence Lake in 1946 (CNDDDB, 2010).
Webber's ivesia <i>Ivesia webberi</i>	C	–	1B	1000-2075 meters	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland	May-July	<b>Low.</b> Last sighted near Webber Lake in 1875 (CNDDDB, 2010).
Santa Lucia dwarf rush <i>Juncus luciensis</i>	–	–	1B	300-2040 meters	Chaparral, Great basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools	April-July	<b>Low.</b> Last reported sighting in 2006 near Donner Pass on Tahoe National Forest property (CNDDDB, 2010).
Long-petaled lewisia <i>Lewisia longipetala</i>	–	–	1B	2500-2925 meters	Alpine boulder and rock field, subalpine coniferous forest on mesic rocky or granitic soils	July-August	<b>Low.</b> Last reported sightings from 3 locations in 1991 (CNDDDB, 2010).
Saw-toothed lewisia <i>Lewisia serrata</i>	–	–	1B	900-1435 meters	Broadleaf upland forest, lower montane coniferous forest, riparian forest on mesic, rocky slopes	May-June	<b>Low.</b> Last reported sighting in 1980 at a "Sensitive" location in Placer County (CNDDDB, 2010).
Broad-nerved hump moss <i>Meesia uliginosa</i>	–	–	2	1300-2804 meters	Bogs and fens, meadows and seeps, subalpine coniferous forest, upper montane coniferous forest on damp soils	October	<b>Low.</b> Last reported in 2004 at the headwaters of Sagehen Creek (CNDDDB, 2010).

Common Name Scientific Name	Legal Status <sup>a</sup>			Geographic Distribution/ Floristic Province	Preferred Habitat	Identification Period	Level of Potential for Occurrence Within Project Sites
	Federal	State	CNPS				
<b>Plants (continued)</b>							
Stebbins' phacelia <i>Phacelia stebbinsii</i>	–	–	1B	610-2010 meters	Cismontane woodland, lower montane coniferous forest, meadows and seeps	May-July	<b>Low.</b> Last reported sighting from 1997 (CNDDDB, 2010).
White-stemmed pondweed <i>Potamogeton praelongus</i>	–	–	2	1800-3000 meters	Marshes and swamps in deep water and lakes	July-August	<b>Low.</b> Last reported sighting in 2001 in Catfish Lake (CNDDDB, 2010).
Robbins' pondweed <i>Potamogeton robbinsii</i>	–	–	2	1530-3300 meters	Marshes and swamps in deep water and lakes	July-August	<b>Low.</b> Not known from Placer or Nevada Counties (CNDDDB, 2010).
Alder buckhorn <i>Rhamnus alnifolia</i>	–	–	2	1370-2130 meters	Lower montane coniferous forest, meadows and seeps, riparian scrub, upper montane coniferous forest	May-July	<b>Low.</b> Last reported sighting in 1996 along Little Truckee River (CNDDDB, 2010).
White beaked-rush <i>Rhynchospora alba</i>	–	–	2	60-2040 meters	Bogs and fens, meadows and seeps, marshes and swamps	July-August	<b>Low.</b> Last reported sighting in 1973 at Eagle Lakes with no other occurrences in area (CNDDDB, 2010).
Water bulrush <i>Schoenoplectus subterminalis</i>	–	–	2	750-2250	Bogs and fens, marshes and swamps on montane lake margins	June-August	<b>Low.</b> Last reported sighting in 2007 at Eagle Lakes with no other occurrences in area (CNDDDB, 2010).
Munroe's desert mallow <i>Sphaeralcea munroana</i>	–	–	2	2000 meters	Great basin scrub	May-June	<b>Low.</b> Last reported sighting in 1922 along Squaw Creek with no other occurrences in area (CNDDDB, 2010).

#### Federal

- T = listed as threatened under the federal Endangered Species Act.
- D = delisted under the federal Endangered Species Act
- PD = proposed for delisting
- C = candidate to become a proposed species
- MB = Migratory Bird Treaty Act
- = no listing.

#### State

- E = listed as endangered under the California Endangered Species Act.
- T = listed as threatened under the California Endangered Species Act.

- R = listed as rare under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.
- CE = candidate species for listing as endangered under the California Endangered Species Act
- FP = fully protected species
- SSC = species of special concern in California
- PR = Protected Raptor Species
- = no listing.

**California Native Plant Society (CNPS)**

- 1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
- 2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.
- 3 = List 3 species: plants about which more information is needed to determine their status.
- 4 = List 4 species: plants of limited distribution.



**TAHOE NATIONAL FOREST SENSITIVE PLANTS AND FUNGI**

Updated May 10, 2010 from the California Native Plant Society – Inventory of Rare and Endangered Plants (online edition)

<b>SPECIES</b>	<b>USFWS Status</b>	<b>Global Ranking</b>	<b>State Ranking</b>	<b>CNPS Status</b>	<b>HABITAT</b>
<i>Arabis rigidissima</i> var. <i>demota</i>	None	G3T2Q	S1.2	1B.2	7,500-8,500 feet, openings
<i>Astragalus webberi</i>	None	G1	S1.2	1B.2	2,700-4,000 feet, eastside forested
<i>Botrychium ascendens</i> Moonwort	None	G2G3	S1.3	2.3	4,000 ft. +, moist and riparian areas.
<i>Botrychium crenulatum</i> Moonwort	None	G3	S2.2	2.2	4,000 feet +, moist and riparian areas
<i>Botrychium lunaria</i> Moonwort	None	G5	S2.3	2.3	4,000 feet+, moist and riparian areas
<i>Botrychium minganense</i> Moonwort	None	G4	S1.2	2.2	4,000 feet+, moist and riparian areas
<i>Botrychium montanum</i> Moonwort	None	G3	S1.1	2.1	4,000 feet+, moist and riparian areas
<i>Bruchia bolanderi</i> Moss	None	G2	S2.2	2.2	4,000-9,500 feet, moist and riparian areas.
<i>Calochortus clavatus</i> var. <i>avius</i> Westside only	None	G4T3	S3.2	1B.2	3,000-5,800 feet, rocky places (FHRD)
<i>Clarkia biloba</i> ssp. <i>Brandegeae</i> Westside only	SC	G4T3	S3	1B.2	2,500 feet and below, woodlands
<i>Cudonia monticola</i> Fungi	None	G3	S1	None	Litter and decaying wood
<i>Cypripedium fasciculatum</i>	None	G4	S4.2	4.2	500-6,000 feet, moist mixed conifer
<i>Cypripedium montanum</i>	None	G4	S3.2	4.2	<7,000 ft, openings in forested areas
<i>Dendrocollybia racemosa</i> Fungi	None	G2G3	S1S12	None	Host – another fungus
<i>Epilobium howellii</i>	None	G4	S4	4.3	6,000-9,000 feet, wet areas
<i>Erigeron miser</i>	None	G2	S2.3	1B.3	About 6,000 feet and above, (granite)
<i>Eriogonum umbellatum</i> var. <i>torreyanum</i>	SC	G5T2	S2.2	1B.2	6,000-8,000 feet, unstable soils
<i>Fissidens aphelotaxifolius</i>	None	GU	S1.2	2.2	Sea level to 6,000

SPECIES	USFWS Status	Global Ranking	State Ranking	CNPS Status	HABITAT
Moss					feet, wet soil, humus and rocks along narrow streams
<i>Fritillaria eastwoodiae</i> Westside only	SC	G3Q	S3.2	3	100-5,000 ft., westside forested areas
<i>Helodium blandowii</i> Moss	None	G5	S1.3	2.3	Fens and wet habitat in meadows
<i>Hydrothyria venosa</i> Lichen	None	G3	None	None	1,150 to 7,000 ft in clear, cold water
<i>Ivesia aperta</i> var. <i>aperta</i> <i>Ivesia aperta</i> var. <i>canina</i> <i>Ivesia sericoleuca</i>	SC SC SC	G2T2 G2T1 G2	S2.2 S1.1 S2.2	1B.2 1B.1 1B.2	4,500-7,500 feet, eastside meadows/seasonal drainages
<i>Ivesia webberi</i>	Can	G2	S2.1	1B.1	4,500-6,000 feet Shallow clayey soils
<i>Lewisia cantelovii</i> <i>Lewisia serrata</i>	SC SC	G3 G2	S2.2 S2.2	1B.2 1B.1	1,300-5,000 feet, westside wet cliffs/outcrops,
<i>Lewisia kelloggii</i> ssp. <i>hutchisonii</i>	None	G4T2T3	S2S3*	3.3*	5,100-7,000 feet, sandy granitic soil
<i>Lewisia kelloggii</i> ssp. <i>kelloggii</i>	None	G3*	S3.3*	3.3*	6000 to 11,000 feet, gravelly or sandy flats within mixed conifer forest and subalpine forest.
<i>Lewisia longipetala</i>	SC	G2	S2.2	1B.3	8,300-9,500 feet, damp gravel
<i>Lupinus dalesiae</i>	SC	G3	S3.2	4.2	3,000-8,000 feet, (DV and NC)
<i>Mahonia sonnei</i>	Removed		None	Rejected	Widespread
<i>Meesia triquetra</i> Moss	SC	G5	S3S4.2	4.2	Elevation unknown, mosses of wet meadows and fens
<i>Meesia uliginosa</i> Moss	SC	G4	S2.3	2.2	Elevation unknown, mosses of wet meadows

<b>SPECIES</b>	<b>USFWS Status</b>	<b>Global Ranking</b>	<b>State Ranking</b>	<b>CNPS Status</b>	<b>HABITAT</b>
					and fens
<i>Mielichhoferia elongata</i> Moss	None	G4?	S2.2	2.2	Wet metamorphic rocks with heavy metals like copper
<i>Monardella follettii</i>	None	G1	S2	1B.2	2,000-6,500 feet, serpentine
<i>Penstemon personatus</i>	SC	G2	S2.2	1B.2	4,500-6,500 feet, forested areas
<i>Phacelia stebbinsii</i>	SC	G3	S3.2	1B.2	3,000-6,000 feet, westside openings
<i>Phaeocollybia olivacea</i> Fungi	None	G2	S2	None	Host – conifers, oak and tanoak
<i>Pyrrcoma lucida</i>	None	G2	3.2	1B.2	Below 6,000 feet, eastside meadows/alkali flats
<i>Tauschia howellii</i>	None	G1	S1.3	1B.3	6,000-7,500 feet, ridge tops and slopes on decomposed granite

SC = Species of Concern

Can= Candidate Species

CNPS = California Native Plant Society

\* likely to change due to new information

## Tahoe National Forest Watchlist Plants and Plant Communities

Species/Community	CNPS List <sup>1</sup>	Habitat
<i>Allium sanbornii</i> var. <i>congdonii</i>	4	1,000-5,000 feet, serpentine soils
<i>Allium sanbornii</i> var. <i>sanbornii</i>	4	1,000-5,000 feet, serpentine soils
<i>Androsace occidentalis</i> var. <i>simplex</i>	2	5,000 to 5,500 feet, moist areas
<i>Asplenium trichomanes-ramosum</i>	2	Below 8,000 feet, limestone crevices
<i>Chlorgalum grandiflorum</i>	1B	900-3,500 feet, serpentine/gabbro
<i>Claytonia megarhiza</i>	2	Above 8,000 feet, talus/rock crevices
<i>Darlingtonia californica</i>	4	Below 7,000 feet, wet areas
<i>Drosera anglica</i>	2	Below 7,000 feet, wet areas
<i>Drosera rotundifolia</i>	None	Below 8,000 feet, wet areas
<i>Erigeron petrophilus</i> var. <i>sierrensis</i>	4	900-5,700 feet, rocky soils
<i>Juncus marginatus</i> var. <i>marginatus</i>	2	Below 3,300 feet, wet areas
<i>Lilium humboldtii</i> ssp. <i>humboldtii</i>	4	1,500-3,500 feet, openings
<i>Mimulus laciniatus</i>	4	1,500-9,000 feet, seeps in granite
<i>Perideridia bacigalupi</i>	4	1,700-3,500 feet, serpentine
<i>Potamogeton filiformis</i>	2	1,000-7,000 feet, lakes and ponds
<i>Rhynchospora alba</i>	2	Below 6,600 feet, wet places
<i>Rhynchospora capitellata</i>	2	Below 6,600 feet, wet places
<i>Scutellaria galericulata</i>	2	4,000-7,000 feet, streambanks
<i>Sphagnum</i> species ( <i>Sphagnum strictum</i> is a CNPS list 2)	None	All elevations, wet areas
<i>Tonestus eximius</i>	4	8,000-10,000 feet, granitic areas
<i>Utricularia minor</i>	4	Above 1,500 feet, shallow water
<i>Veronica cusickii</i>	4	7,000-9,800 feet, moist soils
<i>Viola tomentosa</i>	4	4,500-6,500 feet, openings
Special Aquatic Features	None	All elevations, wet areas
Aspen Groves	None	Above 5,500 feet, moist areas

<sup>1</sup> California Native Plant (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, V7-06a). CNPS. Assessed on Monday Feb. 13, 2006 from <http://www.cnps.org/inventory>

**Table 1. TNF Weed List**

Scientific Name	Common Name	CDFA rating	CallIPC*
<i>Bromus tectorum</i>	Cheat grass	Not rated	High
<i>Carduus nutans</i>	Musk thistle	A	Moderate
<i>Centaurea diffusa</i>	Diffuse knapweed	A	Moderate
<i>Centaurea maculosa</i>	Spotted knapweed	A	High
<i>Centaurea melitensis</i>	Maltese starthistle	C	Moderate
<i>Centaurea solstitialis</i>	Yellow starthistle	C	High
<i>Chondrilla juncea</i>	Skeleton weed	A	Moderate
<i>Cirsium arvense</i>	Canada thistle	B	Moderate
<i>Cytisus scoparius</i>	Scotch broom	C	Moderate
<i>Euphorbia oblongata</i>	Oblong spurge	B	High
<i>Genista monspessulana</i>	French broom	C	High
<i>Halogeton glomeratus</i>	Halogeton	A	Moderate
<i>Hydrilla verticillata</i>	Hydrilla	A	--
<i>Hypericum perforatum</i>	Klamath weed	C	Moderate
<i>Isatis tinctoria</i>	Dryer's woad	B	Moderate
<i>Lepidium latifolium</i>	Tall whitetop	B	High
<i>Linaria genistifolia</i>	Dalmatian toadflax	A	Moderate
<i>Lythrum salicaria</i>	Purple loosestrife	B	High
<i>Myriophyllum spicatum</i>	Eurasian water milfoil	C	--
<i>Onopordum acanthium</i>	Scotch thistle	A	High
<i>Rubus discolor</i>	Himalayan blackberry	Not rated	High
<i>Spartium junceum</i>	Spanish broom	Not rated	High
<i>Taeniatherum caput-medusae</i>	Medusahead	C	High
<i>Ulex europaeus</i>	Gorse	B	High
<i>Verbascum thapsus</i>	Woolly mullein	Not rated	Limited

\*California Invasive Plant Council Ratings (CallIPC)

**High** – Severe ecological impacts, reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Species usually widely distributed ecologically among and within ecosystems.

**Moderate** – Substantial and apparent, but not severe, ecological impacts; attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent on ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

**Limited** – Invasive, but ecological impacts are minor on a statewide level or there is insufficient information to justify a higher rating, although they may cause significant problems in specific regions or habitats. Reproductive biology and other attributes result in low to moderate rates of invasion. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

## Current Management Direction \_\_\_\_\_

State and Federal laws, Forest Service direction, and other regulatory direction that is relevant to the management and prevention of noxious weeds include:

1. **Forest Service Manual (FSM) 2080 - Noxious Weed Management** includes a policy statement calling for a risk assessment for noxious weeds to be completed for every project. Specifically, the manual states: *2081.03 – Policy*: When any ground disturbing action or activity is proposed, determine the risk of introducing or spreading noxious weeds associated with the proposed action. For projects having moderate to high risk of introducing or spreading noxious weeds, the project decision document must identify noxious weed control measures that must be undertaken during project implementation. Use contract and permit clauses to prevent the introduction or spread of noxious weeds by contractors and permittees. For example, where determined to be appropriate, use clauses requiring contractors or permittees to clean their equipment prior to entering NFS lands. *2081.2 - Prevention and Control Measures*: Determine the factors that favor the establishment and spread of noxious weeds and design management practices or prescriptions to reduce the risk of infestation or spread of noxious weeds. Where funds and other resources do not permit undertaking all desired measures, address and schedule noxious weed prevention and control in the following order:
  - First Priority: Prevent the introduction of new invaders,
  - Second Priority: Conduct early treatment of new infestations, and
  - Third Priority: Contain and control established infestations.
2. **Executive Order 13112** of February 3, 1999 directs federal agencies to prevent the introduction of invasive species, detect and respond rapidly to and control such species, not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species unless the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.
3. **Sierra Nevada Forest Plan Amendment (SNFPA) standard and guidelines (S&Gs)**: The SNFPA (2004) lists 14 S&Gs for management of noxious weeds. In summary, the S&Gs applicable to this project direct the Forest to conduct a noxious weed risk assessment that includes weed risk, prevention, and treatment in this EIS (NEPA document).

## Noxious/Invasive Exotic Plant Location Form Tahoe National Forest

Plant Scientific Name: *Bromus tectorum*. Common Name: Cheatgrass

Location: Quad.: Soda Springs. Section: 22 Township & Range: 17N, 14E

\*\*\* Remember to attach a map with the location highlighted!

Any specific directions to the location (landmarks etc.): Just west of the Donner Summit Public Utility District Office, on Sherrit Lane, north of I-80, take the access road toward the drying ponds. The *Bromus tectorum* plants are located next to Treatment Unit #2 and a high voltage switch box.

Type land use (i.e. plantation, mine site, roadside, etc...) Wastewater Treatment Facility and access roads.

Natural site condition (riparian, closed-canopy mixed conifer, etc...) Sierra mixed conifer (*Pinus jeffreyi*, *Pinus contorta*, *Abies magnifica*) with an understory of low-growing shrubs and forbs.

Percent bare ground: 10%. Is this a repeat visit? Yes -X No

If this is a repeat visit, change in occurrence size / plant numbers:

Project name (if applicable): Donner Summit Public Utility District Wastewater Facility Upgrade Project. Estimate occurrence size: 50 square feet

Land Owner: Tahoe National Forest. Proximity to private lands: 100 ft.

Proximity to streams/lakes: 300 ft. Proximity to roads/railroads etc.: within 10 ft. of road.

Number of plants (estimate if large): 1,000. Herbarium specimen taken: Yes - X No

Plant Phenology: 0% vegetative, 0% flowering, 100% fruiting/seed set

Any signs of introduction method (roadside, equipment, livestock, erosion control efforts): BRTE plants are next to driveway and tank.

Eradication methods (if just discovered put none, if discovered and treated state action, if it is a known treatment site, state actions under way and future needs.

The Cheatgrass, BRTE, population is now confined to a relatively small area, but there is potential for this annual grass to spread rapidly around the buildings and roads at the Wastewater Facility to compacted soils and bare ground.

Are there any current activities that might spread the plants further? Yes, construction is planned.

Has the County Agricultural Commission been notified? No

Reporter(s): Karen I. Callahan Date: August 12, 2010

**\*Send a copy of this form with a map to the TNF Noxious Weed Coordinator\***

## Noxious/Invasive Exotic Plant Location Form Tahoe National Forest

Plant Scientific Name: *Hypericum perforatum*. Common Name: Klamathweed.

Location: Quad.: Soda Springs. Section: 22, Township & Range: 17N, 14E.

\*\*\* Remember to attach a map with the location highlighted!!

Any specific directions to the location (landmarks etc.)

From the Donner Summit Public Utilities District Office, on Sherrit Lane, north of I 80, take the driveway west toward the drying ponds. The *Hypericum perforatum* plants are located next to the ponds and north of where the paved road ends.

Type land use (i.e. plantation, mine site, roadside, etc...) Wastewater Treatment Facility and access roads.

Natural site condition (riparian, closed canopy mixed conifer, etc...) Sierra mixed conifer (*Pinus jeffreyi*, *Pinus contorta*, *Abies magnifica*) with an understory of low-growing shrubs and forbs.

Percent bare ground: 15% Is this a repeat visit? Yes -  No

If this is a repeat visit, change in occurrence size/plant numbers: \_\_\_\_\_

Project name (if applicable): Donner Summit Public Utility District Wastewater Facility Upgrade Project. Estimate occurrence size: small

Land Owner: Tahoe National Forest Proximity to private lands: 100 ft.

Proximity to streams/lakes: 300 ft. Proximity to roads/railroads etc.: 10 ft.

Number of plants (estimate if large): 10. Herbarium specimen taken: Yes -  No

Plant Phenology: 10% vegetative, 80% flowering, 10% fruiting/seed set

Any signs of introduction method (roadside, equipment, livestock, erosion control efforts):  
*Hypericum perforatum* plants are next to roads.

Eradication methods (if just discovered put none, if discovered and treated state action, if it is a known treatment site, state actions under way and future needs.

The small number of *Hypericum perforatum* plants near the road can easily be pulled out by hand.

Are there any current activities that might spread the plants further? Yes, construction is planned.

Has the County Agricultural Commission been notified? No

Reporter(s): Karen I. Callahan Date: August 12, 2010

**\*Send a copy of this form with a map to the TNF Noxious Weed Coordinator\***



## Noxious/Invasive Exotic Plant Location Form Tahoe National Forest

Plant Scientific Name: *Verbascum thapsus* Common Name: Woolly Mullein

Location: Quad.: Soda Springs Section: 22 Township & Range: 17N, 14E

\*\*\* Remember to attach a map with the location highlighted!

Any specific directions to the location (landmarks etc.) From the DSPUD Office, on Sherrit Lane, north of I 80, take the driveway west toward the drying ponds. The *Verbascum thapsus* plants are located starting from around the Advanced Treatment Building and continuing north of where the paved road ends.

Type land use (i.e. plantation, mine site, roadside, etc...) Wastewater Treatment Facility and access roads.

Natural site condition (riparian, closed-canopy mixed conifer, etc...) Sierra mixed conifer (*Pinus jeffreyi*, *Pinus contorta*, *Abies magnifica*) with an understory of low-growing shrubs and forbs.

Percent bare ground: 10% Is this a repeat visit? Yes -  No

If this is a repeat visit, change in occurrence: size/plant numbers:

Project name (if applicable): Donner Summit Public Utility District Wastewater Facility Upgrade Project Estimate occurrence size: small

Land Owner: Tahoe National Forest Proximity to private lands: 100 ft.

Proximity to streams/lakes: 300 ft. Proximity to roads/railroads etc.: 10 ft.

Number of plants (estimate if large): 50 Herbarium specimen taken: Yes -  No

Plant Phenology: 25% vegetative, 70% flowering, 5% fruiting/seed set.

Any signs of introduction method (roadside, equipment, livestock, erosion control efforts): VETII plants are growing near the buildings and roads.

Eradication methods (if just discovered put none, if discovered and treated state action, if it is a known treatment site, state actions under way and future needs.

VETII plants are scattered along the driveways at the facility. See map. Population is small enough to control by hand methods.

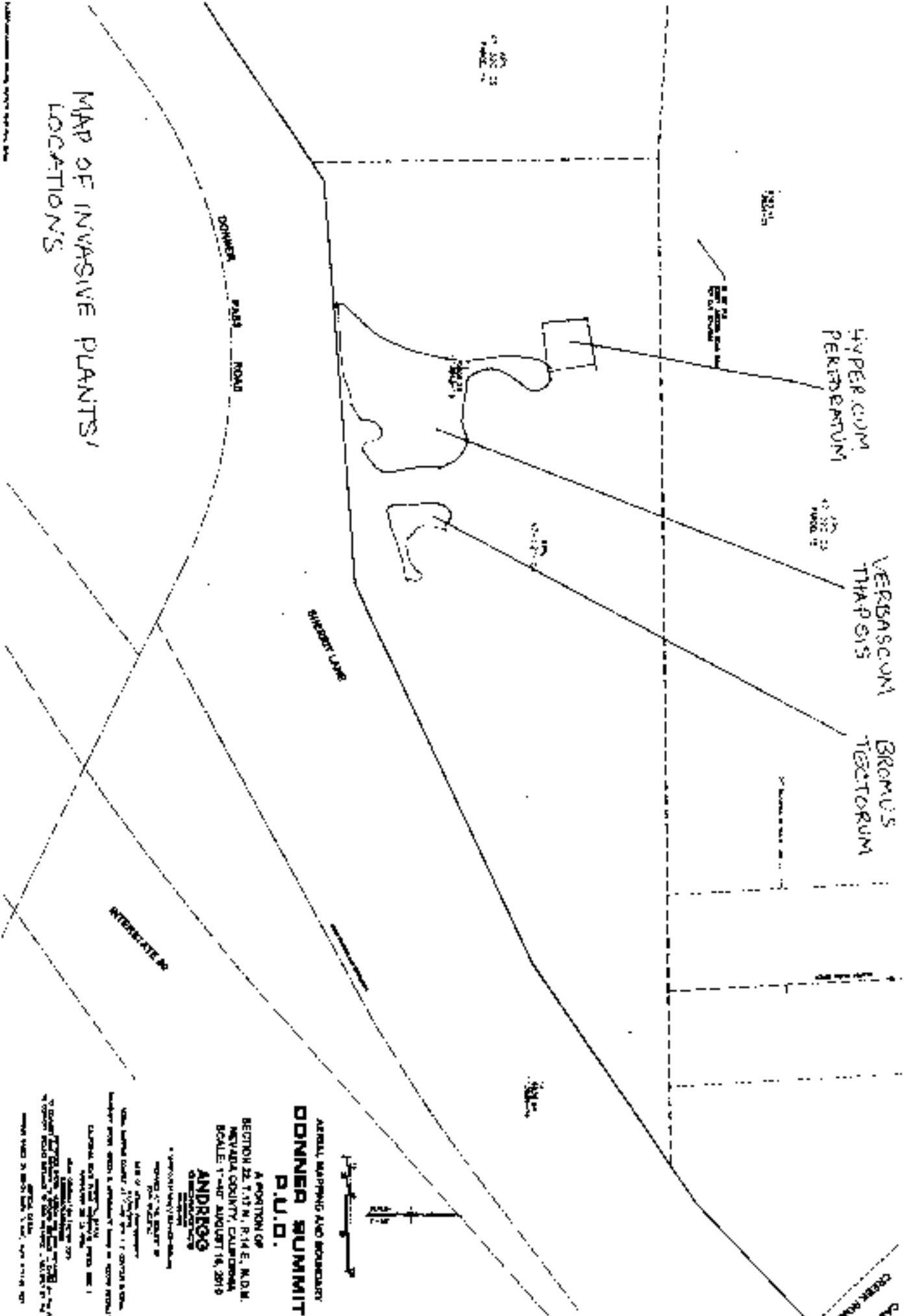
Are there any current activities that might spread the plants further?

Yes, construction is planned.

Has the County Agricultural Commission been notified? No

Reporter(s): Karen L. Callahan Date: August 12, 2010

**\*Send a copy of this form with a map to the TNF Noxious Weed Coordinator\***



MAP OF INVASIVE PLANTS/  
LOCATIONS

HYPERICUM  
PERFORATUM

VERBASCUM  
THAPSIS

BROMUS  
TECTORUM

AERIAL MAPPING AND BOUNDARY  
**DONNER SUMMIT**  
P.U.D.

A PORTION OF  
SECTION 22, T.17 N., R.14 E., N.O.B.  
NEVADA COUNTY, CALIFORNIA  
SCALE: 1"=40' AUGUST 16, 2019

**ANDRIGO**  
OWNER

DATE OF THIS MAPPING: 8/16/19  
THIS MAP WAS MADE BY: ANDRIGO  
FOR THE: DONNER SUMMIT P.U.D.  
BY: ANDRIGO  
SCALE: 1"=40'  
DATE: 8/16/19

**Noxious/Invasive Exotic Plant Location Form**  
Tahoe National Forest

Plant Scientific Name: *Hypericum perforatum*. Common Name: Klamathweed, St. John's Wort

Location: Quad: Soda Springs Section: 22 Township & Range: 17N, 14E

\*\*\* Remember to attach a map with the location highlighted!!

Any specific directions to the location (landmarks etc.) HYPE plants are found around the Ski Soda Springs parking lot, along the access road, and west to within 75 feet east of the Crystal Bowl chair lift. Ski Soda Springs Resort, owned by Boreal Ridge Corp., is accessed from Soda Springs Road.

Type land use (i.e. plantation, mine site, roadside, etc...) Ski resort.

Natural site condition (riparian, closed-canopy mixed conifer, etc...) Sierra mixed conifer with alder/willow wetlands.

Percent bare ground: 10%. Is this a repeat visit? Yes - No

If this is a repeat visit, change in occurrence size/plant numbers: \_\_\_\_\_

Project name (if applicable): occurrence is adjacent to the proposed Effluent Irrigation Area for the DSPUD Facility Upgrade Project. Estimate occurrence size: 300 sq. feet.

Land Owner: Boreal Ridge Corporation. Proximity to private lands: private owner.

Proximity to streams/lakes: within 50 feet of wetlands and seeps that drain to the South Yuba River. Proximity to roads/railroads etc.: 10 feet.

Number of plants (estimate if large): 800+. Herbarium specimen taken: Yes - No

Plant Phenology: 10% vegetative, 50% flowering, 40% fruiting/seed set.

Any signs of introduction method (roadside, equipment, livestock, erosion control efforts):

HYPE plants are near roads, parking lot, and fuel storage tanks.

Eradication methods (if just discovered put none, if discovered and treated state action, if it is a known treatment site, state actions under way and future needs. None.

Are there any current activities that might spread the plants further?

Yes, the maintenance and construction activities at Ski Soda Springs resort. Parking lot is used for green waste and brush dumping by the community.

Has the County Agricultural Commission been notified? No.

Reporter(s): Karen L. Callahan & Cynthia M. Brinkhurst. Date: August 27, 2010.

\*Send a copy of this form with a map to the TNF Noxious Weed Coordinator\*