

Usal Redwood Forest Company 2017 Botanical Resources Summary

Introduction

The primary focus of the Usal Redwood Forest botanical program is to perform quality floristic surveys and to provide a concise assessment detailing the survey results. The information collected is helping foresters and reviewers make sound management decisions concerning botanical resources.

The Usal Redwood Forest Company ownership is home to many species of vascular plants, non-vascular plants, and lichens. The roughly 50,000-acre ownership is mainly comprised of North Coast Coniferous Forest habitat community as described by Holland's *Preliminary Descriptions of the Terrestrial Plant Communities of California* (Holland 1986). Dominant tree species include coast redwood and Douglas-fir with a scattering of Western hemlock and grand fir. Common components of conifer stands on xeric, more inland sites are tanoak and Pacific madrone. Riparian areas provide habitat for red alder, willow, big-leaf maple, California bay, and California nutmeg. A wide range of shrubs occur on the ownership including huckleberry, rhododendron, thimbleberry, manzanita, coyote brush, ceanothus, salal, willows and poison oak.

Methods

Scoping strategies, survey methods, and impact assessments/mitigations were consistent with the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (DFG 2009), *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Plant Communities* (DFG 2000), *Mitigation Guidelines Regarding Impacts to Rare, Threatened, and Endangered Plants* (CNPS 1998), *California Forest Practice Rules* (CAL FIRE 2014) and the *California Environmental Quality Act* (State of California revised 2001).

The project area was scoped with the current inventories of the California Natural Diversity Database (CNDDB), (CDFW 2017) and *Rare Plant Inventory* (CNPS 2017) using a property-wide search method. This was accomplished by scoping the USGS 7.5 minute quadrangles managed by Usal Redwood Forest Company, and all contiguous quadrangles. Because the aforementioned inventories reflect the sensitive taxa and communities historically occurring in the specified quadrangles, the scoping list was combined with plant lists from local experts (Golec 2002; Sholars 2002) to generate a "Long List of Sensitive Taxa and Communities" that have historically occurred or could possibly occur within the quadrangles scoped. This list was shortened by assessing potential habitats identified through examining aerial photographs, evaluating habitat descriptions, and consulting with the RPFs. For example, species occurring only in

dune or coastal bluff scrub habitats were removed because the proposed project area does not contain coastal bluff scrub habitat. The result was the Target Species and Plant Communities lists found below. Plant communities were classified using *Preliminary Descriptions of the Terrestrial Plant Communities of California* (Holland 1986), as these are used by California Native Plant Society (CNPS) inventory and best describe the communities present. CNDDDB inventory quadrangle data includes only California Rare Plant Rank (CRPR) 1-3 plants. Therefore, plant listings considered were California Rare Plant Rank 1-3, and state and federal rare, threatened, and/or endangered. California Rare Plant Rank 4 plants were considered if they were also state or federally listed as Rare, Threatened, or Endangered. Occurrences were defined as: those populations separated by at least one-quarter air mile.

Floristic field surveys were conducted during sensitive plant blooming windows unless species were readily identifiable by vegetative characteristics, or reference sites were visited and sensitive plants were found blooming outside the expected windows. Floristic surveys were conducted using intuitively-controlled, habitat-focused techniques, with the majority of survey effort in potential sensitive plant habitat. Habitats within the project site were surveyed to inventory the plants present. All vascular plants observed were identified, as classified in *The Jepson Manual: vascular plants of California* (Baldwin, et al. 2012), to the taxonomic level necessary to exclude Target Species.

Findings and Discussion

In 2017, Usal Redwood Forest Company floristically surveyed 348 acres covered three proposed Timber Harvesting Plans (See Table 1). Surveys in 2017 did not identify any new occurrences of sensitive plants.

Table 1. Acres surveyed in 2017.

| Project Name | Project Acres Surveyed |
|---------------------|-------------------------------|
| Mule Creek | 86 |
| Pokemon | 158 |
| McCoy | 104 |
| Total | 348 |

Table 2. Target plant species on Usal Redwood Forest.

| Scientific Name | Common Name | CRPR | CESA | FESA | Grank | Srank | Blooming Period | Habitat |
|--|------------------------------|------|------|------|-------|-------|-----------------|---|
| <i>Arabis mcdonaldiana</i> | McDonald's rockcress | 1B.1 | CE | FE | G3 | S3 | May-Jul | Lower montane coniferous forest, Upper montane coniferous forest (serpentinite) |
| <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i> | Raiche's manzanita | 1B.1 | None | None | G3T2 | S2 | Feb-Apr | Chaparral, Lower montane coniferous forest (openings; often serpentinite) |
| <i>Astragalus agnicidus</i> | Humboldt County milk-vetch | 1B.1 | CE | None | G2 | S2 | Apr-Sep | Broadleafed upland forest, North Coast coniferous forest (often disturbed roadsides) |
| <i>Cardamine angulata</i> | seaside bittercress | 2B.2 | None | None | G4G5 | S3 | (Jan)Mar-Jul | Lower montane coniferous forest, North Coast coniferous forest (wet areas; streambanks) |
| <i>Castilleja litoralis</i> | Oregon coast paintbrush | 2B.2 | None | None | G3 | S3 | Jun-Jul | Coastal bluff scrub, Coastal dunes, Coastal scrub (sandy) |
| <i>Castilleja mendocinensis</i> | Mendocino Coast paintbrush | 1B.2 | None | None | G2 | S2 | Apr-Aug | Coastal bluff scrub, Closed-cone coniferous forest, Coastal dunes, Coastal prairie, Coastal scrub |
| <i>Ceanothus foliosus</i> var. <i>vineatus</i> | Vine Hill ceanothus | 1B.1 | None | None | G3T1 | S1 | Mar-May | Chaparral |
| <i>Clarkia amoena</i> ssp. <i>whitneyi</i> | Whitney's farewell-to-spring | 1B.1 | None | None | G5T1 | S1 | Jun-Aug | Coastal bluff scrub, Coastal scrub |
| <i>Erigeron biolettii</i> | streamside daisy | 3 | None | None | G3? | S3? | Jun-Oct | Broadleafed upland forest, Cismontane woodland, North Coast coniferous forest (rocky, mesic) |
| <i>Eriogonum kelloggii</i> | Kellogg's buckwheat | 1B.2 | CE | None | G2 | S2 | (May)Jun-Aug | Lower montane coniferous forest (rocky, serpentinite) |
| <i>Erythronium oregonum</i> | giant fawn lily | 2B.2 | None | None | G4G5 | S2 | Mar-Jun(Jul) | Cismontane woodland, Meadows and seeps, sometimes serpentinite, rocky, openings |
| <i>Erythronium revolutum</i> | coast fawn lily | 2B.2 | None | None | G4G5 | S3 | Mar-Jul(Aug) | Bogs and fens, Broadleafed upland forest, North Coast coniferous forest (streambanks) |

Table 2. Target species on Usal Redwood Forest (Continued)

| Scientific Name | Common Name | CRPR | CESA | FESA | Grank | Srank | Blooming Period | Habitat |
|--|----------------------------|------|------|------|-------|-------|------------------|--|
| <i>Gentiana setigera</i> | Mendocino gentian | 1B.2 | None | None | G2 | S2 | (Apr-Jul)Aug-Sep | Lower montane coniferous forest, Meadows and seeps |
| <i>Gilia capitata</i> ssp. <i>pacifica</i> | Pacific gilia | 1B.2 | None | None | G5T3 | S2 | Apr-Aug | Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland |
| <i>Hesperocyparis pygmaea</i> | pygmy cypress | 1B.2 | None | None | G1 | S1 | | Closed-cone coniferous forest (usually podzol-like soil) |
| <i>Kopsiopsis hookeri</i> | small groundcone | 2B.3 | None | None | G4? | S1S2 | Apr-Aug | North Coast coniferous forest |
| <i>Lasthenia californica</i> ssp. <i>macrantha</i> | perennial goldfields | 1B.2 | None | None | G3T2 | S2 | Jan-Nov | Coastal bluff scrub, Coastal dunes, Coastal scrub |
| <i>Lathyrus palustris</i> | marsh pea | 2B.2 | None | None | G5 | S2 | Mar-Aug | Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest |
| <i>Lilium maritimum</i> | coast lily | 1B.1 | None | None | G2 | S2 | May-Aug | Broadleafed upland forest, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Marshes and swamps (freshwater), North Coast coniferous forest |
| <i>Montia howellii</i> | Howell's montia | 2B.2 | None | None | G3G4 | S2 | (Jan-Feb)Mar-May | Meadows and seeps, North Coast coniferous forest, Vernal pools |
| <i>Piperia candida</i> | white-flowered rein orchid | 1B.2 | None | None | G3 | S3 | (Mar)May-Sep | Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest (sometimes serpentinite) |
| <i>Sedum laxum</i> ssp. <i>eastwoodiae</i> | Red Mountain stonecrop | 1B.2 | None | None | G5T2 | S2 | May-Jul | Lower montane coniferous forest (serpentinite) |
| <i>Thermopsis robusta</i> | robust false lupine | 1B.2 | None | None | G2 | S2 | May-Jul | Broadleafed upland forest, North Coast coniferous forest |
| <i>Viburnum ellipticum</i> | oval-leaved viburnum | 2B.3 | None | None | G4G5 | S3? | May-Jun | Chaparral, Cismontane woodland, Lower montane coniferous forest |

Table 3. Rare Plant Communities with the Potential to Occur on Usal Redwood Forest (Draft List).

| Scientific Name | Common Name | Global & State Rank |
|---|---------------------------------|---------------------|
| Woodland and Forest Alliances and Stands | | |
| <i>Abies grandis</i> Alliance | Grand fir forest | G4 S2 |
| <i>Acer macrophyllum</i> Alliance | Bigleaf maple forest | G4 S3 |
| <i>Arbutus menziesii</i> Alliance | Madrone forest | G4 S3 |
| <i>Chrysolepis chrysophylla</i> Alliance | Golden chinquapin thickets | G2 S2 |
| <i>Lithocarpus densiflorus</i> Alliance | Tanoak forest | G4 S3 |
| <i>Picea sitchensis</i> Alliance | Sitka spruce forest | G5 S2 |
| <i>Pinus contorta</i> ssp. <i>contorta</i> Alliance | Beach pine forest | G5 S3 |
| <i>Pinus muricata</i> Alliance | Bishop pine forest | G3 S3 |
| <i>Sequoia sempervirens</i> Alliance | Redwood forest | G3 S3 |
| <i>Tsuga heterophylla</i> Alliance | Western hemlock forest | G5 S2 |
| <i>Umbellularia californica</i> Alliance | California bay forest | G4 S3 |
| Shrubland Alliances and Stands | | |
| <i>Arctostaphylos (nummularia, sensitiva)</i> Alliance | Glossy leaf manzanita chaparral | G2 S2 |
| <i>Corylus cornuta</i> var. <i>californica</i> Alliance | Hazelnut scrub | G3 S2? |
| <i>Garrya elliptica</i> Provisional Alliance | Coastal silk tassel scrub | G3? S3? |
| <i>Diplacis aurantiacus</i> Alliance | Bush monkeyflower scrub | G3 S3? |
| <i>Holodiscus discolor</i> Alliance | Ocean spray brush | G4 S3 |
| <i>Morella californica</i> Alliance | Wax myrtle scrub | G3 S3 |
| <i>Rhododendron neoglandulosum</i> Alliance | Western Labrador-tea thickets | G4 S2? |
| <i>Rhododendron occidentale</i> Provisional Alliance | Western azalea patches | G3 S2? |
| <i>Rosa californica</i> Alliance | California rose briar patches | G3 S3 |
| <i>Sphagnum Bog</i> | Sphagnum bog | G3 S1.2 |
| <i>Salix sitchensis</i> Provisional Alliance | Sitka willow thickets | G4 S3? |
| Herbaceous Alliances and Stands | | |
| <i>Calamagrostis nutkaensis</i> Alliance | Pacific reed grass meadows | G4 S2 |
| <i>Camassia quamash</i> Alliance | Small camas meadows | G4? S3? |
| <i>Carex obnupta</i> Alliance | Slough sedge swards | G4 S3 |
| <i>Danthonia californica</i> Alliance | California oat grass prairie | G4 S3 |
| <i>Elymus glaucus</i> Alliance | Blue wild rye meadows | G3? S3? |
| <i>Festuca rubra</i> Alliance | Red fescue grassland | G4 S3? |

| | | |
|---|-------------------------------|---------|
| <i>Festuca idahoensis</i> Alliance | Idaho fescue grassland | G4 S3? |
| <i>Glyceria occidentalis</i> | Northwest manna grass marshes | G3? S3? |
| <i>Grindelia (stricta)</i> Provisional Alliance | Gum plant patches | G3? S3? |
| <i>Hordeum brachyantherum</i> Alliance | Meadow barley patches | G4 S3? |
| <i>Juncus (oxymyris, xiphioides)</i> Provisional Alliance | Iris-leaf rush seeps | G2? S2? |
| <i>Leymus triticoides</i> Alliance | Creeping rye grass turfs | G4 S3 |
| <i>Mimulus (guttatus)</i> Alliance | Common monkey flower seeps | G4? S3? |
| <i>Poa secunda</i> Alliance | Curley bluegrass grassland | G4 S3? |
| <i>Scirpus microcarpus</i> Alliance | Small-fruited bulrush marsh | G4 S2 |
| <i>Woodwardia fimbriata</i> | Woodwardia thicket | G3 S3.2 |
| Aquatic Vegetation | | |
| <i>Hydrocotyle (ranunculoides, umbellata)</i> Alliance | Mats of floating pennywort | G4 S3? |
| <i>Nuphar lutea</i> Provisional Alliance | Yellow pond-lily mats | G5 S3? |
| <i>Oenanthe sarmentosa</i> Alliance | Water-parsley marsh | G4 S2? |
| <i>Sparganium (angustifolium)</i> Alliance | Mats of bur-reed leaves | G4 S3? |

Listing and Rank Codes:

CRPR - 1A = Presumed extinct in CA, **1B** = Rare in CA and elsewhere, **2** = Rare in CA but more common elsewhere, **3** = More info needed, **4** = Watchlist. **.1** - Seriously endangered in California **.2** - Fairly endangered in California **.3** - Not very endangered in California. **GLOBAL RANKING - G1** = Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres. **G2** = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres. **G3** = 21-100 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres. **G4** = Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat. **G5** = Population or stand demonstrably secure to ineradicable due to being commonly found in the world. **GX** = All sites are extirpated; this element is extinct in the wild. **GXC** = Extinct in the wild; exists in cultivation. **G1Q** = The element is very rare, but there is a taxonomic question associated. **T-rank** = Subspecies receive a T-rank attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety. **GH** = All sites are historical; the element has not been seen for at least 20 years, but suitable habitat still exists. **STATE RANKING - S1** = Less than 6 element occurrences (Eos) OR less than 1,000 individuals OR less than 2,000 acres. S1.1 = very threatened. S1.2 = threatened. S1.3 = no current threats known. **S2** = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres. S2.1 = very threatened. S2.2 = threatened. S2.3 = no current threats known. **S3** = 21-100 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres. S3.1 = very threatened. S3.2 = threatened. S3.3 = no current threats known. **S4** = Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat. **NO THREAT RANK. S5** = Demonstrably secure to ineradicable in California. **NO THREAT RANK. SH** = All California sites are historical (not observed in at least 20 years, but suitable habitat still exists). **SX** = All California sites are extirpated.

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