

The elevation range is from 5200' to 6230'. The lowest, and westernmost, point, is in Section 36, just north of Road 21. The highest, and easternmost, point is in Section 21, about one mile northwest of Paulina Lake.

There are no known TES plant sites within the project boundary, nor is there high-probability habitat for TES plant species present. There is a low probability that the green-tinged paintbrush (*Castilleja chlorotica*) may occur, and a very low probability that pumice grape fern (*Botrychium pumicola*) may occur within the project.

Plant surveys were conducted in on July 26 and 27, 2010, at twelve proposed drilling sites. No TES plants were found.

No habitat for Threatened, Endangered, or Sensitive plant species exists within the project area.

Field Reconnaissance

A field survey was conducted for this project in July, 2010, at each of the twelve proposed drilling sites, covering four acres at each one. No TES plant species were found.

The field survey forms are on file at the Bend/Ft. Rock Ranger District.

Project Effects and Finding

NO ACTION

Direct, Indirect, and Cumulative Effects: None have been identified, because no activity would occur.

PROPOSED ACTION

Direct, Indirect, and Cumulative Effects: None have been identified, because the project area does not contain PETS plant species or high-probability PETS plant habitats.

Finding:

The proposed action will have no impact on Proposed, Endangered, Threatened, or Sensitive plant species.

PREPARED BY Kathleen A. Cooper
Kathleen A. Cooper, Botanist

DATE August 9, 2010

Scientific Name and Code	Common Name	DES	OCH & CRNG	Habitat
<i>Botrychium ascendens</i>	trianglelobe moonwort		D	Partially shaded or open settings, primarily in sedge/forb communities associated with seeps, drainages and edges of wet meadows. Engelmann spruce and stands of grand fir, Douglas fir and lodgepole pine.
<i>Botrychium crenulatum</i>	scalloped moonwort		D	Partially shaded or open settings, primarily in sedge/forb communities associated with seeps, drainages and edges of wet meadows. Engelmann spruce and stands of grand fir, Douglas fir and lodgepole pine.
<i>Botrychium minganense</i>	Mingan moonwort		D	Partially shaded or open settings, primarily in sedge/forb communities associated with seeps, drainages and edges of wet meadows. Engelmann spruce and stands of grand fir, Douglas fir and lodgepole pine.
<i>Botrychium montanum</i>	mountain moonwort		D	Partially shaded or open settings, primarily in sedge/forb communities associated with seeps, drainages and edges of wet meadows. Engelmann spruce and stands of grand fir, Douglas fir and lodgepole pine.
<i>Botrychium paradoxum</i>	peculiar moonwort		D	Partially shaded or open settings, primarily in sedge/forb communities associated with seeps, drainages and edges of wet meadows. Engelmann spruce and stands of grand fir, Douglas fir and lodgepole pine.
<i>Botrychium pumicola</i>	pumice grape-fern	D		Alpine and subalpine ridges, slopes and meadows. Montane LP forest openings, open forest in basins containing frost pockets or pumice flats.
<i>Calamagrostis breweri</i>	Brewer's reedgrass	S		Alpine to subalpine habitats in meadows, open slopes, streambanks, and lake margins.
<i>Calochortus longebarbatus</i> var. <i>peckii</i>	Peck's mariposa lily		D	Vernally moist, low gradient draws and streambeds, and broad meadow basins where it is situated between the wettest parts of the meadow and the forested edge. Elevation = 4,300 – 5,200 feet.
<i>Camissonia pygmaea</i>	dwarf suncap		S	Sagebrush habitats.
<i>Carex abrupta</i>	abrupt-beaked sedge	S	S	Ponderosa forests, alpine fell fields, meadows, roadsides, and open slopes, usually in dry soil. From 1,400m to high elevations.
<i>Carex capitata</i>	capitate sedge	D		Usually in open, wet places, but sometimes in drier sites at high elevations. Known from five sites on the Sisters, Bend, and Crescent districts of the Deschutes National Forest.
<i>Carex diandra</i>	lesser panicled sedge	S	S	Lesser panicled sedge. Swamps, sphagnum bogs, lake margins, and wet, often calcareous meadows at moderate elevations.

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<i>Carex lasiocarpa</i> <i>var. americana</i>	slender sedge	D	S	Swamps and wet meadows at mid elevations. Found on the Deschutes National Forest along the Deschutes River, south of Bend.
<i>Carex livida</i>	livid sedge	S		Occurs in all forest types in peatlands including fens and bogs; wet meadows with still or channelled water.
<i>Carex retrorsa</i>	retorse sedge	S	S	Wet meadows, bogs, swamps, and edges of streams, lakes, and rivers. Foothills and lowlands. ORNHIC data elevations range from 10' - 3,000'.
<i>Carex vernacula</i>	native sedge	S		Moist or wet places at high elevations, especially at the edges of melting snowfields and in meltwater streams. ORNHIC data elevations range from 7760' - 9110'.
<i>Castilleja chlorotica</i>	green-tinged paintbrush	D		Ponderosa pine, lodgepole pine, and mixed conifer forest openings.
<i>Cheilanthes feei</i>	Fee's lip-fern	S	S	Located in crevices on cliffs. Known from NE Oregon. It has not been found on the Deschutes National Forest.
<i>Collomia mazama</i>	Mt. Mazama collomia	S		Meadows (dry to wet, level to sloping); stream banks and bars; lakeshores and vernal pool margins; forest edges and openings; alpine slopes.
<i>Cyperus acuminatus</i>	short-pointed cyperus	D		On the Deschutes NF, located on damp mineral soil of a broad, low-gradient shore of reservoir, in a community just below the <i>Spiraea</i> community. Sites on Crane Prairie Reservoir, Davis Lake.
<i>Cyperus lupulinus</i> ssp. <i>lupulinus</i>	A cyperus	S	S	Upper shorelines. Known from NE Oregon.
<i>Elatine brachysperma</i>	short-seeded waterwort	S	S	In California, 164 - 1640 ft elev. Hitch. and Cron. says Cent. OR. Known sites in Grant, Lake, Malheur, Union, Wallowa Counties. In addition, Lucile Housley (BLM) reported (2004) Harney, Malheur Cos. One site says heavy horse, cattle use.
<i>Eleocharis bolanderi</i>	Bolander's spikerush		S	Alkaline w/ greasewood. Harney, Malheur, Union, Baker, Lake Cos.
<i>Eriogonum cusickii</i>	Cusick's buckwheat		S	Dry open; 4000 - 5300 ft elev Lake and Harney Cos. Not in Central OR (Halvorson 2008).

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<i>Eucephalus gormanii</i> (formerly <i>Aster gormanii</i>)	Gorman's aster	S		Alpine or subalpine mixed conifer, open to partially closed canopy. Rocky ridges, outcrops, or rocky slopes.
<i>Gentiana newberryi</i> var. <i>newberryi</i>	alpine gentian	D		Alpine-subalpine mixed conifer openings. <i>Deschampsia cespitosa</i> meadows. Montane wet to dry meadows, sometimes adjacent to springs, streams, or lakes.
<i>Heliotropium curassavicum</i>	salt heliotrope	S	S	Alkaline w/ greasewood. Harney, Malheur, Union, Baker, Lake Cos.
<i>Lipocarpa aristulata</i>	aristulate lipocarpa	S	S	Documented in Washington with <i>Rorippa columbiae</i> and <i>Rotala ramosior</i> . Wallowa and Malheur Cos.
<i>Lobelia dortmanna</i>	Dortmann's cardinalflower	D		In water of lake, pond, slow river or stream, or wet meadow. Only one known location in Oregon on Deschutes National Forest.
<i>Lomatium ochocense</i>	Ochoco lomatium		D	Basaltic scablands on shallow basalt lithosoic soils. Restricted to terrain where there is exposed, fractured bedrock. Local endemic discovered in 1994. Known from 5 sites on south flank of Ochoco Mountains in Crook County.
<i>Lycopodiella inundata</i>	inundated clubmoss	D		Deflation areas in coastal back-dunes; montane bogs, including Sphagnum bogs; less often, wet meadows.
<i>Lycopodium complanatum</i>	ground cedar	S		Edges of wet meadows; dry, forested midslope with 25% canopy cover.
<i>Mimulus evanescens</i>	disappearing monkeyflower		S	Apparently associated with "drawdown" environments along lake; reservoir shores and banks/terraces of larger rivers. Historic site on Grizzly Mountain in Crook County, but no known extant sites in central Oregon.
<i>Muhlenbergia minutissima</i>	annual dropseed	S	S	Weathered lava soils in riparian; only ORNHIC site in Oregon is Jordan Crater, Malheur Co.
<i>Ophioglossum pusillum</i>	northern adderstongue	S		Dune deflation plains; marsh edges; vernal ponds and stream terraces in moist meadows.
<i>Penstemon peckii</i>	Peck's penstemon	D	D	Ponderosa pine forest openings, pine/mixed conifer openings; recovering fluvial surfaces (streambanks, overflow channels, inactive floodplains); seeps, rills, springs, vernal pools; draws, ditches, skid roads; dry or intermittant stream channels; moist-wet meadows.

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<i>Pilularia americana</i>	American pillwort	S		Alkali and other shallow vernal pools; not recently used stock ponds; reservoir shores.
<i>Potamogeton diversifolius</i>	Rafinesque's pondweed	S	S	Lakes, ponds, including created habitat. Klamath, Harney and Lake Cos.
<i>Rorippa columbiae</i>	Columbia yellowcress	D	S	Wet to vernal moist sites; meadows, fields, playas, lakeshores, intermittent stream beds, banks of perennial streams, along irrigation ditches, river bars and deltas.
<i>Rotala ramosior</i>	lowland toothcup	S	S	In Oregon, low elevation (<2300 ft) below high water, including created habitat in wet, swampy places, lakes and pond margins, and free-flowing river reaches. Benton, Columbia, Marion, Hood River., Harney, Multnomah and Linn Cos.
<i>Salix wolfii</i>	wolf's willow		S	Riparian and wet meadows. At Fish Lake, Blitzen R., Wallowa Lk., Eagle Cap Wilderness. Harney and Wallowa Cos.
<i>Scheuchzeria palustris ssp. americana</i>	rannoch-rush	D		Open canopied bogs, fens, and other wetlands where often in shallow water.
<i>Schoenoplectus subterminalis</i> (formerly <i>Scirpus subterminalis</i>)	swaying bulrush	D		Generally submerged to emergent in quiet water 2-8 decimeters deep, in peatlands, sedge fens, creeks, ditches, ponds and lakes.
<i>Talinum spinescens</i>	spinescent fameflower		S	Scablands. Jefferson and Wasco Cos. CRNG has habitat.
<i>Thelypodium euosmum</i>	world thelypody		S	Moist, seepy areas on ashy-clay soils in Grant and Wheeler Counties. Sites include steep drainages along the John Day River.
<i>Utricularia minor</i>	lesser bladderwort	D	S	Occurs underwater in lowland and montane fens, sedge meadows, low-nutrient lakes and peatbog pools. Deschutes, Clackamas, Lane, Klamath, Jackson, Coos, Douglas, Harney, Marion and Linn Cos. There are documented populations on the Bend and Sisters districts of the Deschutes National Forest.
Bryophytes				

Scientific Name and Code	Common Name	DES	OCH & CRNG	Habitat
<i>Balsamia platyspora</i>	Fungus	D		
<i>Brauniellula albipes</i>	Fungus	D		
<i>Choiromyces alveolatus</i>	Fungus	D		
<i>Cortinarius wiebeae</i>	Fungus	D		
<i>Elaphomyces anthracinus</i>	Fungus	D		
<i>Elaphomyces subviscidus</i>	Fungus	D		
<i>Fevansia aurantiaca</i>	Fungus	D		
<i>Hydnotrya inordinata</i>	Fungus	D		
<i>Plectania milleri</i>	Fungus	S		
<i>Ramaria coulterae</i>	Fungus	D		
<i>Ramaria maculatipes</i>	Fungus	S		
<i>Rhizopogon atroviolaceus</i>	Fungus	D		
<i>Rhizopogon flavofibrillosus</i>	Fungus	D		
<i>Rhizopogon semireticulatus</i>	Fungus	D		
<i>Rhizopogon semitectus</i>	Fungus	D		
<i>Rhizopogon subpurpurascens</i>	Fungus	D		