

PRIORITY HABITATS

Terrestrial Habitats

Priority Habitat

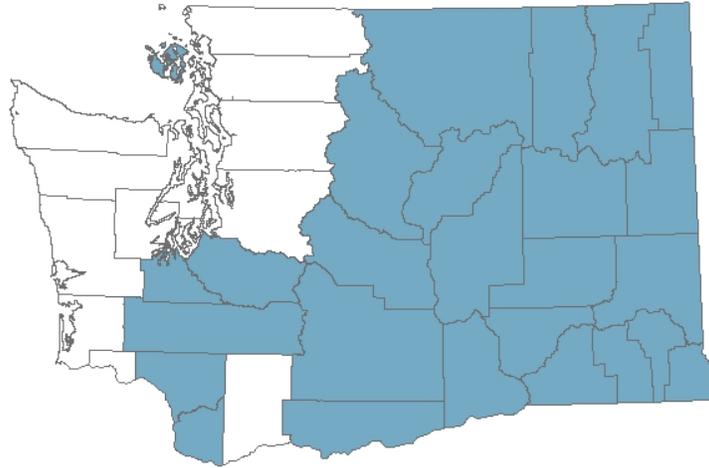
Aspen Stands
Biodiversity Areas & Corridors
Eastside Steppe
Herbaceous Balds
Inland Dunes
Juniper Savannah
Old Growth - Mature Forest
Oregon White Oak Woodlands
Riparian
Shrub-steppe
Westside Prairie

Aspen Stands

Priority Area Description

Pure or mixed stands of aspen greater than 0.4 ha (1 acre)

Washington Distribution by County*



Biodiversity Areas and Corridors *

Priority Area Description

Biodiversity areas and corridors are areas of habitat that are relatively important to various species of native fish and wildlife.

1. Biodiversity areas

- a. The area has been identified as biologically diverse through a scientifically based assessment conducted over a landscape scale (e.g., ecoregion, county- or city-wide, watershed, etc.). Examples include but are not limited to WDFW Local Habitat Assessments, Pierce County Biodiversity Network, and Spokane County's Wildlife Corridors and Landscape Linkages.

OR

- b. The area is within a city or an urban growth area (UGA) and contains habitat that is valuable to fish or wildlife and is mostly comprised of native vegetation. Relative to other vegetated areas in the same city or UGA, the mapped area is vertically diverse (e.g., multiple canopy layers, snags, or downed wood), horizontally diverse (e.g., contains a mosaic of native habitats), or supports a diverse community of species as identified by a qualified professional who has a degree in biology or closely related field and professional experience related to the habitats or species occurring in the biodiversity area. These areas may have more limited wildlife functions than other priority habitat areas due to the general nature and constraints of these sites in that they are often isolated or surrounded by highly urbanized lands.

2. Corridors

Corridors are areas of relatively undisturbed and unbroken tracts of vegetation that connect fish and wildlife habitat conservation areas, priority habitats, areas identified as biologically diverse (see attribute 1a), or valuable habitats within a city or UGA (see attribute 1b).

Washington Distribution by County



Online information and guidelines for management of **Biodiversity Areas and Corridors**:

[Landscape Planning for Washington's Wildlife: Managing for Biodiversity in Developing Areas](#)

* All areas in the PHS Database mapped Urban Natural Open Space (UNOS) and Rural Natural Open Space (RNOS) will be reevaluated. This reevaluation will occur during upcoming PHS mapping sessions. Some areas mapped UNOS and RNOS will be reassigned to Biodiversity Areas and Corridors or to other existing priority habitat types. Areas mapped UNOS and RNOS that do not fit the priority area description of an existing priority habitat type will be removed from the PHS database by no later than August 2010.

Eastside Steppe

Priority Area Description

Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch Wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho Fescue (*Festuca idahoensis*), Sandberg Bluegrass (*Poa secunda*), Rough Fescue (*F. campestris*), or needlegrass (*Achnatherum* spp.). Steppe plant communities in drier sites typically have a sparse cover of grasses and forbs. Meadowlike communities characterized by a very dense cover of native perennial forbs and bunchgrasses are supported in areas with greater precipitation or on soils with higher moisture-holding capacity. Shrubs are either absent or scattered in the overstory of steppe habitat (see [Shrub-steppe](#) for sites with more prominent shrub cover). When sparse shrub cover is present, sagebrush (*Artemisia* spp.) and rabbitbrush (*Chrysothamnus* spp.) are commonly found in drier steppe, while Bitterbrush (*Purshia tridentata*), Common Snowberry (*Symphoricarpos albus*) and rose (*Rosa* spp.) are often present in more meadowlike expressions. Sites with less disturbed soils often have a layer of algae, mosses, or lichens. At some more disturbed sites, non-native species such as Cheatgrass (*Bromus tectorum*), Spotted Knapweed (*Centaurea biebersteinii*), Yellow Star-thistle (*Centaurea solstitialis*), or Kentucky Bluegrass (*Poa pratensis*) may be co-dominant species.

Washington Distribution by County



Herbaceous Balds

Priority Area Description

Occurs as variable-sized patches of grass and forb vegetation located on shallow soils over bedrock that commonly is fringed by forest or woodland. Typically consists of low-growing vegetation adapted for survival on shallow soils amid seasonally dry conditions, and is often on steep slopes. Dominant flora includes herbaceous vegetation, dwarf shrubs, mosses, and lichens. Rock outcrops, boulders, and scattered trees are often present, especially Douglas-fir, Pacific madrone, and Oregon white oak. Balds occur within mid-montane to lowland forest zones. On slopes near saltwater shorelines in the northern Puget Trough, herbaceous balds and herbaceous bluffs can sometimes be difficult to differentiate. Balds typically are smaller than 5 ha (12 ac), although some can be up to about 100 ha (\cong 250 ac).

Washington Distribution by County



Inland Dunes

Priority Area Description

This system occurs in Washington's arid lands where sandy sediments were deposited during the Missoula floods. Reworking of these deposits by wind produced widespread sand fields. Dunes were also formed by sand that was transported and deposited by the Columbia and Snake rivers. These original sand deposits and dune systems can be found on geology maps, county soil surveys, and USGS 7.5' topos.

Dune formation requires well-sorted fine to medium grained sand and wind transport. Sand accumulates when wind passes from a rough to a smooth surface (e.g., sand patch) or when wind flows over a depression or encounters a permeable obstacle (e.g., shrub). Dunes accumulate sand during strong winds and lose sand during gentle winds until they reach a critical size. Once this size is attained, sand is trapped under all wind conditions due to factors that result in sand depositing at the leeward margin rather than being carried off the dune.

Dunes occur at three different functional stages: 1) open/migrating, 2) anchored, and 3) stabilized. Open/migrating dunes have large areas of open active surface sand and migrate with the effective wind direction. Unstable slip faces (lee slopes) often form and vegetation cover is minimal. Anchored dunes have active surface sands, but movement/migration as a whole is inhibited by vegetation. This stage often occurs on the trailing arms of migrating parabolic dunes and on vegetated sand sheets. Stabilized dunes lack active sands as a result of being sealed off by vegetation, cryptobiotic crusts, or volcanic ash.

Sand dunes support vegetation if wind stress is not too great. Although dune vegetation tends to be variable, dunes often consist of plants that are also common to shrub-steppe, such as antelope bitterbrush, rabbitbrush and snow buckwheat. However, some plants are more restricted to sand dune, such as, Indian Ricegrass (*Achnatherum hymenoides*), Lemon Scurfpea (*Psoralidium lanceolatum*), Veiny Dock (*Rumex venosus*) and Gray Cryptantha (*Cryptantha leucophaea*). The vegetation cover is related to annual rainfall totals and evapotranspiration rates. The mobility of sand dunes is related to the power of the wind, while a dune's mobility becomes inhibited as vegetation cover increases. Long periods of increased precipitation and persistent presence of vegetation may lead to a sand surface covered by litter and/or cryptobiotic crust. These same factors also can initiate soil formation, and can lead to partial or complete dune stabilization. Periods of drought will result in conditions unfavorable to vegetation and can reinitiate the mobility of sands.

Other factors can have major influences on dune vegetation (e.g., livestock grazing, off-road vehicle use). Although most dunes have endured some disturbance, Inland Dunes include any area that fits the above-mentioned definition with the exception of dunes where the key physical processes have been lost when cheatgrass becomes so dominant that it forms a "thatch," sealing off the dune permanently.

Washington Distribution by County



Online information and guidelines for management of **Inland Dunes**:

[Conservation Strategy for Washington State Inland Sand Dunes](#)

Juniper Savannah

Priority Area Description

All juniper woodlands.

Washington Distribution by County



Old-growth/Mature Forest

Priority Area Description

Old-growth west of Cascade crest: Stands ≥ 3 ha (7.5 acres) having at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) that are > 81 cm (32 in) dbh or > 200 years of age; and > 10 snags/ha (4 snags/acre) over 51 cm (20 in) diameter and 4.6 m (15 ft) tall; with numerous downed logs, including 10 logs/ha (4 logs/acre) that are > 61 cm (24 in) diameter and > 15 m (50 ft) long. High elevation stands (> 762 m [2500ft]) may have lesser dbh [> 76 cm (30 in)], fewer snags [> 0.6 /ha (1.5/acre)], and fewer large downed logs [0.8 logs/ha (2 logs/acre) that are > 61 cm (24 in) diameter and > 15 m (50 ft) long].

Stands smaller than 3 ha (7.5 acres) in rural and urban areas can still retain significant wildlife value and therefore should be evaluated as a potential biodiversity area (see [Biodiversity Areas and Corridors](#)).

Old-growth east of Cascade crest: Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 25 trees/ha (10 trees/acre) that are > 53 cm (21 in) dbh, and 2.5-7.5 snags/ha (1 - 3 snags/acre) that are > 30 -35 cm (12-14 in) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions.

Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west and 80 - 160 years old east of the Cascade crest.

Washington Distribution by County



Oregon White Oak Woodlands

Priority Area Description

Stands of oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%; or where total canopy coverage of the stand is $\leq 25\%$, but oak accounts for at least 50% of the canopy coverage. The latter is often referred to as oak savanna. In non-urbanized areas west of the Cascades, priority oak habitat consists of stands ≥ 0.4 ha (1.0 ac) in size. East of the Cascades, priority oak habitat consists of stands > 2 ha (5 ac) in size. In urban or urbanizing areas, single oaks or stands < 0.4 ha (1 ac) may also be considered a priority when found to be particularly valuable to fish and wildlife. Oak woodlands in western Washington may contain understory plants indicative of Prairie (see [Westside Prairie](#)).

Washington Distribution by County



Online information and guidelines for management of **Oregon White Oak Woodlands**:

[Management Recommendations for Washington's Priority Habitats: Oregon White Oak Woodlands](#)

[U.S. Forest Service Pacific Northwest Oak Community Brochure](#)

[The Nature Conservancy's Conservation Resources for Prairie and Oak Woodland Landowners](#)

[Wildlife Conservation in the Willamette Valley's Remnant Prairie and Oak Habitats](#)

[A Landowner's Guide to Restoring and Managing Oregon White Oak Habitats](#)

Riparian*

Priority Area Description

The area adjacent to flowing or standing freshwater aquatic systems. Riparian habitat encompasses the area beginning at the ordinary high water mark and extends to that portion of the terrestrial landscape that is influenced by, or that directly influences, the aquatic ecosystem. In riparian systems, the vegetation, water tables, soils, microclimate, and wildlife inhabitants of terrestrial ecosystems are often influenced by perennial or intermittent water. Simultaneously, adjacent vegetation, nutrient and sediment loading, terrestrial wildlife, as well as organic and inorganic debris influence the biological and physical properties of the aquatic ecosystem. Riparian habitat includes the entire extent of the floodplain and riparian areas of wetlands that are directly connected to stream courses or other freshwater.

Washington Distribution by County



Online information and guidelines for management of **Riparian**:

[Management Recommendations for Washington's Priority Habitats: Riparian](#)

[Habitat Work Schedule](#) (site assists in habitat restoration)

[SalmonScape](#) (helps identify and prioritize restoration and protection activities)

[Aquatic Habitat Guidelines](#)

* Washington Department of Fish and Wildlife does not map locations of Riparian in the [Priority Habitat and Species database](#). Riparian data should be obtained through other sources (e.g., DNR's stream data).

Shrub-steppe

Priority Area Description

A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see [Eastside Steppe](#) for sites with little or no shrub cover). Although Big Sagebrush (*Artemisia tridentata*) is the most widespread shrub-steppe shrub, other dominant (or co-dominant) shrubs include Antelope Bitterbrush (*Purshia tridentata*), Threetip Sagebrush (*A. tripartita*), Scabland Sagebrush (*A. rigida*), and Dwarf Sagebrush (*A. arbuscula*). Dominant bunchgrasses include (but are not limited to) Idaho fescue (*Festuca idahoensis*), Bluebunch Wheatgrass (*Pseudoroegneria spicata*), Sandberg Bluegrass (*Poa secunda*), Thurber's Needlegrass (*Achnatherum thurberianum*), and Needle-and-Thread (*Hesperostipa comata*). In areas with greater precipitation or on soils with higher moisture-holding capacity, shrub-steppe can also support a dense layer of forbs (i.e., broadleaf herbaceous flora). Shrub-steppe contains various habitat features, including diverse topography, riparian areas, and canyons. Another important component is habitat quality (i.e., degree to which a tract resembles a site potential natural community), which may be influenced by soil condition and erosion; and the distribution, coverage, and vigor of native shrubs, forbs, and grasses. Sites with less disturbed soils often have a layer of algae, mosses, or lichens. At some more disturbed sites, non-natives such as Cheatgrass (*Bromus tectorum*) or Crested Wheatgrass (*Agropyron cristatum*) may be co-dominant species.

Washington Distribution by County



Online information and guidelines for management of **Shrub-steppe**:

[Management Recommendations for Washington's Priority Habitats: Management of Shrub-steppe in Developing Landscapes](#)

[Shrub-Steppe and Grassland Restoration Manual for the Columbia River Basin](#)

Westside Prairie

Priority Area Description

Herbaceous, non-forested ($\leq 60\%$ forest canopy cover) plant communities that can either take the form of a dry prairie where soils are well-drained or a wet prairie.

Dry Prairie: Located in areas containing prairie vegetation. Although dry prairie can occur on other soils, typically it occurs on any one of the soils known to be associated with prairie (Table 1). Locations occurring on mapped prairie soils where the surface is impervious is not considered dry prairie. Certain vegetation characteristics typify dry prairie. These include the occurrence of diagnostic grasses, sedges, and forbs. Mosses, lichens, and bare ground may also be found in the spaces between grass and forb cover. In parts of Puget Trough, prairie can sometimes be recognized by mounded topography.

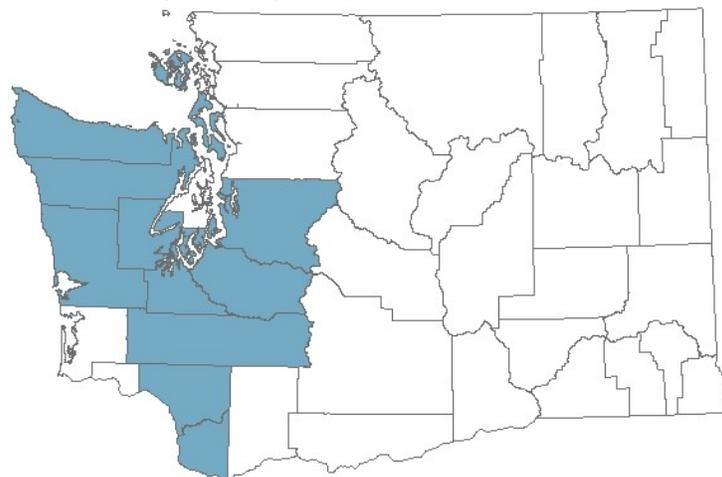
The presence of certain diagnostic plants is required to establish an occurrence of dry prairie. In particular, three of the diagnostic grasses, sedges, or forbs (Table 2) are required.

Shrubs such as Black Hawthorn (*Crataegus douglassii*), Kinnikinnick (*Arctostaphylos uvaursi*), and Oval-leaf Viburnum (*Viburnum ellipticum*) can be found at low densities within prairie. Some Oregon White Oak (*Quercus garryana*) can also be present in native prairie (see Oregon White Oak Woodlands for areas with denser oak stands).

Native and nonnative invasive plants typically dominate most remaining prairie. Common invasives are Scot's Broom (*Cytisus scoparius*), Colonial Bentgrass (*Agrostis tenuis*), Common Velvetgrass (*Holcus lanatus*), Tall Oat-grass (*Arrhenatherum elatius*), and Kentucky Bluegrass (*Poa pratensis*). Other invasive grasses, forbs, and shrubs also can be present.

Wet Prairie: Located in areas containing prairie plants. Although wet prairie can occur on other soils, typically it occurs on any one of the soils known to be associated with prairie (see Table 1). Locations occurring on mapped prairie soils where the surface is impervious is not considered wet prairie. In the Lower Columbia - Willamette region of southwest Washington, wet prairie occurs on clay-rich soils that are saturated to the surface during the early part of the growing season, gradually drying out during the summer. Wet prairies in Puget Trough generally are found on glacial outwash soils that typically are limited to swales or low-gradient riparian areas. Three diagnostic grasses, sedges, or forbs from a combination of the wet prairie diagnostic species list (Table 3) and the dry prairie diagnostic species list (Table 2) are required to establish the presence of wet prairie.

Washington Distribution by County



Online information and guidelines for management of **Westside Prairie**:

[Prairie Landowner Guide for Western Washington](#)
[The Nature Conservancy's Conservation Resources for Prairie and Oak Woodland Landowners](#)
[Wildlife Conservation in the Willamette Valley's Remnant Prairie and Oak Habitats](#)

Table 1. Soils that prairie commonly occur upon*.

Soil		Southwest Washington		Coastal Region
Puget Sound Region				
Bozarth	Pilepoint	Bear Prairie	Nisqually	Bear Prairie
Carstairs	Pondilla	Cove	Powell	Carstairs
Coupeville	Prather	Doty	Prather	Quillayute
Coveland	San Juan	Galvin	Sara	Sequim
Ebys	Snakelum	Gee	Sauvie	Spanaway
Galvin	Spana	Hillsboro	Sifton	Wellman
Haro	Spanaway	Hockinson	Spanaway	
Hiddenridge	Townsend	Lauren	Washougal	
Newberg		Mossyrock	Yacolt	
Nisqually		Minniece		

* Working soil list is based on 2008 prairie soil analysis conducted by the Olympia, Washington office of the Natural Resource Conservation Service. Prairie sites with existing native prairie vegetation can also be found on soils that are not listed here.

Table 2. Common and rare diagnostic dry prairie plants.

Common Name (<i>Scientific Name</i>)	Common Name (<i>Scientific Name</i>)	Common Name (<i>Scientific Name</i>)
Spreading Dogbane (<i>Apocynum androsaemifolium</i>)	Chocolate Lily (<i>Fritillaria affinis</i> v. <i>affinis</i>)	Northwestern Saxifrage (<i>Saxifraga integrifolia</i>)
Deltoid Balsamroot (<i>Balsamorhiza deltoidea</i>)	Hound's-tongue Hawkweed (<i>Hieracium cynoglossoides</i>)	Scouler's Catchfly (<i>Silene scouleri</i>)
Harvest Firecracker-flower (<i>Brodiaea coronaria</i> ssp. <i>coronaria</i>)	Prairie Junegrass (<i>Koeleria macrantha</i>)	Idaho Blue-eyed-grass (<i>Sisyrinchium idahoense</i> v. <i>idahoense</i>)
Common Camas (<i>Camassia quamash</i>)	Foothills Desert-parsely (<i>Lomatium utriculatum</i>)	Curtus's Aster (<i>Sericocarpus rigidus</i>)
Long-stolon Sedge (<i>Carex inops</i> ssp. <i>inops</i>)	Bicolored Desert-gold (<i>Linanthus bicolor</i>)	Missouri Goldenrod (<i>Solidago missouriensis</i> v. <i>tolmieana</i>)
Foot-hill Sedge (<i>Carex tumulicola</i>)	Ternate Desert-parsley (<i>Lomatium triternatum</i>)	Sticky Goldenrod (<i>Solidago simplex</i> ssp. <i>simplex</i>)
Golden Paintbrush * (<i>Castilleja levisecta</i>)	Sickle-keel Lupine (<i>Lupinus albicaulis</i>)	Springbank Clover (<i>Trifolium willdenowii</i>)
California Oatgrass (<i>Danthonia californica</i>)	Prairie Lupine (<i>Lupinus lepidus</i>)	Howell's Triteleia (<i>Triteleia grandiflora</i> v. <i>howellii</i>)
Puget Sound Larkspur (<i>Delphinium menziesii</i>)	Cut-leaf Silverpuffs (<i>Microseris laciniata</i>)	White Triteleia (<i>Triteleia hyacinthina</i>)
Upland Larkspur (<i>Delphinium nuttallii</i>)	Douglas Blue-eyed-grass (<i>Olsynium douglasii</i>)	Sand Violet (<i>Viola adunca</i>)
Henderson's Shootingstar (<i>Dodecatheon hendersonii</i>)	Shortspur Seablush (<i>Plectritis congesta</i>)	Upland Yellow Violet (<i>Viola praemorsa</i> v. <i>nuttallii</i>)
Aspen Fleabane (<i>Erigeron speciosus</i>)	Fanleaf Cinquefoil (<i>Potentilla gracillis</i>)	Meadow Deathcamas (<i>Zigadenus venenosus</i> v. <i>venenosus</i>)
Common Woolly-sunflower (<i>Eriophyllum lanatum</i> v. <i>leucophyllum</i>)	Western Buttercup (<i>Ranunculus occidentalis</i> v. <i>occidentalis</i>)	
Roemer's Fescue (<i>Festuca idahoensis</i> v. <i>roemerii</i>)	Sierra Sanicle (<i>Sanicula graveolens</i>)	

* Federally Threatened species

Table 3. Diagnostic wet prairie plants.

Common Name (<i>Scientific Name</i>)	Common Name (<i>Scientific Name</i>)	Common Name (<i>Scientific Name</i>)
Dense Sedge * (<i>Carex densa</i>)	Bradshaw's Lomatium * (<i>Lomatium bradshawii</i>)	Plantain-leaf Buttercup (<i>Ranunculus alismifolius</i>)
Green-sheath Sedge (<i>Carex feta</i>)	Bog Bird's-foot-trefoil (<i>Lotus pinnatus</i>)	Bird's-foot Buttercup (<i>Ranunculus orthorhynchus</i>)
Foot-hill Sedge (<i>Carex tumulicola</i>)	Large-leaf Lupine (<i>Lupinus polyphyllus</i>)	Northwestern Saxifrage (<i>Saxifraga integrifolia</i>)
One-sided Sedge (<i>Carex unilateralis</i>)	Wyeth's Lupine (<i>Lupinus wyethii</i>)	Bog Saxifrage (<i>Saxifraga oregana</i>)
Giant Camas (<i>Camassia leichtlinii</i>)	Gairdner's Yampah (<i>Perideridia gairdneri</i>)	Hairy-stemmed Checkermallow * (<i>Sidalcea hirtipes</i>)
Common Camas (<i>Camassia quamash</i>)	Oregon yampah * (<i>Perideridia oregana</i>)	Rose Checkermallow * (<i>Sidalcea malviflora</i> v. <i>virgata</i>)
Tufted Hairgrass (<i>Deschampsia cespitosa</i>)	Fragrant Popcorn Flower (<i>Plagiobothrys figuratus</i>)	Idaho Blue-eyed-grass (<i>Sisyrinchium idahoense</i> v. <i>idahoense</i>)
Annual Hairgrass (<i>Deschampsia danthonioides</i>)	Great Polemonium * (<i>Polemonium carneum</i>)	California False Hellebore (<i>Veratrum californicum</i>)
Cascade Downingia (<i>Downingia yina</i>)	American Bistort (<i>Polygonum bistortoides</i>)	American False Hellebore (<i>Veratrum viride</i>)
Oregon Coyote Thistle * (<i>Eryngium petiolatum</i>)	Fanleaf Cinquefoil (<i>Potentilla gracilis</i>)	

* Rare wet prairie species