

Rare Plant Inventory and
Community Vegetation Survey
Sun Lakes State Park



Mimulus suksdorfii, Suksdorf's monkeyflower, a sensitive species in Washington, occurring at Sun Lakes State Park

Conducted for
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Rare Plant Inventory and Community Vegetation Survey Sun Lakes State Park



Deep Lake in Sun Lakes State Park, showing the dry, rocky terrain characteristic of the area

Through the spring, summer and fall of 2004 rare plant inventories and community vegetation surveys and mapping were conducted at Sun Lakes State Park by a team of two professional botanists and two GIS technicians. This park lies in the area of the Columbia plateau that experienced repeated, high-energy flooding at the end of the last ice age (approximately 12,000 years ago), and scoured basalt cliffs and talus slopes dominate the landscape. Because the area is generally poorly suited to agricultural pursuits, it has retained the bulk of its native vegetation, while a large percentage of nearby plant communities have been transformed to cultivated fields or pasture. With less than 12” of precipitation falling in an average year, arid shrub-steppe vegetation dominates the park, but the presence of numerous lakes, springs and water channels creates a rich and varied mosaic of plant and animal life.

In conducting the rare plant inventories, all plant community types with the park were visited in at least two different months, beginning in April where appropriate, in order to optimize the opportunity to encounter plants at the peak of their blooming season. Any habitat that had a high probability of having rare plant species was surveyed. In addition, transects were run across the length of the park on the north and south basalt rims. All vascular plants encountered in the park were identified to species.

As a result of this coverage, a total of 408 vascular plant species were identified at Sun Lakes, more than 100 species more than have been listed for the park from previous botanical surveys. The park currently has eight vascular plant species listed as ‘sensitive’ in the state by the Washington Natural Heritage Program (WNHP), and an additional five species are on the state ‘watch’ list.

The community vegetation surveys were initiated by examining satellite and orthophoto images and delineating the boundaries of vegetation types where these were evident. These polygons were then visited to ground-truth the boundaries and to assess the plant associations and dominant vegetation in each polygon.

Rare Plant Inventories

The Washington Natural Heritage Program, an office of the state Department of Natural Resources, tracks plant species and populations in the state, and participates in a nationwide classification system for species that are rare, which is shown below:

E: Endangered; in danger of becoming extinct or extirpated from Washington.

T: Threatened; likely to become Endangered in Washington.

S1: Critically imperiled in the state (5 or fewer occurrences)

S2: Vulnerable to extirpation in the state (6 to 20 occurrences)

S3: Rare or uncommon in the state (21 to 100 occurrences)

R1: Review group 1; of potential concern but needs more field work to assign rank.

R2: Review group 2; of potential concern but with unresolved taxonomic questions.

W: Watch. Species that are more abundant and/or less threatened than previously thought, but information is still being gathered.

The first record of plant collection in what is now Sun Lakes State Park was made by the botanist J.W. Thompson in the 1930s. He identified *Oenothera (Camissonia) pygmaea* (dwarf evening primrose) and *Hackelia hispida* var. *disjuncta* (sagebrush stickseed), both of which are currently listed as sensitive plants in Washington. He also encountered *Teucrium canadense* ssp. *visidum* (woodsage) and *Epipactis gigantea* (giant helleborine), which were formerly listed as sensitive in the state, but have recently been down-listed to 'watch' species.



Epipactis gigantea, giant helleborine



Astragalus agrestis, purple milkvetch

In 1962 R.W. Kiser compiled a list of 53 species known in the park. In 1980, Dorothy and Ralph Nass enlarged this list considerably, and located several new rare species, including *Polygonum austinae* (Austin's knotweed) and *Eleocharis rostellata* (beaked spikerush). In 1984 Nancy Wiedman inventoried the rare plant species in the area of Delaney Springs and wrote a report on her findings which is on file at park headquarters. No new listed species were encountered in the course of her work. In 1998 Katy Beck and Florence Caplow conducted a rare plant survey of the wetlands in the park and of the areas receiving high levels of visitor use, compiling a list of 216 species. They found two rare plant species previously unreported in the park, *Cryptantha gracilis* (slender cryptantha) and *Cryptantha scoparia* (desert cryptantha).

Scientific names used in this report are those found in the enduring reference for the state, *Vascular Plants of the Pacific Northwest*, by Hitchcock, et al. Because those volumes are 40 years old, many of the scientific names are out of date, but it remains the only common reference for area botanists. New names that might be important for clarity are shown in parentheses, notably *Oenothera (Camissonia) pygmaea*, which in Hitchcock is given in the genus *Oenothera*, while it is now more commonly placed in the genus *Camissonia* (including on WNHP lists).

Plant species with a WNHP rank that have been found in the park during botanical surveys are shown in the table below. This is followed by a second table in which the current status in the park of each listed species is reviewed.

Scientific Name	Common Name	Family Name	State Rank
1. <i>Astragalus agrestis</i>	Purple milkvetch	Leguminosae	W
2. <i>Carex hystricina</i>	Porcupine sedge	Cyperaceae	W
3. <i>Castilleja exilis</i>	Annual paintbrush	Scrophulariaceae	W
4. <i>Cryptantha gracilis</i>	Slender cryptantha	Boraginaceae	S2
5. <i>Cryptantha scoparia</i>	Desert cryptantha	Boraginaceae	S1
6. <i>Eleocharis rostellata</i>	Beaked Spikerush	Cyperaceae	S2
7. <i>Epipactis gigantea</i>	Giant helleborine	Orchidaceae	W
8. <i>Hackelia hispida</i> var. <i>disjuncta</i>	Sagebrush stickseed	Boraginaceae	S2
9. <i>Mimulus suksdorfii</i>	Suksdorf's monkeyflower	Scrophulariaceae	S2
10. <i>Oenothera</i> (<i>Camissonia</i>) <i>pygmaea</i>	Dwarf evening-primrose	Onagraceae	S3
11. <i>Pellaea glabella</i> var. <i>simplex</i>	Smooth cliff-brake	Polypodiaceae	W
12. <i>Phacelia tetramera</i>	Dwarf phacelia	Hydrophyllaceae	S1
13. <i>Polygonum austinae</i>	Austin's knotweed	Polygonaceae	S1
14. <i>Teucrium canadense</i> ssp. <i>viscidum</i>	Woodsage	Labiatae	W



Castilleja exilis,
annual paintbrush



Carex hystricina,
porcupine sedge

Rare Plants of Sun Lakes State Park

Scientific Name	Status
1. <i>Astragalus agrestis</i>	Watch List. First reported in the park in this inventory. Common and secure in swales on the north rim of the park.
2. <i>Carex hystricina</i>	Watch List. First reported in the park in this inventory. 5 individual clumps were counted on the south shore of Deep Lake. This species is not secure in the park with such a small population, but as an early seral pioneer of disturbed or unstable saturated wetland sites, <i>Carex hystricina</i> can be expected to appear and disappear over relatively short periods of time.
3. <i>Castilleja exilis</i>	Watch List. Healthy populations exist on the east edge of Perch Lake and along Spring Creek and at Meadow Lake. This is an annual species of alkaline wetlands. Annuals are generally less stable over time than perennials.
4. <i>Cryptantha gracilis</i>	S2. Not encountered during this inventory; 10 plants reported by Beck and Caplow in 1998, the first time this species had been identified in the state. They encountered it growing on scree slopes north of Dry Falls Lake. It is a Great Basin species and is vanishingly rare in Washington. We spent several hours searching for this plant in the known previous location and could not find it. It is diminutive annual; it may or may not have bloomed in the park in 2004.

5. <i>Cryptantha scoparia</i>	S1. Beck and Caplow found about 30 plants of this species in 1998, we found 8 individual plants at the same location in 2004, which is on the talus slopes north of Dry Falls Lake, below the visitor's center. A diminutive annual, it is certainly not a secure population with so few individuals.
6. <i>Eleocharis rostellata</i>	S2. Over 1000 stems of this species grow along the watercourse between Delaney Spring and Meadow Lake. This population is currently secure.
7. <i>Epipactis gigantea</i>	Watch List. This species grows along the trail just north of the Delaney Environmental Center buildings, and in the riparian vegetation at Meadow Lake, and in the riparian vegetation along the road near the Deep Lake parking lot. Over 1000 stems total. The population is currently secure.
8. <i>Hackelia hispida</i> var. <i>disjuncta</i>	S2. This species was first reported in the park in 1935, and last seen in the park in 1971. Beck and Caplow searched for it and could not find it; we searched as well, with no luck. In Washington it is known only from Moses and Grand Coulees. It is a perennial. It may not currently be present in the park.
9. <i>Mimulus suksdorfii</i>	S2. One of the two previously recorded populations of this species was re-found during this inventory. Beck and Caplow report "several hundred" plants, we found 25 individual plants. It is possible that the generally drier climate over the past few years is proving to be disadvantageous to this and other annuals.
10. <i>Oenothera</i> (<i>Camissonia</i>) <i>pygmaea</i>	S3. This species continues to persist in the site first reported in 1935, north of Dry Falls Lake, with 50 plants counted. The population is apparently stable at this time. A small second population was found during this project.
11. <i>Pellaea glabella</i> ssp. <i>simplex</i>	Watch List. First reported in the park in this inventory. This species is a limestone specialist, but we found it growing on steep, north-facing basalt cliffs at the east end of Deep Lake. The plants are inaccessible and the population, although small, is secure at this time.
12. <i>Phacelia tetramera</i>	S1. Beck and Caplow found a population of "several hundred plants" in 1998. We were unable to locate this population in several hours of searching the described site. This is an annual species and thus dependent upon reseeding itself every year, and like other annuals may be inhibited by the drying climatic trend.
13. <i>Polygonum austinae</i>	S1. This species was first reported on the top of Umatilla Rock by Nass in 1980, and revisited by Beck and Caplow in 1998. We regret to say we searched the known location for 6 person-hours and could not find a single specimen. This is an annual and therefore dependent on annual seeding and adequate spring moisture.
14. <i>Teucrium canadense</i> ssp. <i>viscidum</i>	Watch. Found in scattered clumps in the riparian area between Deep Lake and Meadow Lake. The population is secure at this time.

Discussion

The number of plant species in the park listed as sensitive has decreased from ten to eight since the 1998 survey by Beck and Caplow. Due to the fact that our understanding of the flora of the state changes over time, only five of today's listed species in the park were listed six years ago. Those species are *Eleocharis rostellata*, *Hackelia hispida* var. *disjuncta*, *Mimulus suksdorfii*, *Oenothera pygmaea*, and *Polygonum austinae*. *Epipactis gigantea* and *Teucrium canadense* ssp. *viscidum* have been downgraded since 1998 to the Watch list, as more populations of these species have been found around the state. Three rare species that occur in the park have been added to the sensitive list, largely due to Beck and Caplow finding them at Sun Lakes in 1998. These species are *Cryptantha gracilis*, *Cryptantha scoparia*, and *Phacelia tetramera*.



A vernal pond on the north rim of the park, May 2004



Another vernal pond, this one on the south rim of the park, May 2004

Of the fourteen plants of special taxonomic interest in the park (see table on preceding page), six species are wetland plants and eight are arid-land species. In addition, six species are annuals and eight are perennials. All of the species but two--*Astragalus agrestis* and *Pellaea glabella* ssp. *simplex*--are found only in the lower elevation portion of the park, on or near the valley floor.

There is no immediate human-caused threat evident to us to any of the listed plant species, be they wetland or dry, annual or perennial. Wetlands that are sympatric with lake access are heavily impacted by people utilizing those entry

points. While it is possible that some listed species formerly occurred in these locales, current known rare plant populations are generally well away from fishing activity. It is likely that far more damage was done to native vegetation and rare plants in the lowland areas of the park when these locations were grazed and/or cultivated. We did encounter wetland habitats in the valley that were completely overrun by non-native weed species (most extensively along the north and east edges of Rainbow Lake), presumably from past farming and grazing. While the Delaney Environmental Center is located adjacent to a wetland with a disproportionately high number of species of concern--and while some wetland habitat loss has occurred as a result of that center--there is little danger to the remaining wetlands in the area (Delaney Spring to Meadow Lake) from activities at the center.

58 of the 408 plant species currently known in the park, or 14%, are non-native, weedy species. It is



The east end of Deep Lake and the adjoining wetlands, basalt cliffs and sinkholes along Meadow Creek, October 2004



Cardaria draba, whitetop

not unusual or unexpected for there to be non-native species in natural landscapes, as most of the open areas in the west have been grazed or otherwise impacted by human influences. Of greater concern is the nature of those weedy species, and in particular the presence of aggressive species. Of these, Sun Lakes has its fair share. Among the most aggressive are *Asperugo procumbens*, *Bromus tectorum*, *Cardaria draba*, *Centaurea repens*, *Cirsium arvense*, and *Lythrum salicaria*. The latter three of these are perennials that spread from underground rhizomes; they grow in areas with persistent soil moisture, and have displaced an portion of native vegetation in this important habitat type.

Grazing in the upland areas of the park, on the north and south rims, continues at the present time. While we observed little long-term damage to the dryland areas of the rim, the vernal ponds scattered through that area have been and continue to be heavily impacted by

grazing. Most of the wetlands at the ponds are dominated by native and non-native weedy increaser species, which have clearly displaced whatever native vegetation formerly occurred in these vernal upland wetlands. From our observations it would appear that grazing on the rim is constant throughout the growing season. While we did not encounter large numbers of domestic grazers, we did see such animals or sign of them over the three seasons that we visited the park. A lighter grazing load would be advisable to preserve what native vegetation persists in the upland wetlands. Ideally plants in the wetland areas would be allowed to set seed and nourish

depleted root systems in the spring, before being grazed.



Cirsium arvense, Canada thistle



Lythrum salicaria, purple loosestrife

The fact that six of the species of concern are annuals may reflect the dynamic nature of much of the park's dryland habitat. Annuals often require access to full sunlight and bare, mineral soil. Being typically of shorter stature than perennials, they are at a disadvantage in competition with perennials for light, nutrients and moisture. The shifting talus and non-moisture retaining mineral soils of the park have offered some refuge to species such as *Cryptantha gracilis*, *Cryptantha scoparia*, *Mimulus suksdorfii* and *Polygonum austinae*. Because of their disadvantages vis-a-vis perennials, and because they need to reestablish themselves every year, they are more temporal members of the landscape. Only an active inventory program will keep park managers appraised of the status of the rarest of the park's plant species.



Bromus tectorum, cheat grass

Vegetation Communities

Vegetation communities in Sun Lakes State Park were delineated and classified using both field survey and remote sensing techniques. Dryland plant associations were adopted from Daubenmire's *Steppe Vegetation of Washington* (1970); wetland plant associations are from *Classification and Management of Aquatic, Riparian and Wetland Sites on the National Forests of Eastern Washington* by Kovalchik and Clausnitzer (2004).



On top of Umatilla Rock, near its mid-point, looking north. This picture illustrates a plant community matrix that is common throughout the park: stiff sagebrush (*Artemisia rigida*) and Sandberg bluegrass (*Poa secunda*) growing on the rocky knolls, quickly transitioning to tall sagebrush (*Artemisia tridentata*) and needle-and-thread grass (*Stipa comata*) in the swales, where the soil is deeper and moisture is retained longer.

Plant communities were initially delineated remotely, guided by the growth patterns and landforms visible on orthophotos and ASTER satellite images. These polygons were then assessed for content and boundary accuracy in the field, with plant associations assigned and boundaries adjusted as needed. Vegetation data was gathered for each polygon in the format provided by Washington State Parks and Recreation Commission. A total of 19 plant associations were identified in the park, in a constantly changing matrix of plant communities.

Sun Lakes State Park is valued as a recreational destination. The attributes of its plant communities suggests that it should also be recognized for its biological qualities. Among these attributes we can count 1) a largely intact and extensive sagebrush-steppe community, 2) an intact lithosol-based (rocky soil) plant community, and 3) extensive spring-based wetlands in an arid climate.

Sagebrush-steppe is characterized by big sagebrush, *Artemisia tridentata*, in combination with one or several dryland grasses. While Washington state has lost the majority of its sagebrush-steppe to agricultural development, this plant community is abundant at Sun Lakes, and is in good ecological condition (relatively few alien plant species and little alien plant biomass, with the woody sagebrush itself appearing to be young to middle-aged). A number of wildlife species



In the valley portion of the park, the sagebrush matrix adjoins elongated wetlands, the latter typically dominated by bulrush (*Scirpus acutus*) and common cattail (*Typha latifolia*), often with a band of alkaline soil around the wetland perimeter dominated by salt-tolerant species such as alkali saltgrass (*Distichlis stricta*).

are sagebrush obligates and may be finding some refuge at Sun Lakes State Park. Sage obligate species that could occur at Sun Lakes include sage grouse, sage thrasher, sage sparrow, Brewer's sparrow, sagebrush lizard, sagebrush vole, and the pygmy rabbit (the latter species is extremely rare in Washington, and may in fact be extirpated from the state).

The dryland plant community at Sun Lakes is typically a mosaic of big sagebrush in areas of deeper soil alternating with stiff sagebrush, *Artemisia rigida*, growing with Sandberg bluegrass, *Poa secunda*, on the rocky knolls. While lithosol soils are not unusual on the Columbia plateau, some of the plants found on lithosols in Sun Lakes are extremely uncommon in the state, among them Austin's knotweed (*Polygonum austinae*), slender cryptantha (*Cryptantha gracilis*), desert



Red Alkali Lake, with Dry Falls Lake in the distance. Red Alkali Lake is in-filling with sediment, with shallow-water emergent plant species currently dominating the aquatic system.



A wetland transition zone, with standing-water adapted species such as bulrush and common cattails on the left, and sedges and spikerushes on the right. Russian olive (*Elaeagnus angustifolia*), a non-native species, is commonly found in the ecotone between wet and dry soil in the park, as pictured here.

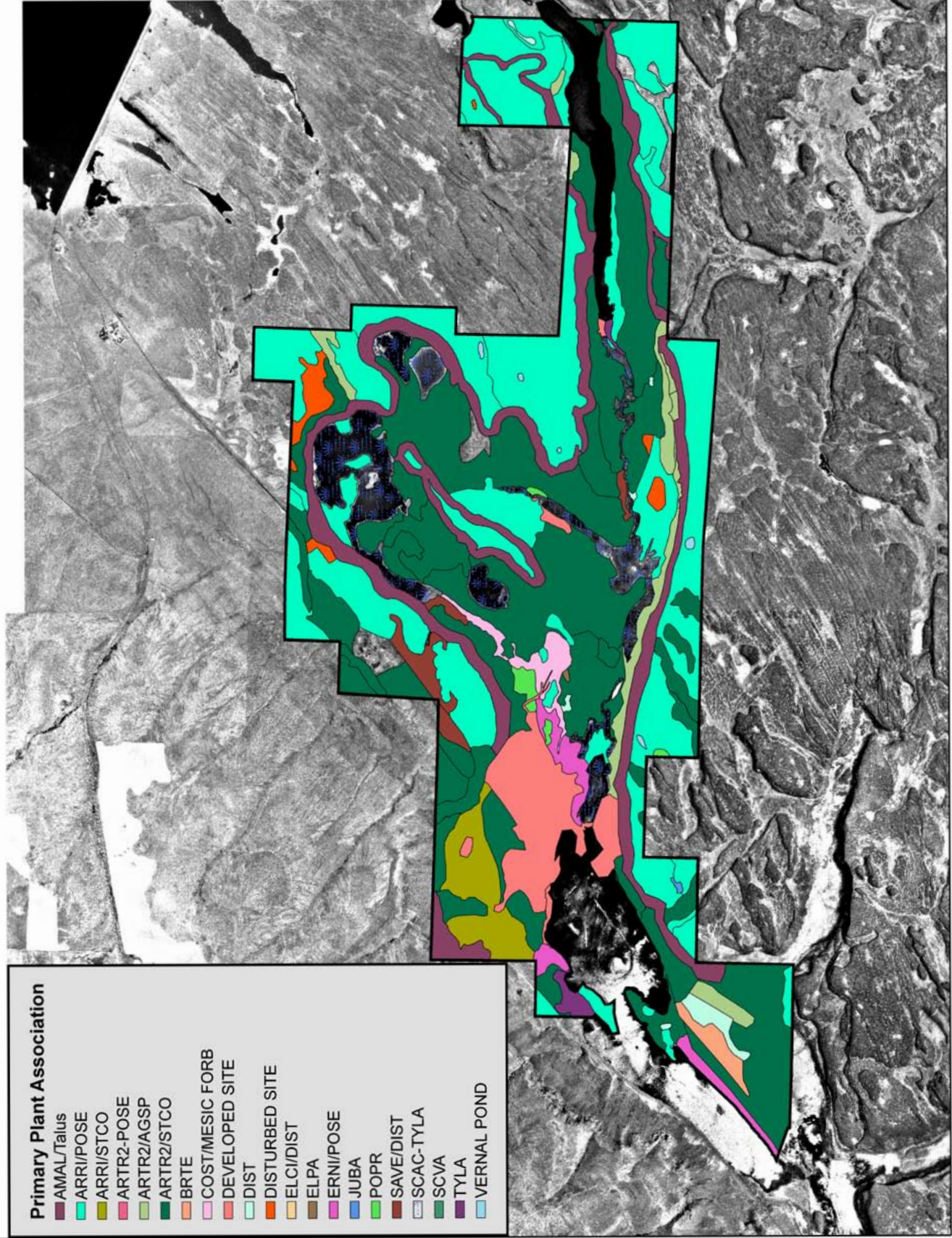
cryptantha (*Cryptantha scoparia*), Suksdorf's monkeyflower (*Mimulus suksdorfii*), and dwarf evening-primrose (*Oenothera pygmaea*) (for further information on these species refer to the rare plant section of this report).

It is axiomatic that wetlands in arid regions have high value to wildlife, and this is clearly the case at Sun Lakes State Park, where we regularly saw a large number of waterfowl utilizing the open-water areas. Wetland plant species change as the moisture gradient diminishes at the shoreline, with bullrush (*Scirpus acutus*) and common cattail (*Typha latifolia*) typically dominating the standing water, red-osier dog wood (*Cornus stolonifera*) in the saturated soil, and sedges and wetland grasses around the wetland perimeter. This latter plant association hosts several populations of the state-sensitive beaked spikerush (*Eleocharis rostellata*), as well as several species on the state Review list.



Horses grazing on the north rim of the park. Both the north and south rims are currently grazed by horses and/or cows. The impact on the vernal ponds on the rims is appreciable, with most of the ponds having sizable alien plant species populations (several ponds are steep-sided and inaccessible to grazers).

Sun Lakes State Park Plant Associations

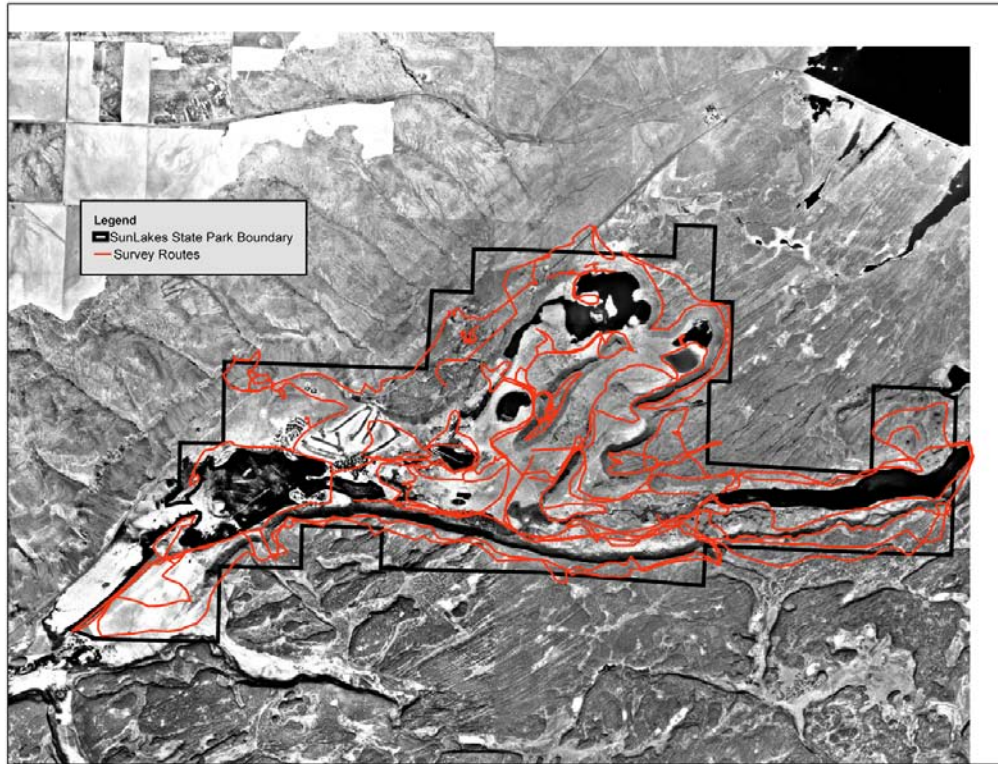


See next page for key to Plant Association codes

Sun Lakes Plant Associations

AMAL/Talus	Amelanchier alnifolia/Talus	Serviceberry/talus
ARRI/POSE	Artemisia rigida/Poa secunda	Rigid sagebrush/Sandberg bluegrass
ARRI/STCO	Artemisia rigida/Stipa comata	Rigid sagebrush/Needle-and-thread grass
ARTR2/AGSP	Artemisia tridentata/Agropyron spicatum	Tall sagebrush/Bluebunch wheatgrass
ARTR2/POSE	Artemisia tridentata/Poa secunda	Tall sagebrush/Sandberg bluegrass
ARTR2/STCO	Artemisia tridentata/Stipa comata	Tall sagebrush/Needle-and-thread grass
BRTE	Bromus tectorum	Cheatgrass
COST/MESIC FORB	Cornus stolonifera/Mesic Forb	Red-oiser dogwood/Mesic forb
DEVELOPED SITE	Developed Site	Roads and/or buildings
DIST	Distichlis stricta	Alkali saltgrass
DISTURBED SITE	Disturbed site	Weedy: machine-compacted or overgrazed
ELCI/DIST	Elymus cinereus/Distichlis stricta	Great Basin wildrye/Alakli saltgrass
ELPA	Eleocharis palustris	Common spike-rush
ERNI/POSE	Eriogonum niveum/Poa secunda	Snow buckwheat/Sandberg bluegrass
JUBA	Juncus balticus	Baltic rush
POPR	Poa pratensis	Kentucky bluegrass (indicates disturbance)
SAVE/DIST	Sarcobates vermiculatus/Distichlis stricta	Greasewood/Alkali saltgrass
SCAC/TYLA	Scirpus acutus/Typha latifolia	Bulrush/Common cattail
SCVA	Scirpus validus	American Bulrush
TYLA	Typha latifolia	Common cattail
VERNAL POND	Vernal Pond	Ponds drying before winter

Sun Lakes State Park 2004 Rare Plant Inventory and Vegetation Survey Routes



Rare plant info redacted. Contact Washington State Parks and Recreation Commission for further information.

Cryptantha gracilis- Slender Cryptantha



Occurrence in Washington: First found in the state at this Sun Lakes site in 1998; currently only 3-4 sites known in Washington.

Occurrence at Sun Lakes State Park: The site of the 1998 find was searched during the 2004 surveys but no plants of this species were located.

Habitat: In dry habitats, often on coarse, rocky substrates.

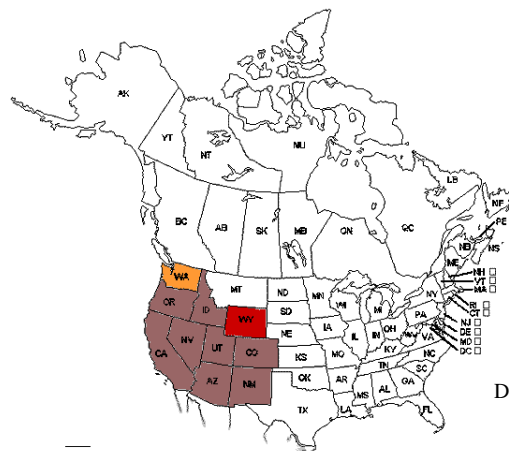
Location: NAD 27 Zone 11 0322775E 5275201N Elevation 1250'.

Recognition: There are 5 species of *Cryptantha* known at Sun Lakes, several of them quite common. A technical key is advisable to separate the species. *Cryptantha gracilis*, like the other *Cryptanthas* present, is a hairy annual. It typically grows 4-10" tall. It is unique in the area in that typically only one of the four possible nutlets develop in each ovary. A hand lens is usually necessary to observe this feature.

Threats: This species may or may not still be present at the recorded site in Sun Lakes State Park. Only 10 plants were reported in 1998; none were seen in 2004. A small annual like this could bloom and fade early in the season, or simply escape detection. There is very little human disturbance to the austere, rocky site that this species is found on, although it is adjacent to a closed foot path. The plant is an annual, which means it has to reseed itself almost every year. Because the population is so low, there is no security that this population will persist.



Location at Sun Lakes



Distribution in North America



Cryptantha scoparia- Desert Cryptantha



Cryptantha scoparia, overall plant view



Cryptantha scoparia, flower head

Occurrence in Washington: Currently only known from 2 sites in the state, one in Douglas County and one in Grant County.

Occurrence at Sun Lakes State Park: A very small population of 8 plants found at one location in the park, just north of Dry Falls Lake.

Habitat: Dry, open slopes and flats, often among sagebrush.

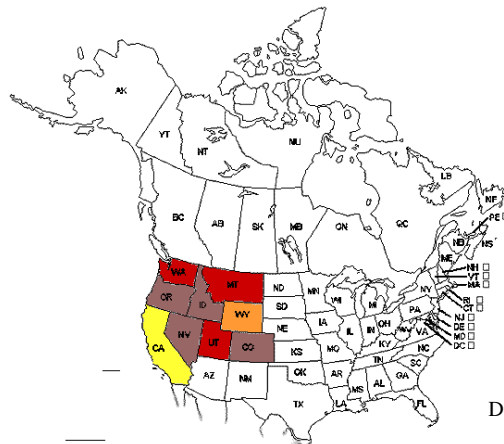
Location: NAD 27 Zone 11 0322740E 5275208N Elevation 1250'.

Recognition: There are 5 species of *Cryptantha* known at Sun Lakes, several of them quite common. A technical key is necessary to separate the species, based on the appearance of the tiny nutlets. *Cryptantha scoparia* has 4 narrow, smooth nutlets (see drawing at right).

Threats: There is minimal threat from human impact as the rugged scree slope where this species grows is little disturbed (there is a closed foot trail near the site). The number of individual plants in this population is extremely low, and because this species is an annual that must reseed itself almost every year, this population is very insecure.



Location at Sun Lakes



Distribution in North America

State/Province Conservation Status	
■	S1: Presumed Extirpated
■	S4: Possibly Extirpated
■	S1: Critically Impaired
■	S2: Impaired
■	S3: Vulnerable
■	S4: Apparently Secure
■	S5: Secure
■	Not Ranked/Under Review
Conservation Status Not Applicable	
■	Exotic
■	Hybrid without Conservation Value

Eleocharis rostellata- Beaked Spikerush



Eleocharis rostellata: growth form, left, flower spike, center, flower stems, right

Occurrence in Washington: Found at 3 sites in 3 different counties in the state, Grant, Okanogan and Yakima counties.

Occurrence at Sun Lakes State Park: Found intermittently in the riparian area that stretches from Delaney Spring to Meadow Lake. At least 1000 stems are extant in this area.

Habitat: Known from salt marshes along the coast and alkaline riparian edges in the lowlands of the dry interior.

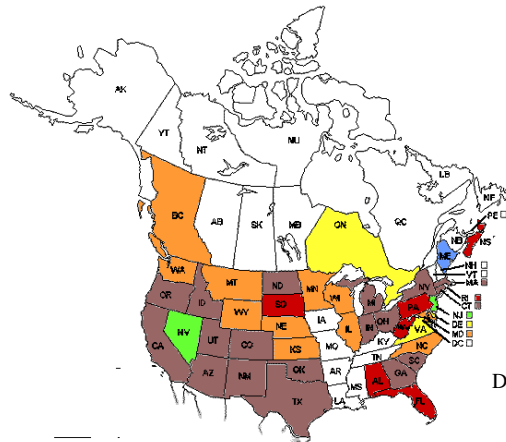
Location: NAD 27 Zone 11 0322891E--5273737N to 0322426E--5272994N
Elevation 1205'.

Recognition: Species in this genus (*Eleocharis*) are referred to as 'spike-rushes.' They are grass-like in growth form, and are non-showy. In flowering season they form non-showing, wind-pollinated heads, made of up numerous tiny flowers, at the top of leafless stems. Two spike rushes are found in the park, *Eleocharis rostellata*, in which each tiny flower has 3 stigmas emerging from it, and *Eleocharis palustris*, with 2 stigmas per floret.

Threats: This population is generally secure. The Delaney Environmental Center and its service road have some negative impact on the population. A long-term concern for this wetland plant growing in such an arid region is the hydrology of the spring that feeds the wetland.



Location at Sun Lakes



Distribution in North America



Mimulus suksdorfii- Suksdorf's Monkeyflower



Habitat and growth form for *Mimulus suksdorfii*



Mimulus suksdorfii- the flower

Occurrence in Washington: Small populations exist in 7 counties, Benton, Chelan, Grant, Kittitas, Klickitat, Okanogan and Yakima.

Occurrence at Sun Lakes State Park: 1 small population in the park, at the north end of Dry Falls Lake. 15 total plants counted.

Habitat: In dry, open sites that retain moisture in the spring somewhat longer than the surroundings, such as small depressions and at the base of rocks.

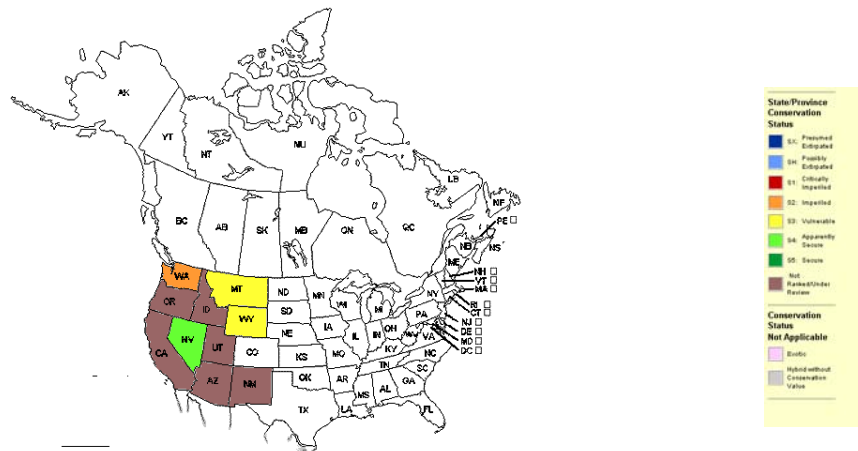
Location: NAD 27 Zone 11 0322688E 5275223N
Elevation 1300'.

Recognition: This is a very small (1-6" tall), annual yellow-flowered monkeyflower. The leaves are narrow and taper to their sessile (stalkless) base. There is another small, annual monkeyflower found in the park, *Mimulus floribundus*, sticky monkeyflower, which has ovate leaves that do have petioles (stalks); the leaves are often sticky or slimy.

Threats: No overt threats. The plant is an annual so it must reseed itself every year.



Location at Sun Lakes



Distribution in North America

Oenothera pygmaea- Dwarf Evening-primrose



Oenothera pygmaea, habitat and growth form



Oenothera pygmaea, with 4-petaled flowers

Occurrence in Washington: Relatively few sites in the state, and those with small populations. Found in Benton, Douglas, Franklin, Grant and Kittitas counties.

Occurrence at Sun Lakes State Park: About 25 small plants just north of Dry Falls Lake (a previously discovered site) and 8 plants found at the base of the cliffs above the turnoff to the main portion of the park, on or near the park boundary.

Location: NAD 27 Zone 11 0322688E 5275223N Elevation 1300' for first mentioned site, 0319595E 5274236N Elevation 1500' for second.

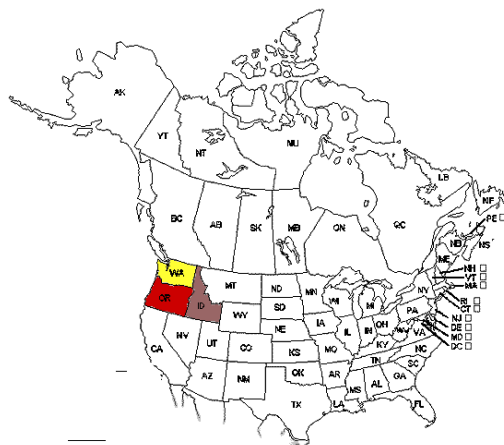
Recognition: An upright annual 1-14" tall, usually branching at the base, with elliptical leaves and white, 4-petaled flowers. This is the only white-flowered *Oenothera* known in the park.

Threats: No outstanding threats. There is a closed footpath in the area that is not currently effecting the population.

Notes: The current name for this species is *Camissonia pygmaea*. The drawing at right is of *Camissonia boothii*, which is quite similar to *C. pygmaea*.



Location at Sun Lakes



Distribution in North America

State/Province Conservation Status	
SI	Preserved
SE	Endangered
SH	Probably Extirpated
SI	Critically Imperiled
S2	Imperiled
S3	Vulnerable
S4	Apparently Secure
S5	Secure
NR	Not Ranked/Under Review
Conservation Status Not Applicable	
□	Exotic
□	Hybrid without Conservation Value

Polygonum austinae- Austin's Knotweed



Polygonum douglasii, growth form very similar to *P. austinae*



Polygonum douglasii, with bloom similar to *P. austinae*

Occurrence in Washington: This is the only site in Washington where this species has been found.

Occurrence at Sun Lakes State Park: *Polygonum austinae* was found on top of Umatilla Rock in the park on June 7, 1980 by Ralph and Dorothy Nass. They commented that the species was “common in drying cracks of thin soil over basalt mesa.” The plant was relocated in a survey by Calypso Consulting in 1998. We searched long for this species at the known site, once each in April, May and June, and were unable to relocate it. The plant is an annual; it is possible that seeds do not germinate in drier springs. It is also possible that the species no longer exists at this site. Resurveys are in order.

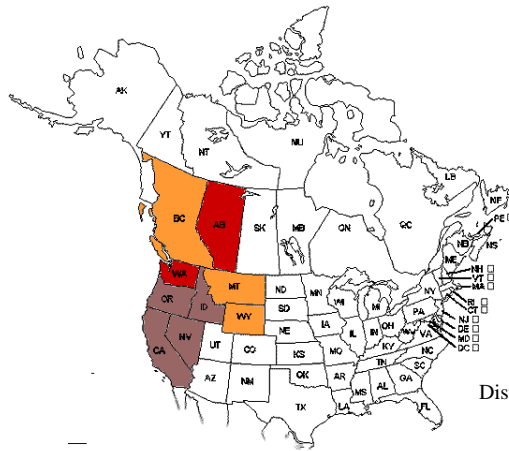
Location: NAD 27 Zone 11 0322464E 5273866N Elevation 1348’.

Recognition: A low, erect, branching annual 2-8” tall, with elliptical leaves on very short petioles. The flowers are tiny, 1/16th inch long, and grow in the axils of the leaves, on pedicels (stems) that are soon reflexed. 3 other species of annual *Polygonum* are known from the park; a technical key is necessary to separate them.

Threats: Access to the site of this species, on Umatilla Rock, is difficult; it is ungrazed and rarely visited by humans.



Location at Sun Lakes



Distribution in North America

State/Province Conservation Status	
■	Ext. Presumed Extirpated
■	Ext. Possibly Extirpated
■	Ext. Critically Imperiled
■	Ext. Imperiled
■	Ext. Vulnerable
■	Ext. Apparently Secure
■	Ext. Secure
■	Not Ranked/Under Review
Conservation Status Not Applicable	
■	Endemic
■	Not ranked/Conservation Value

Vascular Plants of Sun Lakes State Park

#	Code	Scientific Name	Common Name	Family- Scientific	Family- Common	Type	Alien
1	ACM2	Achillea millefolium	common yarrow	Compositae	Composite	p	
2	AGGL	Agoseris glauca	pale agoseris	Compositae	Composite	p	
3	AGHE2	Agoseris heterophylla	annual agoseris	Compositae	Composite	a	
4	AGCR	Agropyron cristatum	crested w heatgrass	Graminae	Grass	g	a
5	AGSP	Agropyron spicatum	bluebunch w heatgrass	Graminae	Grass	g	
6	AGEX	Agrostis exarata	spike bentgrass	Graminae	Grass	g	
7	AGIN4	Agrostis interrupta	bentgrass	Graminae	Grass	g	
8	AICA	Aira caryophylla	silver hairgrass	Graminae	Grass	g	a
9	ALPLB*	Alisma plantago-aquatica	American w ater-plantain	Alismataceae	Water-plantain	p	
10	ALAC4	Allium acuminatum	Hooker onion	Liliaceae	Lily	p	
11	ALGE	Allium geyeri	Geyer's onion	Liliaceae	Lily	p	
12	ALGEG	Allium geyeri v. geyeri	Geyer's onion	Liliaceae	Lily	p	
13	ALSC	Allium schoenoprasum	chives	Liliaceae	Lily	p	
14	ALSC2	Allium scilloides	scilla onion	Liliaceae	Lily	p	
15	ALAE	Alopecurus aequalis	little meadow -foxtail	Graminae	Grass	p	
16	AMBL	Amaranthus blitoides	mat amaranth	Amarantaceae	Amaranth	a	
17	AMAL2	Amelanchier alnifolia	serviceberry	Rosaceae	Rose	s	
18	AMLY	Amsinckia lycopsoides	tarw eed fiddleneck	Boraginaceae	Borage	a	
19	AMME	Amsinckia menziesii	small-flow ered fiddleneck	Boraginaceae	Borage	a	
20	AMTE3	Amsinckia tessellata	devil's lettuce	Boraginaceae	Borage	a	
21	ANGEL	Angelica sp	angelica	Umbelliferaeae	Parsley	p	
22	ANDI2	Antennaria dimorpha	low pussytoes	Compositae	Composite	p	
23	ANMI3	Antennaria microphylla	rosy pussytoes	Compositae	Composite	p	
24	APAN2	Apocynum androsaemifolium	spreading dogbane	Apocynaceae	Dogbane	p	
25	APSI	Apocynum sibiricum	Indian hemp	Apocynaceae	Dogbane	p	
26	AQFO	Aquilegia formosa	red columbine	Ranunculaceae	Buttercup	p	
27	ARCU	Arabis cusickii	Cusick's rockcross	Cruciferae	Mustard	p	
28	ARHO2	Arabis holboellii	Holboell's rockcross	Cruciferae	Mustard	p	
29	ARSP	Arabis sparsiflora	sicklepod rockcross	Cruciferae	Mustard	p	
30	ARMI2	Arctium minus	common burdock	Compositae	Composite	p	a
31	ARAR8	Artemisia arbuscula	dw arf sagebrush	Compositae	Composite	s	
32	ARDO3	Artemisia douglasiana	Douglas sagebrush	Compositae	Composite	p	
33	ARDR4	Artemisia dracuncululus	tarragon	Compositae	Composite	p	a
34	ARLU	Artemisia ludoviciana	w estern mugw ort	Compositae	Composite	p	
35	ARMI4	Artemisia michauxiana	Michaux artemisia	Compositae	Composite	s	
36	ARRI2	Artemisia rigida	stiff sagebrush	Compositae	Composite	s	
37	ARTR2	Artemisia tridentata	big sagegrush	Compositae	Composite	s	
38	ARTR4	Artemisia tripartida	three-tip sagebrush	Compositae	Composite	s	
39	ASSP	Asclepias speciosa	show y milkw eed	Asclepiadaceae	Milkw eed	p	
40	ASOF	Asparagus officinalis	asparagus	Liliaceae	Lily	p	a
41	ASPR	Asperugo procumbens	catchw eed	Boraginaceae	Borage	a	a
42	ASFO	Aster foliaceus	leafy aster	Compositae	Composite	p	
43	ASPA3	Aster pansus	w hite prairie aster	Compositae	Composite	p	
44	ASAG2	Astragalus agrestis	purple milkvetch	Leguminosae	Pea	p	
46	ASCAB	Astragalus canadensis	Canada milkvetch	Leguminosae	Pea	p	
47	ASLE8	Astragalus lentigenous	freckled milk-vetch	Leguminosae	Pea	p	
48	ASLY	Astragalus lyalii	Lyall's milkvetch	Leguminosae	Pea	p	
49	ASPU9	Astragalus purshii	w oolly-pod milkvetch	Leguminosae	Pea	p	
50	ASSP4	Astragalus spaldingi	Spalding's milkvetch	Leguminosae	Pea	p	
51	ATSP2	Atriplex spinosa	spiny hopsage	Chenopodiaceae	Goosefoot	s	
52	ATTR	Atriplex truncata	w edgescale saltbush	Chenopodiaceae	Goosefoot	a	
53	BACA3	Balsamorhiza careyana	Carey's balsamroot	Compositae	Composite	p	
54	BAHO	Balsamorhiza hookerii	Hooker's balsamroot	Compositae	Composite	p	
55	BASA3	Balsamorhiza sagittata	arrow leaf balsamroot	Compositae	Composite	p	
56	BAHY	Bassia hyssopifolia	bassia	Chenopodiaceae	Goosefoot	a	a
57	BEER	Berula erecta	cut-leaved w ater parsnip	Umbelliferaeae	Parsley	p	
58	BEOC2	Betula occidentalis	w ater birch	Betulaceae	Birch	d	
59	BICE	Bidens cernua	nodding beggarticks	Compositae	Composite	a	
60	BRDO	Brodiaea douglasii	douggies brodiaea	Liliaceae	Lily	p	

#	Code	Scientific Name	Common Name	Family- Scientific	Family- Common	Type	Alien
61	BRBR5	Bromus brizaeformis	rattlesnake grass	Graminae	Grass	g	a
62	BRCO4	Bromus commutatus	hairy brome	Graminae	Grass	g	a
63	BRJA	Bromus japonicus	Japanese brome	Graminae	Grass	g	a
64	BRMO2	Bromus mollis	soft brome	Graminae	Grass	g	a
65	BRTE	Bromus tectorum	cheatgrass	Graminae	Grass	g	a
66	CAMA5	Calochortus macrocarpus	sagebrush mariposa lily	Liliaceae	Lily	p	
67	CAQU2	Camassia quamash	common camas	Liliaceae	Lily	p	
68	CABR6	Cardamine breweri	Brewer's bittercress	Cruciferae	Mustard	p	
69	CACH10	Cardaria chalapensis	Chalapa hoarycress	Cruciferae	Mustard	p	a
70	CADR	Cardaria draba	white top	Cruciferae	Mustard	p	a
71	CAPU6	Cardaria pubescens	globepodded hoarycress	Cruciferae	Mustard	p	a
72	CAAU	Carex aurea	golden sedge	Cyperaceae	Sedge	g	
73	CADI6	Carex disperma	two-seeded sedge	Cyperaceae	Sedge	g	
74	CADO2	Carex douglasii	Douglas' sedge	Cyperaceae	Sedge	g	
75	CAHY4	Carex hystricina	porcupine sedge	Cyperaceae	Sedge	g	
76	CALA30	Carex lanuginosa	woolly sedge	Cyperaceae	Sedge	g	
77	CAPE7	Carex petasata	Liddon's sedge	Cyperaceae	Sedge	g	
78	CAPR5	Carex praegracilis	clustered field sedge	Cyperaceae	Sedge	g	
79	CAVU2	Carex vulpinoidea	fox sedge	Cyperaceae	Sedge	g	
80	CAEX6	Castilleja exilis	annual paintbrush	Scrophulariaceae	Figwort	a	
81	CATH4	Castilleja thompsonii	yellow paintbrush	Scrophulariaceae	Figwort	p	
82	CERE2	Celtis reticulata	hackberry	Ulmaceae	Elm	t	
83	CEDI3	Centaurea diffusa	diffuse knapweed	Compositae	Composite	b	a
84	CERE6	Centaurea repens	Russian knapweed	Compositae	Composite	p	a
85	CEEX	Centaureum exaltatum	desert centauray	Gentianaceae	Composite	a	
86	CEDE4	Ceratophyllum demersum	coon's-tail	Ceratophyllaceae	Hornwort	p	
87	CHDO	Chaenactis douglasii	hoary false-yarrow	Compositae	Composite	p	
88	CHAL7	Chenopodium album	lambsquarters	Chenopodiaceae	Goosefoot	a	a
89	CHBO6	Chenopodium botrys	Jerusalem-oak	Chenopodiaceae	Goosefoot	a	a
90	CHFR3	Chenopodium fremontii	Fremont's goosefoot	Chenopodiaceae	Goosefoot	a	
91	CHGL*	Chenopodium glaucum	glaucus goosefoot	Chenopodiaceae	Goosefoot	a	
92	CHLE4	Chenopodium leptophyllum	slimleaf goosefoot	Chenopodiaceae	Goosefoot	a	
93	CHTE2	Chorispora tenella	purple cross-flower	Cruciferae	Mustard	a	a
94	CHNA	Chrysothamnus nauseosus	gray rabbitbrush	Compositae	Composite	s	
95	CHV18	Chrysothamnus viscidiflorus	green rabbitbrush	Compositae	Composite	s	
96	CIDO	Cicuta douglasii	western water-hemlock	Umbelliferae	Parsley	p	
97	CIAR4	Cirsium arvense	Canada thistle	Compositae	Composite	p	a
98	CIED	Cirsium edule	Indian thistle	Compositae	Composite	p	
99	CIUN	Cirsium undulatum	wavy-leaved thistle	Compositae	Composite	p	
100	CIVU	Cirsium vulgare	bull thistle	Compositae	Composite	b	a
101	CLPU	Clarkia pulchella	ragged robin	Onagraceae	Evening-primrose	a	
102	CLL12	Clematis ligusticifolia	western white clematis	Ranunculaceae	Buttercup	s	
103	COPA3	Collinsia parviflora	blue-eyed Mary	Scrophulariaceae	Figwort	a	
104	COGR4	Collomia grandiflora	large-flowered collomia	Polemoniaceae	Phlox	p	
105	COL12	Collomia linearis	narrow-leaf collomia	Polemoniaceae	Phlox	a	
106	COUM	Comandra umbellata	bastard toadflax	Santalaceae	Sandalwood	p	
107	COAR4	Convolvulus arvensis	field morning-glory	Convolvulaceae	Morning-glory	p	a
108	COCA5	Conyza canadensis	horseweed	Compositae	Composite	a	
109	COST4	Cornus stolonifera	redosier dogwood	Cornaceae	Dogwood	s	
110	CRCO6	Crataegus columbiana	Columbia hawthorn	Rosaceae	Rose	t	
111	CRAT	Crepis atrabarba	slender hawkbeard	Compositae	Composite	p	
112	CRBA3	Crepis barbigera	bearded hawkbeard	Compositae	Composite	p	
113	CRMO4	Crepis modocensis	low hawkbeard	Compositae	Composite	p	
114	CROC	Crepis occidentalis	western hawkbeard	Compositae	Composite	p	
115	CRAM3	Cryptantha ambigua	obscure cryptantha	Boraginaceae	Borage	a	
116	CRGR3	Cryptantha gracilis	slender cryptantha	Boraginaceae	Borage	a	
117	CRPT	Cryptantha pterocarya	wing-nut cryptantha	Boraginaceae	Borage	a	
118	CRSC2	Cryptantha scoparia	desert cryptantha	Boraginaceae	Borage	a	
119	CRTO4	Cryptantha torreyana	Torrey's cryptantha	Boraginaceae	Borage	a	
120	CUSCA	Cuscuta sp	dodder	Cuscutaceae	Dodder	p	

#	Code	Scientific Name	Common Name	Family- Scientific	Family- Common	Type	Alien
121	CYEC	Cynosurus echinatus	hedgehog dogtail	Gramineae	Grass	a	a
122	CYFR2	Cystopteris fragilis	fragile fern	Polypodiaceae	Common Fern	f	
123	DEBU	Delphinium burkei	meadow larkspur	Ranunculaceae	Buttercup	p	
124	DENU2	Delphinium nuttallianum	upland larkspur	Ranunculaceae	Buttercup	p	
125	DEDA	Deschampsia danthonioides	annual hairgrass	Gramineae	Grass	g	
126	DEPI	Descurainia pinnata	w estern tansymustard	Cruciferae	Mustard	a	
127	DERI*	Descurainia richardsonii	mountain tansymustard	Cruciferae	Mustard	a	a
128	DESO2	Descurainia sophia	fliw eed	Cruciferae	Mustard	a	a
129	DIST3	Distichlis stricta	alkali saltgrass	Gramineae	Grass	p	
130	DOCO	Dodecatheon conjugens	desert shootingstar	Primulaceae	Primrose	p	
131	DOEL	Dow ningia elegans	common dow ningia	Campanulaceae	Harebell	P	
132	DRVE2	Draba verna	spring w hitlow grass	Cruciferae	Mustard	a	
133	ECCR	Echinochloa crusgalli	barnyard grass	Gramineae	Grass	a	a
134	ELAN	Elaeagnus angustifolia	russian olive	Elaeagnaceae	Oleaster	t	a
135	ELPA3	Eleocharis palustris	common spike-rush	Cyperaceae	Sedge	g	
136	ELRO2	Eleocharis rostellata	beaked spikerush	Cyperaceae	Sedge	g	
137	ELC2	Elymus cinereus	great basin w ild rye	Gramineae	Grass	g	
138	EPMI	Epilobium minutum	small-flow ered w illow -herb	Onagraceae	Evening-primrose	a	
139	EPPA	Epilobium palustre	sw amp w illow -herb	Onagraceae	Evening-primrose	p	
140	EPPA2	Epilobium paniculatum	autumn w illow w eed	Onagraceae	Evening-primrose	a	
141	EPCI	Epipactis gigantea	giant helleborine	Orchidaceae	Orchid	p	
142	EQAR	Equisetum arvense	field horsetail	Equisetaceae	Horsetail	p	
143	EQLA	Equisetum laevigatum	smooth scouring-rush	Equisetaceae	Horsetail	p	
144	ERSP*	Eriastrum sparsiflorum	eriastrum	Polemoniaceae	Phlox	a	
145	ERCO5	Erigeron corymbosus	long-leaf fleabane	Compositae	Composite	p	
146	ERF2	Erigeron filifolius	thread-leaf fleabane	Compositae	Composite	p	
147	ERLI	Erigeron linearis	desert yellow daisy	Compositae	Composite	p	
148	ERLO	Erigeron lonchophyllus	spear-leaf fleabane	Compositae	Composite	p	
149	ERPO2	Erigeron poliospermus	cushion fleabane	Compositae	Composite	p	
150	ERPU2	Erigeron pumilus	shaggy fleabane	Compositae	Composite	p	
151	ERCO12	Eriogonum compositum	northern buckw heat	Polygonaceae	Buckw heat	p	
152	ERHE2	Eriogonum heracleoides	big buckw heat	Polygonaceae	Buckw heat	s	
153	ERN2	Eriogonum niveum	snow buckw heat	Polygonaceae	Buckw heat	p	
154	EROV	Eriogonum ovalifolium	cushion eriogonum	Polygonaceae	Buckw heat	p	
155	ERSP4	Eriogonum sphaerocephalum	round-headed buckw heat	Polygonaceae	Buckw heat	p	
156	ERST4	Eriogonum strictum	strict Buckw heat	Polygonaceae	Buckw heat	p	
157	ERTH4	Eriogonum thymoides	thyme buckw heat	Polygonaceae	Buckw heat	p	
158	ERLA6	Eriophyllum lanatum	Oregon sunshine	Compositae	Composite	p	
159	ERIC6	Erodium cicutarium	storks-bill, filaree	Geraniaceae	Geranium	a	a
160	EUGL3	Euphorbia glyptosperma	corrugate-seeded spurge	Euphorbiaceae	Spurge	a	a
161	EUSE5	Euphorbia serpyllifolia	thyme-leaved spurge	Euphorbiaceae	Spurge	a	a
162	EULA5	Eurotia lanata	w inter sage	Chenopodiaceae	Goosefoot	s	
163	FEAR3	Festuca arundinacea	tall fescue	Gramineae	Grass	p	a
164	FEBR	Festuca bromoides	six-w eeks fescue	Gramineae	Grass	a	
165	FEID	Festuca idahoensis	Idaho fescue	Gramineae	Grass	g	
166	FESC*	Festuca scabrella	bearded fescue	Gramineae	Grass	g	
167	FRPU2	Fritillaria pudica	yellow bell	Liliaceae	Lily	p	
168	GAAR	Gaillardia aristata	blanket-flow er	Compositae	Composite	p	
169	GAA P2	Galium aparine	cleavers	Rubiaceae	Madder	a	a
170	GABO2	Galium boreale	northern bedstraw	Rubiaceae	Madder	p	
171	GAMU*	Galium multiflorum	shrubby bedstraw	Rubiaceae	Madder	p	
172	GEV2	Geranium viscosissimum	sticky geranium	Geraniaceae	Geranium	p	
173	GIM5	Gilia minutiflora	small-flow ered gilia	Polemoniaceae	Phlox	a	
174	GISI	Gilia sinuata	shy gilia	Polemoniaceae	Phlox	a	
175	GLMA	Glaux maritima	saltw ort	Primulaceae	Primrose	p	
176	GNPA	Gnaphalium palustre	low land cudw eed	Compositae	Composite	p	
177	GRSP	Grayia spinosa	spiny hopsage	Chenopodiaceae	Goosefoot	s	
178	GRNA	Grindelia nana	low gumw eed	Compositae	Composite	p	
179	HAAR3	Hackelia arida	sagebrush stickseed	Boraginaceae	Borage	p	
180	HARE3	Haplopappus resinousus	gnarled goldenw eed	Compositae	Composite	a	

#	Code	Scientific Name	Common Name	Family- Scientific	Family- Common	Type	Alien
181	HAST	Happlopappus stenophyllus	narrow-leaved goldenweed	Compositae	Composite	p	
182	HEAN3	Helianthus annuus	common sunflower	Compositae	Composite	a	
183	HECU3	Heliotropium curassavicum	salt heliotrope	Boraginaceae	Borage	p	
184	HECA7	Hesperochiron californicus	California hesperochiron	Hydrophyllaceae	Waterleaf	p	
185	HEPU6	Hesperochiron pumilus	dwarf hesperochiron	Hydrophyllaceae	Waterleaf	p	
186	HERA3	Heterocodon rariflorum	heterocodon	Campanulaceae	Harebell	p	
187	HECY2	Heuchera cylindrica	roundleaf alumroot	Saxifragaceae	Saxifrage	p	
188	HICY	Hieracium cynoglossoides	houndstongue hawkweed	Compositae	Composite	p	
189	HOUM	Holosteum umbellatum	jagged chickweed	Caryophyllaceae	Pink	a	a
190	HOBR2	Hordeum brachyantherum	meadow barley	Gramineae	Grass	a	
191	HOJU	Hordeum jubatum	squirrel-tail	Gramineae	Grass	g	a
192	HUPR	Hutchinsia procumbens	hutchinsia	Caryophyllaceae	Pink	a	
193	IDSC	Idahoia scapigera	scalegod	Cruciferae	Mustard	a	
194	IRMI	Iris missouriensis	blue flag	Iridaceae	Iris	p	
195	IVAX	Iva axillaris	deeprout	Compositae	Composite	p	
196	JUBAV	Juncus balticus v vallicola	Baltic rush	Juncaceae	Rush	g	
197	JUBU	Juncus bufonius	toad rush	Juncaceae	Rush	g	
198	JUEF	Juncus effusus	common rush	Juncaceae	Rush	g	
199	JUTO	Juncus torreyi	Torrey's rush	Juncaceae	Rush	g	
200	JUSC2	Juniperus scopulorum	Rocky Mountain juniper	Cupressaceae	Cypress	t	
201	KOSC	Kochia scoparia	red belvedere	Chenopodiaceae	Goosefoot	a	a
202	KOCR	Koeleria cristata	Junegrass	Gramineae	Grass	g	
203	LAPU	Lactuca pulchella	blue lettuce	Compositae	Composite	p	
204	LASE	Lactuca serriola	willow lettuce	Compositae	Composite	a	a
205	LARE	Lappula redowskii	western stickseed	Boraginaceae	Borage	a	
206	LEMI3	Lemna minor	duckweed	Lemnaceae	Duckweed	a	
207	LEPE2	Lepidium perfoliatum	clasping peppergrass	Cruciferae	Mustard	a	a
208	LEPU	Leptodactylon pungens	prickly phlox	Polemoniaceae	Phlox	p	
209	LERE7	Lewisia rediviva	bitterroot	Portuacaceae	Purslane	p	
210	LISE	Lianthus septentrionalis	northern lianthus	Polemoniaceae	Phlox	a	
211	LIHA	Linanthus harknessii	Harkness lianthus	Polemoniaceae	Phlox	a	
212	LIDA	Linaria dalmatica	dalmation toadflax	Scrophulariaceae	Figwort	p	a
213	LIBU	Lithophragma bulbifera	bulbiferous fringe-cup	Saxifragaceae	Saxifrage	a	
214	LIPA5	Lithophragma parviflorum	small-flowered fringe-cup	Saxifragaceae	Saxifrage	a	
215	LIAR4	Lithospermum arvense	corn ground-ell	Boraginaceae	Borage	a	
216	LIRU4	Lithospermum ruderales	western ground-ell, puccoon	Boraginaceae	Borage	p	
217	LOAM	Lomatium ambiguum	southwestern desert parsley	Umbelliferaeae	Parsley	p	
218	LOCA4	Lomatium canbyi	Canby's desert-parsley	Umbelliferaeae	Parsley	p	
219	LODI	Lomatium dissectum	wild carrot, chocolate tips	Umbelliferaeae	Parsley	p	
220	LOGE	Lomatium geyeri	Geyer's desert-parsley	Umbelliferaeae	Parsley	p	
221	LOGO	Lomatium gormanii	Gorman's desert-parsley	Umbelliferaeae	Parsley	p	
222	LOGR	Lomatium grayii	Gray's desert-parsley	Umbelliferaeae	Parsley	p	
223	LOHA5	Lomatium hambleniae	Hamblen's desert-parsley	Umbelliferaeae	Parsley	p	
224	LOMA3	Lomatium macrocarpum	large-seeded desert parsley	Umbelliferaeae	Parsley	p	
225	LOTR2	Lomatium triternatum	narrow-leaved desert parsley	Umbelliferaeae	Parsley	p	
226	LUARA	Lupinus argenteus v. argenteus	silvery lupine	Leguminosae	Pea	p	
227	LUSE4	Lupinus sericeus	silky lupine	Leguminosae	Pea	p	
228	LUSU5	Lupinus sulphureus	sulfur lupine	Leguminosae	Pea	p	
229	LYAM	Lycopus americanus	bugleweed	Labiatae	Mint	p	
230	LYAS	Lycopus asper	rough bugleweed	Labiatae	Mint	p	
231	LYTH2	Lysimachia thyrisiflora	tufted loosestrife	Primulaceae	Primrose	p	
232	LYSA2	Lythrum salicaria	purple loosestrife	Lythraceae	Loosestrife	p	a
233	MAEX	Madia exigua	little tarweed	Compositae	Composite	a	
234	MAGR3	Madia gracilis	slender tarweed	Compositae	Composite	a	
235	MAMI	Madia minima	small-head tarweed	Compositae	Composite	a	
236	MANE	Malva neglecta	dwarf mallow	Malvaceae	Mallow	a	
237	MEAL2	Melilotus alba	white clover	Leguminosae	Pea	b	a
238	MEAR4	Mentha arvensis	Canadian mint	Labiatae	Mint	p	
239	MENTH	Mentha sp	mint	Labiatae	Mint	p	
240	MEDI	Mentzelia dispersa	small-flowered mentzelia	Loasaceae	Blazing-star	a	

#	Code	Scientific Name	Common Name	Family- Scientific	Family- Common	Type	Alien
241	MELA2	Mentzelia laevicaulis	blazing-star	Loasaceae	Blazing-star	p	
242	MITR5	Microseris troximoides	false agoseris	Compositae	Composite	p	
243	MIGR	Microsteris gracilis	pink-eyed Mary	Polemoniaceae	Phlox	a	
244	MIFL2	Mimulus floribundus	sticky monkeyflow er	Scrophulariaceae	Figw ort	a	
245	MIGU	Mimulus guttatus	yellow monkeyflow er	Scrophulariaceae	Figw ort	p	
246	MISU2	Mimulus suksdorfii	Suksdorf's monkeyflow er	Scrophulariaceae	Figw ort	a	
247	MOOD	Monardella odoratissima	mountain monardella	Labiatae	Mint	p	
248	MOLI4	Montia linearis	narrow -leaved montia	Caryophyllaceae	Pink	a	
249	MOPE	Montia perfoliata	miner's lettuce	Caryophyllaceae	Pink	a	
250	MYMI	Myosotis micrantha	blue forgetmenot	Boraginaceae	Borage	p	
251	MYMI2	Myosurus minimus	least mousetail	Ranunculaceae	Buttercup	a	
252	NABR	Navarretia breweri	yellow navarretia	Polemoniaceae	Phlox	a	
253	NAIN2	Navarretia intertexta	needleleaf navarretia	Polemoniaceae	Phlox	a	
254	NAMI3	Navarretia minima	least navarretia	Polemoniaceae	Phlox	a	
255	NEBR	Nemophila breviflora	Great Basin nemophila	Hydrophyllaceae	Waterleaf	a	
256	NECA2	Nepeta cataria	catnip	Labiatae	Mint	p	a
257	OEAN3	Oenothera andina	obscure evening-primrose	Onagraceae	Evening-primrose	a	
258	OEHI	Oenothera hilgardii	Hilgard's evening-primrose	Onagraceae	Evening-primrose	a	
259	OEPY	Oenothera pygmaea	dw arf evening-primrose	Onagraceae	Evening-primrose	a	
260	OEST3	Oenothera strigosa	yellow evening-primrose	Onagraceae	Evening-primrose	p	
261	OETA3	Oenothera tanacetifolia	tansy-leaf evening-primrose	Onagraceae	Evening-primrose	p	
262	ORCO5	Orobanche corymbosa	flat-topped broomrape	Orobanchaceae	Broomrape	p	
263	ORFA	Orobanche fasciculata	clustered broomrape	Orobanchaceae	Broomrape	p	
264	ORUN	Orobanche uniflora	naked broomrape	Orobanchaceae	Broomrape	p	
265	ORHI	Orthocarpus hispidus	hairy orthocarpus	Scrophulariaceae	Figw ort	a	
266	ORTE2	Orthocarpus tenuifolius	thin-leaved orthocarpus	Scrophulariaceae	Figw ort	a	
267	PACA6	Panicum capillare	common w itchgrass	Graminae	Grass	a	a
268	PAPE5	Parietaria pennsylvanica	pellitory	Uticaceae	Nettle	a	
269	PELIP2	Pectocarya linearis v. penicillata	w inged combseed	Boraginaceae	Borage	a	
270	PESE	Pectocarya setosa	moth combseed	Boraginaceae	Borage	a	
271	PEGLS	Pellaea glabella s. simplex	cliff-brake	Polypodiaceae	Common Fern	f	
272	PEGA	Penstemon gairdneri	Gairdner's penstemon	Scrophulariaceae	Figw ort	s	
273	PEPR2	Penstemon procerus	littleflow er penstemon	Scrophulariaceae	Figw ort	s	
274	PEPR3	Penstemon pruinosis	Chelan penstemon	Scrophulariaceae	Figw ort	s	
275	PERI	Penstemon richardsonii	Richardson's penstemon	Scrophulariaceae	Figw ort	s	
276	PESP	Penstemon speciosus	show y penstemon	Scrophulariaceae	Figw ort	s	
277	PEGA3	Perideridia gairdneri	Gairdner's yampha	Umbelliferaeae	Parsley	p	
278	PHHA	Phacelia hastata	silverleaf phacelia	Hydrophyllaceae	Waterleaf	p	
279	PHLI	Phacelia linearis	threadleaf phacelia	Hydrophyllaceae	Waterleaf	a	
280	PHRA2	Phacelia ramosissima	branched phacelia	Hydrophyllaceae	Waterleaf	p	
281	PHTE	Phacelia tetramera	dw arf phacelia	Hydrophyllaceae	Waterleaf	a	
282	PHAR3	Phalaris arundinacea	reed canarygrass	Gramineae	Grass	p	a
283	PHLE4	Philadelphus lewisii	Lewis' mockorange	Hydraneaeae	Hydranga	s	
284	PHHO	Phlox hoodii	Hood's phlox	Polemoniaceae	Phlox	p	
285	PHLO2	Phlox longifolia	long-leaved phlox	Polemoniaceae	Phlox	p	
286	PHCH	Phoenicaulis cheiranthoides	daggerpod	Cruciferae	Mustard	p	
287	PHCO15	Phragmites communis	common reed	Graminae	Grass	g	
288	PLSCS	Plagiobothrys scouleri	Scouler's popcornflow er	Boraginaceae	Borage	a	
289	PLLA	Plantago lanceolata	narrow leaf plantain	Plantaginaceae	Plantain	p	a
290	PLMA2	Plantago major	common plantain	Plantaginaceae	Plantain	p	a
291	PLPA2	Plantago patagonica	Indian w heat	Plantaginaceae	Plantain	a	
292	PLMA4	Plectritis macrocera	w hite plectritis	Valarianiaceae	Valarian	a	
293	POBU	Poa bulbosa	bulbous bluegrass	Gramineae	Grass	g	a
294	POCUC	Poa cusickii v. cusickii	cusick's bluegrass	Gramineae	Grass	g	
295	POJU	Poa juncifolia	alkali bluegrass	Gramineae	Grass	g	
296	PONE3	Poa nevadensis	Nevada bluegrass	Gramineae	Grass	g	
297	POPR	Poa pratensis	Kentucky bluegrass	Gramineae	Grass	g	a
298	POSE	Poa secunda	Sandberg bluegrass	Gramineae	Grass	g	
299	POMI	Polemonium micranthum	littlebells polemonium	Polemoniaceae	Phlox	a	
300	POAMB	Polygonum amphibium	w ater ladysthumb	Polygonaceae	Buckw heat	p	

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301	POAU2	<i>Polygonum austinae</i>	Austin's knotweed	Polygonaceae	Buckwheat	a	
302	POAV	<i>Polygonum aviculare</i>	prostrate knotweed	Polygonaceae	Buckwheat	a	a
303	POCO8	<i>Polygonum coccineum</i>	water smartweed	Polygonaceae	Buckwheat	p	
304	POCO9	<i>Polygonum confertiflorum</i>	closeflowered knotweed	Polygonaceae	Buckwheat	a	
305	POHY	<i>Polygonum hydropiper</i>	smartweed	Polygonaceae	Buckwheat	p	
306	POKE2	<i>Polygonum kelloggii</i>	Kellogg's knotweed	Polygonaceae	Buckwheat	a	
307	POPA8	<i>Polygonum parryi</i>	Parry's knotweed	Polygonaceae	Buckwheat	a	
308	POWA3	<i>Polygonum watsonii</i>	water knotweed	Polygonaceae	Buckwheat	a	
309	POMO5	<i>Polypogon monspeliensis</i>	rabbitfoot polypogon	Graminae	Grass	a	a
310	POTR5	<i>Populus tremuloides</i>	quaking aspen	Salicaceae	Willow	t	
311	POBE9	<i>Potamogeton berchtoldii</i>	Berchtold's pondweed	Potamogetonaceae	Pondweed	p	
312	POAN5	<i>Potentilla anserina</i>	silverweed	Rosaceae	Rose	p	
313	POAR7	<i>Potentilla arguta</i>	sticky cinquefoil	Rosaceae	Rose	p	
314	POB17	<i>Potentilla biennis</i>	biennial cinquefoil	Rosaceae	Rose	a	
315	POGR9	<i>Potentilla gracilis</i>	slender cinquefoil	Rosaceae	Rose	p	
316	PONO3	<i>Potentilla norvegica</i>	Norwegian sedge	Rosaceae	Rose	p	a
317	PRV1	<i>Prunus virginiana</i>	common chokecherry	Rosaceae	Rose	s	
318	PSEL	<i>Psilocarphus elatior</i>	tall woolly-heads	Compositae	Composite	a	
319	PUDI	<i>Puccinellia distans</i>	weeping alkaligrass	Gramineae	Grass	g	
320	PUTR2	<i>Purshia tridentata</i>	antelope bitterbrush	Rosaceae	Rose	s	
321	RAAQ	<i>Ranunculus aquatilis</i>	white water buttercup	Ranunculaceae	Buttercup	p	
322	RACY	<i>Ranunculus cymbalaria</i>	shore buttercup	Ranunculaceae	Buttercup	p	
323	RAGL	<i>Ranunculus glaberrimus</i>	sage buttercup	Ranunculaceae	Buttercup	p	
324	RASC3	<i>Ranunculus sceleratus</i>	celery-leaved buttercup	Ranunculaceae	Buttercup	p	
325	RATE	<i>Ranunculus testiculatus</i>	hornseed buttercup	Ranunculaceae	Buttercup	a	
326	RHRA*	<i>Rhus radicans</i>	poison ivy	Anacardiaceae	Sumac	s	
327	RIAU	<i>Ribes aureum</i>	golden currant	Grossulariaceae	Current	s	
328	RICE	<i>Ribes cereum</i>	wax currant	Grossulariaceae	Current	s	
329	ROCU	<i>Rorippa curvisiliqua</i>	curvedpod yellow cress	Cruciferae	Mustard	a	
330	RONA2	<i>Rorippa nasturtium-aquaticum</i>	water-cress	Cruciferae	Mustard	p	
331	ROWO	<i>Rosa woodsii</i>	Woods' rose	Rosaceae	Rose	s	
332	RUID	<i>Rubus idaeus</i>	red raspberry	Rosaceae	Rose	s	
333	RUCR	<i>Rumex crispus</i>	curly dock	Polygonaceae	Buckwheat	p	
334	RUSA	<i>Rumex salicifolius</i>	willow dock	Polygonaceae	Buckwheat	p	
335	SACU	<i>Sagittaria cuneata</i>	wapato	Alismataceae	Water-plantain	p	
336	SAAM2	<i>Salix amygdaloides</i>	peach-leaf willow	Salicaceae	Willow	t	
337	SABE2	<i>Salix bebbiana</i>	Bebb willow	Salicaceae	Willow	s	
338	SAEX	<i>Salix exigua</i>	coyote willow	Salicaceae	Willow	s	
339	SALA5	<i>Salix lasiandra</i>	pacific willow	Salicaceae	Willow	s	
340	SARI	<i>Salix rigida</i>	rigid (Mackenzie) willow	Salicaceae	Willow	s	
341	SAKA	<i>Salsola kali</i>	Russian thistle/tumbleweed	Compositae	Composite	a	a
342	SADO4	<i>Salvia dorrii</i>	purple sage	Labiatae	Mint	s	
343	SACE3	<i>Sambucus cerulea</i>	blue elderberry	Caprifoliaceae	Honeysuckle	s	
344	SAVE4	<i>Sarcobates vermiculatus</i>	greasewood	Amaranthaceae	Amaranth	s	
345	SAIN4	<i>Saxifraga integrifolia</i>	grassland saxifrage	Saxifragaceae	Saxifrage	p	
346	SAINL2	<i>Saxifraga integrifolia v. leptolepala</i>	swamp saxifrage	Saxifragaceae	Saxifrage	p	
347	SCLI	<i>Schoenocrambe linifolia</i>	plainsmustard	Cruciferae	Mustard	p	
348	SCAC	<i>Scirpus acutus</i>	hardstem bulrush	Cyperaceae	Sedge	p	
349	SCAM2	<i>Scirpus americanus</i>	three-square bulrush	Cyperaceae	Sedge	p	
350	SCNE	<i>Scirpus nevadensis</i>	Nevada bulrush	Cyperaceae	Sedge	p	
351	SCOL	<i>Scirpus olneyi</i>	Olney's bulrush	Cyperaceae	Sedge	p	
352	SCLA	<i>Scrophularia lanceolata</i>	lanceleaf figwort	Scrophulariaceae	Figwort	p	
353	SCGA	<i>Scutellaria galericulata</i>	marsh skullcap	Labiatae (Lamiaceae)	Mint	p	
354	SEFO	<i>Senecio foetidus</i>	swamp-marsh butterweed	Compositae	Composite	p	
355	SEIN2	<i>Senecio integerrimus</i>	western butterweed	Compositae	Composite	p	
356	SEV14	<i>Setaria viridis</i>	green foxtail	Gramineae	Grass	g	
357	SIORO	<i>Sidalcea oregana v. oregana</i>	Oregon checkermallow	Malvaceae	Mallow	p	
358	SIME	<i>Silene menziesii</i>	Menzies' silene	Caryophyllaceae	Pink	p	
359	SIAL2	<i>Sisymbrium altissimum</i>	tall tumbled mustard	Cruciferae	Mustard	a	a
360	SIIDO	<i>Sisyrinchium idahoense v. occidentale</i>	Idaho sisyrinchium	Iridaceae	Iris	p	

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361	SIHY	Sitanion hystrix	squirreltail	Gramineae	Grass	p	
362	SMST	Smilacina stellata	star-flow ered solomon's seal	Liliaceae	Lily	p	
363	SODU	Solanum dulcamara	bittersw eet nightshade	Solanaceae	Nightshade	p	a
364	SOCA6	Solidago canadensis	goldenrod	Compositae	Composite	p	
365	SOAS	Sonchus asper	spiny sow thistle	Compositae	Composite	p	a
366	SOUL5	Sonchus uliginosus	marsh sow thistle	Compositae	Composite	p	a
367	SOSI2	Sorbus sitchensis	Sitka mountain-ash	Rosaceae	Rose	s	
368	SPARG	Sparganium sp	bur-reed	Sparganiaceae	Burreed	p	
369	SPGR	Spartina gracilis	alkali cordgrass	Gramineae	Grass	g	
370	SPMA2	Spergularia marina	salt marsh sandspurry	Caryophyllaceae	Pink	p	
371	SPMU2	Sphaeralcea munroana	w hite-stemmed globe mallow	Malvaceae	Mallow	p	
372	SPPO	Spirodela polyrhiza	great duckw eed	Lemnaceae	Duckw eed	a	
373	SPOC4	Sporobolus cryptandrus	sand dropseed	Gramineae	Grass	g	
374	STCO14	Stachys cooleyae	cooley's hedge-nettle	Labiatae (Lamiaceae)	Mint	p	
375	STNI	Stellaria nitens	shining chickw eed	Caryophyllaceae	Pink	a	
376	STTE2	Stephanomeria tenuifolia	rush-pink	Compositae	Composite	p	
377	STCO4	Stipa comata	needle and thread grass	Gramineae	Grass	g	
378	STOC2	Stipa occidentalis	w estern needlegrass	Gramineae	Grass	g	
379	STTH2	Stipa thurberiana	Thurber's needlegrass	Gramineae	Grass	g	
380	SUOC	Suaeda occidentalis	slender seablite	Chenopodiaceae	Goosefoot	p	
381	SYAL	Symphoricarpos albus	common snow berry	Caprifoliaceae	Honeysuckle	s	
382	TASP	Talinum spinescens	spinescent flameflow er	Caryophyllaceae	Pink	p	
383	TAOF	Taraxacum officinale	common dandelion	Compositae	Composite	b	a
384	TECA2	Tetradymia canescens	horse brush	Compositae	Composite	s	
385	TECA3	Teucrium canadense	w ood sage	Labiatae	Mint	p	
386	THIN	Thelypodium integrifolium	entireleaved thelypody	Cruciferae	Mustard	p	
387	THLA	Thelypodium laciniatum	thick-leaved thelypody	Cruciferae	Mustard	p	
388	TOFL2	Tow nsendia florifer	Tow nsend's show y aster	Compositae	Composite	p	
389	TRDU	Tragopogon dubius	yellow salsify/ oyster plant	Compositae	Composite	b	a
390	TRTE	Tribulus terrestris	puncture vine	Zygophyllaceae	Caltrop	a	a
391	TRCY	Trifolium cyathiferum	cup clover	Leguminosae	Pea	a	
392	TRVA	Trifolium variegatum	w hite-tip clover	Leguminosae	Pea	a	
393	TYLA	Typha latifolia	common cattail	Typhaceae	Cat-tail	p	
394	URDI	Urtica dioica	stinging nettle	Urticaceae	Nettle	p	
395	VETH	Verbascum thapsus	common mullein	Scrophulariaceae	Figw ort	b	a
396	VEBR3	Verbena bracteata	bracted verbena	Verbenaceae	Verbena	a	a
397	VEPE2	Veronica peregrina	purslane speedw ell	Scrophulariaceae	Figw ort	a	
398	VESC2	Veronica scutellata	marsh speedw ell	Scrophulariaceae	Figw ort	p	
399	VIAD	Viola adunca	early blue violet	Violaceae	Violet	p	
400	VIAR	Viola arvensis	field violet	Violaceae	Violet	a	
401	VINUV2	Viola nuttallii v. vallicola	valley yellow violet	Violaceae	Violet	p	
402	VIPA4	Viola palustris	marsh violet	Violaceae	Violet	p	
403	VITR3	Viola trinervata	sagebrush violet	Violaceae	Violet	p	
404	WOSC	Woodsia scopulina	Rocky Mountain w oodsia	Polypodiaceae	Common Fern	f	
405	WYAM	Wyethia amplexicaulis	Mules Ears	Compositae	Composite	p	
406	XAST	Xanthium strumarium	cocklebur	Compositae	Composite	a	a
407	ZIPA2	Zigadenus paniculatus	panicled death-camas	Liliaceae	Lily	p	
408	ZIME	Zigadenus venenosus	meadow death-camas	Liliaceae	Lily	p	

Key to species list:

Code: USDA Plant Code

Type: a=annual, b=biennial, f=fern, g=graminoid (grass or related), p=perennial, s=shrub, t=tree

Alien: a=alien, non-native species