Gearhart Mountain, a broad-shouldered giant on the border between Klamath and Lake counties, lures me each July to explore the pristine meadows located on its east flank, seeking further discoveries among the abundant wildflowers. Gearhart Mountain, located about 12 miles northeast of Bly, forms part of the watershed boundary between the Klamath and Chewaucan drainages. It lies within the Fremont-Winema National Forest. Higher areas of the mountain (above 6,300 ft.) received wilderness designation in 1964, with additional lands added in 1984, bringing the current Wilderness total to 22,800 acres. The mountain was named for the Gearhart family, local ranchers who lived in the area in the 1870s (McArthur 1982). During WWII the Mitchell family was picnicking near the southern base of the mountain. They died when a Japanese fire balloon, designed to ignite West Coast forests, exploded when they touched it. A monument now stands near the site of the accident.

Situated between two physiographic provinces (Cascade Mountains, Basin and Range), Gearhart Mountain provides an opportunity to investigate how its flora has been affected by these two large floristic regions. At 8,364 ft, Gearhart is the highest peak in south-central Oregon between the Cascade and Warner Mountains. The nearest peaks of similar height are Yamsey (8,196 ft.) about 40 miles to the northwest, and Drake (8,407 ft.) about 40 miles to the east. The Cascades lie about 75 miles to the west.

Taylor and Hannan (1999) place Gearhart Mountain in the “High Plateau” climate zone, which has a short growing season, subject to frost throughout the year. In Klamath County, annual precipitation averages 37 inches, with about 80 percent falling between October and March. Average minimum temperatures for January are 15º F. Because of its height and size, precipitation rates on Gearhart are relatively high for the region east of the Cascades. The Forest Service reports a record snow depth of 100

inches, measured at 7,000 ft. elevation on the mountain. Although this is likely exceptional, it emphasizes the importance of snow in the water budget of the mountain. Snow covers most of higher terrain from November to June, and in heavy snowfall years, some small drifts last through summer and fall. As a consequence, springs, seeps, wet meadows, and other wetlands are plentiful at the higher elevations. The basin formed by Dairy Creek Cirque on the east side of the mountain has the highest concentration of meadows. These start at about 7,600 ft. and continue down slope for about a mile.

Geology and Soils

Gearhart is a Miocene shield volcano composed of numerous low-viscosity lava flows that extend outwards about ten miles from the mountain. (Newberry Crater, south of Bend is also a shield volcano, and other shield volcanoes occur in the area just east of the Cascades from northern California to Washington.) On Gearhart Mountain, this gray, igneous, porphyritic rock forms prominent outcrops and formations, some over 300 feet high. Their characteristic platy, slate-like fracture creates conspicuous rock formations, many of which are named; for example, Haystack Rock, The Dome, Lookout Rock, and Palisade Rocks.

Powerful erosional forces, especially glaciers, have carved prominent valleys that dominate the terrane on the north and east sides. Well preserved moraine loops occur at distances of two to three miles from cirque headwalls on the northeast side of the mountain (Osborn and Beavis 2001). The Dairy Creek Cirque is two miles wide. Dairy Creek flows into the Chewaucan River, which drains into Lake Abert. Lake Abert basin lacks external drainage and some geographers consider it part of the Great Basin. Near-vertical cliffs of the massive headwall of the Dairy Creek Cirque rise over 300 feet high. The headwall has eroded through on the west, forming a prominent cliff that can be seen from a
great distance. Prominent talus slopes and slide debris occur below the cliffs. Other cirques and valleys occur around the mountain.

At the higher elevations, soils are poorly developed and contain a high fraction of volcanic ash and rock; lower sites have sandy loam soils (Hopkins 1979). Habitats on the mountain vary by elevation, aspect, soils, moisture, presence of exposed rock, and other factors. Glacial activity on the north and east sides of the mountain has contributed to habitat diversity, especially by gouging basins that trap fine sediments and water, thus creating wetlands. The south and west aspects are warmer and drier than the east and north slopes, and these differences are reflected in the plant cover. Coniferous forests cover most of the mountain, except were soils are saturated or the substrate is primarily rock.

Plant Collections and Trail Access

According to records at Oregon State University Herbarium, about 250 sheets have been collected from Gearhart Mountain, representing 166 plant species. Major collections were made by John Leiberg in 1896, Lincoln Constance in 1928, May Loveless in 1931, and Virginia Crosby, Lakeview BLM botanist, in 1976 and 1979. I have been making observations since 1998.

Most plant collections, including my own observations, have been from near Trail 100, which starts at the wilderness boundary on the south side of the mountain near the Corral Creek campground and Finley Corrals. From the trailhead at 6,300 ft., this trail ascends for 5 miles to 8,000 feet, before descending to 7,500 ft. in the Dairy Creek Cirque basin. From there it continues north for a total distance of 11 miles. To access the west side of the mountain, use Boulder Creek T rail 100A, which originates at 6,500 ft. A third trail, Lookout Rock, is accessed via a short spur road (#012) off Forest Road 34, which is about a half mile north of Bly on Highway 140.

Overview of Plant Communities

Lookout Rock Trail

Forests of western juniper (Juniperus occidentalis) and ponderosa pine (Pinus ponderosa) occupy the south and west slopes between 6,300 and 7,000 ft. elevation. A broad area of scabland with only scattered trees covers the southwest slope near the Sprague River. In contrast, lodgepole pine (Pinus contorta) and white fir (Abies concolor) dominate the north and east aspects. White fir extends onto the south and west sides, where it is joined by scattered ponderosa and sugar pine (Pinus lambertiana) up to about 7,000 feet, in what could be called the montane zone. Above this, in a subalpine zone, lodgepole pine and whitebark pine (Pinus albicaulis) dominate, with the latter becoming more prevalent above 7,500 ft.

Whitebark pine, flagged by the prevailing southwest wind, grow on the west side of Gearhart Mountain in the subalpine zone, about 8,000 feet elevation. Mountain spray and mountain gooseberry grow protected by boulders. Discoid goldenweed, a rare Intermountain sub-shrub, also grows on these slopes. Photo by Ron Larson.
annual hairgrass (*Deschampsia danthonioides*), and bottlebrush squirreltail.

Beginning at about 7,000 feet, ground cover in the white fir forest becomes more diverse and abundant. Dominant herbs in this zone include western hawkweed, white flowered hawkweed (*Hieracium albilorum*), kelloggia, sticky chickweed (*Pseudostellaria jamesiana*), and several wintergreen species, including bog (*Pyrola asarifolia*), white vein (*P. picta*), and sidebells (*Orchis* *Pyrola* *secunda*). Also found in this area are Nuttall's linanthus, Oregon sunshine (*Eriophyllum lanatum*), western valerian (*Valeriana occidentalis*), and coyote mint (*Monardella odoratissima*).

At about 7,500 feet, stands of quaking aspen (*Populus tremuloides*) appear at small seeps and springs, along with a variety of wetland herbs, including red columbine (*Aquilegia formosa*), Columbia monkshood (*Aconitum columbianum*), western red baneberry (*Actaea rubra*), Gray's lovage (*Ligusticum grayii*), sweet cicely (*Osmorhiza berteroi*), ranger's buttons (*Sphenocidium capitellatum*), Bolander's tarweed (*Kyhosia bolanderi*), California false hellebore (*Veratrum californicum*). On seasonally moist slopes below rocky cliffs, such as at The Dome, patches of blue stickyseed (*Hackelia micrantha*) and the strongly aromatic nettle-leaved horsemint (*Agastache urticifolia*) occur. The pink-purple heads of the horsemint attract a variety of butterflies and bees. Steep and exposed rocky ridges on the south slopes are dominated by low sagebrush (*Artemisia arbuscula*), mountain big sagebrush (*Artemisia tridentata* var. *saxatilis*), coyote mint, curled mountain mahogany, common snowberry (*Symphoricarpos albus*), Bolander's tarweed (*Sphenocidium capitellatum*), Bolander's penstemon and alpine springbeauty (*Claytonia* *alpine*), an endemic on Oregon Natural Heritage Program (ONHP) list 1, grows with prickly sandwort under an open canopy of whitebark pine in dry ashy soils. Green-tinged paintbrush (*Castilleja chlorotica*), another endemic on the ONHP list 1, grows on rocky ridges and in crevices along with mountain spray, mountain gooseberry (*Ribes montigenum*), roundleaf alum root, cutleaf daisy (*Erigeron compositus*), rock sword fern (*Polystichum scopulinum*) and lace lipfern (*Cheilanthes gracillima*). Common juniper (*Juniperus communis* var. *montana*) forms spreading mounds. I found two ponderosa pine trees on the south slope at 8,000 feet: their twisted and broken limbs provide a testament to the strong winds that buffet the mountain. At this elevation, powerful desiccating winds blast the whitebark pine with ice crystals, creating a flagged growth form with supple limbs oriented away from the prevailing southwest winds.

The panoramic views from the crest of the Lookout Rock Trail and from the top of the mountain are stunning. One can see down to the meadows of the Dairy Creek Cirque, Winter Rim to the northeast, Dead Horse Rim and the Warner Mountains to the east, Cougar and Grizzly peaks to the southeast, the Sprague River Valley to the south, and Mt. McLoughlin far in the distance to the southwest. As the trail passes over the narrow ridge at “The Notch,” the aspect changes from south-facing to northeast-facing. Snow persists into July in this sheltered, shady area and few vascular plants grow here except small whitebark pines, and two subalpine herbs, Davidson’s penstemon and alpine springbeauty (*Claytonia megarhiza*), which emerge from rock crevices.

**Boulder Creek Trail**
Access to the west side of the mountain is from the Boulder Creek Trail.
On the south slope at about 7,800 ft., ice-sculpted cliffs end in a community of snowbrush, mountain gooseberry, roundleaf alumroot, cutleaf daisy, rock sword fern, and lace lipfern. Mounds of common juniper grow above the cliff; whitebark pine below. Photo by Ron Larson.

Trail (#100A). The trailhead begins at 6,500 ft elevation off Forest Road #018, and passes through lodgepole pine and white fir stands. After 1.3 miles it reaches a large meadow rich in wildflowers and rimmed by aspens near the head of Boulder Creek at 7,500 ft. elevation. From here, it is a short one-third mile scramble up a steep talus slope to the highest point on the mountain. The flora along this trail shares many of the same species present along the Lookout Rock Trail. One notable exception is the presence of discoid goldenweed (Ericameria discoidea) at about 8,000 ft. on a dry, rocky slope. This low shrub is on ONHP list 4 and appears to be at its western-most location here. Because the Boulder Creek Trail gets less use, it can be hard to follow and therefore is not recommended for novice hikers.

Dairy Creek Cirque
Numerous springs, seeps, pools and stream channels add diversity to a long meadow at about 7,600 feet just below the headwall and its talus slope in Dairy Creek Cirque. This area appears to have been a small tarn or glacier-formed lake, based on the presence of a low berm (probably a moraine) that likely formed a dam. Over time, the tarn filled with sediments and peat until only a series of pools and small streams remain. Other wet meadows are scattered across the upper part of the cirque basin and down slope for about a half mile. It is unlikely that these meadows have been grazed by cattle, and are among the highest elevation pristine meadows in this part of the state. These subalpine wetlands support an especially rich flora, although they represent a tiny fraction of the wilderness area. They contain about one-third of the vascular plant species found in the Wilderness. In July, the meadows are especially colorful with a high diversity of wildflowers including alpine and arrowleaf groundsel (Packera subnuda [Senecio cymbalarioideus] and S. triangularis), longleaf, hairy and Parry’s arnicas (Arnica longifolia, A. mollis, and A. parryi). Orchids are represented by white bog orchid (Platanthera dilatata var. leucostachys), sparse flowered bog orchid (P. sparsiflora), slender bog orchid (P. stricta), and hooded ladies tresses (Spiranthes romanzoffiana). Other wetland plants include subalpine daisy (Erigeron glacialis) [Note: new name for E. peregrinus var. callianthemus], black twinberry (Lonicera involucrata), alpine laurel (Kalmia microphylla), pink mountain heather (Phyllococe empetriformis), meadow lupine (Lupinus polyphyllus), American bistort (Bistorta bistortoides), creeping sibbaldia (Sibbaldia procumbens), marsh marigold (Caltha leptosepala), alpine shooting star (Dodecatheon alpinum), primrose monkeyflower (Mimulus primuloides), elephant’s head (Pedicularis groenlandica), scarlet paintbrush (Castilleja miniata), and small white violet (Viola macloskeyi). Shrubs include bog birch (Betula glandulosa), and several unidentified willows (Salix spp.) and huckleberries (Vaccinium spp.). I have not yet identified the many...
species of sedges and rushes in the wetlands, but several species present in the Oregon State University Herbarium are in the appended plant list.

The headwall of the Dairy Creek Cirque and associated talus slopes support some species that are not found elsewhere in the Wilderness, including American alpine lady fern (*Athyrium alpestre*), Cascade parsley fern (*Cryptogramma cascadensis*), Brewer’s cliff brake (*Pellaea breweri*), mountain sorrel (*Oxyria digyna*), and the colorful rose willowherb (*Epilobium obcordatum*). High overhead, I saw common juniper growing from ledges.

**Floristics**

Gearhart Mountain sits in the southern part of the East Slope Cascades Ecoregion, which runs the length of the state (from north to south) and is widest in the southern part of Klamath County (Kagan *et al.* 2004). Anderson *et al.* (1998) place it in the Mazama Ecological Province, which covers Deschutes County and the northern half of Klamath County, and a small portion of Lake County near Gearhart Mountain. Anderson *et al.* (1998) indicate that this province is typified by soils containing Mount Mazama ash.

I compared the flora of Gearhart Mountain Wilderness with that of Crater Lake National Park (Zika 2003) and Steens Mountain (Mansfield 1999). I selected these floras because they are well known, lie at approximately the same latitude in Oregon (between 42° and 43° North Latitude), and represent the southern Cascade Mountains and Intermountain floras, to which the Gearhart Mountain flora is most likely allied.

Although the Gearhart Mountain Wilderness flora is incompletely studied, 250 species in 50 families have been identified. Once the monocots are better known, and plants from lower elevations are included, this number will increase. Only two introduced plant species, common dandelion (*Taraxacum officinale*) and yellow salsify (*Tragopogon dubius*), were observed and these were uncommon.

Crater Lake and Steens Mountain share 119 of the 250 plant species (48%) that were found on Gearhart Mountain. Thus, many wide-ranging species are present in all three areas. However, about half (52%) of the species recorded on Gearhart Mountain, were absent from either Crater Lake or Steens Mountain, indicating their floras are substantially different, which could be expected based on their locations and the lack of dispersal corridors for high elevation plants.

The Gearhart Mountain flora shows an approximate equal relationship with both Crater Lake National Park (167 species or 67% in common) and Steens Mountain (184 species or 74%). This is despite the closer proximity of Gearhart Mountain to Crater Lake (70 miles) than to Steens Mountain (120 miles). When the floras are compared more closely the relationships and differences becomes more apparent. Gearhart Mountain Wilderness shares seven of eight coniferous species with Crater Lake National Park, but only three with Steens Mountain. Similarly, of the ten ericaceous plants (mostly small shrubs) in Gearhart Mountain Wilderness all are also present in Crater Lake National Park, but only three are found on Steens Mountain. Other groups indicate a greater affinity with Steens Mountain. An example is Asteraceae, which is represented by 36 species on Gearhart Mountain. Of these, 31 species (86%) also occur on Steens Mountain, while only 23 (64%) are shared with Crater Lake.

Some examples of species common to Gearhart and Steens mountains that are absent from Crater Lake are western juniper, western boneset, bog birch, creeping Oregon grape, sticky geranium, mountain gooseberry, nettle leaved horsemint, rose willowherb, alpine springbeauty, curl-leaf mountain mahogany, roundleaf alumroot, yellow bell (*Fritillaria pudica*), and western peony (*Paeonia brownii*). Another example is discoid goldenweed, which has a distribution limited to sites east of Gearhart Mountain in Oregon (e.g., Steens Mountain and Crane Mountain).

Ten species present on Gearhart Mountain are unknown from either Crater Lake National Park or Steens Mountain, including woolly mule’s ears, waterleaf phacelia, blue-leaved penstemon, mountain kittentails, and green-tinged paintbrush. Waterleaf phacelia is a southern Cascadian species, but is not known to occur in Crater Lake National Park. Blue leaved penstemon is endemic to high elevations of Klamath and Lake counties, but is absent in the Cascades. The range of woolly mule’s ears includes the Cascade Mountains in California, Klamath Mountains in...
Oregon and California, the Warner Mountains in Oregon and California, and other areas in Klamath and Lake counties, Oregon, but does not include Crater Lake National Park. Mountain kittens range from the Warner Mountains to eastern Washington and Idaho. Green-tinged paintbrush is endemic to Crook, Deschutes, Lake, and Klamath counties (see sidebar).

My analysis indicates that Gearhart Mountain’s flora blends elements from each of the neighboring floristic provinces. Based on the 250 species that have been recorded, the flora of Gearhart Mountain Wilderness shows greater affinity with floras to the east than with other regions. Cronquist et al. (1972) drew the western boundary of the Lake floristic section of the Intermountain West only 15 miles east of Gearhart Mountain, so it is geographically very close to that region.

Castilleja chlorotica Piper

Green-tinged paintbrush is endemic to central Oregon: the Eastern Cascades and Foothills ecoregion, from Cook and Deschutes counties south to Klamath and Lake counties (USDA Forest Service 2007). It is found in a diversity of habitats, but mostly in forest openings on seasonally dry, south and west slopes, and summits from 4,300 to over 8,000 feet elevation, where soils are shallow, rocky, and often have a high content of volcanic ash. The plants are typically about a foot tall, the foliage is sticky, and the leaves have a wavy margin. Although the overall color is a bright green (hence its scientific and common names), the stem and bracts can be tinted reddish or purple. It is the only green paintbrush in central Oregon. A hemi-parasite of big sagebrush and bitterbrush, and possibly other shrubs, green-tinged paintbrush obtains water and minerals from its deep-rooted hosts.

Its heritage ranking is G3, owing to its rarity. All known populations (~180) are on Federal lands with the majority on Fremont National Forest in Lake County (USDA Forest Service 2007). Some populations are quite large and the Forest Service estimates that the total number of plants is ~0.5 million. It has three major areas of distribution: Gearhart Mountain and Winter Rim on Fremont National Forest, and Wake, Pistol, and Wagon buttes in Deschutes National Forest (USDA Forest Service 2007).

This species was first collected in 1896 near the summit of Gearhart Mountain by John Leiberg, a botanist who was collecting for the National Herbarium of the Smithsonian Institution (Walker 2000). At the time, Leiberg was collecting in eastern Oregon with Fredrick Coville, who was Chief Botanist at National Herbarium. Later that summer Leiberg and Coville collected at Crater Lake National Park (Horn 2005). The holotype specimen (labeled “Gayhart Buttes”) is at the Smithsonian Institution. It was described in 1920 by C.V. Piper.

References


Vascular Plant List

Nomenclature follows the 2007 Oregon Flora Project checklist. Names of taxa native to Oregon are printed in italic *Garamond*; alien taxa are in italic *Gill Sans*, a sans-serif type. Species that have special Federal or State status are noted by an asterisk before the scientific name.
Lace lipfern (Cheilanthes gracillima) fills rock crevices at Palisade Rocks and cliffs above 7,500 feet elevation on the south side of the mountain. Photo by Ron Larson.
Nuttall's linanthus, a white-flowered forb that is widely distributed east of the Cascades and Sierras, grows on the south side of the mountain in both forested and open sites. Photo by Ron Larson.
Pine white butterfly on rabbitbrush (Ericameria nauseosa), August 28, 2005. Photo by Ron Larson.

FUMARIACEAE (Fumitory Family)
- Dicentra uniflora Kellogg (steer’s head)
- Collomia grandiflora Douglas ex Lindl. (large flowered collomia)
- Collomia linearis Nutt. (narrow leafed collomia)
- Collomia tinctoria Kellogg (yellow staining collomia)
- Ipomopsis aggregata (Pursh) V.E. Grant (scarlet gilia)
- Leptosiphon (Linanthus) bicolor (Nutt.) Jeps. (bicolored linanthus)
- Leptosiphon (Linanthus) ciliatus (Benth.) Jeps. (wiskerbrush)
- Leptosiphon (Linanthus) harknessii (Curran) J.M. Porter & L.S. Johnson (three-seed linanthus)
- Leptosiphon (Linanthastrum) nuttallii (A.Gray) J.M. Porter & L.S. Johnson (Nuttall’s linathastrum)
- Linanthus (Leptodactylon) pungens (Torr.) J.M. Porter & L.S. Johnson (prickly phlox)
- Phlox diffusa Benth. (spreading phlox)
- Phlox gracilis (Hook.) Greene (slender phlox)
- Polemonium occidentale Greene (western Jacob’s ladder)

POLEMONIACEAE (Phlox Family)
- Castilleja applegatei Fernald (wavy leaf paintbrush)
- Castilleja miniata Douglas ex Hook. (scarlet paintbrush)

POLYGONACEAE (Buckwheat Family)
- Eriogonum elatum Douglas ex Benth. (tall buckwheat)
- Eriogonum nudum Douglas ex Benth. (barestem buckwheat)
- Eriogonum spergulinum A. Gray var. reddingianum (spurry buckwheat)
- Eriogonum umbellatum Torr. (sulphur flower buckwheat)
- Eriogonum vimineum Douglas ex Benth. (broom buckwheat)
- Oxyria digyna (L.) Hill (mountain sorrel)

PORTULACACEAE (Purslane Family)
- Calytridium (Spraguea) umbellatum (Torr.) Greene (pussypaws)
- Claytonia megarhiza (A.Gray) Parry ex S. Watson (alpine springbeauty)
- Lewisia nevadensis (A. Gray) B.L. Rob. (Nevada lewisia)
- Lewisia pygmaea (A. Gray) B.L. Rob. (dwarf lewisia)
- Lewisia triphylla (S. Watson) B.L. Rob. (threeleaf lewisia)
- Montia linearis (Douglas ex Hook.) Greene (narrowleaf montia)

PRIMULACEAE (Primrose Family)
- Dodecatheon alpinum (A. Gray) Greene (alpine shooting star)

RANUNCULACEAE (Buttercup Family)
- Aconitum columbianum Nutt. var. columbianum (Columbia monkshood)
- Actaea rubra (Aiton) Willd. (western red baneberry)
- Aquilegia formosa Fisch. (red columbine)
- Caltha leptosepala DC. (marsh marigold)
- Delphinium depotratum Nutt. (slim larkspur)
- Delphinium nuttallianum Pritz. ex Walp. (upland larkspur)
- Ranunculus alismifolius Geyer (plaintain leaved buttercup)
- Ranunculus populago Greene (mountain buttercup)
- Thalictrum sparsiflorum Turcz. ex Fisher & C.A. Meyer (few flowered meadowrue)

RHAMNACEAE (Buckthorn Family)
- Ceanothus prostratus Benth. (Mahala mat)
- Ceanothus velutinus Douglas ex Hook. (tobacco brush)
- Rhamnus alnifolia L.’Hér. (alder buckthorn)

ROSACEAE (Rose Family)
- Amelanchier alnifolia (Nutt.) Nutt. ex M. Roem. (western serviceberry)
- Cercocarpus ledifolius Nutt. (curl-leaf mountain mahogany)
- Fragaria vesca L. (wood strawberry)
- Fragaria virginica Duchesne (broad petal strawberry)
- Geum macrophyllum Willd. (large leaved avens)
- Holodiscus dumosus (Nutt. ex Hook) A. Heller (mountain spray)
- Horkelia fusca Lindl. (pink pinwheels)
- Potentilla glandulosa Lindl. (sticky cinquefoil)
- Potentilla gracilis Douglas ex Hook. (graceful cinquefoil)
- Potentilla versicolor Rydb. (varying cinquefoil)
- Prunus emarginata (Douglas ex Hook) Wláp. (bitter cherry)
- Purshia tridentata (Pursh) DC. (bitterbrush)
- Rubus parviflorus Nutt. (thimbleberry)
- Sibbaldia procumbens L.(creeping sibbaldia)
- Sorbus scopulina Greene (Rocky Mountain mountain ash)

RUBIACEAE (Madder Family)
- Kelloggia galoides Torr. (kelloggia)

SALICACEAE (Willow Family)
- Populus tremuloides Michx. (quaking aspen)

SAXIFRAGACEAE (Saxifrage Family)
- Heuchera cylindrica Douglas ex Hook (roundleaf alumroot)
- Lithophragma glabrum Nutt. (smooth fringedcup)
- Lithophragma tenellum Nutt. (slender woodland star)
- Mitella pentandra Hook. (mitrewort)
- Saxifraga nigricans Greene (nesting saxifrage)
- Saxifraga oregana Howell (Oregon saxifrage)

SCROPHULARIACEAE (Figwort Family)
- Castilleja applegatei Fernald (wavy leaf paintbrush)
- Castilleja miniata Douglas ex Hook. (scarlet paintbrush)

Bistorta bistortoides (Pursh) Small (American bistort)
- Rumex acetosella L. (sheep sorrel)
*Castilleja chlorotica* Piper (green-tinged paintbrush)
*Collinsia parviflora* Douglas ex Lindl. (small flowered blue-eyed Mary)
*Collinsia rattanii* A. Gray (Rattan’s collinsia)
*Mimetanthe pilosa* (Benth.) Greene (hairy monkeyflower)
*Mimulus guttatus* DC. (common yellow monkeyflower)
*Mimulus moschatus* Douglas ex. Lindl. (musk monkeyflower)
*Mimulus panus* Hook. & Arn. (dwarf monkeyflower)
*Mimulus primuloides* Benth. (primrose monkeyflower)
*Pedicularis groenlandica* Retz. (elephant’s head pedicularis)
*Penstemon davidsonii* Greene var. davidsonii (Davidson’s penstemon)
*Penstemon deustus* Douglas ex. Lindl. (hotrock beardtongue)
*Penstemon laetus* A. Gray var. roezlii (Roezli’s penstemon)
*Penstemon rydbergii* A. Nelson (Rydberg’s penstemon)
*Sisyrinchium idahoense* A. Nelson (Roezli’s penstemon)

**MONOCOTYLEDONS**

**Cyperaceae** (Sedge Family)
*Carex bracta* Mack. (frail-sheathed sedge)
*Carex inops* L.H. Bailey (long-stolon sedge)
*Carex jonesii* L.H. Bailey (Jones’ sedge)
*Scirpus microcarpus* J. Presl & C. Presl (small-fruiting sedge)

**Iridaceae** (Iris Family)
*Iris missouriensis* Nutt. (western blueflag)
*Spiranthes romanzoffiana* E.P. Bicknell (Idaho blue eyed grass)

**Juncaceae** (Rush Family)
*Juncus mertensianus* (Tolmie’s rush)
*Juncus orthophyllus* (straight leaved rush)
*Juncus multiflorus* (common woodrush)
*Juncus spicatus* (spiked woodrush)

**Liliaceae** (Lily Family)
*Allium campanulatum* Wats. (Sierra onion)
*Allium tolmiei* Baker var. tolmiei (Tolmie’s onion)
*Allium validum* S. Watson (swamp onion)
*Fritillaria atropurpurea* Nutt. (chocolate lily)
*Fritillaria pudica* Pursh. (yellow bell)
*Lilium washingtonianum* Kellogg (Washington lily)
*Maianthemum (Smilacina) racemoum* (L.) Link (western Solomon’s seal)
*Maianthemum (Smilacina) stellarum* (L.) Link (starry false Solomon’s seal)

**Orchidaceae** (Orchid Family)
*Calopogon bulbosus* (Raf. ) Raf. (spotted coralroot)
*Goodyera oblongfolia* Raf. (western rattlesnake plantain)
*Listera acaulis* Piper (northwest twayblade)
*Piperia unalascensis* (Sprengel) Rydb. (Alaska rein orchid)
*Platanthera dilatata* Pursh. (eastern broadwing)
*Platanthera stricta* Lindl. (slender bog orchid)
*Platanthera sparsiflora* Lindl. (sparse flowered bog orchid)
*Platanthera dilatata* Pursh. (eastern broadwing)
*Piperia unalascensis* (Sprengel) Rydb. (Alaska rein orchid)
*Spiranthes romanzoffiana* Cham. (hooded ladies tresses)

**Poaceae** (Grass Family)
*Achnatherum occidentale* (Thurb. ex S. Watson) Barkworth (western needlegrass)
*Agrostis scabra* Willd. (winter bentgrass)
*Bromus carinatus* Hook. & Arn. (California brome)
*Bromus inermis* Vasey var. inermis (Orcutt’s brome)
*Deschampsia danthonioides* (Trin.) Munro (annual hairgrass)
*Elymus elymoides* (Raf.) Swezy (bottle brush squirreltail)
*Melica bulbosa* Geyer ex Porter & J.M. Coul. (oniongrass)
*Muhlenbergia filiformis* (Thurb. ex S. Watson) Rydb. (pullup muhly)
*Phleum alpinum* L. (mountain timothy)
*Poa secunda* J. Presl (Sandberg bluegrass)

Ron Larson received a BS from Oregon State University in 1969, and advanced degrees from universities in Canada and Puerto Rico. He is an aquatic biologist with the US Fish and Wildlife Service in Klamath Falls. Ron is a member of the Klamath Basin Chapter of NPSO and has led field trips including some to the Gearhart Mountain Wilderness. He is one of the coauthors of the recently-published book, Common Plants of the Upper Klamath Basin. Ron enjoys all aspects of native plants, including photography, gardening, and their identification. He spends his winters dreaming of mountain meadows filled with flowers and buzzing with bees.