

United States
Department of
Agriculture
Forest Service
Pacific Northwest
Forest and Range
Experiment Station

Administrative
Report PNW-4
February 1982



Checklist of the Vascular Plants of Thornton T. Munger Research Natural Area

M-55
294

Lois Kemp and S. Reid Schuller

Abstract

Lists 178 vascular plant taxa found in the 478-hectare Thornton T. Munger Research Natural Area in the Gifford Pinchot National Forest in the southern Washington Cascade Range. Notes on habitats, community types, and abundance are included for most taxa.

Keywords: Checklists (vascular plants), vascular plants, natural areas (research), Washington (Thornton T. Munger Research Natural Area).

Purpose

This report provides scientists, educators, and land managers with baseline information on the presence, location, and abundance of vascular plants in the Thornton T. Munger (previously Wind River) Research Natural Area. In the future, changes in the flora—additions, deletions, changes in abundance, and shifts in habitat—can be determined from this baseline. The checklist can also be used in evaluating the effects of human activities in equivalent ecosystem types.

Environment

The Thornton T. Munger Research Natural Area occupies a 478-hectare (1,180-acre) tract in the Gifford Pinchot National Forest (Skamania County) in the southern Washington Cascade Range. The Research Natural Area (RNA), administered by the Wind River Ranger District, was established in 1934 to exemplify the old-growth Douglas-fir—western hemlock (*Pseudotsuga menziesii* (Mirb.) Franco-*Tsuga heterophylla* (Raf.) Sarg.) forest which originally covered many valleys in the Cascade Range of western Washington (Franklin et al. 1972).

The RNA fills three natural area needs within the Western Hemlock Zone of the Western Slopes and Crest Province, Washington Cascades (Dyrness et al. 1975):

1. Old-growth Douglas-fir-western hemlock forest (southern portion of province).
2. Old-growth western hemlock forest (southern portion of province).
3. Marsh and swamp ecosystem (special types category) (Dyrness et al. 1975).

Lois Kemp is a contract field botanist and S. Reid Schuller is a plant ecologist with the Washington Natural Heritage Program, The Nature Conservancy. The work reported was done under contract to the Pacific Northwest Forest and Range Experiment Station and the Pacific Northwest Natural Area Committee.

The western 90 percent of the RNA occupies the gentle lower slopes of Trout Creek Hill, an extinct shield volcano dissected by several intermittent streams. It contains areas with dense old growth. Two small areas along the north-eastern boundary were accidentally logged between 1910 and 1920 and are now occupied by second-growth stands. A large portion of the RNA south of road N 417 (fig. 1) is also occupied by a second-growth stand dating from the 1902 Yacolt Burn. Topography is somewhat steeper at the extreme eastern edge on the lower slopes of Bunker Hill (Franklin et al. 1972).

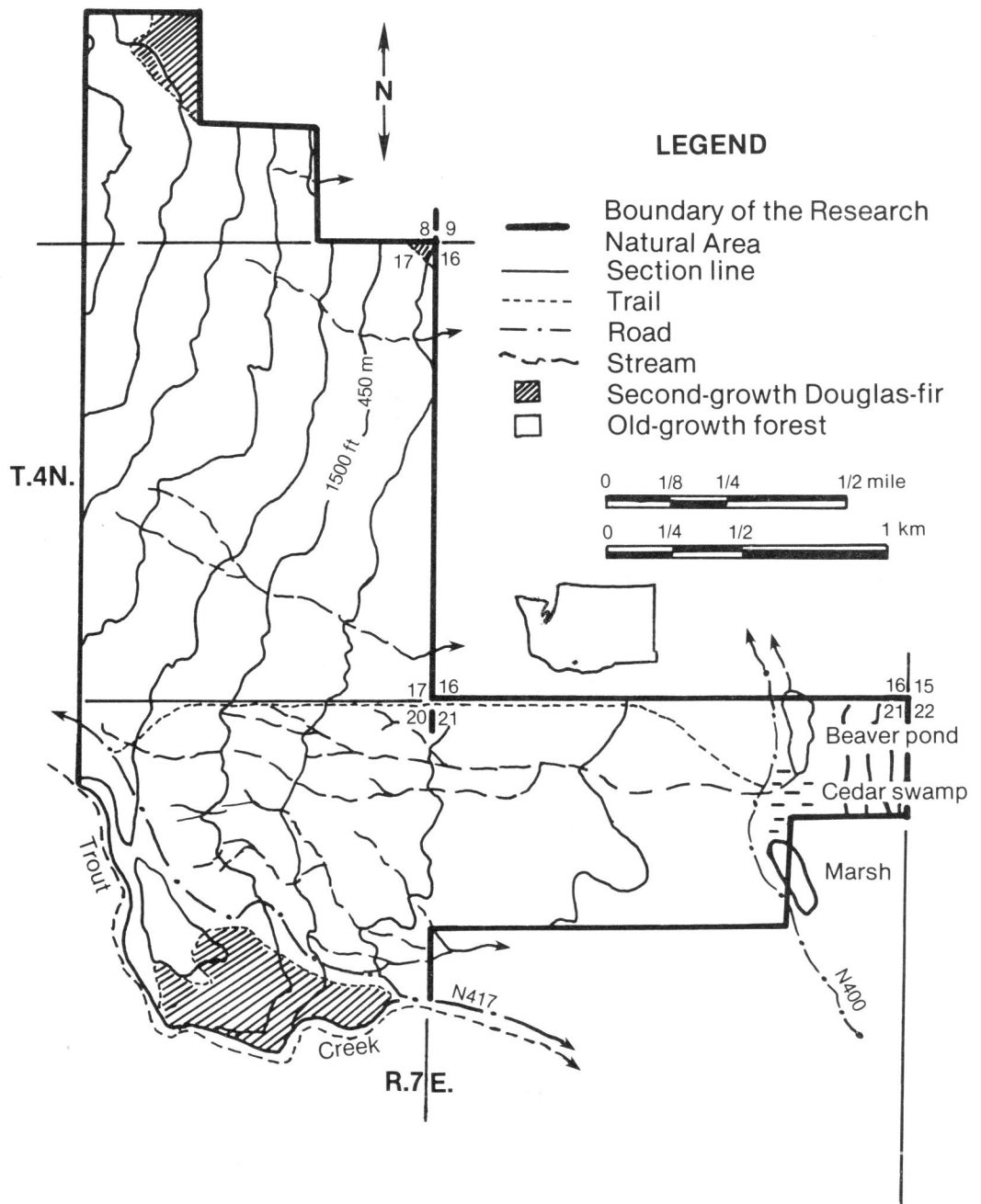


Figure 1.—Thornton T. Munger Research Natural Area (adapted from Franklin et al. 1972).

Along the western edge of Bunker Hill lies a large, nearly flat and relatively moist area containing substantial amounts of western redcedar (*Thuja plicata* Donn ex D. Don). A significant area of cedar swamp, openwater beaver pond, and seasonally flooded marsh occurs along the western base of Bunker Hill. Elevations in the RNA range from 335 to 610 meters (1,100 to 2,000 ft).

Douglas-fir and western hemlock are major components in forest stands throughout the area. Western redcedar predominates locally, and Pacific silver fir (*Abies amabilis* Dougl. ex Forbes) is a minor component throughout most of the area. Western white pine (*Pinus monticola* Dougl. ex D. Don) and noble fir (*Abies procera* Rehd.) also occur sporadically. Understory dominants vary considerably with local site conditions. A subcanopy mainly of *Acer circinatum*, *Taxus brevifolia*, and *Cornus nuttallii* 5 to 10 meters (15 to 35 ft) in height frequently occurs. A shrub layer is typified by *Berberis nervosa*, *Vaccinium parvifolium*, *Vaccinium membranaceum*, *Gaultheria shallon*, *Rubus ursinus*, and—in local areas—*Rhododendron macrophyllum*. Conspicuous herbs include *Clintonia uniflora*, *Achlys triphylla*, *Pteridium aquilinum*, *Xerophyllum tenax*, *Linnaea borealis*, *Trillium ovatum*, *Anemone deltoidea*, and *Chimaphila menziesii* (Franklin et al. 1972).

Part of the forested area is in an *Abies amabilis*/*Gaultheria shallon* Association (Franklin 1966); in other parts a *Tsuga heterophylla*/*Acer circinatum*-*Berberis nervosa* Association (Franklin et al. 1972) occurs.

The cedar swamp, beaver pond, and marsh provide major areas of aquatic, semiaquatic, and moist habitat. Floristic richness is high in these areas, particularly along the margins of the beaver pond and marsh. Beaver dams and a small portion of the north end of the pond are just outside the RNA. The marsh is flooded seasonally and contains dense stands of *Spirea douglasii*, *Salix* spp., and open muddy areas.

Bedrock in the Research Natural Area consists almost entirely of olivine basalts of Pleistocene-Recent age (Wise 1970). These materials are part of the flows that originated on Trout Creek Hill. Trout Creek Hill is surmounted by two cinder cones, and bedrock in the RNA is rarely encountered because of various surface deposits. Most, if not all, of these are composed of volcanic ejecta of unknown sources. The lower slopes of Bunker Hill at the extreme eastern edge of the RNA are occupied by Eocene to Oligocene andesitic to rhyodactic pyroclastic rocks belonging to the Ohanapecosh Formation (Wise 1970).

A cool, moist climate prevails. Precipitation is seasonal, peaking during winter months and reaching lowest levels in the summer. Summer droughts of 2 months have been recorded (Steele 1952). Much of the winter precipitation occurs as snow, and at least some snow blankets the RNA most of the winter (Franklin et al. 1972). The following climatic data are for the Wind River Ranger Station located about 3 kilometers (2 miles) southeast of the RNA and are probably representative of conditions there (U.S. Weather Bureau 1965); additional climatic data are summarized by Steele (1952):

Mean annual temperature	8.7°C (47.8°F)
Mean January temperature	0.0°C (32.0°F)
Mean July temperature	17.5°C (63.5°F)
Mean January minimum temperature	-3.7°C (25.3°F)
Mean July maximum temperature	26.9°C (80.5°F)
Average annual precipitation	2 528 mm (99.51 inches)
June through August precipitation	119 mm (4.67 inches)
Average annual snowfall	233 cm (91.7 inches)

Most soils are not developed primarily from residual parent materials but from volcanic ejecta which appears to make up the bulk of the surface soil and has probably been deposited by both wind and water. Layering of parent materials is apparent in many profiles (Franklin et al. 1972).

The Checklist

The list includes all vascular plant taxa identified in the Thornton T. Munger Research Natural Area during field visits on April 29; May 17; June 21 and 22; July 2, 23, and 24; and August 22 and 23, 1979.

Taxa for which no collection numbers (numbers in parentheses after a listing) are listed were identified in the field by the authors. Vouchers were verified in the herbaria at the University of Washington, Seattle, and at Oregon State University, Corvallis. Vouchers are deposited at the University of Washington, Seattle.

Families, genera, and species are arranged alphabetically. Scientific nomenclature and taxonomy follow Hitchcock and Cronquist (1973). Common names are taken from Franklin and Dyrness (1973), Garrison et al. (1976), and Hitchcock and Cronquist (1973). Additional references for flora are Hitchcock et al. (1955-69).

We have attempted to identify only the major distribution patterns for each species. Abundance of species was qualitatively estimated in the field and is recorded in the checklist on the following scale: rare, infrequent, occasional, frequent, abundant. Only the collection site has been listed for taxa with inadequate data on distribution and abundance.

Aceraceae

Acer circinatum Pursh, vine maple—frequent to abundant.

Acer glabrum Torr. var. *douglasii* (Hook.) Dippel, Rocky Mountain maple—rare in semiopen areas south of N 417.

Acer macrophyllum Pursh, bigleaf maple—infrequent.

- Apocynaceae** *Apocynum androsaemifolium* L. var. *pumilum* Gray, spreading dogbane—infrequent in dry to damp, open to semiopen coniferous forest.
- Araceae** *Lysichitum americanum* Hultén & St. John, skunkcabbage—occasional in swampy areas near beaver pond and along intermittent streams.
- Aristolochiaceae** *Asarum caudatum* Lindl., wild ginger—infrequent in moist shady areas near beaver pond, marsh, and intermittent streams.
- Berberidaceae** *Achlys triphylla* (Smith) DC., deerfoot vanillaleaf—abundant in damp, shady coniferous forest.
- Berberis nervosa* Pursh, Oregongrape—abundant in dry to damp, semiopen to shady coniferous forest.
- Vancouveria hexandra* (Hook.) Morr. & Dec., white inside-out-flower—frequent in damp, shady coniferous forest.
- Betulaceae** *Alnus rubra* Bong., red alder—infrequent along edges of beaver pond and marsh.
- Corylus cornuta* Marsh. var. *californica* (D.C.) Sharp, California hazel—occasional in open, coniferous forest.
- Callitrichaceae** *Callitriche verna* L., water starwort—infrequent in beaver pond (79119).
- Campanulaceae** *Campanula scouleri* Hook., Scouler bellflower—occasional in dry to damp, open to semiopen forest.
- Caprifoliaceae** *Linnaea borealis* L. var. *longiflora* Torr., twinflower—frequent in damp, shady coniferous forest; along edge of beaver pond; and on floating logs.
- Lonicera ciliosa* (Pursh) DC., orange honeysuckle—infrequent in damp, semiopen to shady forest.
- Lonicera involucrata* (Rich.) Banks, black twinberry or bearberry honeysuckle—infrequent along edges of beaver pond and in very wet, open to semiopen forest.
- Symphoricarpos albus* (L.) Blake, common snowberry—infrequent in open to semiopen forest.
- Symphoricarpos mollis* Nutt. var. *hesperius* (G. N. Jones) Cronq., creeping snowberry—infrequent in open to semiopen forest.
- Viburnum edule* (Michx.) Raf., high-bush cranberry—occasional along edges of beaver pond and in very wet, open to semiopen forest.

- Caryophyllaceae** *Stellaria calycantha* (Ledeb.) Bong. var. *sitchana* (Steud.) Fern., northern starwort—infrequent along edges of beaver pond and marsh in damp, semiopen forest.
- Celastraceae** *Pachistima myrsinites* (Pursh) Raf., Oregon boxwood or mountain lover—infrequent in dry to damp, open to semiopen coniferous forest.
- Compositae (Asteraceae)** *Adenocaulon bicolor* Hook., trail plant—occasional in dry to damp, open to shady forest.
- Anaphalis margaritacea* (L.) B. & H., pearly everlasting—infrequent along edges of beaver pond, marsh, and dry to damp, open forest.
- Chrysanthemum leucanthemum* L., oxeye daisy—infrequent in damp, compacted soil along roads N 400 and N 417.
- Cirsium arvense* Wimm. & Grab., Canada thistle—infrequent along edges of beaver pond and marsh and in damp, open to semiopen forest.
- Cirsium vulgare* (Savi) Tenore, common thistle or bull thistle—infrequent along edges of beaver pond and marsh and in damp, open forest.
- Hieracium albiflorum* Hook., white hawkweed—frequent in dry to damp, open to shady coniferous forest.
- Petasites frigidus* (L.) Fries var. *palmatum* (Ait.) Cronq., coltsfoot—infrequent in very wet areas along intermittent streams.
- Senecio jacobaea* L., tansy ragwort—infrequent along road N 400 in damp, compacted soil.
- Senecio sylvaticus* L., woodland groundsel—infrequent along edges of beaver pond and marsh and in damp, open forest.
- Cornaceae** *Cornus canadensis* L., bunchberry dogwood—occasional in shady, coniferous forest and abundant on floating logs in beaver pond.
- Cornus nuttallii* Aud. ex T. & G., Pacific dogwood—occasional in openings in forest.
- Cornus stolonifera* Michx. var. *occidentalis* (T. & G.) C.L. Hitchc., red-osier dogwood—infrequent along edges of beaver pond and marsh and in wet, open to semiopen forest.
- Cupressaceae** *Thuja plicata* Donn, western redcedar—frequent in moist areas.

Cyperaceae

Carex arcta Boott, northern clustered sedge—occasional along edges of beaver pond and marsh and in very wet soil (7994).

Carex canescens L., gray sedge—occasional along edges of beaver pond and marsh.

Carex cusickii Mack., Cusick sedge—frequent to abundant in large tussocks in beaver pond (7995).

Carex laeviculmis Meinsch., smooth-stemmed sedge—occasional in shallow water and wet soil along edges of beaver pond (7996).

Carex lenticularis Michx., Kellogg's sedge—occasional along edges of beaver pond in very wet soil (7997).

Carex pachystachya Cham. ex Steud., thick-headed sedge—infrequent in damp, shady forest along road N 400 (7998).

Carex sitchensis Prescott, Sitka sedge—occasional in very wet and seasonally flooded soil along edges of beaver pond and marsh (7999).

Carex vesicaria L. var. *major* Boott, blister sedge—infrequent in very wet soil along edges of beaver pond and marsh (79100).

Scirpus microcarpus Presl, small-fruited bulrush—frequent to locally abundant in very wet soil along edges of beaver pond and marsh (79101).

Equisetaceae

Equisetum arvense L., field horsetail—infrequent along edge of beaver pond and in wet soil in semiopen forest.

Equisetum fluviatile L., swamp horsetail—infrequent in shallow water in beaver pond.

Equisetum telmateia Ehrh. var. *braunii* Milde, giant horesetail—frequent in wet areas near beaver pond and in open to semiopen forest.

Ericaceae

Allotropa virgata T. & G. ex Gray, sugar stick—rare in litter in deeply shaded coniferous forest.

Chimaphila menziesii (R. Br.) Spreng., little prince's pine—occasional in damp, shady coniferous forest.

Chimaphila umbellata (L.) var. *occidentalis* (Rydb.) Blake, western prince's pine—occasional in damp, shady coniferous forest.

Gaultheria ovatifolia Gray, slender gaultheria or Oregon wintergreen—infrequent in dry, semiopen to shady coniferous forest.

Gaultheria shallon Pursh, salal—abundant in forest areas.

Menziesia ferruginea Smith, rustyleaf—rare in semiopen coniferous forest.

Monotropa uniflora L., Indianpipe—rare in litter in deep shade in coniferous forest.

Pterospora andromedea Nutt., pine drops—rare in dry, shady coniferous forest.

Pyrola asarifolia Michx. var. *purpurea* (Bunge) Fern., large pyrola—rare in damp, shady coniferous forest.

Pyrola picta Smith, whitevein pyrola—rare near eastern boundary in litter in deeply shaded, coniferous forest.

Pyrola secunda L., one-sided wintergreen—rare south of N 417 in coniferous forest.

Rhododendron macrophyllum G. Don, Pacific rhododendron—occasional in local areas in open to semiopen forest.

Vaccinium alaskaense Howell, Alaska huckleberry—occasional in damp, open to shady forest.

Vaccinium membranaceum Dougl. ex Hook., big huckleberry—occasional in dry to moist, open to semiopen forest.

Vaccinium ovalifolium Smith, ovalleaf huckleberry—occasional in damp, open to shady forest.

Vaccinium parvifolium Smith, red huckleberry—occasional in damp, open to shady forest.

Fumariaceae

Dicentra formosa (Andr.) Walp., Pacific bleedingheart—infrequent in damp, shady areas near beaver pond, marsh, and along intermittent streams.

Gramineae (Poaceae)

Agrostis exarata Trin. var. *exarata*, spike bentgrass—infrequent along edge of beaver pond in damp areas (79102).

Agrostis exarata Trin. var. *monolepsis* (Torr.) A.S. Hitchc., spike bentgrass—frequent in beaver pond and marsh in wet areas and on floating logs (79103).

Agrostis scabra Willd., winter bentgrass—infrequent along northwest edge of marsh in damp, semiopen areas (79104).

Alopecurus aequalis Sobol., shortawn foxtail—occasional in beaver pond and marsh in seasonally flooded areas (79105).

Deschampsia elongata (Hook.) Munro ex Benth., slender hairgrass—infrequent along edge of marsh in very wet areas (79106).

Festuca occidentalis Hook., western fescue—infrequent in semiopen forest (79107).

Festuca pratensis Huds., meadow fescue—rare along road N 400 in damp, shady forest (79108).

Glyceria elata (Nash) M.E. Jones, tall mannagrass—occasional along edge of beaver pond in wet areas (79109).

Glyceria striata (Lam.) Hitchc. var. *stricta* (Scribn.) Fern., fowl mannagrass—frequent along edges of beaver pond in very wet areas (79110).

Poa palustris L., fowl bluegrass—infrequent along northwest edge of marsh in damp, semiopen areas (79111).

Puccinellia pauciflora (Presl) Munz var. *microtheca* (Buckl.) C.L. Hitchc., weak alkali grass—infrequent at edge of beaver pond in shallow water (79112).

Trisetum canescens Buckl., tall trisetum—infrequent along edge of beaver pond and west end of trail 199 in damp, semiopen forest (79113).

Trisetum cernuum Trin., nodding trisetum—infrequent in damp, semiopen forest (79114).

Grossulariaceae

Ribes bracteosum Dougl. ex Hook., stink currant—infrequent along edge of beaver pond in wet, semiopen areas.

Juncaceae

Juncus effusus L. var. *pacificus* Fern. & Wieg., common rush—infrequent along edge of beaver pond in very wet areas (7990).

Juncus ensifolius Wikst., swordleaf rush—occasional along edge of beaver pond in very wet areas (7991).

Luzula campestris (L.) DC. var. *multiflora* (Ehrh.) Celak., field woodrush—infrequent along road N 400 and near west end of trail 199 in semiopen to shady forest (7992).

Luzula divaricata Wats., forked woodrush—infrequent along edges of beaver pond and marsh in damp, open to semiopen forest (7993).

Hypericaceae

Hypericum anagalloides C. & S., bog St. Johnswort—infrequent in beaver pond on floating logs.

Hypericum perforatum L., common St. Johnswort—infrequent along N 400 and south of N 417 in semiopen forest.

Labiatae

Lycopus uniflorus Michx., water horehound—frequent along edges of beaver pond and marsh and on floating logs.

Mentha arvensis L. var. *glabrata* (Benth.) Fern., field mint—infrequent in northwest end of marsh in damp, semiopen forest.

Prunella vulgaris L., heal-all—infrequent along road N 400 in damp, compacted soil.

Stachys cooleyae Heller, Cooley's hedge nettle—occasional near beaver pond and marsh in very wet areas and in intermittent streams.

**Leguminosae
(Fabaceae)**

Lathyrus pauciflorus Fern., fewflowered peavine—infrequent in northwest end of marsh in damp, semiopen forest.

Lotus purshiana (Benth.) Clements & Clements, Spanish clover—rare in northwest end of marsh in damp, semiopen forest.

Lemnaceae

Lemna minor L., lesser duckweed—occasional in beaver pond.

Liliaceae

Clintonia uniflora (Schult.) Kunth., queencup beadlily—frequent in damp, shady coniferous forest.

Disporum hookeri (Torr.) Nickolson var. *oreganum* (Wats.) Jones, Hooker's fairybells—occasional in damp, shady coniferous forest.

Maianthemum dilatatum (Wood) Nels. & Macbr., false lily-of-the-valley—occasional, mostly near beaver pond and marsh in moist, semiopen to shady forest.

Smilacina racemosa (L.) Desf., solomonplume or false solomon's seal—infrequent in damp, shady coniferous forest.

Smilacina stellata (L.) Desf., starry solomonplume—occasional in damp, shady forest.

Streptopus amplexifolius (L.) DC. var. *americanus* Schult., claspleaf twisted-stalk—occasional in damp, seasonally wet, shady areas.

Trillium ovatum Pursh, white trillium—occasional in damp, shady coniferous forest.

Veratrum californicum Durand var. *caudatum* (Heller) C. L. Hitchc., California false hellebore—infrequent in swampy area along west side of beaver pond and along intermittent streams.

Xerophyllum texax (Pursh) Nutt., common beargrass—occasional in dry to damp, semiopen to shady coniferous forest.

Loranthaceae

Arceuthobium campylopodum Engelm. f. *tsugenis* (Rosend.) Gill., dwarf mistletoe—abundant in forest on western hemlock.

- Lycopodiaceae** *Lycopodium clavatum* L., runningpine clubmoss—infrequent in damp, shady coniferous forest.
- Nymphaeaceae** *Nuphar polysepalum* Engel., yellow water lily or spatterdock—frequent in beaver pond.
- Oleaceae** *Fraxinus latifolia* Benth., Oregon ash—infrequent along edge of beaver pond, frequent along edge of marsh.
- Onagraceae** *Circaea alpina* L., alpine circaea or enchanter's nightshade—infrequent in damp, shady areas near beaver pond, marsh, and intermittent streams.
- Epilobium angustifolium* L., fireweed—infrequent in dry to damp, open to semiopen areas.
- Epilobium watsonii* Barbey var. *occidentale* (Trel.) C. L. Hitchc., common western willow-herb—occasional in beaver pond, marsh, and other wet, open to semiopen areas.
- Ophiglossaceae** *Botrychium multifidum* (Gmel.) Trevis., leather grape fern—rare along northwest edge of marsh in damp, semiopen forest.
- Orchidaceae** *Corallorhiza mertensiana* Bong., Mertens' coralroot—rare near N 400 and northwest boundary in damp, shady coniferous forest.
- Goodyera oblongifolia* Raf., rattlesnake plantain—occasional in damp, shady coniferous forest.
- Habenaria saccata* Greene, slender bog orchid—infrequent in wet areas around beaver pond in semiopen forest.
- Listera caurina* Piper, western twayblade—infrequent in damp, mossy, shady coniferous forest.
- Listera cordata* (L.) R. Br., northern listera or heartleaved twayblade—infrequent in damp, mossy, shady coniferous forest.
- Oxalidaceae** *Oxalis trilliifolia* Hook., great oxalis—infrequent in damp, shady areas.
- Pinaceae** *Abies amabilis* (Dougl.) Forbes, Pacific silver fir—frequent.
- Abies grandis* (Dougl.) Lindl., grand fir—rare south of road N 417.
- Abies procera* Rehder., noble fir—infrequent on west side.
- Pinus monticola* Dougl. ex D. Don, western white pine—occasional.
- Pseudotsuga menziesii* (Mirbel) Franco, Douglas-fir—abundant.
- Tsuga heterophylla* (Raf.) Sarg., western hemlock—abundant.

- Plantaginaceae** *Plantago major* L., rippleseed plantain or common plantain—infrequent along road N 400 in damp, compacted soil.
- Polemoniaceae** *Collomia heterophylla* Hook., varied-leaved collomia—infrequent in dry, open to semiopen coniferous forest.
- Polygonaceae** *Polygonum hydropiper* L., marshpepper smartweed—infrequent at north end of road N 400 on roadway in damp, compacted soil.
- Polygonum hydropiperoides* Michx., wild water pepper—infrequent in northwest end of marsh in damp, semiopen forest.
- Rumex acetosella* L., sheep sorrel—infrequent in semiopen forest.
- Rumex occidentalis* Wats., western dock—infrequent along road N 400 in damp, compacted soil.
- Polypodiaceae** *Adiantum pedatum* L., western maidenhair-fern—infrequent in wet, shady areas.
- Athyrium filix-femina* (L.) Roth, lady fern—occasional in moist shady areas.
- Blechnum spicant* (L.) With., deerfern—occasional in moist shady areas.
- Cryptogramma crispera* (L.) R. Br. var. *acrostichoides* (R. Br.) C.B. Clark, parsley-fern—rare above Trout Creek on rock in semiopen forest.
- Gymnocarpium dryopteris* (L.) Newm., oakfern—rare along southeast side of beaver pond in damp, shady forest.
- Polypodium glycyrrhiza* D.C. Eat., licoricefern—rare along north side of road N 417 in rock outcrop in shady forest.
- Polystichum munitum* (Kaulf.) Presl, swordfern—frequent in damp, shady coniferous forest.
- Pteridium aquilinum* (L.) Kuhn, bracken fern—frequent in dry to damp, shady to semiopen forest.
- Thelypteris nevadensis* (Baker) Clute ex. Morton, Sierra wood-fern—infrequent along intermittent streams (7952).
- Portulacaceae** *Montia sibirica* (L.) Howell, western springbeauty—occasional in moist, shady forest near beaver pond, marsh, and along intermittent streams.
- Potamogetonaceae** *Potamogeton amplifolius* Tuckerman, large-leaved pondweed—infrequent in beaver pond (7988).
- Potamogeton berchtoldii* Fieb., small pondweed—occasional in beaver pond (7989).

Primulaceae

Trientalis latifolia Hook., starflower—occasional in damp, shady coniferous forest.

Ranunculaceae

Actaea rubra (Ait.) Willd., baneberry—infrequent in moist, shady areas near beaver pond, marsh, and intermittent streams.

Anemone deltoidea Hook., threeleaf anemone or windflower—occasional in damp, shady coniferous forest.

Anemone oregana Gray, Oregon anemone—frequent in damp, shady coniferous forest.

Aquilegia formosa Fisch., Sitka columbine—infrequent in semiopen to shady coniferous forest.

Ranunculus aquatilis L., watercrowfoot—infrequent in beaver pond.

Ranunculus flammula L., smaller creeping buttercup—frequent along edges of beaver pond and marsh in open to semiopen forest.

Ranunculus uncinatus D. Don var. *parviflorus* (Torr.) Benson, little buttercup—infrequent north end of N 400 in damp, shady coniferous forest.

Rhamnaceae

Rhamnus purshiana DC., cascara—infrequent along edges of beaver pond and marsh in damp, open to semiopen forest.

Rosaceae

Amelanchier alnifolia Nutt., Saskatoon serviceberry—infrequent in openings in coniferous forest.

Fragaria vesca L. var. *crinita* (Rydb.) C.L. Hitchc., California strawberry—infrequent near beaver pond and marsh in damp, semiopen forest.

Fragaria virginiana Duchesne var. *platypetala* (Rydb.) Hall, broad-petaled strawberry—infrequent near beaver pond and marsh in damp, semiopen forest.

Holodiscus discolor (Pursh) Maxim., creambush oceanspray—infrequent south on N 417 in open, coniferous forest.

Oemleria cerasiformis (H. & A.) Landon, indian plum—infrequent near beaver pond in moist, shady forest.

Physocarpus capitatus (Pursh) Kuntze, Pacific ninebark—infrequent along edge of beaver pond in wet, semiopen forest.

Pyrus fusca Raf., western crabapple—infrequent in beaver pond and marsh in very wet areas.

Rosa gymnocarpa Nutt., baldhip rose—occasional in damp, semiopen to shady coniferous forest.

Rubus leucodermis Dougl., whitebark raspberry or western blackcap—infrequent in dry to damp, semiopen forest.

Rubus parviflorus Nutt., thimbleberry—infrequent in moist, semiopen areas near beaver pond, marsh, and intermittent streams.

Rubus spectabilis Pursh, salmonberry—infrequent in moist, open to semiopen areas near beaver pond, marsh, and intermittent streams.

Rubus ursinus Cham. & Schlect., trailing blackberry—occasional in dry to damp, open to shady forest.

Spiraea betulifolia Pall. var. *lucida* (Dougl.) C.L. Hitchc., shinyleaf spirea or white spirea—infrequent in dry to damp, open to semiopen forest.

Spiraea douglasii Hook., Douglas spirea—occasional along edges of beaver pond, abundant in marsh.

Rubiaceae

Galium oregonum Britt., Oregon bedstraw—infrequent in damp, shady areas near beaver pond, marsh, and intermittent streams.

Galium trifidum L. var. *pacificum* Wieg, small bedstraw—occasional in damp, semiopen areas near beaver pond and marsh.

Galium triflorum Michx., sweetscented bedstraw—occasional in damp, shady areas near beaver pond, marsh, and intermittent streams.

Salicaceae

Salix spp., possibly three species; inventory was begun too late in season for reliable identification.

Saxifragaceae

Tiarella trifoliata L. var. *unifoliata* (Hook.) Kurtz., western coolwort—frequent in moist, shady coniferous forest.

Scrophulariaceae

Mimulus moschatus Dougl., muskplant monkeyflower—infrequent along edges of beaver pond in very wet, open areas.

Nothochelone nemorosa (Dougl.) Straw, woodland beard-tongue—infrequent in dry to damp, open to semiopen forest.

Pedicularis racemosa Dougl. ex. Hook., sickletop pedicularis—infrequent in dry to damp, open to semiopen coniferous forest.

Veronica americana Schwein., American speedwell—occasional in beaver pond and marsh in very wet areas and in shallow water.

Veronica scutellata L., marsh speedwell—frequent in beaver pond and marsh in very wet areas and on floating logs.

Sparganiaceae

Sparganium simplex Huds., simplestem burreed—frequent in beaver pond (79115).

Taxaceae

Taxus brevifolia Nutt., western yew—frequent.

Typhaceae

Typha latifolia L., broad-leaved cattail—infrequent along east edge of beaver pond in shallow water.

**Umbelliferae
(Apiaceae)**

Cicuta douglasii (DC.) Coult. & Rose, western waterhemlock—occasional along edges of beaver pond and on floating logs.

Oenanthe sarmentosa Presl ex DC., water parsley—frequent along edges of beaver pond and marsh, on floating logs in very wet areas, and in shallow water.

Violaceae

Viola glabella Nutt., wood violet—infrequent in damp, shady areas.

Viola palustris L., marsh violet—infrequent along edges of beaver pond and marsh in very wet, semiopen forest.

Viola sempervirens Greene, evergreen violet—abundant in damp, shady coniferous forest.

The following list includes 178 plant taxa distributed among the 54 families listed above:

Family	Number of Species	Family	Number of Species
Aceraceae	3	Lycopodiaceae	1
Apocynaceae	1	Nymphaeaceae	1
Araceae	1	Oleaceae	1
Aristolochiaceae	1	Onagraceae	3
Berberidaceae	3	Ophioglossaceae	1
Betulaceae	2	Orchidaceae	5
Callitrichaceae	1	Oxalidaceae	1
Campanulaceae	1	Pinaceae	6
Caprifoliaceae	6	Plantaginaceae	1
Caryophyllaceae	1	Polemoniaceae	1
Celastraceae	1	Polygonaceae	4
Compositae	9	Polypodiaceae	9
Cornaceae	3	Portulacaceae	1
Cupressaceae	1	Potamogetonaceae	2
Cyperaceae	9	Primulaceae	1
Equisetaceae	3	Ranunculaceae	7
Ericaceae	16	Rhamnaceae	1
Fumariaceae	1	Rosaceae	14
Gramineae	13	Rubiaceae	3
Grossulariaceae	1	Salicaceae	1
Juncaceae	4	Saxifragaceae	1
Hypericaceae	2	Schrophulariaceae	5
Labiatae	4	Sparganiaceae	1
Leguminosae	2	Taxaceae	1
Lemnaceae	1	Typhaceae	1
Liliaceae	9	Umbelliferae	2
Loranthaceae	1	Violaceae	3

Literature Cited

- Dyrness, C.T., J.F. Franklin, C. Maser and others. 1975. Research natural area needs in the Pacific Northwest: A contribution to land-use planning. USDA For. Serv. Gen. Tech. Rep. PNW-38, 231 p. Pac. Northwest For. and Range Exp. Stn., Portland, Oreg.
- Franklin, J.F. 1966. Vegetation and soils in the subalpine forest of the southern Washington Cascade Range. Ph. D. thesis. Wash. State Univ., Pullman. 132 p.
- Franklin, J.F., and C.T. Dyrness. 1973. Natural vegetation of Oregon and Washington. USDA For. Serv. Gen. Tech. Rep. PNW-8, 417 p. Pac. Northwest For. and Range Exp. Stn., Portland, Oreg.
- Franklin, J.F., F.C. Hall, C.T. Dyrness, and Chris Maser. 1972. Federal Research Natural Areas in Oregon and Washington: A guidebook for scientists and educators. USDA For. Serv. Pac. Northwest For. and Range Exp. Stn., 498 p. Portland, Oreg.
- Garrison, G.A., J.M. Skovlin, C.E. Poulton, and A.H. Winward. 1976. Northwest plant names and symbols for ecosystem inventory and analysis. 4th ed. USDA For. Serv. Gen. Tech. Rep. PNW-46, 263 p. Pac. Northwest For. and Range Exp. Stn., Portland, Oreg.
- Hitchcock, C.L., and A. Cronquist, M. Ownbey, and J.W. Thompson. 1955. Vascular plants of the Pacific Northwest. 5 parts. Univ. Wash. Press, Seattle.
- Hitchcock, C.L., and A. Cronquist. 1973. Flora of the Pacific Northwest. 3d print. 730 p. Univ. Wash. Press, Seattle.
- Steele, R. W. 1952. Wind River climatological data 1911-1950. USDA For. Serv. Pac. Northwest For. and Range Exp. Stn., 21 p. Portland, Oreg.
- U.S. Weather Bureau. 1965. Climatic summary of the United States-supplement for 1951 through 1960, Washington. Climatology of the United States 86-39, 92 p.
- Wise, W.S. 1970. Cenozoic volcanism in the Cascade Mountains of southern Washington. Wash. Dep. Conserv., Div. Mines and Geol. Bull. 60, 45 p.