

**THUJA PLICATA – ABIES GRANDIS /
POLYSTICHUM MUNITUM**

Western redcedar – grand fir / sword fern
Abbreviated Name: THPL-ABGR/POMU

Sample size = 10 plots

DISTRIBUTION: In Washington, this association is known to occur only in San Juan, western Skagit, and far eastern Clallam (Sequim area) counties. It is possible in northern Island and northeastern Jefferson counties. It also occurs in adjacent British Columbia on the Gulf Islands and southeastern Vancouver Island.

GLOBAL/STATE STATUS: G1S1. Throughout its range much of this association has been converted to residential development and agriculture and almost all the remainder has been heavily disturbed by past logging. It has a very limited global range. There are fewer than 5 high-quality occurrences known in Washington. Threats include non-native species and further development.

ID TIPS: Located in the Olympic rainshadow *and* western hemlock <25% cover *and* the combined cover of western redcedar and grand fir is greater than that of hemlock. Western redcedar always occupies >10% cover or is the dominant tree regeneration. Sword fern dominates the understory and usually occupies >35% cover. See key.

ENVIRONMENT: These sites are moist to very moist and appear to be relatively nutrient-rich. Sites are flat to steep (usually gentle) on a variety of aspects. It is more often found on lower slopes or bottoms and not on upper slopes or ridges. Mapped parent material is mostly glacial till, but also includes old alluvium. Soil textures are loam or sandy loam, usually with a gravelly or stony component. Found only in dry climatic areas.

Precipitation: 20-31 inches (mean 28)

Elevation: sea level - 600 feet

Aspect/slope: various/ 0-80% (mean 20)

Slope position: lower, bottom, plain, mid

Soil series: Roche, Sequim, Swinomish, Catla

DISTURBANCE/SUCCESSION: Fire is the primary natural disturbance. Old-growth stands show evidence of past low- to moderate-severity fire (underburns). Western redcedar, and if present, grand fir, increase over time in the absence of distur-

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Vegetation Composition Table (selected species):

Con = constancy, the percent of plots within which each species was found;
Cov = cover, the mean crown cover of the species in plots where it was found;
+ = trace (< 0.5% cover).

Trees	Kartesz 2005 Name	Con	Cov
western redcedar	Thuja plicata	100	46
Douglas-fir	Pseudotsuga menziesii var. menziesii	90	31
grand fir	Abies grandis	80	20
bigleaf maple	Acer macrophyllum	60	21
red alder	Alnus rubra	50	12
Douglas' maple	Acer glabrum var. douglasii	20	17
western hemlock	Tsuga heterophylla	20	2
Shrubs and Dwarf-shrubs			
common snowberry	Symphoricarpos albus var. laevigatus	70	2
trailing blackberry	Rubus ursinus var. macropetalus	60	11
oceanspray	Holodiscus discolor	60	3
baldhip rose	Rosa gymnocarpa	60	2
salal	Gaultheria shallon	60	2
red huckleberry	Vaccinium parvifolium	60	1
thimbleberry	Rubus parviflorus	40	4
salmonberry	Rubus spectabilis	40	4
Indian plum	Oemleria cerasiformis	30	3
Forbs and Ferns			
sword fern	Polystichum munitum	100	50
spreading woodfern	Dryopteris expansa	70	2
western starflower	Trientalis borealis ssp. latifolia	60	4
bracken fern	Pteridium aquilinum var. pubescens	60	2
sweet-scented bedstraw	Galium triflorum	60	1
mountain sweet-cicely	Osmorhiza berteroi	40	+
threeleaf foamflower	Tiarella trifoliata var. trifoliata	20	7

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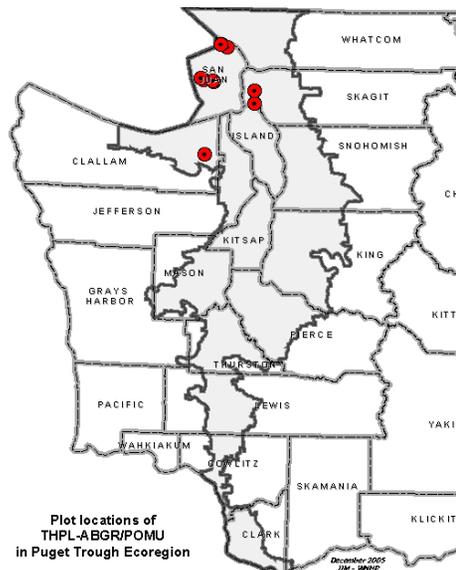
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bance, Douglas-fir decreases. Red alder may regenerate abundantly after disturbance if a seed source is present and mineral soil is exposed. This can result in conversion of this association to ALRU/POMU. Alder will typically die out after 80-100 years.

VEGETATION: Canopy is usually dominated by western redcedar (always present), Douglas-fir, and/or grand fir. Western redcedar and/or grand fir dominates tree regeneration. This is one of the few Puget associations where western redcedar is usually more dominant than Douglas-fir. Bigleaf maple is often prominent to co-dominant. Red alder is sometimes prominent. Western hemlock is occasionally present to prominent. Rocky Mountain maple is occasionally prominent as a subcanopy tree. Shrub layers are generally sparse to moderate in density. Trailing blackberry is often prominent; oceanspray, baldhip rose, common snowberry, salal and red huckleberry are frequently present. Sword fern always dominates the well-developed herb layer and is often relatively dense and tall in stature. Spreading woodfern, western starflower, sweet-scented bedstraw, and bracken fern are frequent herbs.

CLASSIFICATION NOTES: First described in the U.S. by Fonda and Bernardi (1976) from Sucia Island. Chappell (1997) and NatureServe (2005) both recognize it.

MANAGEMENT NOTES: Stands that have not been previously harvested, or mature to old stands, should be considered for conservation status. These sites appear to be very productive for tree growth. Non-native English ivy (*Hedera helix*) is certainly a threat to this association if it becomes established. Herb Robert (*Geranium robertianum*) is another threatening non-native because of its potential impacts on the forb layer.



Chappell, C.B. 2006. Upland plant associations of the Puget Trough ecoregion, Washington. Washington Department of Natural Resources, Natural Heritage Program, Olympia, WA. <http://www.dnr.wa.gov/nhp/refdesk/communities/pdf/intro.pdf>.