

**THUJA PLICATA - TSUGA HETEROPHYLLA /  
OPLOPANAX HORRIDUS / POLYSTICHUM MUNITUM**

Western redcedar - western hemlock / devils club / sword fern  
Abbreviated Name: THPL-TSHE/OPHO/POMU

Sample size = 7 plots

**DISTRIBUTION:** Occurs infrequently more or less throughout the Puget Trough, except for the Olympic Mountain rainshadow, where it appears to be absent. Occurs more commonly in adjacent ecoregions. Also occurs in northwestern Oregon and southwestern BC.

**GLOBAL/STATE STATUS:** G4S4. Very few good quality occurrences remain in the Puget Trough due to past logging activities. Non-native species are a threat in the Puget Trough. Much more common in adjacent ecoregions.

**ID TIPS:** Devils club provides >10% cover.

**ENVIRONMENT:** These sites are very moist and appear to be relatively nutrient-rich. Sub-irrigation is typical of devils club sites. Slopes are variable. Aspect is northerly. Lower slopes are the most common landform, though it also occurs on riparian terraces (not sampled for this work). Parent materials include glacial till, glaciofluvial and glaciolacustrine sediments. Mapped soil textures tend toward loam or silt loam.

**Precipitation:** 37-59 inches (mean 50)

**Elevation:** 150-850 feet

**Aspect/slope:** NW to NE/ 6-70% (mean 37)

**Slope position:** lower, mid, bottom

**Soil series:** Lacamas, Ovall, Squalicum, Tokul, Lemolo, Kitsap

**DISTURBANCE/SUCCESSION:** Fire is the primary natural disturbance, though on riparian terraces flooding will also be important. Most stands show evidence of past fires. Hemlock and/or redcedar increase over time in absence of disturbance, Douglas-fir decreases. Red alder may regenerate abundantly after disturbance if a seed source is present and mineral soil is exposed. Alder will typically die out after 80-100 years without disturbance. Salmonberry may increase in abundance after ground surface disturbance. Due to their wetness and probable shallow rooting depth, these sites are probably more prone to windthrow than most.

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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	31
western hemlock	Tsuga heterophylla	86	42
Douglas-fir	Pseudotsuga menziesii var. menziesii	86	22
bigleaf maple	Acer macrophyllum	86	7
red alder	Alnus rubra	29	6
<b>Shrubs and Dwarf-shrubs</b>			
devils club	Oplopanax horridus	100	23
salmonberry	Rubus spectabilis var. spectabilis	86	17
red elderberry	Sambucus racemosa var. racemosa	71	6
red huckleberry	Vaccinium parvifolium	71	5
trailing blackberry	Rubus ursinus ssp. macropetalus	57	+
vine maple	Acer circinatum	57	8
Indian plum	Oemleria cerasiformis	57	2
<b>Graminoids</b>			
small-flowered wood-rush	Luzula fastigiata	43	+
<b>Forbs and Ferns</b>			
sword fern	Polystichum munitum	100	34
lady-fern	Athyrium filix-femina ssp. cyclosorum	100	12
sweet-scented bedstraw	Galium triflorum	100	1
threeleaf foamflower	Tiarella trifoliata var. trifoliata	86	6
spreading woodfern	Dryopteris expansa	86	3
youth-on-age	Tolmiea menziesii	71	6
Siberian springbeauty	Claytonia siberica var. siberica	57	1
licorice fern	Polypodium glycyrrhiza	57	+
clasping-leaved twisted-stalk	Streptopus amplexifolius var. amplexifolius	57	+
western trillium	Trillium ovatum ssp. ovatum	57	+
slender-stem waterleaf	Hydrophyllum tenuipes	43	5
Pacific bleedingheart	Dicentra formosa ssp. formosa	43	2

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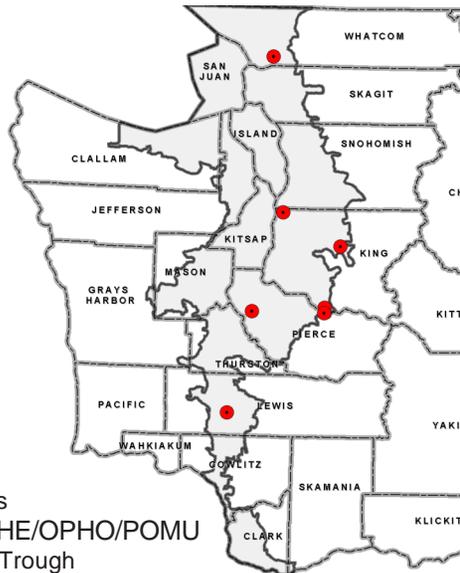


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**VEGETATION:** Forest or woodland with canopy dominated or co-dominated by western redcedar and usually western hemlock also. Douglas-fir is usually prominent to co-dominant as well but averages less cover here than in other Puget Trough conifer forests. Western hemlock or western redcedar typically dominate tree regeneration. Bigleaf maple usually forms a scattered to prominent lower canopy layer. The shrub layer is co-dominated by devils club and usually salmonberry also. Other common shrubs are red elderberry, red huckleberry, vine maple, and Indian plum. Sword fern dominates the herb layer. Lady-fern is usually prominent. Sweet-scented bedstraw, threeleaf foamflower, spreading woodfern, and youth-on-age are usually present to occasionally prominent.

**CLASSIFICATION NOTES:** Also described as TSHE/OPHO (Chappell 1997) and TSHE-(THPL)/OPHO/POMU (Chappell 2001, NatureServe 2005). Future NatureServe name will be TSHE-(PSME)/OPHO/POMU. This association is similar to TSHE/OPHO/POMU in Gifford Pinchot National Forest (Topik et al. 1986), TSHE/OPHO in Olympic National Forest (Henderson et al. 1989), and TSHE/OPHO-ATFI in Mt. Baker-Snoqualmie National Forest (Henderson et al. 1992). This Puget Trough variant of the widespread association has greater abundance of western redcedar than the others.

**MANAGEMENT NOTES:** Red alder can regenerate abundantly after logging of this association. These sites are probably moderately productive for tree growth. Non-native English ivy (*Hedera helix*) does well on these sites and if present can quickly overwhelm the native understory. Herb Robert (*Geranium robertianum*) is another threatening invasive for this association.



Plot locations  
of THPL-TSHE/OPHO/POMU  
in the Puget Trough

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>.