

**PSEUDOTSUGA MENZIESII - THUJA PLICATA /
OXALIS OREGANA**

Douglas-fir - western redcedar / Oregon oxalis
Abbreviated Name: PSME-THPL/OXOR

Sample size = 7 plots

DISTRIBUTION: Within the Puget Trough, occurs infrequently in southern Pierce, Lewis, Cowlitz, Clark, and possibly Thurston, counties. Occurs more commonly in the western Cascades of southern Washington. Also occurs in northwestern Oregon, in the Willapa Hills and perhaps on the southern Olympic Peninsula.

GLOBAL/STATE STATUS: G3G4S2. Rare in the Puget Trough. Development and non-native species are threats in the Puget Trough. Somewhat more common in the southwestern Cascades, and much more common in Oregon, where most natural-origin stands have been harvested.

ID TIPS: Oregon oxalis and sword fern each provide >5% cover and typically co-dominate the understory. Devils club <10% cover if present.

ENVIRONMENT: These sites are moist to very moist and appear to be relatively nutrient-rich. Slopes are mostly gentle to moderate and aspect is northerly or easterly. All samples are from lower slopes or riparian terraces. Parent materials include ancient basaltic residuum, alluvium, and glaciofluvial sediments. Silt loam and silty clay loam were the mapped soil textures. Mean annual precipitation is high for the Puget Trough.

Precipitation: 46-90 inches (mean 64)

Elevation: 40-1000 feet

Aspect/slope: NNW to SE/ 0-65% (mean 30)

Slope position: lower, bottom (terrace)

Soil series: Olympic, Cinebar, Olequa, Puyallup

DISTURBANCE/SUCCESSION: Fire is the primary natural disturbance, though on riparian terraces flooding will also be important. Old-growth stands show evidence of past low- to moderate-severity fire (underburns). Hemlock and/or redcedar increase over time in absence of disturbance, Douglas-fir decreases. Young stands may have little hemlock or redcedar. Red alder may regenerate abundantly after disturbance if a seed

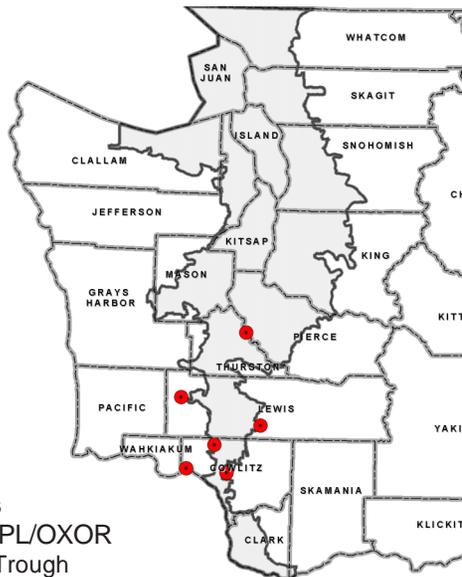
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Vegetation Composition Table (selected species):

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 |
|--------------------------------|---|-----|-----|
| Douglas-fir | Pseudotsuga menziesii var. menziesii | 100 | 52 |
| western redcedar | Thuja plicata | 100 | 37 |
| western hemlock | Tsuga heterophylla | 86 | 19 |
| bigleaf maple | Acer macrophyllum | 71 | 25 |
| casacara | Frangula purshiana | 57 | + |
| grand fir | Abies grandis | 43 | 6 |
| Shrubs and Dwarf-shrubs | | | |
| vine maple | Acer circinatum | 86 | 18 |
| red huckleberry | Vaccinium parvifolium | 71 | 7 |
| red elderberry | Sambucus racemosa var. racemosa | 71 | 2 |
| trailing blackberry | Rubus ursinus ssp. macropetalus | 57 | + |
| salal | Gaultheria shallon | 57 | 2 |
| dwarf Oregongrape | Mahonia nervosa | 43 | 4 |
| beaked hazelnut | Corylus cornuta var. californica | 43 | 3 |
| Indian plum | Oemleria cerasiformis | 43 | 2 |
| salmonberry | Rubus spectabilis var. spectabilis | 43 | 1 |
| devils club | Oplopanax horridus | 14 | 3 |
| Forbs and Ferns | | | |
| Oregon oxalis | Oxalis oregana | 100 | 39 |
| sword fern | Polystichum munitum | 100 | 34 |
| western trillium | Trillium ovatum ssp. ovatum | 86 | 1 |
| spreading woodfern | Dryopteris expansa | 71 | 4 |
| inside-out flower | Vancouveria hexandra | 71 | 2 |
| Siberian springbeauty | Claytonia siberica var. siberica | 71 | + |
| lady-fern | Athyrium filix-femina ssp. cyclosorum | 57 | 3 |
| sweet-scented bedstraw | Galium triflorum | 57 | + |
| Pacific bleedingheart | Dicentra formosa ssp. formosa | 43 | 4 |
| Columbia windflower | Anemone deltoidea | 43 | 1 |
| Smith's fairybells | Prosartes smithii | 43 | 1 |
| slender-stem waterleaf | Hydrophyllum tenuipes | 43 | + |
| clasping-leaved twisted-stalk | Streptopus amplexifolius var. amplexifolius | 43 | + |

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Plot locations
of PSME-THPL/OXOR
in the Puget Trough

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source is present and mineral soil is exposed. Alder will typically die out after 80-100 years. Salmonberry and several forbs may increase in abundance after ground surface disturbance.

VEGETATION: Forest co-dominated by Douglas-fir, western redcedar, and sometimes western hemlock also. Western hemlock or western redcedar typically dominate tree regeneration. Bigleaf maple usually forms a prominent to co-dominant lower canopy layer. Sword fern and Oregon oxalis co-dominate the understory. Vine maple usually forms a prominent to dominant tall shrub layer. Red huckleberry, red elderberry, inside-out flower, spreading woodfern, Siberian springbeauty, western trillium, trailing blackberry, salal, sweet-scented bedstraw, and lady-fern are usually present.

CLASSIFICATION NOTES: Described by Chappell (1997) as TSHE/POMU-OXOR and by Chappell (2001) as PSME-TSHE/POMU-OXOR. This association correlates with NatureServe (2005) types that are currently called TSHE/OXOR-POMU and TSHE/OXOR. Future changes in NatureServe classification will recognize this association as part of PSME-TSHE/POMU-OXOR, which also includes the very similar TSHE/POMU-OXOR from Gifford Pinchot National Forest (Topik et al 1986) and TSHE-OXOR from northwestern Oregon (McCain and Diaz 2002a&b). Related types (including one named TSHE/POMU-OXOR) on Olympic National Forest (Henderson et al. 1989) differ in associated understory species from the Puget Trough type and have much less Douglas-fir. We consider these more maritime types to be a different association than our PSME-THPL/OXOR.

MANAGEMENT NOTES: Red alder can regenerate abundantly after logging of this association. These sites are very 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.

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>].