

**QUERCUS GARRYANA - PSEUDOTSUGA MENZIESII /
SYMPHORICARPOS ALBUS /
POLYSTICHUM MUNITUM**

Oregon white oak - Douglas-fir / common snowberry / sword fern
Abbreviated Name: QUGA-PSME/SYAL/POMU

Sample size = 20 plots

DISTRIBUTION: Occurs almost throughout the range of oak within the Puget Trough, including San Juan, Pierce, Thurston, Clallam, Mason, Lewis, Cowlitz, Grays Harbor and Clark counties. Globally, occurs from southwestern BC to the Willamette Valley, Oregon.

GLOBAL/STATE STATUS: G4S3. There are probably fewer than 100 occurrences in Washington and relatively few of them are high-quality. This type is inherently unstable due to successional processes, and is probably more abundant in the current landscape than it was 150 years ago. Threats include succession and development/conversion.

ID TIPS: Co-dominated by Oregon white oak and Douglas-fir, or dominated by oak with numerous Douglas-fir stumps. Common snowberry prominent in the understory, and sword fern or moist-site forbs present. Beaked hazelnut more common in this association than other oak associations.

ENVIRONMENT: These sites vary in their moisture status. Most are moderately dry to dry but a few appear to be moderately moist due to close proximity to streams or other water sources. Likely to be relatively nutrient-rich. Occurs on glacial outwash plains, glacial till and moraines, gravelly alluvium, and shallow or rocky soil over bedrock. Occurs on a variety of aspects and slopes.

Precipitation: 31-61 inches (mean 49)

Elevation: 100-550 feet

Aspect/slope: All/ 0-53% slope (mean 14)

Slope position: plain, mid, upper, short

Soil series: Spanaway, rockland, Lauren, Tumwater, Everett

DISTURBANCE/SUCCESSION: This type is mostly an intermediate successional stage between oak-dominated communities [e.g. QUGA/CAIN-CAQU, QUGA/SYAL/CAIN, QUGA/VIEL-TODI, QUGA-(FRLA)/SYAL] and various Douglas-fir forest types. Douglas-fir is expected to increase in abundance over time and eventually out-compete the oak. In the pre-Western settlement landscape, this type is hypothesized to have been relatively rare.

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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
Oregon white oak	Quercus garryana var. garryana	100	63
Douglas-fir	Pseudotsuga menziesii var. menziesii	90	37
Oregon ash	Fraxinus latifolia	40	3
bigleaf maple	Acer macrophyllum	30	7
grand fir	Abies grandis	5	18
Shrubs and Dwarf-shrubs			
common snowberry	Symphoricarpos albus var. laevigatus	100	27
trailing blackberry	Rubus ursinus var. macropetalus	95	9
tall Oregon grape	Mahonia aquifolium	90	3
Indian plum	Oemleria cerasiformis	85	11
serviceberry	Amelanchier alnifolia	80	13
beaked hazelnut	Corylus cornuta var. californica	70	11
baldhip rose	Rosa gymnocarpa	70	2
orange honeysuckle	Lonicera ciliosa	65	6
oceanspray	Holodiscus discolor	55	7
oval-leaved viburnum	Viburnum ellipticum	30	12
spreading snowberry	Symphoricarpos hesperius	25	7
vine maple	Acer circinatum	15	20
poison-oak	Toxicodendron diversilobum	15	3
Graminoids			
Alaska oniongrass	Melica subulata	55	3
Forbs and Ferns			
sword fern	Polystichum munitum	95	9
licorice fern	Polypodium glycyrrhiza	65	3
cleavers	Galium aparine	60	5
big-leaved sandwort	Moehringia macrophylla	55	6
mountain sweet-cicely	Osmorhiza berteroi	50	2
small-flowered nemophila	Nemophila parviflora var. parviflora	45	3
woods strawberry	Fragaria vesca ssp. bracteata	45	2
sweet-scented bedstraw	Galium triflorum	45	2
western starflower	Trientalis borealis ssp. latifolia	45	1
starry false Solomon's-seal	Maianthemum stellatum	40	9
Siberian springbeauty	Claytonia siberica var. siberica	35	4
yerba buena	Clinopodium douglasii	35	1
enchanter's nightshade	Circaea alpina ssp. pacifica	25	7
inside-out flower	Vancouveria hexandra	20	8
pioneer violet	Viola glabella	20	2

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Chris Chappell photo



Plot locations
of QUGA-PSME/SYAL/POMU
in the Puget Trough

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Sword fern and a number of other species more characteristic of Douglas-fir forest are more common in this association than in the other oak associations. This distinctive understory composition is what places some stands into this association, even though the Douglas-fir overstory has been removed by logging.

VEGETATION: Forest typically co-dominated by Oregon white oak and Douglas-fir, or dominated by oak with Douglas-fir stumps from logging. The understory is rather variable but always has common snowberry and sword fern or moist-site forbs (e.g., starry false Solomon's seal). Typically, snowberry is prominent to co-dominant. Many other shrubs are usually present including trailing blackberry, tall Oregongrape, Indian plum, serviceberry, beaked hazelnut and baldhip rose. Oval-leaf viburnum or vine maple are usually absent, but occasionally prominent to co-dominant. Sword fern is usually prominent. Other herbs usually present are Alaska oniongrass, licorice fern (epiphytic), cleavers, and big-leaved sandwort.

CLASSIFICATION NOTES: Chappell and Crawford (1997) describe this association from the southern Puget Sound area. This association is called PSME-QUGA/SYAL in NatureServe (2005). On Fort Lewis, Thysell and Carey (2001) noted what they called a Douglas-fir-oak/moist herb type (site type 2) that is probably within the range of variation of the QUGA-PSME/SYAL/POMU association.

MANAGEMENT NOTES: Maintenance of this association over the long-term would be difficult due to the propensity for Douglas-fir to increase and out-compete oak. Thinning or complete removal of Douglas-fir may be advisable in order to conserve and enhance oak component. Logging should be done with a "light touch" in order to minimize damage to oaks and minimize increase of non-native understory species. Prescribed fire may be a beneficial management tool in some situations.

BIODIVERSITY NOTES: State threatened western gray squirrel (*Sciurus griseus*) requires oak and conifer in proximity to one another and undoubtedly uses this association. State sensitive small-flowered trillium (*Trillium parviflorum*) and state threatened western wahoo (*Euonymus occidentalis*) have been recorded in 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. [\[http://www.dnr.wa.gov/nhp/refdesk/communities/pdf/intro.pdf\]](http://www.dnr.wa.gov/nhp/refdesk/communities/pdf/intro.pdf).