

ALNUS RUBRA / POLYSTICHUM MUNITUM

Red alder / sword fern

Abbreviated Name: ALRU/POMU

Sample size = 5 plots

DISTRIBUTION: Probably occurs throughout most of the Puget Trough ecoregion and in adjacent ecoregions. The vast majority of existing examples are not of natural origin.

GLOBAL/STATE STATUS: G4S4. Probably more abundant and widespread now than in pre-settlement times. Almost all remaining examples are the result of regeneration after timber harvest. Current timber value of red alder poses some degree of threat to natural occurrences of this association.

ID TIPS: Dominated by red alder with a sword fern understory. Located on upland sites that are not landslides, coastal bluffs, or riparian floodplains or terraces.

ENVIRONMENT: Sites are moist to very moist and relatively nutrient-rich. Parent materials include glacial till, glacial lake and marine sediments, volcanic ash, and colluvium. Slopes are usually gentle to moderate, northerly and easterly aspects are probably more common.

Precipitation: 27-60 inches (mean 38), undoubtedly greater also

Elevation: sea level to 1600 feet

Aspect/slope: various/ slope 3-48% (mean 17)

Slope position: all except ridgetops

Soil series: various, includes Whidbey, Cathcart

DISTURBANCE/SUCCESSION: This is an early- to mid-seral association that can regenerate after fire, windthrow, or timber harvest. Red alder is prolific after disturbance that exposes mineral soil, and it has therefore thrived on productive sites where conifer forest have been harvested and herbicides were not applied. Alder is short-lived (about 100 years). If conifers establish in the understory, then they are expected to dominate after the alder dies in the absence of further disturbance.

VEGETATION: Dominated by red alder. Western hemlock is usually present in relatively small amounts, mainly in the understory. Douglas-fir occurs in about half the stands and has substantial cover, usually in the subcanopy. Bigleaf maple can also

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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
red alder	<i>Alnus rubra</i>	100	82
western hemlock	<i>Tsuga heterophylla</i>	80	2
Douglas-fir	<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	40	12
bigleaf maple	<i>Acer macrophyllum</i>	20	13
grand fir	<i>Abies grandis</i>	20	8
Shrubs and Dwarf-shrubs			
salmonberry	<i>Rubus spectabilis</i> var. <i>spectabilis</i>	100	33
trailing blackberry	<i>Rubus ursinus</i> ssp. <i>macroretalus</i>	80	8
red huckleberry	<i>Vaccinium parvifolium</i>	80	7
red elderberry	<i>Sambucus racemosa</i> var. <i>racemosa</i>	60	4
swamp currant	<i>Ribes lacustre</i>	60	2
oceanspray	<i>Holodiscus discolor</i>	40	7
dwarf Oregongrape	<i>Mahonia nervosa</i>	40	6
Graminoids			
Dewey's sedge	<i>Carex deweyana</i> var. <i>deweyana</i>	80	2
nodding trisetum	<i>Trisetum canescens</i>	60	2
Columbia brome	<i>Bromus vulgaris</i>	60	1
blue wildrye	<i>Elymus glaucus</i>	40	2
bearded fescue	<i>Festuca subulata</i>	40	2
Forbs and Ferns			
sword fern	<i>Polystichum munitum</i>	100	57
spreading woodfern	<i>Dryopteris expansa</i>	80	5
Siberian springbeauty	<i>Claytonia siberica</i> var. <i>siberica</i>	60	13
stinging nettle	<i>Urtica dioica</i> ssp. <i>gracilis</i>	60	8
bracken fern	<i>Pteridium aquilinum</i> var. <i>pubescens</i>	60	6
threeleaf foamflower	<i>Tiarella trifoliata</i> var. <i>trifoliata</i>	60	6
lady-fern	<i>Athyrium filix-femina</i> ssp. <i>cycolosorum</i>	60	3
sweet-scented bedstraw	<i>Galium triflorum</i>	60	1
enchanter's nightshade	<i>Circaea alpina</i> ssp. <i>pacifica</i>	40	4
fringecup	<i>Tellima grandiflora</i>	40	+
western starflower	<i>Trientalis borealis</i> ssp. <i>latifolia</i>	40	+
Pacific bleedingheart	<i>Dicentra formosa</i> ssp. <i>formosa</i>	20	3

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be prominent. Understory is characterized by dominance of sword fern. Salmonberry is almost always present and usually forms a prominent to dominant shrub layer. Other species usually present include trailing blackberry, red elderberry, red huckleberry, swamp currant, Dewey's sedge, spreading woodfern, Siberian springbeauty, ladyfern, stinging nettle, bracken fern, threeleaf foamflower, and sweet-scented bedstraw.

CLASSIFICATION NOTES: This association has been recognized in general by Franklin and Dyrness (1973), and described specifically from the Puget Trough by Chappell (2001). Somewhat similar associations have been described from riparian floodplains (e.g., Diaz and Mellen 1996), but they typically have higher abundance of moisture-loving species like youth-on-age (*Tolmiea menzeisii*).

MANAGEMENT NOTES: English ivy (*Hedera helix*), a non-native species, can cause major changes in this association. Herb Robert (*Geranium robertianum*) is another non-native invader that is of concern. Sites that support this vegetation are likely to be very productive for conifer growth. If conifers are absent from the stand, succession without any disturbance could lead to shrub dominance.



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>].