

**PSEUDOTSUGA MENZIESII - ARBUTUS MENZIESII /
GAULTHERIA SHALLON**

Douglas-fir - Pacific madrone / salal
Abbreviated Name: PSME-ARME/GASH

Sample size = 22 plots

DISTRIBUTION: Occurs in the northern and central portions of the Puget Trough, including San Juan, Skagit, Island, King, Kitsap, Clallam, Whatcom, Jefferson, Pierce and Thurston counties. May occur in Snohomish and Mason counties. Also occurs in southwestern BC and reported to occur around the southern Willamette Valley of Oregon.

GLOBAL/STATE STATUS: G3S2. There are probably less than 20 relatively good quality occurrences in Washington (11 are known). Most sites have been altered by past timber harvest or fragmentation. Development/conversion is a significant threat and fungal diseases are also a potential threat.

ID TIPS: Dominated or co-dominated by Pacific madrone. Western hemlock, western redcedar and grand fir absent or present in small amounts (<10% cover). Understory dominated by salal. Evergreen huckleberry absent or present in small amounts (<5% cover).

ENVIRONMENT: These sites are dry and appear to be relatively nutrient-poor. Most frequent on sunny slopes adjacent to saltwater shorelines. Occurs on a variety of soils, including shallow-to-bedrock residuum, glacial till, glacial outwash, glacial sands, colluvium, and serpentine. Usually found on moderate to steep slopes, especially those with sunny aspects (S to W). More common in relatively dry climatic areas (Olympic Mountains rainshadow).

Precipitation: 21-68 inches (mean 37)

Elevation: 20-1200 feet

Aspect/slope: ENE to WNW/ 5-118% slope (mean 40)

Slope position: mid, upper, lower, short, plain

Soil series: Roche, Alderwood, andic xerochrepts, Fidalgo, Guemes, Keystone, lithic haploxerolls, rock outcrop

DISTURBANCE/SUCCESSION: In the pre-Western settlement landscape, a moderate-severity fire regime likely prevailed (variable severity, intermediate frequency). Madrone resprouts after fire or cutting, and is capable of living for a few hundred

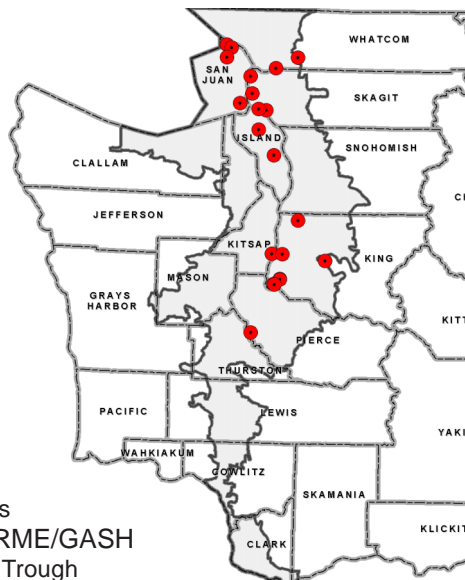
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Vegetation Composition Table (selected species):

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
Pacific madrone	Arbutus menziesii	100	58
Douglas-fir	Pseudotsuga menziesii var. menziesii	73	49
Scouler's willow	Salix scouleriana	45	5
grand fir	Abies grandis	18	4
lodgepole pine	Pinus contorta var. contorta	18	4
western redcedar	Thuja plicata	14	2
western hemlock	Tsuga heterophylla	9	2
Shrubs and Dwarf-shrubs			
salal	Gaultheria shallon	100	62
baldhip rose	Rosa gymnocarpa	91	3
oceanspray	Holodiscus discolor	77	11
trailing blackberry	Rubus ursinus var. macropetalus	68	3
dwarf Oregongrape	Mahonia nervosa	45	8
common snowberry	Symphoricarpos albus var. laevigatus	45	3
serviceberry	Amelanchier alnifolia	41	3
tall Oregongrape	Mahonia aquifolium	41	+
beaked hazelnut	Corylus cornuta var. californica	36	21
hairy honeysuckle	Lonicera hispidula	36	6
orange honeysuckle	Lonicera ciliosa	36	4
evergreen huckleberry	Vaccinium ovatum	14	3
Forbs and Ferns			
bracken fern	Pteridium aquilinum var. pubescens	73	3
sword fern	Polystichum munitum	55	1

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Plot locations
of PSME-ARME/GASH
in the Puget Trough

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years. Madrone dominance, and Douglas-fir subordination or even absence, is favored by repeated high-severity fires, clearcut logging followed by natural regeneration, or selective logging of Douglas-fir. Douglas-fir is likely to increase in abundance without disturbance, but does not appear to be excluding or out-competing madrone, even when madrone is overtopped, because the canopy of fir remains relatively open on these dry sites. Fungal diseases (*Natrassia* canker, *Fusicoccum* branch dieback), which may be non-native, appear to be facilitating at least local decline in madrone.

VEGETATION: Forest dominated or co-dominated by Pacific madrone, usually with Douglas-fir co-dominant. Madrone often forms a subcanopy below taller Douglas-fir. Small amounts of more shade-tolerant conifers (grand fir, hemlock, redcedar) may be present. The understory is dominated by salal. Oceanspray is usually a prominent tall shrub, and beaked hazelnut is sometimes prominent to co-dominant over the salal. Baldhip rose and trailing blackberry are usually present. The poorly developed herb layer usually has small amounts of bracken fern and, less commonly, sword fern.

CLASSIFICATION NOTES: Also described by Chappell and Giglio (1999) and Chappell (1997, 2001). Fonda and Bernardi (1976) described same community from Sucia Island and a closely related type (ARME-PICO/GASH) with lodgepole pine co-dominant (only 1 sample stand). Chappell (1997), Chappell and Giglio (1999), and NatureServe (2004) consider PSME-ARME/VAOV part of PSME-ARME/GASH.

MANAGEMENT NOTES: Experimentation with prescribed fire may be warranted, especially where fungal diseases are resulting in madrone decline. More research on management strategies focused on the diseases is recommended.

BIODIVERSITY NOTES: The fruit of madrone is highly sought-after by birds in the fall and early winter.