

**BETULA PAPYRIFERA - ALNUS RUBRA /  
POLYSTICHUM MUNITUM**

Paper birch - red alder / sword fern  
Abbreviated Name: BEPA-ALRU/POMU

Sample size = 5 plots

**DISTRIBUTION:** Known only from the Fraser Lowland and adjacent hills in Whatcom County. Possible in Skagit County and adjacent BC.

**GLOBAL/STATE STATUS:** GNRs1. Rare and local. There are few stands. Most stands are small, set in agricultural landscapes, and are the result of regeneration after timber harvest. Only one known relatively high-integrity occurrence.

**ID TIPS:** Dominated by paper birch or paper birch and red alder. Sword fern usually at least prominent.

**ENVIRONMENT:** Sites are moist to very moist and appear to be relatively nutrient-rich. Most sites are on flat or slightly undulating plains, with some on adjacent foothills. Soil texture varies from gravelly loam to silty clay loam, with silt loam most common. Soils are somewhat poorly drained to well drained.

**Precipitation:** 42-59 inches (mean 46)

**Elevation:** 20 to 500 feet, maybe higher

**Aspect/slope:** mostly flat/ slope 0-21%

**Slope position:** plain, short

**Soil series:** Skipopa, Whatcom, Nati

**DISTURBANCE/SUCCESSION:** This is an early- to mid-successional association that can regenerate after fire, windthrow, or timber harvest. Birch and alder are short-lived (about 100-140 years) and prolific wind-borne seed producers. Birch also sprouts vigorously after fire or cutting. If conifers establish in the understory, then they are expected to dominate after the birch and alder die in the absence of further disturbance.

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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).

<b>Trees</b>	<b>Kartesz 2005 Name</b>	<b>Con</b>	<b>Cov</b>
paper birch	<i>Betula papyrifera</i> var. <i>commutata</i>	100	44
red alder	<i>Alnus rubra</i>	80	38
Douglas-fir	<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	80	7
casacara	<i>Frangula purshiana</i>	80	3
bigleaf maple	<i>Acer macrophyllum</i>	60	20
grand fir	<i>Abies grandis</i>	60	7
black cottonwood	<i>Populus balsamifera</i> ssp. <i>trichocarpa</i>	60	5
western hemlock	<i>Tsuga heterophylla</i>	40	11
western redcedar	<i>Thuja plicata</i>	40	10
<b>Shrubs and Dwarf-shrubs</b>			
common snowberry	<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	100	15
Indian plum	<i>Oemleria cerasiformis</i>	100	13
salmonberry	<i>Rubus spectabilis</i> var. <i>spectabilis</i>	100	12
vine maple	<i>Acer circinatum</i>	80	33
red elderberry	<i>Sambucus racemosa</i> var. <i>racemosa</i>	80	6
trailing blackberry	<i>Rubus ursinus</i> var. <i>macroptetalus</i>	60	22
oceanspray	<i>Holodiscus discolor</i>	40	8
swamp currant	<i>Ribes lacustre</i>	40	2
dwarf Oregongrape	<i>Mahonia nervosa</i>	40	2
orange honeysuckle	<i>Lonicera ciliosa</i>	40	2
<b>Graminoids</b>			
Dewey's sedge	<i>Carex deweyana</i> var. <i>deweyana</i>	60	4
<b>Forbs and Ferns</b>			
sword fern	<i>Polystichum munitum</i>	100	21
spreading woodfern	<i>Dryopteris expansa</i>	60	6
false lily-of-the-valley	<i>Maianthemum dilatatum</i>	60	5
bracken fern	<i>Pteridium aquilinum</i> var. <i>pubescens</i>	40	7
lady-fern	<i>Athyrium filix-femina</i> ssp. <i>cyclosorum</i>	40	2
fringe-cup	<i>Tellima grandiflora</i>	40	+
western trillium	<i>Trillium ovatum</i> ssp. <i>ovatum</i>	40	+

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**VEGETATION:** Dominated by paper birch or a mix of birch and red alder. Bigleaf maple, cascara, Douglas-fir, and grand fir are frequently present and the maple is sometimes co-dominant. Western hemlock and western redcedar are sometimes prominent. Understory is characterized by sword fern, which is prominent to dominant. A variable shrub layer of common snowberry, salmonberry, Indian plum, vine maple, and/or trailing blackberry is present, each of which is sometimes co-dominant. Other species usually present include red elderberry, Dewey's sedge, spreading woodfern, and false lily-of-the-valley.

**CLASSIFICATION NOTES:** Bortel (1976) described multiple paper birch community types from Whatcom County that have some affinity to this association. Not yet recognized by NatureServe (2005).

**MANAGEMENT NOTES:** English ivy (*Hedera helix*) and herb Robert (*Geranium robertianum*) are non-native invaders of most immediate concern. If no conifer is present in the stand, succession in the absence of disturbance could lead to shrub dominance. This association requires disturbance of some kind for long-term persistence.



Plot locations  
of BEPA-ALRU/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. [\[http://www.dnr.wa.gov/nhp/refdesk/communities/pdf/intro.pdf\]](http://www.dnr.wa.gov/nhp/refdesk/communities/pdf/intro.pdf).