

DANTHONIA CALIFORNICA – ERIOPHYLLUM LANATUM

California danthonia – woolly sunflower

Abbreviated Name: DACA-ERLA

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Sample size = 7 plots

DISTRIBUTION: This grassy bald association occurs in the San Juan Islands of San Juan and Skagit County, Chuckanut Mountain in western Whatcom County, foothills of southeastern Thurston County, and the western Columbia Gorge, Skamania County. It also occurs in the adjacent Georgia Basin of British Columbia and may occur in the Willamette Valley of Oregon.

GLOBAL/STATE STATUS: GNR1. There are very few known occurrences with fair or better integrity in Washington and they are highly threatened by invasion and increase of non-native species. Other threats include tree invasion with fire suppression, development, and recreational impacts.

ID TIPS: Dominated or co-dominated by California danthonia and Roemer's fescue absent or low in cover (less than 10%). Slopes with shallow soils (rock outcrops usually present or nearby).

ENVIRONMENT: These sites are very dry. Occurs primarily on moderate to steep mid- to upper slopes, with southern to western aspects. Soils are shallow over sedimentary, igneous, or metamorphic bedrock. Rock outcrops (often covered with mosses) are typically present within or adjacent to this association. Has been rarely found on serpentine soils. Occurs at relatively high elevations for the Puget Trough. Occurs mostly in dry climatic areas (Olympic Mountain rainshadow).

Precipitation: 31-55 inches (mean 42)

Elevation: 700 to 1500 feet

Aspect/slope: E to W/ 26-78% slope (mean 49)

Slope position: mid, upper

Soil series: rock outcrop, rock land, Guemes variant

DISTURBANCE/SUCCESSION: Historically, many of the balds where this association occurs were more extensive than currently due to indigenous human burning practices. Some sites where this association currently exists appear to be marginal for Douglas-fir establishment and growth to maturity due to extreme summer drought conditions, except at edges or moist microsites. Overall there is considerable likelihood that many of these sites, in the absence of fire, could be eventually converted to coniferous woodlands or forest, especially small ones. Heavy browsing by deer at some sites appears

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).

Shrubs and Dwarf-shrubs	Kartesz 2005 Name	Con	Cov
baldhip rose	Rosa gymnocarpa	43	+
trailing blackberry	Rubus ursinus ssp. macropetalus	43	+
common snowberry	Symphoricarpos albus var. laevigatus	43	+
Graminoids			
California danthonia	Danthonia californica	100	45
blue wildrye	Elymus glaucus	100	3
silver hairgrass	Aira caryophylla	86	7
barren fescue	Vulpia bromoides	86	6
prairie junegrass	Koeleria macrantha	71	11
early hairgrass	Aira praecox	71	1
soft brome	Bromus hordeaceus	57	19
California brome	Bromus carinatus	57	15
long-stolon sedge	Carex inops ssp inops	57	15
wood-rush	Luzula (comosa, multiflora ssp. multiflora)	57	9
rat-tail fescue	Vulpia myuros	57	4
Kentucky bluegrass	Poa pratensis	29	18
red fescue	Festuca rubra	29	13
Lemmon's needlegrass	Achnatherum lemmonii var. lemmonii	29	13
Forbs and Ferns			
woolly sunflower	Eriophyllum lanatum var. lanatum	86	8
yarrow	Achillea millefolium var. occidentalis	86	6
small-headed clover	Trifolium microcephalum	86	5
Indian's dream	Aspidotis densa	57	6
field chickweed	Cerastium arvense ssp. strictum	57	4
meadow death camas	Zigadenus venenosus var. venenosus	57	2
spring-gold	Lomatium utriculatum	43	6
cleavers	Galium aparine	43	1
Wallace's selaginella	Selaginella wallacei	43	1
Hooker's onion	Allium acuminatum	43	+
harvest brodiaea	Brodiaea coronaria ssp. coronaria	43	+
few-flowered clover	Trifolium oliganthum	43	+

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to be retarding succession to woodland by limiting the size of Douglas-fir saplings. Historic grazing by domestic ungulates on some of these sites may have locally increased the prevalence of this association because California danthonia appears to be more tolerant of such grazing than Roemer's fescue.

VEGETATION: This is grassland, dominated or co-dominated by the bunchgrass California danthonia. Other native graminoids that are occasionally codominant with the danthonia are long-stolon sedge, prairie Junegrass, California brome, and red fescue (nativity of latter questionable). Frequent native herbaceous species include blue wildrye, yarrow, woolly sunflower, small-headed clover, prairie Junegrass, wood-rush, Indian's dream, field chickweed, meadow death-camas, California brome, and long-stolon sedge. Common non-native species are silver hairgrass, barren fescue, early hairgrass, and rat-tail fescue.

CLASSIFICATION NOTES: This association has not been previously described in the literature. It is closely related to two associations recognized by NatureServe (2005): DACA Valley Grassland and FERO-CEAR-KOMA, and is probably best considered a subassociation of one of them. DACA Valley Grassland is described primarily from the Willamette Valley.

MANAGEMENT NOTES: Monitoring of Douglas-fir establishment and removal of Douglas-fir saplings is recommended in order to prevent gradual forest encroachment. Scot's broom (*Cytisus scoparius*), a nitrogen fixing non-native shrub, is a potential severe threat that should be monitored and controlled. Native species composition is at least locally threatened by increase and expansion of non-native grasses. Recreational projects such as new trails, as well as timber harvest activities and road-building, should avoid high-quality examples of this association because of the potential for spread of non-native species and relatively fragile soils.

BIODIVERSITY NOTES: A butterfly considered vulnerable in Washington, Vancouver ringlet (*Coenonympha tullia insulana*), has been recorded in this plant association and grassy balds are important habitat for many butterfly species. Many probably declining plant species are found in this plant 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).