



Forest / Forêt

Association CNVC00022

Chamaecyparis nootkatensis* - *Tsuga mertensiana* / *Calamagrostis nutkaensis

Yellow-cedar - Mountain Hemlock / Nootka Reedgrass

Cyprès jaune - Pruche subalpine / Calamagrostide de Nootka

Subassociations: none

CNVC Alliance: not yet determined

CNVC Group: not yet determined

Type Description

Concept: CNVC00022 occurs in subalpine areas of the wet, hypermaritime climate of the outer mainland British Columbia coast and Haida Gwaii (Queen Charlotte Islands). It occurs at elevations between approximately 300 m and 1100 mASL on medium to rich, colluvial or morainal soils with strong seepage influence due to steep slopes and high precipitation inputs. Yellow-cedar (*Chamaecyparis nootkatensis*) dominates the well-developed but somewhat scrubby canopy, with varying amounts of mountain hemlock (*Tsuga mertensiana*) and shore pine (*Pinus contorta* var. *contorta*). The shrub layer is mostly tree regeneration. Consistent species in the poorly developed herb layer include Nootka reedgrass (*Calamagrostis nutkaensis*), running clubmoss (*Lycopodium clavatum*), rose twisted-stalk (*Streptopus lanceolatus*), alpine firmoss (*Huperzia haleakalae*), deer fern (*Blechnum spicant*) and green false hellebore (*Veratrum viride*). The most common species in the moss layer are Bolander's earwort (*Scapania bolanderi*), lanky moss (*Rhytidiadelphus loreus*), and stairstep moss (*Hylocomium splendens*).

Vegetation: In the moderately productive subalpine forests represented by CNVC00022, *Chamaecyparis nootkatensis* dominates the well-developed but somewhat scrubby canopy, with moderate amounts of *Tsuga mertensiana* and variable amounts of *Pinus contorta* var. *contorta*. The sparse to moderate shrub layer includes mainly *Chamaecyparis nootkatensis*, *Tsuga heterophylla*, *Thuja plicata* and *Tsuga mertensiana*; *Gaultheria shallon*, *Vaccinium parvifolium*, *Alnus viridis*, *Taxus brevifolia* and *Menziesia ferruginea* are sometimes present, but have very low cover. Species in the poorly developed herb layer include *Calamagrostis nutkaensis*, *Lycopodium clavatum*, *Huperzia haleakalae*, *Blechnum spicant*, *Veratrum viride*, *Listera cordata*, *Maianthemum dilatatum*, *Cornus canadensis*, *Coptis asplenifolia*, *Caltha leptosepala*, and *Rubus pedatus*. Common species in the moderately well-developed moss layer are *Scapania bolanderi*, *Rhytidiadelphus loreus*, *Hylocomium splendens*, *Dicranum majus* and *Sphagnum girgensohnii*.

Environment: CNVC00022 occurs on moist, medium to rich sites in subalpine areas of the wet, hypermaritime climate of the outer mainland British Columbia coast and Haida Gwaii (Queen Charlotte Islands). The association occurs at elevations between approximately 300 and 1100 mASL. Topositions tend to be moderately steep, upper to lower slopes. Poorly drained loamy mineral soils on colluvial or morainal veneers with strong seepage influence are characteristic. Forest humus forms are commonly mors, occasionally moders.



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Type Description (cont'd)

Dynamics: CNVC00022 is a late-successional forest association. Windthrow and related wind damage to vegetation are common and are further aggravated by the potential physical damage of heavy winter snow. Dips and hollows that can collect and hold snow tend to be slow to regenerate with trees. Trees characteristically grow in somewhat clumped islands where soil conditions are better, and where some protection is offered by those trees already established. Regardless of the difficult subalpine climatic conditions, many of the forests here are typically uneven-aged and very old. Fire is not a factor in the subalpine, wet, hypermaritime climate. Hemlock dwarf mistletoe (*Arceuthobium tsugense*) is a medium but persistent threat to *Tsuga* spp.

Range: CNVC00022 occurs in the wetter subalpine, along the outer mainland coast of British Columbia, from Rivers Inlet northward to Portland Canal, and also on Haida Gwaii (Queen Charlotte Islands).

Conservation Status (NatureServe)

Global Conservation Rank: not yet determined

National Conservation Rank: not yet determined

Subnational Conservation Rank: not yet determined



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Distribution

Countries: Canada

Provinces / Territories / States: British Columbia

Ecozones and Ecoregions of Canada: Pacific Maritime: Coastal Gap, Queen Charlotte Ranges

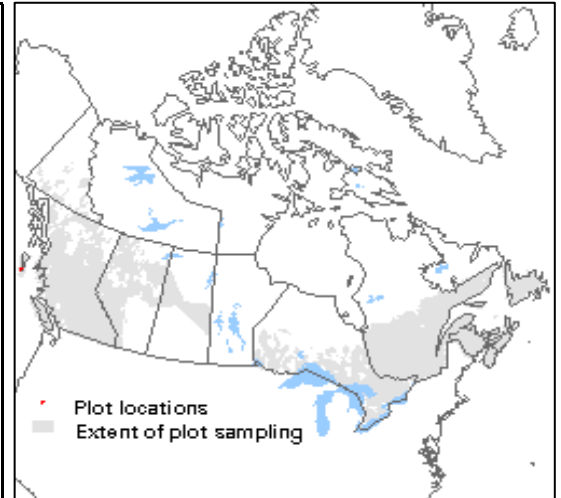
Rowe's Forest Regions and Sections: Coast: Northern Pacific Coast, Queen Charlotte Islands

Commission for Environmental Cooperation Ecological Regions of North America: Marine West Coast Forests

The Nature Conservancy (USA) and Nature Conservancy of Canada Ecoregions: Northwest Coast, S.E. Alaska - B.C. Coastal Forest and Mountains

Biogeoclimatic Ecosystem Classification of British Columbia (zones and subzones): MH wh

Ecoregion Classification System of British Columbia (ecosections): Hecate Lowland, Kitimat Ranges, North Coast Fjords, Northern Pacific Ranges, Queen Charlotte Ranges



Corresponding Types and Associations

CNVC00022

British Columbia

MH wh 1 /05

Tsuga mertensiana - *Chamaecyparis nootkatensis* -
Calamagrostis nutkaensis - *Maianthemum dilatatum*



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Vegetation Summary*

Species Name [†]	Association CNVC00022	
	6 plots	
	% Cover	% Presence
Overstory Trees		
<i>Chamaecyparis nootkatensis</i>	43	100
<i>Tsuga mertensiana</i>	13	100
<i>Pinus contorta</i>	10	67
<i>Thuja plicata</i>	2	33
<i>Tsuga heterophylla</i>	2	33
Tree Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(42 49 63 79 84)	
Understory Woody Shrubs and Regenerating Trees		
<i>Chamaecyparis nootkatensis</i>	8	100
<i>Tsuga heterophylla</i>	7	100
<i>Thuja plicata</i>	7	100
<i>Tsuga mertensiana</i>	5	100
<i>Gaultheria shallon</i>	1	100
<i>Vaccinium parvifolium</i>	1	100
<i>Taxus brevifolia</i>	2	50
<i>Alnus viridis</i>	1	50
<i>Menziesia ferruginea</i>	1	50
<i>Pinus contorta</i>	5	33
<i>Alnus viridis</i> ssp. <i>sinuata</i>	1	33
<i>Rubus spectabilis</i>	1	33
<i>Vaccinium alaskaense</i>	1	33
Shrub Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(23 24 32 41 45)	
Understory Herbs and Dwarf Shrubs		
<i>Calamagrostis nutkaensis</i>	3	100
<i>Lycopodium clavatum</i>	2	100
<i>Huperzia haleakalae</i>	1	100
<i>Blechnum spicant</i>	1	100
<i>Veratrum viride</i>	1	100
<i>Streptopus lanceolatus</i>	1	100
<i>Listera cordata</i>	1	100
<i>Maianthemum dilatatum</i>	1	100
<i>Cornus canadensis</i>	1	83
<i>Coptis aspleniifolia</i>	1	67
<i>Caltha leptosepala</i>	1	67
<i>Rubus pedatus</i>	1	50
<i>Trisetum canescens</i>	3	33
<i>Sinosenecio newcombei</i>	1	33
<i>Athyrium filix-femina</i>	1	33



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Vegetation Summary (cont'd)*

Species Name [†]	Association CNVC00022	
	% Cover	% Presence
<i>Enemion savilei</i>	1	33
<i>Tiarella trifoliata</i>	1	33
Herb Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(6 8 15 15 25)	
Bryophytes and Lichens		
<i>Scapania bolanderi</i>	19	100
<i>Rhytidiadelphus loreus</i>	7	100
<i>Hylocomium splendens</i>	4	100
<i>Dicranum majus</i>	2	100
<i>Sphagnum girgensohnii</i>	1	67
<i>Plagiothecium undulatum</i>	1	50
<i>Eurhynchium oreganum</i>	2	33
<i>Pellia neesiana</i>	2	33
<i>Dicranum fuscescens</i>	1	33
<i>Isothecium myosuroides</i>	1	33
Bryo-Lichen Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(28 32 37 38 49)	

* species present in > 20% of sample plots are listed

[†] see **Botanical Nomenclature** link at <http://cnvc-cnvc.ca> for botanical sources, synonyms and common names

[‡] P_x = Xth percentile (e.g., P₁₀ = 10th percentile)



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Site / Soil Characteristics

Association
CNVC00022
6 plots

Elevation Range (min–mean–max meters)

300–365–420
missing data (33)

Slope Gradient (% frequency)

steep (17)
moderately steep (50)
missing data (33)

Aspect (% frequency)

north (33)
south (17)
west (17)
missing data (33)

Meso Toposition (% frequency)

crest / upper (67)
missing data (33)

Moisture Regime (% frequency)

moist (67)
missing data (33)

Nutrient Regime (% frequency)

medium (50)
rich (17)
missing data (33)



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Site / Soil Characteristics (cont'd)

	Association CNVC00022
Soil Parent Material (% frequency)	colluvium (17) moraine / till (50) missing data (33)
Soil Rooting Zone Substrate (% frequency)	non-soil (17) fine loamy (33) missing data (50)
Root Restricting Depth (% frequency)	21 – 99 cm (33) missing data (67)
Humus Form (% frequency)	mor (67) missing data (33)



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Additional Characteristics

Species of High Conservation Concern:

Non-native Species:

Management Issues:

Type Statistics

Internal Similarity:

Confidence: high

Strength:

Related Concepts

Similar CNVC Associations: CNVC00011 *Tsuga mertensiana* - *Chamaecyparis nootkatensis* / *Vaccinium alaskaense* / *Coptis aspleniifolia*

Related United States National Vegetation Classification Associations: CEG003784 *Tsuga mertensiana* - *Chamaecyparis nootkatensis* / *Calamagrostis nutkaensis* - *Maianthemum dilatatum* Forest

Relationships with Other Classifications:

Comments

CNVC00011 [*Tsuga mertensiana* - *Chamaecyparis nootkatensis* / *Vaccinium alaskaense* / *Coptis aspleniifolia*], the other moist-site association in this climate, is on poorer sites and has *Vaccinium* spp., *Rhytidiopsis robusta* and *Pellia neesiana* and lacks *Pinus contorta* var. *contorta*. On Haida Gwaii, heavy deer browsing has affected the floristic composition of forest communities - in the absence of browsing, more rich-site indicator species would be present for CNVC00022.

Source Information

Number of source plots for CNVC00022: 6

Information Sources: British Columbia Ministry of Forests and Range, Research Branch BECMaster database, October 2007 (6 plots)

Concept Authors: D. Meidinger, C. Chappell, C. Cadrin, G. Kittel, C. McCain, K. Boggs, J. Kagan, G. Cushon, A. Banner and T. DeMeo

Description Authors: D. Meidinger, A. Inselberg, C. Cadrin and K. Baldwin

Date of Concept: November, 2005

Date of Description: March, 2011



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Source Information (cont'd)

Classification References:

British Columbia Ministry of Forests and Range, Research Branch. 2007. Vegetation classification hierarchy: BECMaster database (October 2007). B.C. Min. For., Victoria, BC.

Meidinger, D.; Chappell, C.; Cadrin, C.; Kittel, G.; McCain, C.; Boggs, K.; Kagan, J.; Cushon, G.; Banner, A.; DeMeo, T. 2005. International vegetation classification of the Pacific Northwest: International correlation of temperate coastal forest plant associations of Oregon, Washington, British Columbia and Alaska. Contributors: B.C. Ministry of Forests, USDA Forest Service, B.C. Conservation Data Centre, Alaska Natural Heritage Program, Washington Natural Heritage Program, Oregon Natural Heritage Information Center.

Characterization References:

Banner, A.; MacKenzie, W.; Haeussler, S.; Thomson, S.; Pojar, J.; Trowbridge, R. 1993. A field guide to site identification and interpretation for the Prince Rupert Forest Region. B.C. Min. For., Res. Branch, Victoria, BC. Land Manage. Handb. No. 26.

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Lewis, T. 2003. The ecosystems of Block 6, Tree-Farm License 25, Queen Charlotte Islands, British Columbia. Internal Report for Western Forest Products Inc. 137 p.

Lewis, T.; Inselberg, A. 2005. The ecosystems of Block 5, Tree-Farm License 25, British Columbia. Prepared for Western Forest Products Inc. Unpubl. Rep.

NatureServe. 2007. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.2. NatureServe. Arlington, VA, USA. Available: <http://www.natureserve.org/explorer> (accessed November 26, 2007).

The information contained in this factsheet is based on data and expert knowledge that is current to the date of description. As new information becomes available, the factsheet will be updated.

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