



Forest / Forêt

Association CNVC00012

***Tsuga heterophylla* / *Hylocomium splendens* - *Pleurozium schreberi* (*Rhytidiadelphus triquetrus*)**

Western Hemlock / Stairstep Moss - Red-stemmed Feather Moss (Electrified Cat's-tail Moss)

Pruche de l'Ouest / Hypne éclatante - Hypne de Schreber (Hypne triquète)

Subassociations: none

CNVC Alliance: not yet determined

CNVC Group: not yet determined

Type Description

Concept: CNVC00012 are coniferous forest communities that occur on nutrient-poor, coarse sandy or skeletal soils in wet, subarctic climates of coastal British Columbia. These sites occur at elevations up to approximately 1000 mASL on the eastern slopes of the central Coast Mountains and in the Hazelton Mountains. Western hemlock (*Tsuga heterophylla*) dominates the overstory. The poorly developed shrub layer is dominated by regenerating western hemlock, often with low cover of western red cedar (*Thuja plicata*) and Alaskan blueberry (*Vaccinium alaskaense*). The sparse, poorly developed herb layer is variable but often has low cover of bunchberry (*Cornus canadensis*) and oneside wintergreen (*Orthilia secunda*). The moss layer is well developed and is dominated by high cover of stairstep moss (*Hylocomium splendens*) and red-stemmed feather moss (*Pleurozium schreberi*), often with electrified cat's-tail moss (*Rhytidiadelphus triquetrus*).

Vegetation: In CNVC00012, *Tsuga heterophylla* dominates the overstory, which sometimes has low to moderate cover of *Pinus contorta* (see the Comments section) and *Thuja plicata*. If disturbed, these communities may regenerate to dense stands of *Pinus contorta*. The poorly developed understory is dominated by moderate cover of regenerating *Tsuga heterophylla*, often with low cover of *Thuja plicata*, *Menziesia ferruginea*, *Vaccinium membranaceum*, *V. ovalifolium*, *V. alaskaense*, *Orthilia secunda* or *Cornus canadensis*. The moss layer is well developed and dominated by high abundance of *Hylocomium splendens* and *Pleurozium schreberi*, often in association with lesser amounts of *Rhytidiadelphus triquetrus*, *R. loreus* and *Rhytidiopsis robusta*.

Environment: CNVC00012 occurs on coarse sandy or skeletal soils on mid to upper slopes, ridge crests, or level areas in wet, subarctic climates of coastal British Columbia. These dry to mesic, low productivity sites occur at elevations up to approximately 1000 mASL on the eastern slopes of the Coast Mountains and in the Hazelton Mountains. Soils are typically Humo-Ferric Podzols with a poor nutrient regime, developing on either glaciofluvial outwash or thin colluvial or morainal veneers over bedrock.

Dynamics: This is a late-successional (mature and climax) edaphic forest association. Historically, stand replacement was probably gradual via gap replacement dynamics, with long-lived, multi-aged stands common on the landscape. Small gaps result from windthrow, especially on shallower soils, and root-rot or bark beetles. Catastrophic stand-replacing events were most likely infrequent wind storms. Although fire was generally very infrequent on the overall landscape, occurring perhaps every few hundred years, it may have occurred more frequently on these dry sites.



***Tsuga heterophylla* / *Hylocomium splendens* - *Pleurozium schreberi* (*Rhytidiadelphus triquetrus*) CNVC00012**

Type Description (cont'd)

Range: CNVC00012 is a Canadian endemic association found at low to mid elevations on the eastern slopes of the central Coast Mountains of British Columbia, north of Knight Inlet, and also in the Hazelton Mountains from the upper Kitlope Valley to Alice Arm.

Conservation Status (NatureServe)

Global Conservation Rank: G2G3

National Conservation Rank: not yet determined

Subnational Conservation Rank: S2S3 (BC)



Canadian National Vegetation Classification (CNVC)
 Classification nationale de la végétation du Canada (CNVC)

<http://cnvc-cnvc.ca>

Forest / Forêt

Association CNVC00012

***Tsuga heterophylla* / *Hylocomium splendens* - *Pleurozium schreberi* (*Rhytidiadelphus triquetrus*)**

Western Hemlock / Stairstep Moss - Red-stemmed Feather Moss (Electrified Cat's-tail Moss)

Pruche de l'Ouest / Hypne éclatante - Hypne de Schreber (Hypne triquète)

Distribution

Countries: Canada

Provinces / Territories / States: British Columbia

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

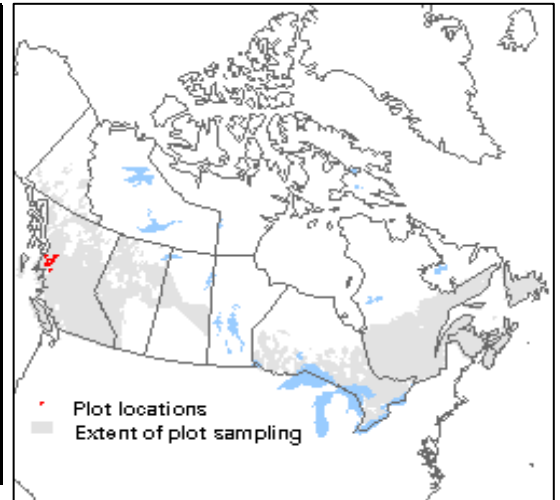
Rowe's Forest Regions and Sections: Coast: Northern Pacific Coast; Montane: Montane Transition

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

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

Biogeoclimatic Ecosystem Classification of British Columbia (zones and subzones): CWH ws

Ecoregion Classification System of British Columbia (ecosections): Cranberry Upland, Kimsquit Mountains, Nass Mountains



Corresponding Types and Associations

CNVC00012	British Columbia	CWH ws 1 /03	<i>Abies amabilis</i> - <i>Rhytidiadelphus triquetrus</i>
		CWH ws 2 /03	<i>Abies amabilis</i> - <i>Rhytidiadelphus triquetrus</i>



Forest / Forêt

Association CNVC00012

***Tsuga heterophylla* / *Hylocomium splendens* - *Pleurozium schreberi* (*Rhytidiadelphus triquetrus*)**

Western Hemlock / Stairstep Moss - Red-stemmed Feather Moss (Electrified Cat's-tail Moss)

Pruche de l'Ouest / Hypne éclatante - Hypne de Schreber (Hypne triquètre)

Vegetation Summary*

Species Name [†]	Association	
	CNVC00012	
	18 plots	
	% Cover	% Presence
Overstory Trees		
<i>Tsuga heterophylla</i>	35	89
<i>Pinus contorta</i>	25	44
<i>Thuja plicata</i>	10	44
Tree Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(12 30 53 78 86)	
Understory Woody Shrubs and Regenerating Trees		
<i>Tsuga heterophylla</i>	14	100
<i>Thuja plicata</i>	7	50
<i>Vaccinium alaskaense</i>	4	50
<i>Menziesia ferruginea</i>	7	44
<i>Vaccinium parvifolium</i>	4	44
<i>Vaccinium membranaceum</i>	3	44
<i>Vaccinium ovalifolium</i>	3	33
<i>Abies amabilis</i>	5	22
<i>Amelanchier alnifolia</i>	4	22
Shrub Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(4 8 30 35 69)	
Understory Herbs and Dwarf Shrubs		
<i>Cornus canadensis</i>	3	50
<i>Orthilia secunda</i>	1	50
<i>Goodyera oblongifolia</i>	3	39
<i>Chimaphila umbellata</i>	3	33
<i>Platanthera orbiculata</i>	2	33
<i>Linnaea borealis</i>	2	28
<i>Clintonia uniflora</i>	2	22
<i>Corallorhiza maculata</i>	2	22
<i>Lycopodium clavatum</i>	0	22
Herb Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(0 1 8 9 18)	
Bryophytes and Lichens		
<i>Hylocomium splendens</i>	33	89
<i>Pleurozium schreberi</i>	33	72
<i>Rhytidiadelphus triquetrus</i>	7	72
<i>Rhytidiopsis robusta</i>	15	56
<i>Rhytidiadelphus loreus</i>	16	50
<i>Ptilium crista-castrensis</i>	3	44



***Tsuga heterophylla* / *Hylocomium splendens* - *Pleurozium schreberi* (*Rhytidiadelphus triquetrus*) CNVC00012**

Vegetation Summary (cont'd)*

Species Name [†]	Association CNVC00012	
	% Cover	% Presence
<i>Peltigera aphthosa</i>	2	39
<i>Dicranum fuscescens</i>	2	33
<i>Lophozia</i> sp.	1	22
Bryo-Lichen Stratum Cover (P ₁₀ P ₂₅ Mean P ₇₅ P ₉₀) [‡]	(14 60 70 98 99)	

* 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)



Forest / Forêt

Association CNVC00012

Tsuga heterophylla / *Hylocomium splendens* - *Pleurozium schreberi* (*Rhytidiadelphus triquetrus*)

Western Hemlock / Stairstep Moss - Red-stemmed Feather Moss (Electrified Cat's-tail Moss)

Pruche de l'Ouest / Hypne éclatante - Hypne de Schreber (Hypne triquète)

Site / Soil Characteristics

Association

CNVC00012

18 plots

Elevation Range (min–mean–max meters)

130–280–850

missing data (28)

Slope Gradient (% frequency)

very steep (17)

steep (17)

moderately steep (6)

gentle (17)

level (28)

missing data (17)

Aspect (% frequency)

north (11)

south (22)

west (28)

level (17)

missing data (22)

Meso Toposition (% frequency)

crest / upper (11)

mid (22)

lower / toe (6)

level (33)

missing data (28)

Moisture Regime (% frequency)

dry (33)

mesic (50)

missing data (17)

Nutrient Regime (% frequency)

poor (22)

medium (6)

missing data (72)



***Tsuga heterophylla* / *Hylocomium splendens* - *Pleurozium schreberi* (*Rhytidiadelphus triquetrus*) CNVC00012**

Site / Soil Characteristics (cont'd)

Association
CNVC00012

Soil Parent Material (% frequency)

colluvium (17)
moraine / till (6)
missing data (78)

Soil Rooting Zone Substrate (% frequency)

non-soil (17)
sandy (28)
coarse loamy (22)
silty (6)
clayey (6)
missing data (22)

Root Restricting Depth (% frequency)

0 – 20 cm (6)
21 – 99 cm (28)
missing data (67)

Humus Form (% frequency)

mor (33)
peatymor (6)
missing data (61)



Forest / Forêt

Association CNVC00012

***Tsuga heterophylla* / *Hylocomium splendens* - *Pleurozium schreberi* (*Rhytidiadelphus triquetrus*)**

Western Hemlock / Stairstep Moss - Red-stemmed Feather Moss (Electrified Cat's-tail Moss)

Pruche de l'Ouest / Hypne éclatante - Hypne de Schreber (Hypne triquète)

Additional Characteristics

Species of High Conservation Concern:

Non-native Species:

Management Issues:

Type Statistics

Internal Similarity:

Confidence: high

Strength:

Related Concepts

Similar CNVC Associations: CNVC00002 *Pseudotsuga menziesii* - *Pinus contorta* (*Tsuga heterophylla*) / *Vaccinium membranaceum* / *Arctostaphylos uva-ursi*

Related United States National Vegetation Classification Associations: CEG1002830 *Tsuga heterophylla* / *Hylocomium splendens* - *Pleurozium schreberi* Forest

Relationships with Other Classifications:

Comments

Pinus contorta refers to *P. contorta* var. *latifolia* (lodgepole pine).

These communities are distinguished from dryer forests in western subarctic climates by the absence of *Arctostaphylos uva-ursi* and the diminished importance of *Pinus contorta* in the canopy (e.g., CNVC00002 [*Pseudotsuga menziesii* - *Pinus contorta* (*Tsuga heterophylla*) / *Vaccinium membranaceum* / *Arctostaphylos uva-ursi*]).

Source Information

Number of source plots for CNVC00012: 18

Information Sources: British Columbia Ministry of Forests and Range, Research Branch BECMaster database, October 2007 (18 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, K. Iverson, C. Cadrin and K. Baldwin

Date of Concept: November, 2005

Date of Description: March, 2011



***Tsuga heterophylla* / *Hylocomium splendens* - *Pleurozium schreberi* (*Rhytidiadelphus triquetrus*) CNVC00012**

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.

British Columbia Conservation Data Centre. 2007. B.C. Species and Ecosystems Explorer. B.C. Min. of Environ. Victoria, BC. Available: <http://www.env.gov.bc.ca/cdc/access.html> (accessed November 26, 2007).

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

Dorner, B.; Wong, C. 2003. Natural disturbance dynamics on the North Coast. Background report for North Coast LRMP, Integrated Land Management Bureau, Gov. British Columbia. 51 p.

Green, R.N.; Klinka, K. 1994. A field guide to site identification and interpretation for the Vancouver Forest Region. B.C. Min. For., Res. Branch, Victoria, BC. Land Manage. Handb. No. 28. 285 p.

Lertzman, K.; Gavin, D.; Hallett, D.; Brubaker, L.; Lepofsky, D.; Mathewes, R. 2002. Long-term fire regime estimated from soil charcoal in coastal temperate rainforests. *Conservation Ecology* 6:5.

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.

Suggested Citation: Meidinger, D.; Iverson, K.; Cadrin, C.; Baldwin, K. *Tsuga heterophylla* / *Hylocomium splendens* - *Pleurozium schreberi* (*Rhytidiadelphus triquetrus*) [online]. Sault Ste. Marie, Ontario, Canada: Canadian National Vegetation Classification. March, 2011; generated Apr-19-2011; cited ENTER DATE ACCESSED. 9 p. Canadian National Vegetation Classification Association: CNVC00012. Available from <http://cnvc-cnvc.ca>. System Requirements: Adobe Acrobat Reader v. 7.0 or higher. ISSN 1916-3266.