



Forest / Forêt

Association CNVC00018

***Picea sitchensis* / *Trisetum canescens***

Sitka Spruce / Tall Trisetum

Épinette de Sitka / Trisète blanchâtre

**Subassociations:** none

**CNVC Alliance:** not yet determined

**CNVC Group:** not yet determined

**Type Description**

**Concept:** CNVC00018 occurs on middle fluvial benches along rivers in hypermaritime climates of British Columbia. This endemic association is usually found at low elevations as these mid-bench sites occur on lower reaches of the rivers. The benches flood frequently and have elevated water tables during much of the growing season. Stands have a moderately open canopy dominated by Sitka spruce (*Picea sitchensis*), commonly with western hemlock (*Tsuga heterophylla*). Red alder (*Alnus rubra*) is often present, usually with moderate cover. The shrub layer is characterized by low cover of salmonberry (*Rubus spectabilis*) and red huckleberry (*Vaccinium parvifolium*) along with regeneration of the canopy conifers. Tall trisetum (*Trisetum canescens*), deer fern (*Blechnum spicant*), and common lady fern (*Athyrium filix-femina*) are usually present in the herb layer. Stairstep moss (*Hylocomium splendens*) and lanky moss (*Rhytidiadelphus loreus*) dominate the well-developed bryophyte layer.

**Vegetation:** CNVC00018 is a coniferous forest association with a moderately open canopy dominated by *Picea sitchensis*, usually in combination with *Tsuga heterophylla* and/or *Alnus rubra*. The poorly developed shrub layer is dominated by moderate cover of regenerating conifers, primarily *Tsuga heterophylla* and *Picea sitchensis*, often with low cover of *Rubus spectabilis* and *Vaccinium parvifolium*. The herb layer is species-rich with numerous fern, graminoid and lily species, but none with high cover. The most common species include *Trisetum canescens*, *Blechnum spicant*, *Athyrium filix-femina*, *Luzula parviflora* and *Polystichum munitum*, all typically with low to moderate covers. The well-developed moss layer is dominated by high cover of *Hylocomium splendens* and *Rhytidiadelphus loreus* with low to moderate cover of *Conocephalum salebrosum* and *Eurhynchium oreganum*, and low cover of *Plagiomnium insigne*, *Leucolepis acanthoneuron*, *Rhizomnium glabrescens*.

**Environment:** CNVC00018 occurs on fluvial benches along rivers in hypermaritime climates of coastal British Columbia. Sites may be found at elevations from 0 to approximately 300 mASL, but are mostly at lower elevations. This association occurs on middle fluvial benches that flood frequently (2 to 5 year intervals) and have prolonged elevated water tables during the growing season. Soils are derived from gravelly or fine to coarse loamy fluvial materials and typically have poorly developed soil horizons. Moisture regimes range from mesic to moist; nutrient regimes are typically rich.



***Picea sitchensis* / *Trisetum canescens* CNVC00018**

**Type Description (cont'd)**

**Dynamics:** CNVC00018 comprises late-successional (mature and climax) edaphic forest communities. Natural disturbances include annual flooding which may cause some canopy mortality but is generally a stand-maintaining disturbance. Small gaps result from windthrow, root disease, or insect-caused mortality. Flooding and windthrow together result in an all-aged stand structure, although, over time, with a build-up of soil, the site will develop into a high-bench floodplain. Geomorphological disturbances, such as debris flows and torrents, might rarely cause stand-replacing events. Historically, fire was likely a very rare occurrence, occurring approximately every 4000 years on average.

**Range:** CNVC00018 occurs at low elevations in the wet, hypermaritime climate of British Columbia's outer coast. Its range includes the Haida Gwaii (Queen Charlotte Islands), all the major coastal islands, and a fringe along the west coast of Vancouver Island and the coastal mainland from Smith Inlet north to Portland Canal. This is a Canadian endemic association.

**Conservation Status (NatureServe)**

**Global Conservation Rank:** G1G2

**National Conservation Rank:** not yet determined

**Subnational Conservation Rank:** S1S2 (BC)



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### Distribution

**Countries:** Canada

**Provinces / Territories / States:** British Columbia

**Ecozones and Ecoregions of Canada:** Pacific Maritime: Queen Charlotte Lowland, Queen Charlotte Ranges, Coastal Gap, Western Vancouver Island

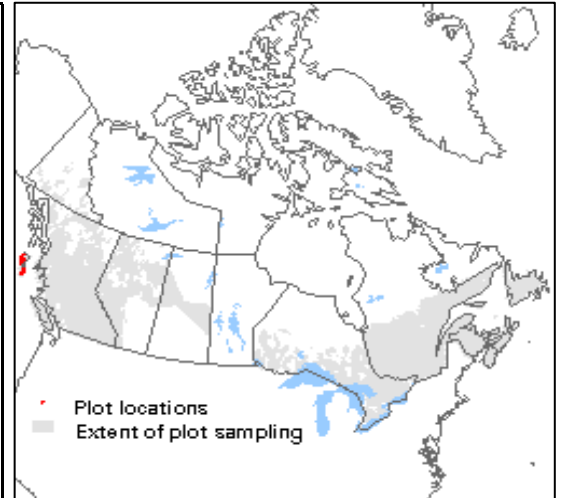
**Rowe's Forest Regions and Sections:** Coast: Queen Charlotte Islands, Southern Pacific Coast

**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 vh, CWH wh

**Ecoregion Classification System of British Columbia (ecosections):** Queen Charlotte Lowland, Queen Charlotte Ranges, Skidegate Plateau, Hecate Lowland, Nahwitti Lowland



### Corresponding Types and Associations

CNVC00018	British Columbia	CWH vh 1 /09	<i>Picea sitchensis</i> - <i>Melica subulata</i> - <i>Trisetum canescens</i>
		CWH vh 2 /09	<i>Picea sitchensis</i> - <i>Melica subulata</i> - <i>Trisetum canescens</i>
		CWH wh 1 /08	<i>Picea sitchensis</i> - <i>Melica subulata</i> - <i>Trisetum canescens</i>



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**Vegetation Summary\***

Species Name <sup>†</sup>	Association CNVC00018 33 plots	
	% Cover	% Presence
<b>Overstory Trees</b>		
<i>Picea sitchensis</i>	29	91
<i>Tsuga heterophylla</i>	18	73
<i>Alnus rubra</i>	29	58
<b>Tree Stratum Cover (P<sub>10</sub> P<sub>25</sub> Mean P<sub>75</sub> P<sub>90</sub>)<sup>‡</sup></b>	<b>(20 35 49 61 75)</b>	
<b>Understory Woody Shrubs and Regenerating Trees</b>		
<i>Tsuga heterophylla</i>	7	70
<i>Picea sitchensis</i>	9	67
<i>Vaccinium parvifolium</i>	3	61
<i>Rubus spectabilis</i>	2	61
<i>Menziesia ferruginea</i>	3	33
<i>Alnus rubra</i>	6	27
<i>Vaccinium ovalifolium</i>	1	27
<i>Vaccinium alaskaense</i>	1	24
<i>Thuja plicata</i>	3	21
<i>Sambucus racemosa</i>	1	21
<b>Shrub Stratum Cover (P<sub>10</sub> P<sub>25</sub> Mean P<sub>75</sub> P<sub>90</sub>)<sup>‡</sup></b>	<b>(1 5 18 30 37)</b>	
<b>Understory Herbs and Dwarf Shrubs</b>		
<i>Athyrium filix-femina</i>	2	73
<i>Blechnum spicant</i>	4	58
<i>Luzula parviflora</i>	1	58
<b><i>Trisetum canescens</i></b>	<b>10</b>	<b>55</b>
<i>Polystichum munitum</i>	2	55
<i>Gymnocarpium dryopteris</i>	3	45
<i>Tiarella trifoliata</i>	2	45
<i>Moneses uniflora</i>	1	45
<i>Dryopteris expansa</i>	1	42
<i>Melica subulata</i>	11	36
<i>Claytonia sibirica</i>	2	36
<i>Prenanthes alata</i>	2	36
<i>Maianthemum dilatatum</i>	2	33
<i>Galium triflorum</i>	1	30
<i>Circaea alpina</i>	7	27
<i>Veratrum viride</i>	2	27
<i>Galium trifidum</i>	1	24
<i>Coptis aspleniifolia</i>	1	21
<i>Viola glabella</i>	1	21
<b>Herb Stratum Cover (P<sub>10</sub> P<sub>25</sub> Mean P<sub>75</sub> P<sub>90</sub>)<sup>‡</sup></b>	<b>(3 6 35 70 81)</b>	



***Picea sitchensis* / *Trisetum canescens* CNVC00018**

**Vegetation Summary (cont'd)\***

Species Name <sup>†</sup>	Association CNVC00018	
	% Cover	% Presence
<b>Bryophytes and Lichens</b>		
<i>Rhytidiadelphus loreus</i>	17	85
<i>Hylocomium splendens</i>	19	73
<i>Eurhynchium oreganum</i>	13	61
<i>Rhizomnium glabrescens</i>	6	55
<i>Conocephalum conicum</i>	12	52
<i>Plagiomnium insigne</i>	8	52
<i>Leucolepis acanthoneuron</i>	5	52
<b>Bryo-Lichen Stratum Cover</b> (P <sub>10</sub> P <sub>25</sub> Mean P <sub>75</sub> P <sub>90</sub> ) <sup>‡</sup>	(28 40 57 83 90)	

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

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

<sup>‡</sup> P<sub>x</sub> = X<sup>th</sup> percentile (e.g., P<sub>10</sub> = 10<sup>th</sup> percentile)



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### Site / Soil Characteristics

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CNVC00018  
**33 plots**

#### Elevation Range (min–mean–max meters)

3–55–260  
missing data (3)

#### Slope Gradient (% frequency)

very steep (3)  
gentle (21)  
**level (70)**  
missing data (6)

#### Aspect (% frequency)

north (3)  
east (6)  
south (18)  
west (6)  
**level (45)**  
missing data (21)

#### Meso Toposition (% frequency)

mid (3)  
lower / toe (24)  
depression (6)  
**level (52)**  
missing data (15)

#### Moisture Regime (% frequency)

dry (3)  
mesic (27)  
**moist (48)**  
wet (3)  
missing data (18)

#### Nutrient Regime (% frequency)

poor (6)  
medium (12)  
**rich (70)**  
missing data (12)



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**Site / Soil Characteristics (cont'd)**

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**Soil Parent Material (% frequency)**

**fluvial (30)**  
organic (3)  
missing data (67)

**Soil Rooting Zone Substrate (% frequency)**

sandy (12)  
**coarse loamy (33)**  
fine loamy (12)  
clayey (3)  
organic (3)  
missing data (36)

**Root Restricting Depth (% frequency)**

**0 – 20 cm (6)**  
21 – 99 cm (3)  
≥ 100 cm (3)  
missing data (88)

**Humus Form (% frequency)**

**mor (30)**  
moder (21)  
peatymor (3)  
missing data (45)



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**Additional Characteristics**

**Species of High Conservation Concern:** Reported habitat for grizzly bear (*Ursus arctos horribilis*) (G4 [NatureServe], S3 [BC CDC], SC [COSEWIC]); spotted owl (*Strix occidentalis*) (G3 [NatureServe], S1 [BC CDC], E [COSEWIC]); Keen's long-eared myotis (*Myotis keenii*) (G2G3 [NatureServe], S2 [BC CDC]).

**Non-native Species:**

**Management Issues:**

**Type Statistics**

**Internal Similarity:**

**Confidence:** high

**Strength:**

**Related Concepts**

**Similar CNVC Associations:** CNVC00026 *Tsuga heterophylla* - *Picea sitchensis* / *Rhytidiadelphus loreus* - *Hylocomnium splendens*  
CNVC00017 *Picea sitchensis* - *Tsuga heterophylla* / *Rubus spectabilis* / *Maianthemum dilatatum*

**Related United States National Vegetation Classification Associations:** CEG002824 *Picea sitchensis* / *Trisetum canescens* Forest

**Relationships with Other Classifications:**

**Comments**

CNVC00026 [*Tsuga heterophylla* - *Picea sitchensis* / *Rhytidiadelphus loreus* - *Hylocomnium splendens*] and CNVC00017 [*Picea sitchensis* - *Tsuga heterophylla* / *Rubus spectabilis* / *Maianthemum dilatatum*] are high-bench floodplains of hypermaritime climates occurring along rivers in conjunction with CNVC00018.

**Source Information**

**Number of source plots for CNVC00018:** 33

**Information Sources:** British Columbia Ministry of Forests and Range, Research Branch BECMaster database, October 2007 (33 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





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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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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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