



Forest / Forêt

Association CNVC00015

Abies grandis* - *Thuja plicata* - *Acer macrophyllum* / *Oemleria cerasiformis* / *Polystichum munitum

Grand Fir - Western Red Cedar - Big-leaved Maple / Indian Plum / Western Sword Fern

Sapin grandissime - Thuya géant - Érable à grandes feuilles / Oeuléria faux-prunier / Fougère épée

Subassociations: none

CNVC Alliance: not yet determined

CNVC Group: not yet determined

Type Description

Concept: CNVC00015 is a mixedwood forest association that occurs on sites with strongly fluctuating water tables within the Georgia Basin of coastal British Columbia from sea level to approximately 150 m, and on similar sites in pockets of Oregon and Washington. These communities have a closed mixed deciduous and coniferous overstory, comprising grand fir (*Abies grandis*), western red cedar (*Thuja plicata*), big-leaved maple (*Acer macrophyllum*), and red alder (*Alnus rubra*). The moderately shrubby understory is dominated by high cover of Indian plum (*Oemleria cerasiformis*), with low cover of thin-leaved snowberry (*Symphoricarpos albus*). A well-developed herb layer is characterized by western sword fern (*Polystichum munitum*), but also includes three-leaved foamflower (*Tiarella trifoliata*), and Pacific blackberry (*Rubus ursinus*). A moderately well-developed moss layer is dominated by slender beaked moss (*Eurhynchium praelongum*).

Vegetation: Moderate to high cover of *Abies grandis*, *Thuja plicata*, *Acer macrophyllum*, and *Alnus rubra* comprise the closed overstory of CNVC00015. Moderate cover of *Pseudotsuga menziesii* also sometimes occurs in the overstory. High cover of *Oemleria cerasiformis* typifies the shrub layer, along with low cover of *Symphoricarpos albus*. Occasionally, *Rubus spectabilis*, *Ribes divaricatum* and *Sambucus racemosa* occur with moderate cover. The well-developed herb layer is dominated by high cover of *Polystichum munitum*, typically with low cover of *Tiarella trifoliata* (see the Comments section), *Rubus ursinus* and *Trillium ovatum*. High cover of *Eurhynchium praelongum* dominates the moss layer - co-occurring mosses include *Mnium* spp., *Leucolepis acanthoneuron* and *Eurhynchium oregonum*.

Environment: CNVC00015 occurs on sites with strong, seasonally fluctuating water tables within the Georgia Basin of coastal southern British Columbia at elevations from sea level to 150 m. These communities occur on level to gently sloping sites with moist soil moisture regimes and rich soil nutrient regimes. Groundwater is at or above the soil surface during the winter months, gradually lowering to well below the surface in the driest months of the year. Soils are of medium to fine texture with mull or moder humus forms.

Dynamics: CNVC00015 is a late-successional (mature and climax) edaphic forest association. Historically, stand-replacing events were likely infrequent, although fires did occur in this dryer maritime climate. Within mature and old forests, small gaps result from the death of single trees or small groups of trees due to windthrow, root disease, bark beetles, or other insect and disease pests. Too few occurrences remain to determine more specifically the stand dynamics of this type.



***Abies grandis* - *Thuja plicata* - *Acer macrophyllum* / *Oemleria cerasiformis* / *Polystichum munitum* CNVC00015**

Type Description (cont'd)

Range: CNVC00015 occurs in the lowlands within the Georgia Basin of coastal southern British Columbia, including southeastern Vancouver Island, the Gulf Islands and pockets along the south coast of mainland British Columbia. It is also known from the Puget Sound area of Washington, where is it also very rare, and possibly further south as far as Oregon, USA.

Conservation Status (NatureServe)

Global Conservation Rank: G1

National Conservation Rank: not yet determined

Subnational Conservation Rank: S1 (BC)



Forest / Forêt

Association CNVC00015

Abies grandis* - *Thuja plicata* - *Acer macrophyllum* / *Oemleria cerasiformis* / *Polystichum munitum

Grand Fir - Western Red Cedar - Big-leaved Maple / Indian Plum / Western Sword Fern

Sapin grandissime - Thuya géant - Érable à grandes feuilles / Oemléria faux-prunier / Fougère épée

Distribution

Countries: Canada

Provinces / Territories / States: British Columbia

Ecozones and Ecoregions of Canada: Pacific Maritime: Eastern Vancouver Island, Georgia - Puget Basin

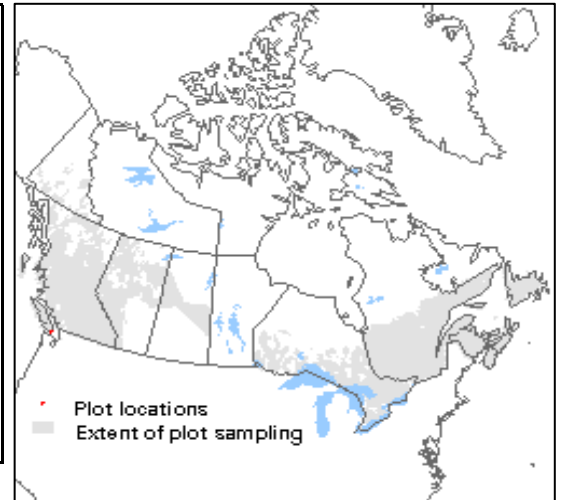
Rowe's Forest Regions and Sections: Coast: Strait of Georgia

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

The Nature Conservancy (USA) and Nature Conservancy of Canada Ecoregions: Puget Trough

Biogeoclimatic Ecosystem Classification of British Columbia (zones and subzones): CDF mm

Ecoregion Classification System of British Columbia (ecosections): Nanaimo Lowland, Southern Gulf Islands, Strait of Georgia



Corresponding Types and Associations

CNVC00015

British Columbia

CDF mm /13

Thuja plicata - *Acer macrophyllum* - *Abies grandis* / *Oemleria cerasiformis* / *Polystichum munitum*



Forest / Forêt

Association CNVC00015

Abies grandis* - *Thuja plicata* - *Acer macrophyllum* / *Oemleria cerasiformis* / *Polystichum munitum

Grand Fir - Western Red Cedar - Big-leaved Maple / Indian Plum / Western Sword Fern

Sapin grandissime - Thuya géant - Érable à grandes feuilles / Oemléria faux-prunier / Fougère épée

Vegetation Summary*

Species Name†	Association CNVC00015	
	23 plots	
	% Cover	% Presence
Overstory Trees		
<i>Abies grandis</i>	34	87
<i>Thuja plicata</i>	34	87
<i>Acer macrophyllum</i>	20	87
<i>Alnus rubra</i>	37	65
<i>Pseudotsuga menziesii</i>	23	48
Tree Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)‡	(66 70 76 80 89)	
Understory Woody Shrubs and Regenerating Trees		
<i>Oemleria cerasiformis</i>	25	78
<i>Symphoricarpos albus</i>	5	78
<i>Rhamnus purshiana</i>	2	52
<i>Vaccinium parvifolium</i>	1	43
<i>Rubus spectabilis</i>	15	39
<i>Holodiscus discolor</i>	4	39
<i>Ribes divaricatum</i>	8	35
<i>Mahonia nervosa</i>	3	35
<i>Sambucus racemosa</i>	21	30
<i>Rubus parviflorus</i>	3	30
<i>Gaultheria shallon</i>	4	26
<i>Rosa gymnocarpa</i>	1	22
Shrub Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)‡	(10 15 44 68 92)	
Understory Herbs and Dwarf Shrubs		
<i>Polystichum munitum</i>	54	96
<i>Rubus ursinus</i>	3	96
<i>Tiarella trifoliata</i>	3	91
<i>Trillium ovatum</i>	2	78
<i>Galium triflorum</i>	0	65
<i>Trientalis borealis</i> ssp. <i>latifolia</i>	1	61
<i>Lactuca muralis</i>	1	48
<i>Achlys triphylla</i>	2	39
<i>Claytonia sibirica</i>	0	39
<i>Tellima grandiflora</i>	1	35
<i>Osmorhiza berteroi</i>	1	30
<i>Adenocaulon bicolor</i>	1	30
<i>Dryopteris expansa</i>	1	30
<i>Festuca subulata</i>	1	30



***Abies grandis* - *Thuja plicata* - *Acer macrophyllum* / *Oemleria cerasiformis* / *Polystichum munitum* CNVC00015**

Vegetation Summary (cont'd)*

Species Name [†]	Association CNVC00015	
	% Cover	% Presence
<i>Pteridium aquilinum</i>	1	30
<i>Carex deweyana</i>	0	30
<i>Bromus vulgaris</i>	0	22
<i>Ranunculus uncinatus</i>	0	22
Herb Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(12 32 58 80 91)	
Bryophytes and Lichens		
<i>Eurhynchium praelongum</i>	25	96
<i>Mnium</i> sp.	6	87
<i>Eurhynchium oreganum</i>	4	65
<i>Leucolepis acanthoneuron</i>	6	61
Bryo-Lichen Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(5 12 42 75 84)	

* 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 CNVC00015

Abies grandis* - *Thuja plicata* - *Acer macrophyllum* / *Oemleria cerasiformis* / *Polystichum munitum

Grand Fir - Western Red Cedar - Big-leaved Maple / Indian Plum / Western Sword Fern

Sapin grandissime - Thuya géant - Érable à grandes feuilles / Oemléria faux-prunier / Fougère épée

Site / Soil Characteristics

Association
 CNVC00015
 23 plots

Elevation Range (min–mean–max meters)
 5–36–107
 missing data (35)

Slope Gradient (% frequency)
 moderate (4)
gentle (35)
 level (13)
 missing data (48)

Aspect (% frequency)
north (17)
 east (17)
 west (13)
 level (13)
 missing data (39)

Meso Topoposition (% frequency)
 missing data (100)

Moisture Regime (% frequency)
moist (96)
 wet (4)

Nutrient Regime (% frequency)
 medium (13)
rich (87)



***Abies grandis* - *Thuja plicata* - *Acer macrophyllum* / *Oemleria cerasiformis* / *Polystichum munitum* CNVC00015**

Site / Soil Characteristics (cont'd)

	Association CNVC00015
Soil Parent Material (% frequency)	missing data (100)
Soil Rooting Zone Substrate (% frequency)	sandy (9) coarse loamy (65) silty (4) clayey (9) missing data (13)
Root Restricting Depth (% frequency)	0 – 20 cm (4) 21 – 99 cm (26) ≥ 100 cm (4) missing data (65)
Humus Form (% frequency)	moder (30) mull (48) missing data (22)



Forest / Forêt

Association CNVC00015

Abies grandis* - *Thuja plicata* - *Acer macrophyllum* / *Oemleria cerasiformis* / *Polystichum munitum

Grand Fir - Western Red Cedar - Big-leaved Maple / Indian Plum / Western Sword Fern

Sapin grandissime - Thuya géant - Érable à grandes feuilles / Oeuléria faux-prunier / Fougère épée

Additional Characteristics

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

Non-native Species:

Management Issues:

Type Statistics

Internal Similarity:

Confidence: high

Strength:

Related Concepts

Similar CNVC Associations: CNVC00055 *Thuja plicata* (*Abies grandis*) / *Polystichum munitum* - *Achlys triphylla*

Related United States National Vegetation Classification Associations: CEG002846 *Thuja plicata* - *Acer macrophyllum* - *Abies grandis* / (*Oemleria cerasiformis*) / *Polystichum munitum* Forest

Relationships with Other Classifications:

Comments

CNVC00015 is similar to CNVC00055 [*Thuja plicata* (*Abies grandis*) / *Polystichum munitum* - *Achlys triphylla*] but has less *Pseudotsuga menziesii*, much greater cover of *Acer macrophyllum* and *Alnus rubra* and occurs on wetter sites. On slightly wetter sites with a fluctuating water table, *Oemleria cerasiformis* persists, but these sites have greater hardwood overstory and are characterized by *Carex obnupta* [not yet recognized as a CNVC association due to data issues - BC association *Thuja plicata* - *Carex obnupta* (CDFmm/15)].

Tiarella trifoliata (three-leaved foamflower) may include *T. trifoliata* var. *laciniata* (cut-leaved foamflower), *T. trifoliata* var. *trifoliata* (three-leaved foamflower) and/or *T. trifoliata* var. *unifoliata* (one-leaved foamflower).

Source Information

Number of source plots for CNVC00015: 23

Information Sources: British Columbia Ministry of Forests and Range, Research Branch BECMaster database, October 2007 (23 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



***Abies grandis* - *Thuja plicata* - *Acer macrophyllum* / *Oemleria cerasiformis* / *Polystichum munitum* CNVC00015**

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:

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 August 12, 2008).

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

British Columbia Ministry of Water, Land and Air Protection. 2004a. Grizzly Bear in: Accounts and measures for managing identified wildlife. B.C. Min. Water, Land and Air Prot., Victoria, BC. 52 p.

British Columbia Ministry of Water, Land and Air Protection. 2004e. Keen's Long-eared Myotis in: Accounts and measures for managing identified wildlife. B.C. Min. Water, Land and Air Prot., Victoria, BC. 52 p.

Brown, K.J.; Hebda, R.J. 1999. Long-term fire incidence in coastal forests of British Columbia. Northwest Sci. 73:41-43.

(COSEWIC) Committee on the Status of Endangered Wildlife in Canada. 2002. COSEWIC assessment and update status report on the Western Screech-owl *Otus kennicottii* in Canada. Ottawa. COSEWIC. vi + 31 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.

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. *Abies grandis* - *Thuja plicata* - *Acer macrophyllum* / *Oemleria cerasiformis* / *Polystichum munitum* [online]. Sault Ste. Marie, Ontario, Canada: Canadian National Vegetation Classification. March, 2011; generated Apr-20-2011; cited ENTER DATE ACCESSED. 9 p. Canadian National Vegetation Classification Association: CNVC00015. Available from <http://cnvc-cnvc.ca>. System Requirements: Adobe Acrobat Reader v. 7.0 or higher. ISSN 1916-3266.