



**Forest / Forêt**

**Association CNVC00078**

***Populus balsamifera* – *P. tremuloides* / *Equisetum arvense* – *E. pratense***  
**Balsam Poplar – Trembling Aspen / Field Horsetail – Meadow Horsetail**  
**Peuplier baumier – Peuplier faux-tremble / Prêle des champs – Prêle des prés**

**Subassociations:** none

**CNVC Alliance:** CA00036 *Populus balsamifera* – *P. tremuloides* / *Equisetum arvense* – *E. pratense*

**CNVC Group:** CG0015 Cordilleran Boreal Moist White Spruce – Trembling Aspen (Balsam Poplar) Forest



Source: Yukon government

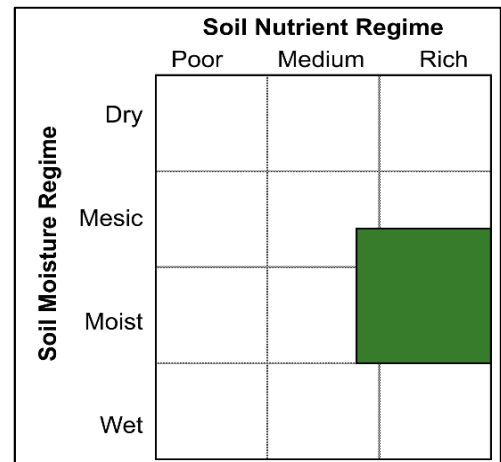
**Type Description**

**Concept:** CNVC00078 is a boreal hardwood forest Association that occurs in Alberta, British Columbia (BC) and Yukon. It has a moderately closed canopy dominated by balsam poplar (*Populus balsamifera*) and/or trembling aspen (*P. tremuloides*), and a relatively diverse understory. The shrub layer is moderately to well developed and commonly includes prickly rose (*Rosa acicularis*), red-osier dogwood (*Cornus stolonifera*) and squashberry (*Viburnum edule*). A well-developed to dense herb and dwarf shrub layer that is dominated by field horsetail (*Equisetum arvense*) and/or meadow horsetail (*E. pratense*) characterizes this Association. Bluejoint reedgrass (*Calamagrostis canadensis*) is also typical in the Alberta and BC portions of the range. Tall bluebells (*Mertensia paniculata*) is also a common species. The moss layer is virtually nonexistent; instead the forest floor is typically covered in broad-leaf litter. CNVC00078 occurs on moist, nutrient-rich sites (often floodplains) in a region with a subhumid continental climate. It is an early seral condition that typically establishes after flooding, fire or harvesting.

**Vegetation:** CNVC00078 is a hardwood forest Association with a moderately closed canopy of *Populus balsamifera* and/or *P. tremuloides*. The understory is relatively species rich. *Rosa acicularis*, *Cornus stolonifera* and *Viburnum edule* are common species in the moderately to well-developed shrub layer. The herb and dwarf shrub layer is moderately developed to dense and dominated by *Equisetum arvense* and/or *E. pratense*. *Calamagrostis canadensis* is constant and often abundant in the British Columbia and Alberta portions of the range, where it sometimes replaces *E. arvense* or *E. pratense* as the dominant species. *Aralia nudicaulis* is less common, but can be abundant when present. *Mertensia paniculata* is usually present. Moss cover is virtually nonexistent due to abundant broad-leaf litter on the forest floor.

**Environment:** CNVC00078 occurs in a subhumid continental climate on moist, nutrient-rich sites. It is typically found on floodplains, in narrow linear bands along rivers and lakeshores, or in localized stands on valley slopes. These are some of the most productive sites in this region of the boreal. Stands are frequently on level sites or lower and toe-slope topopositions. Soils are often fine textured and parent materials, although variable, are most commonly fluvial. The medium to high nutrient status of these sites is maintained by cation-rich mineral substrates (e.g., fine loams, silts and clays) that are replenished by occasional flooding or by nutrient-rich seepage or groundwater fluctuation. Mor, moder and mull humus forms are common.

Within the range of CNVC00078 regional fire cycles are short (<100 years), intermediate (100-270 years) or long (270-500 years). However, these stands often occur where there are natural fire breaks (e.g., water bodies) and may be less prone to fire than the surrounding landscape because of their moisture status.





***Populus balsamifera* – *P. tremuloides* / *Equisetum arvense* – *E. pratense* CNVC00078**

**Type Description (cont'd)**

**Dynamics:** CNVC00078 is an early seral condition that typically establishes after fire, flooding or harvesting. Fire plays a greater role as a stand initiating factor on raised river terraces and upslope seepage sites. On active floodplain sites, vegetation colonizes freshly deposited fluvial sediments; mechanical damage to trees by flooding or ice pans can also influence stand establishment and succession. On very moist sites, competition from shrubs and grasses (especially *Calamagrostis canadensis*) can compete with tree seedling establishment, resulting in a more open canopy.

The initial stages of this Association are typically characterized by an even-aged cohort of *Populus balsamifera* and/or *P. tremuloides*. These are pioneer species that can reproduce vegetatively from root suckers following any disturbance that does not kill their roots. They also produce abundant light, wind-dispersed seeds that can readily colonize mineral soil seedbeds exposed by disturbance. They grow rapidly in full-light conditions but are intolerant of shade so do not self-replace in a stand without further disturbance.

*Picea glauca* becomes established in these stands when seeds are disseminated from nearby areas, with trees growing into the canopy and forming a mixedwood Association such as CNVC00079 [*Picea glauca* – *Betula papyrifera* (*Populus tremuloides*) / *Equisetum arvense* – *E. pratense*] as the *Populus* spp. decline.

**Range:** CNVC00078 occurs in boreal regions of Alberta, British Columbia and Yukon. It also occurs in the Rocky Mountain foothills and montane regions of Alberta.

**Conservation Status (NatureServe)**

**Global Conservation Rank:** no applicable rank

**National Conservation Rank:** not yet determined

**Subnational Conservation Rank:** not yet determined



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

<http://cnvc-cnvc.ca>

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**Peuplier baumier – Peuplier faux-tremble / Prêle des champs – Prêle des prés**

## Distribution

**Countries:** Canada

**Provinces / Territories / States:** Alberta, British Columbia, Yukon

**Terrestrial Ecozones and Ecoregions of Canada:** Boreal Cordillera: Hyland Highland, Klondike Plateau, Liard Basin, Northern Canadian Rocky Mountains; Boreal Plains: Boreal Transition, Clear Hills Upland, Mid-Boreal Uplands, Muskwa Plateau, Peace Lowland, Wabasca Lowland, Western Alberta Upland, Western Boreal; Boreal Shield; Montane Cordillera: Central Canadian Rocky Mountains, Eastern Continental Ranges; Taiga Plains

**Rowe's Forest Regions and Sections of Canada:** Boreal: Alpine Forest - Tundra, Aspen Grove, Dawson, Hay River, Lower Foothills, Mixedwood, Upper Liard, Upper Mackenzie; Montane: Douglas-fir and Lodgepole Pine

**NAAEC CEC Ecoregions of North America (Levels I & II):** Northern Forests: Boreal Plains; Northwestern Forested Mountains: Boreal Cordillera, Western Cordillera; Taiga: Taiga Plains

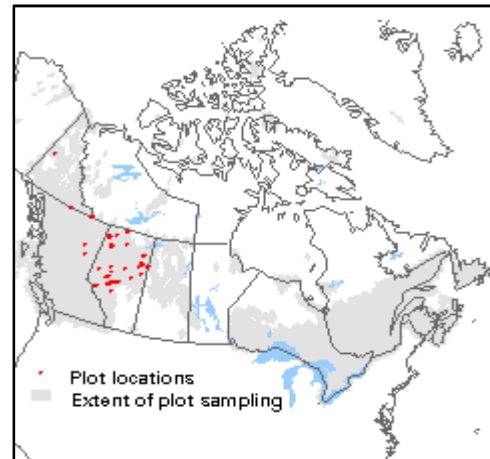
**Nature Conservancy of Canada Ecoregions:** Boreal Cordillera, Boreal Plains, Canadian Rocky Mountains, Central Interior, Muskwa - Kechika, Montane Cordillera, Taiga Plains, Yukon Plateau and Flats

**Ecozones and Ecoregions of the Yukon:** Boreal Cordillera: Hyland Highland, Klondike Plateau, Liard Basin; Boreal Plains: Muskwa Plateau

**Biogeoclimatic Ecosystem Classification of British Columbia (zones and subzones):** BWBSwk

**British Columbia Ecoregion Classification (ecoregions):** Central Alberta Uplands, Northern Canadian Rocky Mountains, Peace River Basin

**Natural Regions and Subregions of Alberta:** Boreal Forest: Athabasca Plain, Central Mixedwood, Dry Mixedwood, Northern Mixedwood; Foothills: Lower Foothills; Rocky Mountain: Montane



## Corresponding Types and Associations

CNVC00078	Yukon	A34	<i>Populus tremuloides</i> / <i>Equisetum arvense</i>
	British Columbia	BWBSwk 2 / 111\$6B.1	<i>Populus balsamifera</i> – <i>Populus tremuloides</i> – <i>Heracleum maximum</i>
	Alberta	NN/BM/F/01/01	Pb - Aw / horsetail
		WC/LF/I/01/01	Pb - Aw / horsetail
		WC/MN/F/01/01	Pb - Aw / horsetail



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### Vegetation Summary\*

Species Name <sup>†</sup>	Association CNVC00078	
	50 plots	
	% Cover <sup>‡</sup>	% Presence <sup>^</sup>
<b>Overstory Trees</b>		
<i>Populus balsamifera</i>	30	72
<i>Populus tremuloides</i>	34	68
<i>Betula papyrifera</i>	19	26
<i>Picea glauca</i>	5	24
<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>(16 45 53 67 80)</b>	
<b>Understory Woody Shrubs and Regenerating Trees</b>		
<i>Rosa acicularis</i>	10	86
<i>Cornus stolonifera</i>	6	72
<i>Viburnum edule</i>	8	62
<i>Picea glauca</i>	3	48
<i>Rubus idaeus</i>	9	46
<i>Populus balsamifera</i>	6	46
<i>Ribes oxycanthoides</i>	2	42
<i>Salix bebbiana</i>	12	38
<i>Populus tremuloides</i>	5	38
<i>Symphoricarpos albus</i>	3	34
<i>Amelanchier alnifolia</i>	5	28
<i>Betula papyrifera</i>	4	26
<i>Salix sp.</i>	9	24
<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>(17 22 42 57 77)</b>	
<b>Understory Herbs and Dwarf Shrubs</b>		
<i>Equisetum arvense</i>	27	70
<i>Calamagrostis canadensis</i>	16	62
<i>Mertensia paniculata</i>	4	62
<i>Equisetum pratense</i>	20	60
<i>Rubus pubescens</i>	5	56
<i>Vicia americana</i>	2	54
<i>Chamerion angustifolium</i>	6	48
<i>Mitella nuda</i>	3	44
<i>Petasites frigidus</i>	2	44
<i>Galium boreale</i>	2	42
<i>Lathyrus ochroleucus</i>	2	42
<i>Fragaria virginiana</i>	3	38
<i>Symphyotrichum ciliolatum</i>	2	32
<i>Thalictrum venulosum</i>	2	32
<i>Aralia nudicaulis</i>	13	30
<i>Pyrola asarifolia</i>	1	30



***Populus balsamifera* – *P. tremuloides* / *Equisetum arvense* – *E. pratense* CNVC00078**

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

Species Name <sup>†</sup>	Association CNVC00078	
	% Cover <sup>‡</sup>	% Presence <sup>^</sup>
<i>Cornus canadensis</i>	4	28
<i>Actaea rubra</i>	2	28
<i>Linnæa borealis</i>	3	26
<i>Maianthemum canadense</i>	2	26
<i>Galium trifidum</i>	1	26
<i>Achillea millefolium</i>	1	22
<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>(26 41 63 92 100)</b>	

**Bryophytes and Lichens**

**Bryo-Lichen Stratum Cover**

**(P<sub>10</sub> P<sub>25</sub> Mean P<sub>75</sub> P<sub>90</sub>)<sup>‡</sup>** (0 0 5 4 10)

\* 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> average percent cover of a species within the plots in which it occurs (i.e., characteristic cover)

<sup>^</sup> percent frequency occurrence for a species within the total plots

<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

Association  
CNVC00078

50 plots

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

250–574–1100  
missing data (18)

### Slope Gradient (% frequency)

very steep (2)  
moderately steep (2)  
moderate (8)  
gentle (4)  
**level (66)**  
missing data (18)

### Aspect (% frequency)

**north (28)**  
east (12)  
south (6)  
west (6)  
level (22)  
missing data (26)

### Meso Topoposition (% frequency)

crest / upper (2)  
mid (10)  
lower / toe (22)  
depression (2)  
**level (46)**  
missing data (18)

### Moisture Regime (% frequency)

mesic (26)  
**moist (62)**  
wet (4)  
missing data (8)

### Nutrient Regime (% frequency)

medium (8)  
**rich (80)**  
missing data (12)



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

Association  
CNVC00078

**Soil Parent Material (% frequency)**

colluvium (8)  
eolian (2)  
moraine / till (4)  
**fluvial (52)**  
glaciofluvial (2)  
lacustrine (6)  
glaciolacustrine (16)  
missing data (10)

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

non-soil (8)  
sandy (6)  
coarse loamy (10)  
fine loamy (6)  
silty (8)  
clayey (16)  
missing data (46)

**Root Restricting Depth (% frequency)**

21 – 99 cm (2)  
missing data (98)

**Humus Form (% frequency)**

mor (6)  
moder (10)  
mull (6)  
missing data (78)





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### Additional Characteristics

Species of High Conservation Concern:

Non-native Species:

Management Issues:

### Type Statistics

Internal Similarity:

Confidence:

Strength:

### Related Concepts

Similar CNVC Associations:

CNVC00079 [*Picea glauca* – *Betula papyrifera* (*Populus tremuloides*) / *Equisetum arvense* – *E. pratense*] is a similar mixedwood Association that occurs on comparable sites in the same range (see Dynamics).

CNVC00080 [*Populus tremuloides* – *P. balsamifera* / *Lonicera involucrata* – *Cornus stolonifera* / *Rubus pubescens*] occurs on moist to mesic, nutrient-rich to medium sites in the same range. It lacks dominance of *Equisetum* spp. in the understory.

Related United States National Vegetation Classification Associations:

Relationships with Other Classifications:

### Comments

The Alberta Montane community type WC/MN/F11 is classified as CNVC00078 because it is ecologically similar to and not floristically distinguishable from comparable Lower Foothills and Boreal Mixedwood units (see Range).

### Source Information

Number of source plots for CNVC00078: 50

Information Sources:

Alberta Environment and Parks. 2014. Ecological Site Information System (ESIS). Govt. AB, Edmonton, AB.

Biogeoclimatic Ecosystem Classification Program of British Columbia. 2015. BECMaster ecosystem plot database [VPro13/MSAccess 2007 format]. W.H. MacKenzie, ed. B.C. Min. For., Lands, and Nat. Res. Ops., Smithers, BC. Available: [www.for.gov.bc.ca/hre/becweb/resources/information-requests](http://www.for.gov.bc.ca/hre/becweb/resources/information-requests). (accessed June 2015).

Ecosystem and Landscape Classification Program. 2017. YBECMaster ecosystem plot database [VPro13/MSAccess 2010 format]. Ecol. Land Class. Prog. Dept. Env., Govt. Yukon, Whitehorse, Yukon.

**Concept Authors:** L. Allen, J. Archibald, K. Baldwin, K. Chapman, N. Flynn, C. Kennedy, W. Mackenzie, K. McKenna, D. Meidinger

**Description Authors:** D. Downing, K. Chapman, K. Baldwin and D. Meidinger

**Date of Concept:** March, 2012

**Date of Description:** August, 2017





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### **Classification References:**

- Beckingham, J.D.; Archibald, J.H. 1996. Field guide to ecosites of northern Alberta. Nat. Resour. Can., Can. For. Serv., North. For. Centre, Edmonton, AB. Spec. Rep. 5.
- Beckingham, J.D.; Corns, I.G.W.; Archibald, J.H. 1996. Field guide to ecosites of west-central Alberta. Nat. Resour. Can., Can. For. Serv., North. For. Centre, Edmonton, AB. Spec. Rep. 9.
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- Meidinger, D.; Kennedy, C.E.; McKenna, K. 2017. In prep. Boreal treed vegetation associations of Yukon factsheets. Ecol. Land Class. Prog. Dept. Env., Govt. Yukon, Whitehorse, Yukon.

### **Characterization References:**

- Abrahamson, I. 2015. *Picea glauca*. In: Fire Effects Information System. U.S. Dept. Agric., For. Serv., Rocky Mt. Res. Stn., Fire Sci. Lab., Missoula, MT, US. Available: <http://www.fs.fed.us/database/feis/plants/tree/picgla/all.html> (accessed: October 2, 2015).
- Andison, D.W. 1998. Temporal patterns of age-class distributions on foothills landscapes in Alberta. *Ecography* 21(5):543-550.
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- Kenkel, N.C.; Walker, D.J.; Watson, P.R.; Caners, R.T.; Lastra, R.A. 1997. Vegetation dynamics in boreal forest ecosystems. *Coenoses* 12(2-3):97-108.
- Stockdale, C. 2014. Fire regimes of western boreal Canada and the foothills of Alberta. A discussion document and literature review for the LANDWEB Project.
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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.

For more information about the contents of this factsheet and definitions of attribute names and data classes, see the **Understanding the Factsheet** link at <http://cnvc-cnvc.ca>.

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