Wetland **Association CNVC00326**

Larix laricina / Alnus incana / Rubus pubescens

Tamarack / Speckled Alder / Dwarf Raspberry

Mélèze laricin / Aulne rugueux / Ronce pubescente

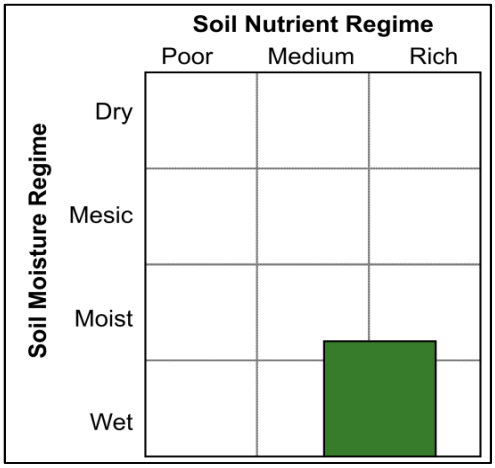
Subassociations: none
CNVC Alliance: CA00045 *Picea mariana / Alnus incana – Rhododendron groenlandicum / Sphagnum* spp.
CNVC Group: CG0019 Ontario-Quebec Boreal Black Spruce Poor – Intermediate Treed Wetland

Type Description

Concept: CNVC00326 is a boreal wetland coniferous forest Association that occurs in Manitoba and Ontario. It has a moderately closed canopy of tamarack (*Larix laricina*), often with black spruce (*Picea mariana*), and a dense shrub layer dominated by speckled alder (*Alnus incana*). Common Labrador tea (*Rhododendron groenlandicum*), prickly rose (*Rosa acicularis*), red-osier dogwood (*Cornus stolonifera*) and alder-leaved buckthorn (*Rhamnus alnifolia*) are often present in the shrub layer as well. The herb layer is moderately developed, relatively diverse and, like the shrub layer, includes nutrient-demanding species. Typically, dwarf raspberry (*Rubus pubescens*), bunchberry (*Cornus canadensis*), northern starflower (*Lysimachia borealis*), naked mitrewort (*Mitella nuda*) and sedges (e.g., *Carex leptalea, C. disperma* and *C. trisperma*) are common. Moss layer development varies from sparse to continuous. It is usually dominated by peat mosses (*Sphagnum* spp.), but feathermosses including red-stemmed feathermoss (*Pleurozium schreberi*) and stairstep moss (*Hylocomium splendens*) are usually present on drier microsites (e.g., peat hummocks). CNVC00326 occurs on wet, nutrient-medium to rich sites in a region with a boreal continental climate that grades from subhumid in the west to humid in the east. Substrates are usually organic soils formed from slowly decomposing sedge litter and *Sphagnum* mosses. CNVC00326 is typically the first cohort to develop after fire, which is infrequent on these wet sites.

Vegetation: CNVC00326 is a coniferous forest Association with a moderately closed canopy of *Larix laricina*, often with *Picea mariana*. Both the shrub and herb layers are diverse and include species indicative of nutrient-rich sites. The shrub layer is dense and dominated by *Alnus incana* (see Comments). *Rhododendron groenlandicum, Rosa acicularis*, *Cornus stolonifera* and *Rhamnus alnifolia* are typically present. The herb layer is moderately developed and typically includes *Rubus pubescens*, *Cornus canadensis, Lysimachia borealis, Mitella nuda* and *Carex* spp. (e.g., *C. leptalea, C. disperma* and *C. trisperma*). Herb richness and abundance often increase in wet hollows and along drainage ways where proximity to the water table enhances nutrient supply. Moss layer cover varies from sparse to continuous, sparser where there are hollows and greater conifer litter. It is typically dominated by *Sphagnum* spp., including *S. capillifolium* and *S. girgensohnii. Pleurozium schreberi* and *Hylocomium splendens* are often present on drier microsites (e.g., peat hummocks).

Source: Ontario Ministry of Natural Resources and Forestry



Larix laricina / Alnus incana / Rubus pubescens CNVC00326

Type Description (cont'd)

Environment: CNVC00326 occurs on peat-accumulating sites with permanently high water tables in a region with a continental boreal climate that grades from subhumid in the west to humid in the east. Sedge litter is a significant contributor of peat material, as well as *Sphagnum* mosses; the resulting organic matter thickness over mineral substrates ranges from approximately 20 cm to > 1 m. Sites are typically underlain by fine-textured glaciolacustrine mineral soils. Groundwater flow or seepage inputs create minerotrophic conditions in the rooting layer; nutrient status is medium to rich. *Alnus incana* is a nitrogen-fixing species, further enriching the soil nutrient status. Surface microtopography is strongly hummocky; hollows are often in contact with groundwater for much of the growing season. CNVC00326 usually occurs within larger wetland complexes, wherever the rooting layer remains in contact with mineral-rich water.

Within the range of CNVC00326 regional fire cycles are intermediate (100-270 years) or long (270-500 years). However, these stands occur where there are natural fire breaks (i.e., wetlands) and are less prone to fire because of their moisture status.

Dynamics: CNVC00326 typically occurs in even-aged stands following disturbance, mainly fire. Fires are infrequent however, and of limited extent because these sites are so wet. When a fire does occur *Larix laricina* can regenerate from seed under favourable conditions (e.g., suitable seedbed), typically by wind-dispersed seeds from trees in the surrounding area. *L. laricina* is a pioneer species that grows rapidly but is shade intolerant. It may be succeeded by the more shade-tolerant *Picea mariana,* which can also establish on these sites following disturbance and is better able to regenerate in the absence of fire (usually by vegetative layering).

Long-term change in the water table (either by anthropogenic activities or natural causes [e.g., beaver dams]) usually results in changes to the vegetation community. A rise in the water table can result in tree mortality and transition to shrubby wetland vegetation. A drop in the water table can sometimes result in the development of more productive feathermoss forests (e.g., CNVC00295 [*Picea mariana / Alnus incana / Pleurozium schreberi*]).

Larch sawfly (*Pristiphora erichsonii*) can cause extensive mortality to *L. laricina* stands if heavy defoliation occurs successively for 6 to 9 years, potentially leaving *P. mariana* as the dominant overstory species. Pure *L. laricina* stands could become *Alnus incana* swamps.

Range: CNVC00326 occurs in the boreal region of Ontario and likely extends into southeastern Manitoba as far west as Lake Winnipeg. Although no plots have been sampled in eastern Ontario, it likely occurs there.

Conservation Status (NatureServe)

Global Conservation Rank: no applicable rank
National Conservation Rank: not yet determined
Subnational Conservation Rank: not yet determined

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Distribution

Countries: Canada

Provinces / Territories / States: Ontario

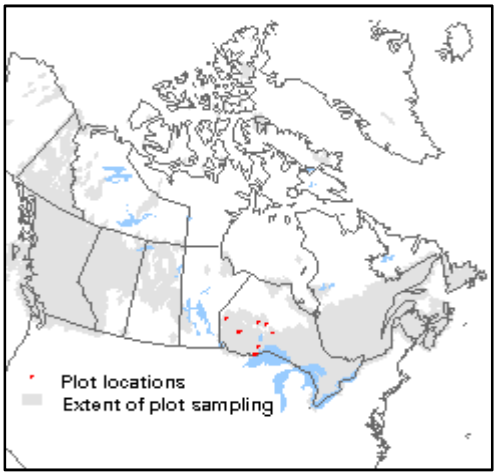
Terrestrial Ecozones and Ecoregions of Canada: Boreal Shield: Big Trout Lake, Lac Seul Upland, Lake Nipigon, Thunder Bay-Quetico

Rowe's Forest Regions and Sections of Canada: Boreal: Central Plateau, Northern Coniferous, Superior; Great Lakes-St. Lawrence: Quetico

NAAEC CEC Ecoregions of North America (Levels I & II): Northern Forests: Mixed Wood Shield, Softwood Shield

Nature Conservancy of Canada Ecoregions: Boreal Shield, Great Lakes, Superior-Lake of the Woods

Ecological Land Classification of Ontario (ecoregions and ecodistricts): 2W-1, 2W-2, 2W-3, 3S-1, 3S-2, 3S-3, 3S-4, 3S-5, 3W-1, 3W-2, 3W-3, 3W-4, 3W-5, 4S-1, 4S-2, 4S-3, 4S-4, 4S-5, 4S-6, 4W-1, 4W-2, 5S-2



Corresponding Types and Associations

CNVC00326	Ontario	BwTr12-10	Larix laricina / Alnus incana / Rubus pubescens / Carex spp.

Wetland **Association CNVC00326**

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Vegetation Summary*

	Association CNVC00326	
	11 plots	
Species Name†	% Cover±	% Presence^
Overstory Trees		
Larix laricina	**46**	**100**
Picea mariana	20	45
Tree Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})‡	**(35 46 57 64 70)**	
Understory Woody Shrubs and Regenerating Trees		
Alnus incana	**42**	**100**
Rhododendron groenlandicum	5	100
Rosa acicularis	1	73
Cornus stolonifera	5	64
Rhamnus alnifolia	1	64
Abies balsamea	7	55
Lonicera villosa	3	55
Rubus idaeus	1	55
Larix laricina	4	45
Chamaedaphne calyculata	2	45
Ribes hirtellum	1	45
Viburnum opulus	2	36
Amelanchier alnifolia	1	36
Andromeda polifolia	1	36
Thuja occidentalis	10	27
Ribes americanum	1	27
Ribes triste	1	27
Vaccinium myrtilloides	1	27
Ribes lacustre	1	27
Shrub Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})‡	**(46 52 71 92 100)**	
Understory Herbs and Dwarf Shrubs		
Rubus pubescens	**8**	**82**
Cornus canadensis	2	73
Lysimachia borealis	1	73
Mitella nuda	1	64
Equisetum sylvaticum	3	55
Maianthemum canadense	1	55
Coptis trifolia	1	55
Carex leptalea	2	45
Anemone quinquefolia	1	45
Galium triflorum	1	45
Fragaria virginiana	1	45
Carex disperma	14	36

Larix laricina / *Alnus incana* / *Rubus pubescens* CNVC00326

Vegetation Summary (cont'd)*

	Association CNVC00326	
Species Name[†]	% Cover[±]	% Presence^
Aralia nudicaulis	1	36
Linnaea borealis	1	36
Carex trisperma	38	27
Calamagrostis canadensis	3	27
Vaccinium oxycoccos	3	27
Schizachne purpurascens	3	27
Comarum palustre	1	27
Viola renifolia	1	27
Lycopus uniflorus	1	27
Herb Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})[‡]	**(17 41 56 78 93)**	
Bryophytes and Lichens		
Pleurozium schreberi	3	73
Hylocomium splendens	3	64
Sphagnum capillifolium	15	55
Rhytidiadelphus triquetrus	3	45
Sphagnum girgensohnii	11	36
Aulacomnium palustre	2	36
Sanionia uncinata	1	36
Climacium dendroides	2	27
Callicladium haldanianum	1	27
Dicranum fuscescens	1	27
Bryo-Lichen Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})[‡]	**(4 10 29 37 78)**	

* 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

[±] average percent cover of a species within the plots in which it occurs (i.e., characteristic cover)

^ percent frequency occurrence for a species within the total plots

[‡] $P_x = X^{th}$ percentile (e.g., $P_{10} = 10^{th}$ percentile)

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Site / Soil Characteristics

	Association CNVC00326
	11 plots
Elevation Range (min–mean–max meters)	
	280–339–465
	missing data (9)
Slope Gradient (% frequency)	
	level (100)
Aspect (% frequency)	
	level (100)
Meso Topoposition (% frequency)	
	lower / toe (9)
	depression (18)
	level (73)
Moisture Regime (% frequency)	
	very dry (9)
	mesic (9)
	moist (9)
	wet (73)
Nutrient Regime (% frequency)	
	missing data (100)
Soil Parent Material (% frequency)	
	lacustrine (18)
	organic (82)
Soil Rooting Zone Substrate (% frequency)	
	clayey (18)
	organic (82)
Root Restricting Depth (% frequency)	
	0 – 20 cm (55)
	21 – 99 cm (18)
	≥ 100 cm (27)
Humus Form (% frequency)	
	mor (9)
	moder (9)
	peatymor (82)

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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:

CNVC00288 [*Picea mariana – Larix laricina / Rhododendron groenlandicum / Gaultheria hispidula / Sphagnum* spp.] occurs on sites with poorer nutrient status in the same range. It has a more open canopy, lacks abundant *Alnus incana* and has lower constancy of nutrient-demanding species such as *Rubus pubescens* and *Mitella nuda*.

CNVC00289 [*Larix laricina – Picea mariana / Ilex mucronata / Sphagnum* spp.] occurs on similarly wet but nutrient-poor sites in the temperate region of Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island. It lacks abundant *Alnus incana* in the shrub layer and has greater constancy and cover of temperate indicator species such as *Acer rubrum, Ilex mucronata* and *Viburnum nudum* (see Comments).

CNVC00300 [L*arix laricina – Picea mariana / Alnus incana / Gaultheria hispidula / Sphagnum* spp.] occurs on comparable sites in Quebec. It typically has more *Picea mariana* in the tree layer and greater cover of ericaceous species in the shrub layer including *Kalmia angustifolia, Rhododendron groenlandicum, Vaccinium myrtilloides* and *V. angustifolium*.

CNVC00327 [*Picea mariana – Larix laricina / Vaccinium vitis-idaea – Mitella nuda*] occurs on comparable sites in western Manitoba and Saskatchewan. It typically has more *Picea mariana* in the tree layer, lacks abundant *Alnus incana* in the shrub layer, and it has *Vaccinium vitis-idaea* as a constant species in the herb and dwarf shrub layer.

Related United States National Vegetation Classification Associations:

Relationships with Other Classifications:

Comments

Alnus incana here refers to ssp. *rugosa* (speckled alder).

Viburnum nudum here refers to var. *cassinoides* (wild raisin).

CNVC00326 is consistent with the concept of a coniferous treed swamp in the Canadian Wetland Classification System.

Larix laricina / Alnus incana / Rubus pubescens CNVC00326

Source Information

Number of source plots for CNVC00326: 11
Information Sources:
McMurray, S.C., Johnson, J.A., Zhou, K., Uhlig, P.W.C. 2015. Ontario ecological land classification program - Ecological Data Repository (EDR). Ont. Min. Nat. Resour. & For., Sci.& Info. Branch, Sault Ste. Marie, ON.
Concept Authors: K. Baldwin, K. Chapman, P. Uhlig, M. Wester
Description Authors: K. Chapman and K. Baldwin
Date of Concept: November, 2011
Date of Description: January, 2017

Classification References:

Uhlig, P.W.C., Chapman, K., Baldwin, K., Wester, M., Yanni, S. 2016. Draft boreal treed vegetation type factsheets. Ecol. Land Class. Prog., Ont. Min. Nat. Resour. & For., Sci. & Info Branch, Sault Ste. Marie, ON.

Characterization References:

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Rydin, H.; Jeglum, J.K. 2006. The biology of peatlands. Oxford Univ. Press, Oxford, UK.

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Van Sleeuwen, M. 2006. Natural fire regimes in Ontario. Ont. Min. Nat. Resour., Queen's Printer for Ont., Toronto, ON.

Zoladeski, C.A.; Wickware, G.M.; Delorme, R.J.; Sims, R.A.; Corns, I.G.W. 1995. Forest ecosystem classification for Manitoba: field guide. Nat. Res. Can., Can. For. Serv., North. For. Centre, Edmonton, AB. Special Rep. 2.

Larix laricina / Alnus incana / Rubus pubescens CNVC00326

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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