Forest / Forêt **Association CNVC00211**

Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Pleurozium schreberi

Black Spruce / Common Labrador Tea – Sheep Laurel / Red-stemmed Feathermoss

Épinette noire / Thé du Labrador – Kalmia à feuilles étroites / Pleurozie dorée

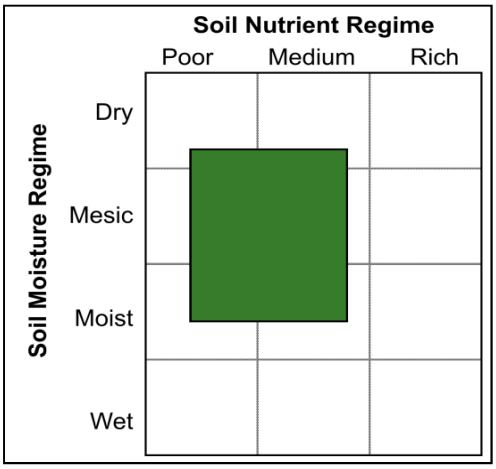
Subassociations: *211a typic, 211b Kalmia angustifolia, 211c Rhododendron groenlandicum, 211d Alnus viridis*

CNVC Alliance: CA00012 P*icea mariana (Pinus banksiana) / Vaccinium angustifolium / Pleurozium schreberi*

CNVC Group: CG0006 Ontario-Quebec Boreal Mesic-Moist Black Spruce (Jack Pine) Forest

Type Description

Concept: CNVC00211 is a boreal coniferous forest Association that occurs in Ontario and Quebec. It has a moderately closed canopy dominated by black spruce (*Picea mariana*). The shrub layer is well developed to dense with abundant regenerating black spruce, a minor component of balsam fir (*Abies balsamea)* and abundant heath species, including common Labrador tea (*Rhododendron groenlandicum*), velvet-leaved blueberry (*Vaccinium myrtilloides),* early lowbush blueberry (*V. angustifolium)* and sheep laurel (*Kalmia angustifolia).* The herb layer is sparse; only creeping snowberry (*Gaultheria hispidula*) and bunchberry (*Cornus canadensis*) are common. The moss layer is continuous, consisting of a thick mat of feathermosses dominated by red-stemmed feathermoss (*Pleurozium schreberi*), with smaller amounts of knight's plume moss (*Ptilium crista-castrensis*), broom mosses (*Dicranum* spp.), grey reindeer lichen (*Cladina rangiferina*) and *Cladonia* lichens. CNVC00211 occurs mainly in a region with a humid continental boreal climate, where it is generally found on mesic, nutrient-poor to medium sites. It can be the first cohort after fire or succeed earlier seral conditions. Four subassociations are distinguished: *typic, Kalmia angustifolia, Rhododendron groenlandicum* and *Alnus viridis.*



Vegetation: CNVC00211 is a coniferous forest Association with a moderately closed canopy dominated by *Picea mariana*. *Abies balsamea*, *Betula papyrifera, Pinus banksiana* and/or *Populus tremuloides* can be minor associates. The shrub layer is well developed to dense with abundant *P. mariana* regeneration and heath species, including *Rhododendron groenlandicum, Vaccinium myrtilloides*, *V. angustifolium* and *Kalmia angustifolia. A. balsamea* regeneration can also be present, especially in the eastern part of the range, but is not abundant. Shrub layer dominance of *K. angustifolia, R. groenlandicum* or *Alnus viridis* distinguishes three subassociations from the *typic* subassociation. The sparse herb layer is mainly composed of *Gaultheria hispidula* and *Cornus canadensis*. A continuous moss layer, in which *Pleurozium schreberi* is dominant, with minor amounts of *Ptilium crista-castrensis, Dicranum* spp.*, Cladina rangiferina* and *Cladonia* spp.*,* further characterizes this Association.

Environment: CNVC00211 occurs in a boreal climate that is humid continental in the western part of its range, becoming very humid and more maritime in the east. It is most commonly found on mesic, nutrient-poor to medium sites but can occupy a wide range of site conditions. Stands are often on level sites or gentle to moderate slopes on water-shedding, middle to upper-slope or crest topopositions. Soils are commonly moderately deep to deep and well drained. They are usually coarse-textured, often coarse loams or sands, and derived from morainal parent materials. Occasionally, stands occur on fine-textured sediments deposited by proglacial lakes or seas. Mor humus forms are prevalent.

CNVC00211 occurs where regional fire cycles are intermediate (100-270 years), long (270-500 years) or even very long (>500 years). Where the regional fire cycle is longer, stands of CNVC00211 likely occur on sites that burn more frequently than the regional average.

Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Pleurozium schreberi CNVC00211

Type Description (cont'd)

Dynamics: CNVC00211 usually recolonizes after fire, although it can also succeed earlier seral Associations in which pioneer species are dominant. Outbreaks of spruce budworm (*Choristoneura fumiferana*) can also play a role in the dynamics of this Association. *Picea mariana* has thin bark and rarely survives even low-severity fires, but its semi-serotinous cones open when heated by fire and disperse seeds. Its seeds can germinate on a variety of substrates, and seedbeds are usually improved by a fire that reduces the organic matter and exposes mineral soil. Fire can also reduce competing vegetation and help to release nutrients from the organic matter. Maximum seed release for *P. mariana* can therefore coincide with optimal conditions for seedling establishment, survival and growth. Over time, *P. mariana* is self-replacing because it is tolerant of shade and able to regenerate in the absence of fire.

Kalmia angustifolia is an aggressive competitor to conifer regeneration. It vigorously sprouts after disturbances that do not eliminate its root system (e.g., low severity fires or harvesting), reducing space available for tree establishment. Its litter may inhibit *P. mariana* seed germination (physically and chemically) and affect seedling growth by reducing available nitrogen and limiting ectomycorrhizal relationships.

Regeneration failure of *P. mariana* can result in a more open stand with high lichen cover (e.g., CNVC00204 [*Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Cladina* spp.]). This could happen when successive fires occur before trees have reached reproductive maturity, when fire follows a spruce budworm outbreak that has diminished the seed crop or viability, when fire fails to prepare suitable seedbeds or when seedling mortality is unusually high. The resulting open canopy promotes an increase in *Cladina* cover, which inhibits conifer germination and seedling survival.

If seeds from pioneer species such as *Pinus banksiana* or *Betula papyrifera* are available, these species can play a greater role in the initial post-fire stand (e.g., CNVC00209 [*Pinus banksiana – Picea mariana / Kalmia angustifolia / Pleurozium schreberi*] or CNVC00214 [*Picea mariana – Betula papyrifera / Kalmia angustifolia / Pleurozium schreberi*]). Unless the time between successive fires is short (<100 years), these early seral conditions can succeed to CNVC00211 as the slower-growing, longer lived and more shade tolerant *P. mariana* becomes dominant and self-replaces over time. On sites with greater nutrient status, *Abies balsamea* may eventually become established, forming CNVC00217 [*Picea mariana – Abies balsamea / Rhododendron groenlandicum / Pleurozium schreberi*].

Range: CNVC00211 occurs in the boreal region of northeastern Ontario and Quebec. It extends from near Hearst in Ontario to the Lower North Shore of the Gulf of Saint Lawrence near the St. Augustine River in Quebec, where it also occurs in the Gaspé region and on Anticosti Island and the Magdalen Islands. CNVC00211 occurs sporadically in the northern temperate region, usually on sites with poor soils or that are more fire-prone than is normal for that region. The *typic* subassociation is recognized in Ontario and Quebec. The *Kalmia angustifolia, Rhododendron groenlandicum* and *Alnus viridis* subassociations are described only from Quebec.

Conservation Status (NatureServe)

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

Forest / Forêt **Association CNVC00211**

Picea mariana / Rhododendron groenlandicum - Kalmia angustifolia / Pleurozium schreberi

Black Spruce / Common Labrador Tea - Sheep Laurel / Red-stemmed Feathermoss

Épinette noire / Thé du Labrador - Kalmia à feuilles étroites / Pleurozie dorée

Distribution

Countries: Canada

Provinces / Territories / States: Ontario, Quebec

Terrestrial Ecozones and Ecoregions of Canada: Atlantic Highlands: Appalachians, Northern New Brunswick Uplands; Atlantic Maritime: Îles-de-la-Madeleine; Boreal Shield: Abitibi Plains, Anticosti Island, Central Laurentians, Lake Timiskaming Lowland, Mecatina Plateau, Rivière Rupert Plateau, Southern Laurentians; Hudson Plains: James Bay Lowland; Taiga Shield: Mecatina River, Smallwood Reservoir-Michikamau

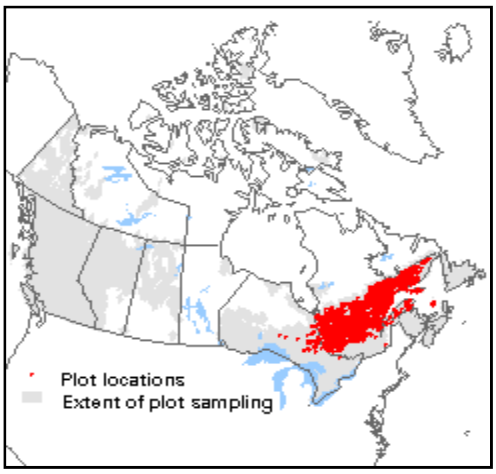
Rowe's Forest Regions and Sections of Canada: Acadian: Prince Edward Island; Boreal: Anticosti, Central Plateau, Chibougamau-Natashquan, East James Bay, Gaspé, Gouin, Hudson Bay Lowlands, Laurentide-Onatchiway, Missinaibi-Cabonga, Newfoundland-Labrador Barrens, Northeastern Transition, Northern Clay; Great Lakes-St. Lawrence: Algonquin-Pontiac, Haileybury Clay, Laurentian, Saguenay, Temiscouata-Restigouche, Timagami

NAAEC CEC Ecoregions of North America (Levels I & II): Eastern Temperate Forests: Mixed Wood Plains; Hudson Plains; Northern Forests: Atlantic Highlands, Mixed Wood Shield, Softwood Shield; Taiga: Taiga Shield

Nature Conservancy of Canada Ecoregions: Boreal Shield, Eastern Taiga Shield, Hudson Plains, Northern Appalachians-Acadia

Ecological Land Classification of Ontario (ecoregions and ecodistricts): 3E-1, 3E-2, 3E-5, 3E-6, 3E-7, 4E-4

Bioclimatic Domains and Subdomains of Québec: 2 Est, 3 Est, 3 Ouest, 4 Est, 4 Ouest, 5 Est, 5 Ouest, 6 Est, 6 Ouest, 7



Corresponding Types and Associations

211a typic	Ontario	BTr7-2	Picea mariana / Kalmia angustifolia / Pleurozium schreberi
	Quebec	QC008A	Picea mariana / Pleurozium schreberi [Typique]
211b Kalmia angustifolia	Quebec	QC040B	Picea mariana / Ledum groenlandicum / Pleurozium schreberi [Kalmia angustifolia]
		QC047	Picea mariana - Larix laricina / Ledum groenlandicum - Kalmia angustifolia / Pleurozium schreberi
211c Rhododendron groenlandicum	Quebec	QC040A	Picea mariana / Ledum groenlandicum / Pleurozium schreberi [Typique]
211d Alnus viridis	Quebec	QC008B	Picea mariana / Pleurozium schreberi [Alnus viridis]

Forest / Forêt **Association CNVC00211**

Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Pleurozium schreberi

Black Spruce / Common Labrador Tea – Sheep Laurel / Red-stemmed Feathermoss

Épinette noire / Thé du Labrador – Kalmia à feuilles étroites / Pleurozie dorée

Vegetation Summary*

	Association CNVC00211		Subassociation 211a *typic*		Subassociation 211b *Kalmia angustifolia*	
	2118 plots		**1446 plots**		**332 plots**	
Species Name[†]	% Cover[±]	% Presence^	% Cover[±]	% Presence^	% Cover[±]	% Presence^
Overstory Trees						
Picea mariana	**44**	**100**	**46**	**100**	**40**	**100**
Abies balsamea	7	51	7	57	5	29
Betula papyrifera	7	42	7	47	5	34
Pinus banksiana	9	25	9	23	8	37
Populus tremuloides	7	19	7	22	6	13
Tree Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})[‡]	**(33 49 58 66 83)**		**(33 49 60 66 86)**		**(33 49 52 66 66)**	
Understory Woody Shrubs and Regenerating Trees						
Picea mariana	17	100	16	100	18	100
Rhododendron groenlandicum	**19**	**83**	**9**	**77**	**28**	**96**
Vaccinium myrtilloides	7	83	6	80	9	91
Vaccinium angustifolium	6	82	5	81	9	83
Kalmia angustifolia	**16**	**77**	**8**	**69**	**43**	**100**
Abies balsamea	9	67	10	76	5	42
Salix sp.	4	57	4	50	5	71
Amelanchier sp.	4	54	4	53	4	67
Betula papyrifera	4	44	4	48	4	37
Alnus viridis	10	26	6	20	11	38
Sorbus americana	3	25	3	26	3	27
Ilex mucronata	5	24	4	24	5	40
Viburnum nudum	4	19	4	20	4	26
Shrub Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})[‡]	**(19 32 59 86 99)**		**(19 32 47 66 83)**		**(66 86 89 99 99)**	
Understory Herbs and Dwarf Shrubs						
Gaultheria hispidula	4	91	4	92	4	85
Cornus canadensis	5	82	5	87	4	69
Clintonia borealis	3	45	3	50	3	36
Maianthemum canadense	3	42	3	47	3	33
Coptis trifolia	3	39	3	41	3	37
Linnaea borealis	3	34	3	40	3	19
Carex sp.	3	21	2	21	3	14
Lysimachia borealis	2	20	2	25	2	7
Lycopodium annotinum	3	19	2	20	3	9
Vaccinium vitis-idaea	2	19	2	20	2	6
Herb Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})[‡]	**(3 3 10 16 16)**		**(3 3 11 16 33)**		**(0 3 8 16 16)**	

Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Pleurozium schreberi CNVC00211

Vegetation Summary (cont'd)*

	Association CNVC00211		Subassociation 211a *typic*		Subassociation 211b *Kalmia angustifolia*	
Species Name[†]	% Cover[±]	% Presence^	% Cover[±]	% Presence^	% Cover[±]	% Presence^
Bryophytes and Lichens						
Pleurozium schreberi	**59**	**99**	**57**	**99**	**63**	**99**
Dicranum sp.	4	91	4	91	3	89
Cladina rangiferina	4	87	4	84	5	92
Ptilium crista-castrensis	15	85	16	84	11	85
Cladonia sp.	3	61	3	63	3	57
Sphagnum sp.	6	59	5	57	7	58
Polytrichum sp.	3	56	3	61	3	38
Cladina stellaris	5	54	4	49	6	60
Cladina mitis	3	49	3	47	3	52
Hylocomium splendens	3	43	3	46	4	31
Ptilidium ciliare	3	34	3	29	3	39
Sphagnum fuscum	4	29	3	26	4	31
Bazzania trilobata	2	19	2	22	4	8
Bryo-Lichen Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})[‡]	**(50 90 81 90 90)**		**(50 70 80 90 90)**		**(70 90 84 90 90)**	

* 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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Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Pleurozium schreberi

Black Spruce / Common Labrador Tea – Sheep Laurel / Red-stemmed Feathermoss
Épinette noire / Thé du Labrador – Kalmia à feuilles étroites / Pleurozie dorée

Vegetation Summary (cont'd)*

	Subassociation 211c *Rhododendron groenlandicum*		Subassociation 211d *Alnus viridis*	
	272 plots		**68 plots**	
Species Name[†]	% Cover[±]	% Presence^	% Cover[±]	% Presence^
Overstory Trees				
Picea mariana	**41**	**100**	**40**	**100**
Abies balsamea	5	42	6	51
Betula papyrifera	5	25	7	62
Pinus banksiana	8	19	9	32
Populus tremuloides	6	9	7	22
Tree Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})[‡]	**(36 49 52 66 66)**		**(36 49 55 66 71)**	
Understory Woody Shrubs and Regenerating Trees				
Picea mariana	18	100	12	100
Rhododendron groenlandicum	**50**	**100**	**13**	**90**
Vaccinium myrtilloides	8	92	5	79
Vaccinium angustifolium	7	88	5	82
Kalmia angustifolia	**11**	**90**	**10**	**75**
Abies balsamea	5	53	8	75
Salix sp.	4	71	4	72
Amelanchier sp.	3	43	4	60
Betula papyrifera	3	28	5	57
Alnus viridis	11	25	**24**	**100**
Sorbus americana	3	17	3	32
Ilex mucronata	3	10	7	9
Viburnum nudum	4	8	9	13
Shrub Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})[‡]	**(66 73 84 99 99)**		**(36 49 64 83 83)**	
Understory Herbs and Dwarf Shrubs				
Gaultheria hispidula	4	96	3	90
Cornus canadensis	4	74	5	78
Clintonia borealis	3	29	3	49
Maianthemum canadense	3	22	3	43
Coptis trifolia	3	29	2	34
Linnaea borealis	3	18	3	34
Carex sp.	2	24	3	22
Lysimachia borealis	2	7	2	32
Lycopodium annotinum	3	21	4	40
Vaccinium vitis-idaea	2	22	2	35
Herb Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})[‡]	**(3 3 7 16 16)**		**(0 3 11 16 33)**	

Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Pleurozium schreberi CNVC00211

Vegetation Summary (cont'd)*

Species Name[†]	Subassociation 211c *Rhododendron groenlandicum* % Cover[±]	% Presence^	Subassociation 211d *Alnus viridis* % Cover[±]	% Presence^
Bryophytes and Lichens				
Pleurozium schreberi	**62**	**100**	**50**	**100**
Dicranum sp.	3	95	4	94
Cladina rangiferina	5	93	4	91
Ptilium crista-castrensis	14	94	19	90
Cladonia sp.	2	59	3	59
Sphagnum sp.	8	75	6	56
Polytrichum sp.	2	54	2	66
Cladina stellaris	5	73	3	59
Cladina mitis	3	50	2	59
Hylocomium splendens	4	41	4	47
Ptilidium ciliare	3	48	2	46
Sphagnum fuscum	4	43	3	21
Bazzania trilobata	2	12	2	31
Bryo-Lichen Stratum Cover (P_{10} P_{25} Mean P_{75} P_{90})[‡]	**(90 90 88 90 90)**		**(33 70 74 90 90)**	

* 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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Black Spruce / Common Labrador Tea – Sheep Laurel / Red-stemmed Feathermoss
Épinette noire / Thé du Labrador – Kalmia à feuilles étroites / Pleurozie dorée

Site / Soil Characteristics

	Association CNVC00211	Subassociation 211a *typic*	Subassociation 211b *Kalmia angustifolia*
	2118 plots	**1446 plots**	**332 plots**
Elevation Range (min–mean–max meters)			
	2–411–990	2–417–990	15–395–865
Slope Gradient (% frequency)			
	very steep (0)	very steep (0)	very steep (0)
	steep (4)	steep (5)	steep (2)
	moderately steep (14)	moderately steep (16)	moderately steep (8)
	moderate (27)	moderate (26)	moderate (27)
	gentle (31)	**gentle (30)**	**gentle (36)**
	level (24)	level (23)	level (28)
	missing data (0)	missing data (0)	missing data (0)
Aspect (% frequency)			
	north (20)	north (20)	north (21)
	east (17)	east (16)	east (20)
	south (20)	south (22)	south (16)
	west (24)	**west (24)**	**west (25)**
	level (19)	level (19)	level (19)
Meso Topoposition (% frequency)			
	crest / upper (27)	crest / upper (28)	crest / upper (30)
	mid (47)	**mid (48)**	**mid (42)**
	lower / toe (9)	lower / toe (9)	lower / toe (11)
	depression (1)	depression (1)	depression (1)
	level (15)	level (14)	level (15)
Moisture Regime (% frequency)			
	very dry (0)	very dry (0)	very dry (0)
	dry (3)	dry (4)	dry (2)
	mesic (77)	**mesic (78)**	**mesic (79)**
	moist (17)	moist (15)	moist (16)
	wet (3)	wet (2)	wet (2)
Nutrient Regime (% frequency)			
	missing data (100)	missing data (100)	missing data (100)

Picea mariana / *Rhododendron groenlandicum – Kalmia angustifolia* / *Pleurozium schreberi* CNVC00211

Site / Soil Characteristics (cont'd)

	Association CNVC00211	Subassociation 211a *typic*	Subassociation 211b *Kalmia angustifolia*
Soil Parent Material (% frequency)			
	bedrock (1)	bedrock (1)	bedrock (1)
	colluvium (2)	colluvium (3)	colluvium (0)
	eolian (0)	eolian (0)	eolian (0)
	moraine / till (72)	**moraine / till (71)**	**moraine / till (74)**
	fluvial (0)	fluvial (0)	fluvial (0)
	glaciofluvial (10)	glaciofluvial (10)	glaciofluvial (11)
	lacustrine (1)	lacustrine (1)	lacustrine (1)
	glaciolacustrine (9)	glaciolacustrine (9)	glaciolacustrine (7)
	marine (2)	marine (2)	marine (2)
	organic (3)	organic (2)	organic (4)
	missing data (0)	missing data (0)	missing data (0)
Soil Rooting Zone Substrate (% frequency)			
	non-soil (3)	non-soil (4)	non-soil (1)
	sandy (10)	sandy (11)	sandy (10)
	coarse loamy (15)	coarse loamy (15)	coarse loamy (14)
	fine loamy (2)	fine loamy (2)	fine loamy (2)
	silty (1)	silty (1)	silty (2)
	clayey (1)	clayey (1)	clayey (0)
	organic (3)	organic (3)	organic (5)
	missing data (64)	missing data (63)	missing data (66)
Root Restricting Depth (% frequency)			
	0 – 20 cm (6)	0 – 20 cm (7)	0 – 20 cm (9)
	21 – 99 cm (63)	**21 – 99 cm (61)**	**21 – 99 cm (65)**
	≥ 100 cm (1)	≥ 100 cm (1)	≥ 100 cm (0)
	missing data (31)	missing data (32)	missing data (26)
Humus Form (% frequency)			
	mor (89)	**mor (91)**	**mor (84)**
	moder (1)	moder (2)	moder (2)
	mull (0)	mull (0)	mull (0)
	peatymor (9)	peatymor (7)	peatymor (14)
	missing data (0)	missing data (0)	missing data (0)

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Black Spruce / Common Labrador Tea – Sheep Laurel / Red-stemmed Feathermoss

Épinette noire / Thé du Labrador – Kalmia à feuilles étroites / Pleurozie dorée

Site / Soil Characteristics (cont'd)

	Subassociation 211c *Rhododendron groenlandicum*	Subassociation 211d *Alnus viridis*
	272 plots	**68 plots**
Elevation Range (min–mean–max meters)		
	90–401–790	5–408–640
Slope Gradient (% frequency)		
	very steep (0)	very steep (0)
	steep (2)	steep (4)
	moderately steep (8)	moderately steep (29)
	moderate (28)	**moderate (35)**
	gentle (32)	gentle (21)
	level (30)	level (10)
	missing data (0)	missing data (0)
Aspect (% frequency)		
	north (24)	north (19)
	east (17)	east (26)
	south (18)	south (10)
	west (19)	**west (34)**
	level (23)	level (10)
Meso Topoposition (% frequency)		
	crest / upper (21)	crest / upper (26)
	mid (49)	**mid (62)**
	lower / toe (8)	lower / toe (6)
	depression (0)	depression (1)
	level (21)	level (4)
Moisture Regime (% frequency)		
	very dry (0)	very dry (1)
	dry (1)	dry (3)
	mesic (69)	**mesic (75)**
	moist (24)	moist (21)
	wet (5)	wet (0)
Nutrient Regime (% frequency)		
	missing data (100)	missing data (100)

Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Pleurozium schreberi CNVC00211

Site / Soil Characteristics (cont'd)

	Subassociation 211c *Rhododendron groenlandicum*	Subassociation 211d *Alnus viridis*
Soil Parent Material (% frequency)		
	bedrock (0)	bedrock (3)
	colluvium (0)	colluvium (0)
	eolian (0)	eolian (1)
	moraine / till (69)	**moraine / till (85)**
	fluvial (0)	fluvial (0)
	glaciofluvial (11)	glaciofluvial (3)
	lacustrine (1)	lacustrine (0)
	glaciolacustrine (14)	glaciolacustrine (3)
	marine (0)	marine (3)
	organic (4)	organic (1)
	missing data (0)	missing data (0)
Soil Rooting Zone Substrate (% frequency)		
	non-soil (0)	non-soil (3)
	sandy (10)	sandy (13)
	coarse loamy (15)	coarse loamy (18)
	fine loamy (3)	fine loamy (0)
	silty (1)	silty (1)
	clayey (3)	clayey (3)
	organic (5)	organic (1)
	missing data (63)	missing data (60)
Root Restricting Depth (% frequency)		
	0 – 20 cm (2)	0 – 20 cm (9)
	21 – 99 cm (68)	**21 – 99 cm (57)**
	≥ 100 cm (0)	≥ 100 cm (0)
	missing data (29)	missing data (34)
Humus Form (% frequency)		
	mor (87)	**mor (93)**
	moder (0)	moder (1)
	mull (0)	mull (0)
	peatymor (13)	peatymor (6)
	missing data (0)	missing data (0)

Forest / Forêt **Association CNVC00211**

Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Pleurozium schreberi

Black Spruce / Common Labrador Tea – Sheep Laurel / Red-stemmed Feathermoss

Additional Characteristics

Species of High Conservation Concern:

Non-native Species:

Management Issues:

Type Statistics

Internal Similarity: **Confidence:**

Strength:

Related Concepts

Similar CNVC Associations:

CNVC00204 [*Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Cladina* spp.] occurs on poorer sites in the same range and has a more open tree layer and a moss layer with lower cover of feathermosses and more of *Cladina* lichens (see Dynamics).

CNVC00208 [*Picea mariana – Pinus banksiana / Vaccinium angustifolium / Pleurozium schreberi*] occurs in Ontario on comparable boreal sites but has lower abundance of ericaceous shrubs and no *Kalmia angustifolia.*

CNVC00209 [*Pinus banksiana – Picea mariana / Kalmia angustifolia / Pleurozium schreberi*] occurs on similar sites in the same range but is dominated by *Pinus banksiana* rather than *Picea mariana* (see Dynamics).

CNVC00217 [*Picea mariana – Abies balsamea / Rhododendron groenlandicum / Pleurozium schreberi*] occurs on similar sites in the same range but has *Abies balsamea* codominant in the canopy (see Dynamics).

CNVC00276 [*Picea mariana / Rhododendron groenlandicum – Vaccinium angustifolium / Pleurozium schreberi* (*Sphagnum* spp.)] occurs on moister sites in the same range and has greater cover of *Sphagnum* mosses (see Dynamics).

CNVC00295 [*Picea mariana / Alnus incana / Pleurozium schreberi]* occurs on moister, richer sites in the same range and has a shrub layer with abundant *Alnus incana*, rather than ericaceous species.

CNVC00350 [*Picea mariana / Pleurozium schreberi – Hylocomium splendens*] occurs on similar sites in the eastern portion of the range but has more *Abies balsamea* in the tree and shrub layers, a shrub layer with less *Rhododendron groenlandicum* and *Kalmia angustifolia* but more *R. canadense*, and more *Hylocomium splendens* in the moss layer.

Related United States National Vegetation Classification Associations:

Relationships with Other Classifications:

Comments

Source Information

Number of source plots for CNVC00211: 2118
Number of source plots for 211a typic: 1446
Number of source plots for 211b Kalmia angustifolia: 332
Number of source plots for 211c Rhododendron groenlandicum: 272
Number of source plots for 211d Alnus viridis: 68

Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Pleurozium schreberi CNVC00211

Source Information (cont'd):

Information Sources:

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Concept Authors: K. Baldwin, K. Chapman, M. Major, C. Morneau, P. Uhlig, M. Wester
Description Authors: K. Chapman, K. Baldwin and J.-P. Saucier
Date of Concept: October, 2013
Date of Description: February, 2016

Classification References:

Bergeron, J-F.; Grondin, P.; Blouin, J. 1999. Rapport de classification écologique du sous-domaine bioclimatique de la pessière à mousses de l'ouest. Min. des Res. nat. du Qué, Dir. des inv. for., Sainte-Foy, QC.

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Picea mariana / Rhododendron groenlandicum – Kalmia angustifolia / Pleurozium schreberi CNVC00211

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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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