



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

<http://cnvc-cnvc.ca>

Forest / Forêt

Association CNVC00348

Abies balsamea* / *Taxus canadensis* / *Rubus pubescens* / *Dicranum majus

Balsam Fir / Canada Yew / Dwarf Raspberry / Greater Broom Moss

Sapin baumier / If du Canada / Ronce pubescente / Grand dicrane

Subassociations: 348a *Viburnum nudum*, 348b *Taxus canadensis*, 348c *Dryopteris carthusiana*, 348d *Gymnocarpium dryopteris*

CNVC Alliance: CA00008 *Abies balsamea* – *Betula papyrifera* / *Rubus pubescens*

CNVC Group: CG0004 Atlantic Boreal Moist Balsam Fir – White Spruce – Paper Birch Forest



Source: B. Meades

Type Description

Concept: CNVC00348 is a boreal coniferous forest Association that occurs on insular Newfoundland. It has a closed canopy dominated by balsam fir (*Abies balsamea*), often with a minor component of white spruce (*Picea glauca*) and paper birch (*Betula papyrifera*). It is one of the most floristically diverse forest Associations on the island. The shrub layer is well developed and commonly includes mountain maple (*Acer spicatum*), regenerating balsam fir, squashberry (*Viburnum edule*) and red-osier dogwood (*Cornus stolonifera*). The herb layer is usually dense and typically includes abundant spinulose wood fern (*Dryopteris carthusiana*) along with dwarf raspberry (*Rubus pubescens*), northern starflower (*Lysimachia borealis*) and twinflower (*Linnaea borealis*). The moss layer is usually well developed and includes greater broom moss (*Dicranum majus*), electrified cat's-tail moss (*Rhytidiadelphus triquetrus*) and red-stemmed feathermoss (*Pleurozium schreberi*). Shaded wood moss (*Hylocomiastrum umbratum*) and stairstep moss (*Hylocomium splendens*) can be abundant when present. CNVC00348 occurs in a region with a very humid, maritime boreal climate. It is found on moist to wet, nutrient-rich sites. These are some of the most productive sites in Newfoundland. It is a late successional condition that occurs where fire has been absent for a long period. Windthrow and insect outbreaks are the primary natural disturbances. Canopy gaps or large patches that result from these disturbances promote self-replacement of this Association by the release of balsam fir regeneration. Four subassociations are recognized: *Viburnum nudum*, *Taxus canadensis*, *Dryopteris carthusiana* and *Gymnocarpium dryopteris*.

Vegetation: CNVC00348 is a coniferous forest Association with a closed canopy dominated by *Abies balsamea*. *Picea glauca* and *Betula papyrifera* (see Comments) are often minor canopy associates. This is one of the most floristically diverse Associations in Newfoundland, and the shrub and herb layers include many species indicative of nutrient-rich sites. The well-developed shrub layer typically includes regenerating *A. balsamea* as well as *Acer spicatum*, *Viburnum edule* and *Cornus stolonifera*. Several other shrub species occur with lower constancy. The herb layer is usually dense and commonly includes *Rubus pubescens*, *Lysimachia borealis*, *Dryopteris carthusiana* and *Linnaea borealis*. The well-developed moss layer usually includes *Dicranum majus*, *Rhytidiadelphus triquetrus* and *Pleurozium schreberi*, sometimes with *Hylocomiastrum umbratum* and/or *Hylocomium splendens*.

Four subassociations are distinguished: *Viburnum nudum* (see Comments), *Taxus canadensis*, *Dryopteris carthusiana* and *Gymnocarpium dryopteris*. The shrub layer of the *Viburnum nudum* subassociation is dominated by *V. nudum* and the herb layer is less developed than in other subassociations. The *Taxus canadensis* subassociation has a diverse complement of herb and shrub species with large patches of *T. canadensis* in its shrub layer. The *Dryopteris carthusiana* subassociation has *D. carthusiana* as a dominant component of its understory. The *Gymnocarpium dryopteris* subassociation has a more prominent suite of nutrient-demanding species such as *Rubus pubescens*, *Gymnocarpium dryopteris*, *Cinna latifolia*, *Geum rivale*, *Mitella nuda*, *Athyrium filix-femina*, *Circaea alpina* and *Solidago macrophylla* in the herb layer as well as greater abundance of *Acer spicatum* in the shrub layer.

		Soil Nutrient Regime		
		Poor	Medium	Rich
Soil Moisture Regime	Dry			
	Mesic			
	Moist			
	Wet			



***Abies balsamea* / *Taxus canadensis* / *Rubus pubescens* / *Dicranum majus* CNVC00348**

Type Description (cont'd)

Environment: CNVC00348 occurs in a very humid maritime boreal climate where the regional fire cycle is long (270-500 years). It is found on moist to wet, nutrient-rich sites; these are among the most productive sites in Newfoundland. Stands are usually on level sites or gentle slopes on water-receiving, middle or lower-slope topopositions where seepage enhances moisture and nutrient availability. Soils are usually fine-textured, derived from morainal or glaciofluvial parent materials. Mull humus forms are typical.

There are site distinctions among the four subassociations. The *Viburnum nudum* subassociation occurs on the flat terraces of long granitic till seepage slopes in river valleys in eastern Newfoundland. The *Taxus canadensis* subassociation occurs in northern Newfoundland, typically on moist, lower-slope topopositions on sites with calcareous parent materials. The *Dryopteris carthusiana* subassociation occurs in western Newfoundland, usually on middle to lower-slope topopositions with near-surface seepage in calcareous tills. The *Gymnocarpium dryopteris* subassociation occurs on wetter mineral soils than do the other subassociations, usually on toe slope topopositions where the water table is high.

Dynamics: CNVC00348 is a stable self-perpetuating late successional forest Association. The cool, wet climate of the region diminishes the importance of fire as a disturbance agent, but strong winds are frequent, often causing local windthrow gaps. Insect defoliation by spruce budworm (*Choristoneura fumiferana*) and hemlock looper (*Lambdina fiscellaria fiscellaria*) is common in these forests, particularly in the mature to senescent stage of stand development, and can lead to extensive canopy mortality. While insect disturbance has considerable impact on the commercial yields of timber, it rarely has long-term consequences for ecosystem composition and structure in these forests. Following disturbance (including harvesting), stands tend to recover by release of understory *Abies balsamea* regeneration. Small-scale gap or patch disturbances typically result in an uneven age structure within stands, but severe broad-scale disturbance can create large openings that release understory trees that are more or less the same age.

When fires do occur, they are usually of anthropogenic origin and are rarely extensive. Fire eliminates *A. balsamea*; the early seral hardwood *Betula papyrifera* is likely to dominate the initial post-fire stand on these sites (e.g., CNVC00349 [*Betula papyrifera* (*Populus tremuloides*) / *Dryopteris carthusiana* – *Rubus pubescens*]). Over time, as humus builds up in a stand, *A. balsamea* seedlings are better able to establish and survive in the low-light environment than are *B. papyrifera* seedlings; *A. balsamea* persists in the understory as advanced regeneration until released by further canopy disturbance. Thus, these sites usually return to *A. balsamea* dominance over time.

Acer spicatum can form dense thickets in canopy openings, sometimes significantly delaying tree regeneration. Its deep roots can survive even high-severity fires and it responds quickly after disturbance by suckering. Being semi-shade tolerant, *A. spicatum* persists as the canopy closes, limiting available light for plants beneath it. This can be of particular importance in the *Gymnocarpium dryopteris* subassociation where the high water table results in shallow rooting of trees and increased probability of windthrow.

A. balsamea regeneration is heavily grazed by moose (*Alces alces*) in some locations, so these stands can have a relatively higher cover of *Picea glauca*, which is not grazed to the same extent.

Range: CNVC00348 occurs on insular Newfoundland: the *Viburnum nudum* subassociation on the Avalon Peninsula, the *Taxus canadensis* subassociation on the Northern Peninsula and both the *Dryopteris carthusiana* and *Gymnocarpium dryopteris* subassociations in southwestern Newfoundland.

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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Sapin baumier / If du Canada / Ronce pubescente / Grand dicrane

Distribution

Countries: Canada

Provinces / Territories / States: Newfoundland and Labrador

Terrestrial Ecozones and Ecoregions of Canada: Boreal Shield: Avalon Forest, Maritime Barrens, Northern Peninsula, Southwestern Newfoundland

Rowe's Forest Regions and Sections of Canada: Boreal: Avalon, Corner Brook, Newfoundland-Labrador Barrens, Northern Peninsula

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

Nature Conservancy of Canada Ecoregions: Boreal Shield

Ecoregions of Newfoundland: Avalon Forest, Maritime Barrens, Northern Peninsula, Southwestern Newfoundland



Corresponding Types and Associations

348a <i>Viburnum nudum</i>	Newfoundland and Labrador	E bFr	Eastern: Rubus - balsam fir forest
348b <i>Taxus canadensis</i>	Newfoundland and Labrador	N AA	Northern: Alder - balsam fir forest
		N RAa	Northern: Rubus - balsam fir forest [Athyrium variant]
		N RAm	Northern: Rubus - balsam fir forest [Mitella variant]
348c <i>Dryopteris carthusiana</i>	Newfoundland and Labrador	W Fr	Western: Rubus - balsam fir forest
348d <i>Gymnocarpium dryopteris</i>	Newfoundland and Labrador	W Frw	Western: Rubus - balsam fir forest [wet variant]



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Vegetation Summary*

Species Name [†]	Association CNVC00348		Subassociation 348a <i>Viburnum nudum</i>		Subassociation 348b <i>Taxus canadensis</i>	
	24 plots		5 plots		9 plots	
	% Cover [‡]	% Presence [^]	% Cover [‡]	% Presence [^]	% Cover [‡]	% Presence [^]
Overstory Trees						
<i>Abies balsamea</i>	57	96	41	100	71	100
<i>Betula papyrifera</i>	6	71	21	40	1	78
<i>Picea glauca</i>	4	58	4	60	2	67
<i>Picea mariana</i>	13	42	14	60	9	56
<i>Larix laricina</i>	2	17	2	80	-	-
<i>Betula alleghaniensis</i>	14	13	14	60	-	-
Tree Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(43 58 69 90 91)		(51 62 70 77 84)		(64 67 79 91 91)	
Understory Woody Shrubs and Regenerating Trees						
<i>Acer spicatum</i>	9	88	7	80	5	89
<i>Abies balsamea</i>	7	79	5	80	4	78
<i>Viburnum edule</i>	5	71	12	40	6	100
<i>Cornus stolonifera</i>	4	67	3	60	6	100
<i>Taxus canadensis</i>	17	58	-	-	25	100
<i>Ribes lacustre</i>	1	58	-	-	1	89
<i>Ribes triste</i>	2	42	-	-	2	56
<i>Rubus idaeus</i>	2	38	-	-	1	44
<i>Amelanchier bartramiana</i>	1	38	4	20	1	67
<i>Picea mariana</i>	4	29	3	60	4	33
<i>Alnus viridis</i>	11	25	4	40	15	44
<i>Sorbus americana</i>	3	25	5	60	1	33
<i>Viburnum nudum</i>	22	21	22	100	-	-
<i>Alnus incana</i>	13	21	-	-	-	-
<i>Ribes glandulosum</i>	2	17	4	20	-	-
<i>Sambucus racemosa</i>	1	17	-	-	-	-
<i>Kalmia angustifolia</i>	14	13	14	60	-	-
<i>Betula papyrifera</i>	6	13	-	-	-	-
<i>Vaccinium angustifolium</i>	2	13	2	60	-	-
<i>Picea glauca</i>	2	13	-	-	-	-
<i>Ilex mucronata</i>	3	8	3	40	-	-
<i>Vaccinium ovalifolium</i>	3	8	-	-	2	11
<i>Sorbus decora</i>	1	8	-	-	1	22
<i>Corylus cornuta</i>	3	4	-	-	-	-
<i>Viburnum opulus</i>	1	4	-	-	-	-
Shrub Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(13 21 48 78 88)		(27 35 60 87 95)		(19 34 56 87 88)	
Understory Herbs and Dwarf Shrubs						
<i>Rubus pubescens</i>	6	88	6	100	3	89



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Vegetation Summary (cont'd)*

Species Name [†]	Association CNVC00348		Subassociation 348a <i>Viburnum nudum</i>		Subassociation 348b <i>Taxus canadensis</i>	
	% Cover [‡]	% Presence [^]	% Cover [‡]	% Presence [^]	% Cover [‡]	% Presence [^]
<i>Lysimachia borealis</i>	3	88	4	100	2	100
<i>Dryopteris carthusiana</i>	17	71	2	40	2	78
<i>Linnaea borealis</i>	7	67	5	100	9	100
<i>Gymnocarpium dryopteris</i>	7	58	2	20	6	78
<i>Clintonia borealis</i>	6	58	1	40	6	67
<i>Mitella nuda</i>	14	54	-	-	13	100
<i>Cornus canadensis</i>	5	54	4	100	-	-
<i>Solidago macrophylla</i>	4	54	4	20	2	44
<i>Orthilia secunda</i>	2	46	-	-	1	78
<i>Gaultheria hispidula</i>	1	42	1	100	1	56
<i>Athyrium filix-femina</i>	9	38	-	-	7	56
<i>Maianthemum canadense</i>	4	38	2	20	3	44
<i>Dryopteris intermedia</i>	4	38	12	40	2	78
<i>Neottia cordata</i>	2	38	-	-	3	78
<i>Galium triflorum</i>	2	38	-	-	1	33
<i>Cinna latifolia</i>	1	38	-	-	1	11
<i>Streptopus lanceolatus</i>	1	33	-	-	1	33
<i>Platanthera obtusata</i>	1	33	-	-	1	56
<i>Heracleum maximum</i>	1	29	-	-	1	11
<i>Geum rivale</i>	1	29	1	20	1	22
<i>Aralia nudicaulis</i>	5	25	-	-	4	22
<i>Viola renifolia</i>	4	25	-	-	5	56
<i>Streptopus amplexifolius</i>	1	25	-	-	1	33
<i>Equisetum sylvaticum</i>	4	21	-	-	1	33
<i>Viola blanda</i>	3	21	-	-	2	11
<i>Phegopteris connectilis</i>	2	21	-	-	2	33
<i>Chamerion angustifolium</i>	2	21	3	40	1	33
<i>Coptis trifolia</i>	1	21	-	-	2	33
<i>Circaea alpina</i>	9	17	-	-	-	-
<i>Symphyotrichum puniceum</i>	5	17	-	-	2	22
<i>Solidago rugosa</i>	3	17	4	40	-	-
<i>Carex leptoneura</i>	2	17	-	-	-	-
<i>Carex trisperma</i>	2	13	2	20	2	22
<i>Monotropa uniflora</i>	1	13	-	-	1	11
<i>Carex disperma</i>	4	8	-	-	4	22
<i>Osmundastrum cinnamomeum</i>	3	8	3	40	-	-
<i>Actaea rubra</i>	1	8	-	-	1	11
<i>Galium kamtschaticum</i>	1	8	-	-	-	-
<i>Onoclea sensibilis</i>	1	8	-	-	1	22
<i>Pyrola minor</i>	1	8	-	-	1	11
<i>Thalictrum pubescens</i>	1	8	-	-	-	-
<i>Schizachne purpurascens</i>	2	4	-	-	-	-
<i>Carex brunnescens</i>	1	4	-	-	-	-
<i>Dryopteris filix-mas</i>	1	4	-	-	-	-
<i>Epilobium palustre</i>	1	4	-	-	-	-
<i>Equisetum arvense</i>	1	4	-	-	-	-
Herb Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(25 40 64 100 100)		(14 14 32 45 57)		(32 41 58 79 90)	



***Abies balsamea* / *Taxus canadensis* / *Rubus pubescens* / *Dicranum majus* CNVC00348**

Vegetation Summary (cont'd)*

Species Name [†]	Association CNVC00348		Subassociation 348a <i>Viburnum nudum</i>		Subassociation 348b <i>Taxus canadensis</i>	
	% Cover [‡]	% Presence [^]	% Cover [‡]	% Presence [^]	% Cover [‡]	% Presence [^]
Bryophytes and Lichens						
<i>Dicranum majus</i>	11	79	13	80	14	100
<i>Rhytiadelphus triquetrus</i>	16	63	9	20	22	89
<i>Pleurozium schreberi</i>	7	63	8	60	8	89
<i>Hylocomiastrum umbratum</i>	12	58	-	-	17	100
<i>Hylocomium splendens</i>	24	54	38	20	26	100
<i>Ptilium crista-castrensis</i>	7	42	-	-	6	89
<i>Rhytiadelphus loreus</i>	10	38	16	60	2	33
<i>Dicranum scoparium</i>	7	33	8	60	2	11
<i>Peltigera aphthosa</i>	1	33	-	-	1	89
<i>Bazzania trilobata</i>	6	21	7	80	1	11
<i>Polytrichum commune</i>	2	21	2	60	1	11
<i>Rhizomnium punctatum</i>	11	17	-	-	14	33
<i>Bryhnia novae-angliae</i>	6	13	-	-	-	-
<i>Sphagnum squarrosum</i>	6	13	2	20	8	22
<i>Thuidium recognitum</i>	6	13	2	20	-	-
<i>Rhytiadelphus squarrosus</i>	5	13	-	-	4	11
<i>Dicranum sp.</i>	4	13	4	60	-	-
<i>Plagiochila asplenioides</i>	2	13	-	-	2	33
<i>Pellia sp.</i>	7	8	-	-	7	22
<i>Atrichum angustatum</i>	3	8	3	40	-	-
<i>Sanionia uncinata</i>	3	8	-	-	3	22
<i>Sphagnum girgensohnii</i>	2	8	-	-	2	22
<i>Brachythecium rutabulum</i>	1	8	-	-	1	22
<i>Peltigera canina</i>	1	8	-	-	1	22
<i>Trichocolea tomentella</i>	38	4	-	-	-	-
<i>Plagiochila aspleniformis</i>	19	4	-	-	-	-
<i>Aneura pinguis</i>	15	4	-	-	-	-
<i>Chiloscyphus polyanthos</i>	3	4	-	-	-	-
Bryo-Lichen Stratum Cover						
(P ₁₀ P ₂₅ Mean P ₇₅ P ₉₀) [‡]	(7 34 62 98 100)		(25 39 52 69 80)		(85 93 96 100 100)	

* 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 = Xth percentile (e.g., P₁₀ = 10th percentile)



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Vegetation Summary (cont'd)*

Species Name [†]	Subassociation 348c <i>Dryopteris carthusiana</i>		Subassociation 348d <i>Gymnocarpium dryopteris</i>	
	6 plots		4 plots	
	% Cover [‡]	% Presence [^]	% Cover [‡]	% Presence [^]
Overstory Trees				
<i>Abies balsamea</i>	55	100	48	75
<i>Betula papyrifera</i>	8	100	2	50
<i>Picea glauca</i>	7	67	1	25
<i>Picea mariana</i>	9	17	38	25
<i>Larix laricina</i>	-	-	-	-
<i>Betula alleghaniensis</i>	-	-	-	-
Tree Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(49 58 68 79 85)		(11 28 47 66 82)	
Understory Woody Shrubs and Regenerating Trees				
<i>Acer spicatum</i>	5	83	27	100
<i>Abies balsamea</i>	6	100	21	50
<i>Viburnum edule</i>	2	50	3	75
<i>Cornus stolonifera</i>	1	17	2	75
<i>Taxus canadensis</i>	3	33	4	75
<i>Ribes lacustre</i>	2	50	1	75
<i>Ribes triste</i>	2	50	3	50
<i>Rubus idaeus</i>	2	67	1	25
<i>Amelanchier bartramiana</i>	1	17	1	25
<i>Picea mariana</i>	-	-	9	25
<i>Alnus viridis</i>	-	-	-	-
<i>Sorbus americana</i>	-	-	-	-
<i>Viburnum nudum</i>	-	-	-	-
<i>Alnus incana</i>	7	50	21	50
<i>Ribes glandulosum</i>	1	33	1	25
<i>Sambucus racemosa</i>	1	67	-	-
<i>Kalmia angustifolia</i>	-	-	-	-
<i>Betula papyrifera</i>	1	33	15	25
<i>Vaccinium angustifolium</i>	-	-	-	-
<i>Picea glauca</i>	1	17	2	50
<i>Ilex mucronata</i>	-	-	-	-
<i>Vaccinium ovalifolium</i>	-	-	3	25
<i>Sorbus decora</i>	-	-	-	-
<i>Corylus cornuta</i>	-	-	3	25
<i>Viburnum opulus</i>	-	-	1	25
Shrub Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(8 9 20 24 39)		(30 40 61 80 92)	
Understory Herbs and Dwarf Shrubs				
<i>Rubus pubescens</i>	2	67	18	100



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Vegetation Summary (cont'd)*

Species Name†	Subassociation 348c <i>Dryopteris carthusiana</i>		Subassociation 348d <i>Gymnocarpium dryopteris</i>	
	% Cover‡	% Presence^	% Cover‡	% Presence^
<i>Lysimachia borealis</i>	3	100	1	25
<i>Dryopteris carthusiana</i>	46	100	1	50
<i>Linnaea borealis</i>	6	33	-	-
<i>Gymnocarpium dryopteris</i>	2	33	12	100
<i>Clintonia borealis</i>	9	83	2	25
<i>Mitella nuda</i>	9	17	16	75
<i>Cornus canadensis</i>	7	100	1	50
<i>Solidago macrophylla</i>	2	83	8	75
<i>Orthilia secunda</i>	2	50	2	25
<i>Gaultheria hispidula</i>	-	-	-	-
<i>Athyrium filix-femina</i>	1	17	14	75
<i>Maianthemum canadense</i>	6	67	-	-
<i>Dryopteris intermedia</i>	-	-	-	-
<i>Neottia cordata</i>	1	17	1	25
<i>Galium triflorum</i>	2	50	3	75
<i>Cinna latifolia</i>	2	67	2	100
<i>Streptopus lanceolatus</i>	1	50	2	50
<i>Platanthera obtusata</i>	1	17	1	50
<i>Heracleum maximum</i>	2	67	1	50
<i>Geum rivale</i>	-	-	1	100
<i>Aralia nudicaulis</i>	10	33	3	50
<i>Viola renifolia</i>	1	17	-	-
<i>Streptopus amplexifolius</i>	1	33	1	25
<i>Equisetum sylvaticum</i>	-	-	8	50
<i>Viola blanda</i>	1	33	6	50
<i>Phegopteris connectilis</i>	3	17	1	25
<i>Chamerion angustifolium</i>	-	-	-	-
<i>Coptis trifolia</i>	1	17	1	25
<i>Circaea alpina</i>	3	17	10	75
<i>Symphyotrichum puniceum</i>	1	17	15	25
<i>Solidago rugosa</i>	2	33	-	-
<i>Carex leptonevia</i>	1	33	2	50
<i>Carex trisperma</i>	-	-	-	-
<i>Monotropa uniflora</i>	1	33	-	-
<i>Carex disperma</i>	-	-	-	-
<i>Osmundastrum cinnamomeum</i>	-	-	-	-
<i>Actaea rubra</i>	-	-	1	25
<i>Galium kamtschaticum</i>	1	33	-	-
<i>Onoclea sensibilis</i>	-	-	-	-
<i>Pyrola minor</i>	-	-	1	25
<i>Thalictrum pubescens</i>	1	33	-	-
<i>Schizachne purpurascens</i>	-	-	2	25
<i>Carex brunnescens</i>	-	-	1	25
<i>Dryopteris filix-mas</i>	-	-	1	25
<i>Epilobium palustre</i>	-	-	1	25
<i>Equisetum arvense</i>	-	-	1	25
Herb Stratum Cover (P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(60 90 87 100 100)		(52 69 80 100 100)	



***Abies balsamea* / *Taxus canadensis* / *Rubus pubescens* / *Dicranum majus* CNVC00348**

Vegetation Summary (cont'd)*

Species Name [†]	Subassociation 348c <i>Dryopteris carthusiana</i>		Subassociation 348d <i>Gymnocarpium dryopteris</i>	
	% Cover [‡]	% Presence [^]	% Cover [‡]	% Presence [^]
Bryophytes and Lichens				
<i>Dicranum majus</i>	4	83	19	25
<i>Rhytidiadelphus triquetrus</i>	5	67	21	50
<i>Pleurozium schreberi</i>	3	33	3	50
<i>Hylocomiastrum umbratum</i>	2	50	4	50
<i>Hylocomium splendens</i>	19	33	4	25
<i>Ptilium crista-castrensis</i>	2	17	19	25
<i>Rhytidiadelphus loreus</i>	4	17	17	50
<i>Dicranum scoparium</i>	8	33	8	50
<i>Peltigera aphthosa</i>	-	-	-	-
<i>Bazzania trilobata</i>	-	-	-	-
<i>Polytrichum commune</i>	1	17	-	-
<i>Rhizomnium punctatum</i>	-	-	1	25
<i>Bryhnia novae-angliae</i>	2	33	15	25
<i>Sphagnum squarrosum</i>	-	-	-	-
<i>Thuidium recognitum</i>	-	-	8	50
<i>Rhytidiadelphus squarrosus</i>	1	17	9	25
<i>Dicranum sp.</i>	-	-	-	-
<i>Plagiochila asplenioides</i>	-	-	-	-
<i>Pellia sp.</i>	-	-	-	-
<i>Atrichum angustatum</i>	-	-	-	-
<i>Sanionia uncinata</i>	-	-	-	-
<i>Sphagnum girgensohnii</i>	-	-	-	-
<i>Brachythecium rutabulum</i>	-	-	-	-
<i>Peltigera canina</i>	-	-	-	-
<i>Trichocolea tomentella</i>	-	-	38	25
<i>Plagiochila aspleniformis</i>	-	-	19	25
<i>Aneura pinguis</i>	-	-	15	25
<i>Chiloscyphus polyanthos</i>	-	-	3	25
Bryo-Lichen Stratum Cover				
(P₁₀ P₂₅ Mean P₇₅ P₉₀)[‡]	(2 8 20 34 38)		(22 51 65 94 96)	

* 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 = Xth percentile (e.g., P₁₀ = 10th percentile)



Forest / Forêt

Association CNVC00348

Abies balsamea* / *Taxus canadensis* / *Rubus pubescens* / *Dicranum majus

Balsam Fir / Canada Yew / Dwarf Raspberry / Greater Broom Moss

Sapin baumier / If du Canada / Ronce pubescente / Grand dicrane

Site / Soil Characteristics

	Association CNVC00348	Subassociation 348a <i>Viburnum nudum</i>	Subassociation 348b <i>Taxus canadensis</i>
	24 plots	5 plots	9 plots
Elevation Range (min–mean–max meters)	15–139–381	90–155–200	30–79–130
Slope Gradient (% frequency)	steep (4) moderately steep (8) moderate (4) gentle (13) level (63) missing data (8)	steep (0) moderately steep (40) moderate (0) gentle (40) level (20) missing data (0)	steep (0) moderately steep (0) moderate (0) gentle (0) level (100) missing data (0)
Aspect (% frequency)	north (13) east (8) south (25) west (17) level (29) missing data (8)	north (0) east (0) south (40) west (60) level (0) missing data (0)	north (11) east (11) south (0) west (0) level (78) missing data (0)
Meso Topoposition (% frequency)	crest / upper (8) mid (8) missing data (83)	crest / upper (40) mid (40) missing data (20)	crest / upper (0) mid (0) missing data (100)
Moisture Regime (% frequency)	moist (50) wet (42) missing data (8)	moist (80) wet (0) missing data (20)	moist (33) wet (67) missing data (0)
Nutrient Regime (% frequency)	missing data (100)	missing data (100)	missing data (100)



***Abies balsamea* / *Taxus canadensis* / *Rubus pubescens* / *Dicranum majus* CNVC00348**

Site / Soil Characteristics (cont'd)

	Association CNVC00348	Subassociation 348a <i>Viburnum nudum</i>	Subassociation 348b <i>Taxus canadensis</i>
Soil Parent Material (% frequency)	moraine / till (33) fluvial (4) glaciofluvial (13) missing data (50)	moraine / till (40) fluvial (0) glaciofluvial (0) missing data (60)	moraine / till (0) fluvial (0) glaciofluvial (0) missing data (100)
Soil Rooting Zone Substrate (% frequency)	sandy (4) coarse loamy (17) missing data (79)	sandy (0) coarse loamy (20) missing data (80)	sandy (0) coarse loamy (0) missing data (100)
Root Restricting Depth (% frequency)	missing data (100)	missing data (100)	missing data (100)
Humus Form (% frequency)	mull (17) missing data (83)	mull (0) missing data (100)	mull (0) missing data (100)



Forest / Forêt

Association CNVC00348

Abies balsamea* / *Taxus canadensis* / *Rubus pubescens* / *Dicranum majus

Balsam Fir / Canada Yew / Dwarf Raspberry / Greater Broom Moss

Sapin baumier / If du Canada / Ronce pubescente / Grand dicrane

Site / Soil Characteristics (cont'd)

Subassociation	Subassociation
348c <i>Dryopteris carthusiana</i>	348d <i>Gymnocarpium dryopteris</i>

6 plots	4 plots
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Elevation Range (min–mean–max meters)

15–168–381	61–214–381
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Slope Gradient (% frequency)

steep (17)	steep (0)
moderately steep (0)	moderately steep (0)
moderate (17)	moderate (0)
gentle (17)	gentle (0)
level (17)	level (100)
missing data (33)	missing data (0)

Aspect (% frequency)

north (17)	north (25)
east (0)	east (25)
south (50)	south (25)
west (0)	west (25)
level (0)	level (0)
missing data (33)	missing data (0)

Meso Toposition (% frequency)

crest / upper (0)	crest / upper (0)
mid (0)	mid (0)
missing data (100)	missing data (100)

Moisture Regime (% frequency)

moist (67)	moist (25)
wet (17)	wet (75)
missing data (17)	missing data (0)

Nutrient Regime (% frequency)

missing data (100)	missing data (100)
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***Abies balsamea* / *Taxus canadensis* / *Rubus pubescens* / *Dicranum majus* CNVC00348**

Site / Soil Characteristics (cont'd)

	Subassociation 348c <i>Dryopteris carthusiana</i>	Subassociation 348d <i>Gymnocarpium dryopteris</i>
Soil Parent Material (% frequency)	moraine / till (33) fluvial (17) glaciofluvial (50) missing data (0)	moraine / till (100) fluvial (0) glaciofluvial (0) missing data (0)
Soil Rooting Zone Substrate (% frequency)	sandy (17) coarse loamy (17) missing data (67)	sandy (0) coarse loamy (50) missing data (50)
Root Restricting Depth (% frequency)	missing data (100)	missing data (100)
Humus Form (% frequency)	mull (50) missing data (50)	mull (25) missing data (75)



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

<http://cnvc-cnvc.ca>

Forest / Forêt

Association CNVC00348

Abies balsamea* / *Taxus canadensis* / *Rubus pubescens* / *Dicranum majus

Balsam Fir / Canada Yew / Dwarf Raspberry / Greater Broom Moss

Sapin baumier / If du Canada / Ronce pubescente / Grand dicrane

Additional Characteristics

Species of High Conservation Concern:

Non-native Species:

Management Issues:

Type Statistics

Internal Similarity:

Confidence:

Strength:

Related Concepts

Similar CNVC Associations:

CNVC00222 [*Abies balsamea* / *Pleurozium schreberi*] occurs on mesic, nutrient-medium sites in the same range. It has lower constancy and cover of *Acer spicatum*, *Cornus stolonifera* and *Taxus canadensis* in the shrub layer and less *Rubus pubescens* and *Mitella nuda* in the herb layer.

CNVC00225 [*Abies balsamea* (*Picea glauca*) / *Acer spicatum* / *Oxalis montana*] occurs on mesic to moist, nutrient-medium to rich boreal sites in Quebec, New Brunswick and Nova Scotia. It has prominent *Oxalis montana* in the herb layer.

CNVC00278 [*Abies balsamea* / *Pleurozium schreberi* – *Sphagnum* spp.] occurs on moist, nutrient-medium sites in the same range and often has more *Picea mariana* and *Betula papyrifera* in the tree and shrub layers. It lacks the nutrient-demanding species of CNVC00348 and has a continuous moss layer dominated by *Pleurozium schreberi* and *Sphagnum* mosses.

CNVC00297 [*Abies balsamea* / *Alnus incana*] occurs on comparable sites in Quebec and has a dense tall shrub layer with abundant *Alnus incana*.

CNVC00309 [*Abies balsamea* / *Vaccinium vitis-idaea* / *Pleurozium schreberi* – *Bazzania trilobata*] occurs on dry to mesic, nutrient-poor to medium sites in the same range and lacks the nutrient-demanding species of CNVC00348.

CNVC00310 [*Abies balsamea* / *Dryopteris* spp. / *Hylocomiastrum umbratum*] occurs on mesic to moist, nutrient-medium to rich sites in the same range. It is often found up-slope of CNVC00348 in a toposequence where it receives less seepage and consequently has lower abundance of nutrient-demanding species such as *Cornus stolonifera*, *Rubus pubescens*, *Gymnocarpium dryopteris*, *Athyrium filix-femina* and *Mitella nuda*.

CNVC00334 [*Abies balsamea* / *Osmundastrum cinnamomeum* – *Carex trisperma* / *Sphagnum* spp.] is a wetland forest Association that occurs in Newfoundland and Cape Breton Island, Nova Scotia and has abundant *Osmundastrum cinnamomeum*, *Carex trisperma* and *Sphagnum* mosses in the understory.

Related United States National Vegetation Classification Associations:

Relationships with Other Classifications: CNVC00348 includes the concept of Fre #1 [Equisetum – Rubus – Balsam fir] and elements of Fr #2 [Rubus – Balsam fir] from Meades & Moores 1994.

Comments

Betula papyrifera here refers to both *B. papyrifera* (paper birch) and *B. cordifolia* (heart-leaved birch).

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



***Abies balsamea* / *Taxus canadensis* / *Rubus pubescens* / *Dicranum majus* CNVC00348**

Source Information

Number of source plots for CNVC00348: 24

Number of source plots for 348a *Viburnum nudum*: 5

Number of source plots for 348b *Taxus canadensis*: 9

Number of source plots for 348c *Dryopteris carthusiana*: 6

Number of source plots for 348d *Gymnocarpium dryopteris*: 4

Information Sources:

Natural Resources Canada, Canadian Forest Service, Atlantic Region. 2006. Forest vegetation plot descriptions from the following publications: Damman, A.W.H. 1963, 1964, 1967); Meades, W.J. (1976, 1986). Nat. Res. Canada, Corner Brook, NL.

Concept Authors: K. Baldwin, K. Chapman, B. Meades

Description Authors: B. Meades, K. Chapman and K. Baldwin

Date of Concept: February, 2012

Date of Description: October, 2016

Classification References:

Damman, A.W.H. 1963. A reconnaissance survey of the ecological conditions in the forests of the Roddickton area, Newfoundland. For. Res. Branch, Can. Dept. For., NL. Mimeo 63-N-1.

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Characterization References:

Bergeron, Y.; Chen, H.Y.H.; Kenkel, N.C.; Leduc, A.; Macdonald, S.E. 2014. Boreal mixedwood stand dynamics: ecological processes underlying multiple pathways. For. Chron. 90(2):202-213.

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Canadian National Vegetation Classification (CNVC)
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***Abies balsamea* / *Taxus canadensis* / *Rubus pubescens* / *Dicranum majus* CNVC00348**

Characterization References (cont'd):

Thompson, I.D.; Larson, D.J.; Montevecchi, W.A. 2003. Characterization of old "wet boreal" forests, with an example from balsam fir forests of western Newfoundland. *Environ. Rev.* 11:523-546.

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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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