

CO1

Black spruce – Balsam fir / Foxberry / Plume moss

Picea mariana – *Abies balsamea* / *Vaccinium vitis-idaea* /
Ptilium crista-castrensis

n=10



Second Lake,
Halifax County

Concept: This edaphic climax Vegetation Type (VT) has an overstory dominated by black spruce and balsam fir. White spruce may also be common in western parts of the province. Coniferous tree species regeneration and moss cover are usually extensive. Black spruce – Balsam fir / Foxberry / Plume moss represents the dominant forest found on fresh-moist, nutrient poor coastal sites in Nova Scotia.

Vegetation: Black spruce and balsam fir are the dominant overstory trees, with lesser amounts of white spruce and tamarack. (White spruce may be more common in western Nova Scotia, where balsam fir cover is reduced.) Scattered red maple and white birch (if present) are typically in an intermediate canopy position. The shrub layer is dominated by regenerating balsam fir and/or black spruce along with lambkill. Other common shrub species include wild raisin, false holly and mountain-ash. Herb layer diversity is low, with bunchberry, creeping snowberry and twinflower often dominant. Scattered foxberry can also be found, with cinnamon fern also common on wetter sites. Schreber's moss dominates the extensive bryophyte layer with lesser amounts of stair-step moss, bazzania and plume moss.

Ecological Features

This closed canopy matrix forest is primarily associated with the Maritime Boreal Atlantic Coastal ecoregion. The forest's longevity is a function of either canopy tree senescence or the frequency of catastrophic stand disturbances (usually hurricanes). Stands near the

coast or on islands are used as nesting sites and roosts for great blue herons and various seabirds. Coastal forests are often used by songbirds as they travel along the coast during spring and fall migration. Mature forests develop abundant old man's beard, a lichen that

Environmental Setting: CO1 is mainly associated with fresh-moist to moist, nutrient poor soils of glacial origin. These soils are generally medium to coarse textured and are often stony. The majority of this VT is found in the Atlantic Coastal ecoregion. High winds and exposure limit tree height potential in CO1 stands. This VT likely occurs in coastal areas of both New Brunswick and Prince Edward Island, but has not been documented.

Successional Dynamics: This VT has nutrient poor soils that give rise to an edaphic climax community dominated by black spruce and balsam fir. The even-aged forest typically follows stand-replacing disturbances such as windthrow, breakage, insect infestation and harvesting. In the absence of these types of disturbances, black spruce and balsam fir in this ecosystem are expected to live to about 100 years, after which tree senescence will initiate renewal through advanced regeneration. Due to its unique ecological setting, CO1 does not usually shift to other vegetation types after disturbance. However, on higher fertility sites, CO1 may succeed from (or revert to) CO4 (Balsam fir / Foxberry – Twinflower). Between stand-level disturbances, natural tree senescence can create uneven age class distribution and other stand structures.

provides important nest material for warblers and other species, and winter food for deer grazing on fallen trees. Old, undisturbed stands with balsam fir may house the endangered boreal felt lichen and other uncommon cyanolichens.

Characteristic Plants

C01

	Freq. (%)	Cover (%)
Black spruce	100	25.4
Balsam fir	100	18.6
White birch	63	4.0
Tamarack	38	5.3
Red maple	25	5.0
White spruce	25	5.0
Tree Layer (Mean % Cover)		51
Balsam fir	100	11.1
Lambkill	100	3.6
Black spruce	100	2.0
Wild raisin	88	1.1
Mountain-ash	88	0.9
False holly	88	0.4
Velvet-leaf blueberry	63	0.3
White birch	50	0.3
Huckleberry	38	0.4
Lowbush blueberry	38	0.2
Serviceberry	38	0.1
Heart-leaf birch	25	0.8
Shrub Layer (Mean % Cover)		20
Bunchberry	100	3.6
Starflower	88	0.6
Wild lily-of-the-valley	75	0.7
Foxberry	75	0.1
Creeping snowberry	63	8.2
Bluebead lily	63	7.3
Twinflower	63	2.3
Bracken	63	1.9
Goldthread	63	0.9
Sarsaparilla	63	0.3
Cinnamon fern	25	6.0
Indian pipe	25	0.1
Mayflower	25	0.1
Herb Layer (Mean % Cover)		20
Schreber's moss	100	62.4
Stair-step moss	100	12.6
Bazzania	100	9.9
Plume moss	100	4.3
Wavy dicranum	88	3.1
Broom moss	75	1.9
Ladies' tresses	75	1.6
Cup lichens	63	0.3
Grey reindeer lichen	50	0.8
Hypnum moss	38	1.5
Naugehyde liverwort	25	0.6
Bryo-Lichen Layer (Mean % Cover)		96

Distinguishing Features

This coastal softwood forest has abundant black spruce in the overstory. Mountain-ash, heart-leaf birch, foxberry and bazzania are indicators of a coastal influence, though they are not always present. Extensive moss coverage and a thick duff layer characterize the forest floor.



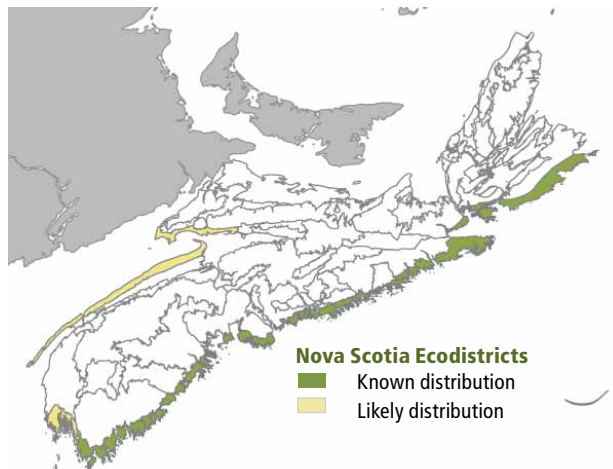
Plume moss

Site Characteristics

Slope Position:	Upper ⁵ Middle ³ Level ²
Surface Stoniness:	(Very - Excessively) ⁴ (Non - Slightly) ³ (Moderately) ³
Bedrock Outcrop:	(Non-rocky) ⁸ (Slightly - Moderately) ¹ (Very - Excessively) ¹
Elevation Range:	8 - 116m
Slope Gradient:	Gentle ⁷ Level ² Moderate ¹
Aspect:	North ⁴ East ³ South ¹ West ¹ None ¹
Exposure:	Exposed ⁸ Mod. exposed ²
Microtopography:	Slightly ⁶ Level ⁴
Drainage:	Imperfect ⁷ Moderately well ³

Soil Characteristics

Soil Type:	ST3 ⁴ ST3-L ³ ST6 ² ST2-L ¹
Parent Material:	Glacial till ⁹ Till/Bedrock ¹
Rooting Depth (cm):	(<30) ⁷ (30-45) ³
Duff Thickness (cm):	(11-20) ⁷ (21-40) ³



Nova Scotia Ecodistricts

- Known distribution
- Likely distribution