

SP5

Black spruce / Lambkill / Bracken

Picea mariana / *Kalmia angustifolium* /
Pteridium aquilinum

n=11



Jersey,
Cumberland County

Concept: This early to late successional Vegetation Type (VT) has a coniferous tree canopy dominated by black spruce and a well-developed woody shrub layer. Black spruce / Lambkill / Bracken usually follows stand-replacing disturbance such as fire, windthrow or harvesting.

Vegetation: Black spruce is the dominant overstory tree with lesser balsam fir. Hybrid (red/black) spruce may also form a significant portion of the canopy. Red maple, white birch, white pine and tamarack are scattered throughout some stands. The shrub layer is dominated by balsam fir and black spruce with lesser red maple. Other characteristic species include wild raisin, lambkill, velvet-leaf blueberry and false holly. Herb and bryophyte diversity is generally low, with bracken the most common herb and smaller amounts of pink lady's slipper, cow-wheat and teaberry. Schreber's moss, wavy dicranum and stair-step moss usually dominate the bryophyte layer. The presence of creeping snowberry, cinnamon fern, stair-step moss and patches of sphagnum moss indicate elevated moisture levels.

Environmental Setting: SP5 is associated with fresh to moist, nutrient poor soils. Thick, ericaceous duff layers are common which limit regeneration by seed unless disturbance creates more exposed micro-sites. Without disturbance, black spruce regeneration is usually by vegetative layering. This VT can be found throughout Nova Scotia on a variety of soils with low nutrient status. This VT is widespread and common across the Maritime Provinces.

Successional Dynamics: Nutrient poor soils associated with this VT lead to an edaphic climax community dominated by black spruce. Historically SP5 stands originated from fire disturbance creating mainly even-aged stands. With less frequent disturbance events, white pine may become more prominent in the overstory, possibly leading to a SP4 (White pine / Blueberry / Bracken) community. White pine may also develop a super canopy overtopping an even-aged forest condition of black spruce. SP5 is the successional endpoint for many VTs in the SP group.

Ecological Features

The canopy of this large-patch and sometimes matrix forest can be closed or open depending on past disturbances and site conditions. Excessive surface stoniness is common for this vegetation type, limiting the extent of canopy development. Black spruce has intermediate shade tolerance and does not seed well under closed canopies.

Vegetative regeneration by layering is common in black spruce, especially on sites where there is a thick duff layer and adequate soil moisture. The accumulation of spruce and pine needles on the ground results in a poorly-developed humus layer and impoverished soil fauna. Spruce grouse eat conifer needles in winter and may be found in this habitat. Dwarf

mistletoe sometimes creates dense witches brooms that are important nest and rest areas for small mammals. Mature forests develop abundant old man's beard, a lichen, sought for nest material by northern parula warblers and other species, and for winter food by deer foraging on fallen trees.

Characteristic Plants

SP5

	Freq. (%)	Cover (%)
Black spruce	100	51.1
White pine	55	1.0
Balsam fir	36	16.5
White birch	36	3.3
Red spruce	27	3.3
Red maple	18	6.0
Tamarack	18	0.1
Tree Layer (Mean % Cover)		62
Lambkill	91	12.2
Black spruce	82	10.8
Wild raisin	64	0.3
Red maple	64	0.2
Balsam fir	55	3.0
Lowbush blueberry	55	1.9
Velvet-leaf blueberry	55	1.4
False holly	36	0.5
White birch	27	0.1
Shrub Layer (Mean % Cover)		26
Bunchberry	82	0.9
Bracken	73	12.8
Teaberry	55	0.6
Mayflower	45	0.1
Painted trillium	36	0.1
Wild lily-of-the-valley	36	0.1
Cow-wheat	27	0.1
Herb Layer (Mean % Cover)		11
Schreber's moss	100	74.0
Wavy dicranum	91	2.8
Grey reindeer lichen	73	1.2
Broom moss	64	3.6
Bazzania	55	4.3
Stair-step moss	45	11.0
Hypnum moss	45	3.8
Plume moss	45	2.8
Ladies' tresses	36	0.8
Bryo-Lichen Layer (Mean % Cover)		92

Distinguishing Features

This softwood forest of black spruce is found on poor, dry to fresh-moist soils. Most shrubs and herbs represent these site conditions, but in moist depressions small patches of sphagnum, creeping snowberry and cinnamon fern are present.



Lambkill

Site Characteristics

Slope Position:	Level ⁴ Upper ⁴ Crest ¹ Middle ¹
Surface Stoniness:	(Non - Slightly) ⁷ (Moderately) ² (Very - Excessively) ¹
Bedrock Outcrop:	(Non-rocky) ⁷ (Very - Excessively) ² (Slightly - Moderately) ¹
Elevation Range:	20 - 232m
Slope Gradient:	Level ⁴ Gentle ⁴ Moderate ¹ nd ¹
Aspect:	North ² East ¹ South ¹ West ¹ None ⁵
Exposure:	Moderate ⁷ Mod. exposed ² Exposed ¹
Microtopography:	Level ⁵ Slightly ³ Moderately ²
Drainage:	Moderately well ³ Rapid ³ Well ³ Imperfect ¹

Soil Characteristics

Soil Type:	ST1 ³ ST2 ³ ST15 ² ST2-L ¹ ST6 ¹
Parent Material:	Glacial till ⁶ Glaciofluvial ³ Till/Bedrock ¹
Rooting Depth (cm):	(<30) ² (30-45) ⁴ (>45) ³ nd ¹
Duff Thickness (cm):	(0-5) ¹ (6-10) ² (11-20) ⁵ (21-40) ¹ nd ¹

