

SP1

Jack pine / Bracken – Teaberry

Pinus banksiana / *Pteridium aquilinum* –
Gaultheria procumbens

SP1a

Black spruce variant

Picea mariana

n=15



Chase Lake,
Cumberland County

Concept: This early successional Vegetation Type (VT) has abundant jack pine, lesser but frequent black spruce, and a small suite of shade-intolerant understory associates. Occurrences dominated by black spruce, with lesser jack pine, are defined by the SP1a variant. SP1a stands either occur at a later successional stage or are characterized by less jack pine at the time of stand establishment. SP1 (Jack pine / Bracken – Teaberry) usually follows stand-replacing disturbance events such as fire or harvesting.

Vegetation: Jack pine is typically the dominant overstory tree, with lesser amounts of black spruce and shade intolerant hardwood species. The shrub layer may be densely occupied by black spruce and ericaceous species such as lambkill, lowbush blueberry and rhodora. (The presence of rhodora is particularly indicative of low site fertility). Herb layer diversity is low and dominated by bracken and teaberry. Schreber's moss dominates the bryophyte layer, with patches of reindeer lichens in more open areas.

Environmental Setting: SP1 occurs on dry, nutrient very poor to poor soils associated with glaciofluvial deposits or shallow, gravelly and/or coarse textured glacial tills. The

majority of this VT is found in the Cumberland County portion of the Northumberland Lowlands ecoregion. The black spruce variant can be found scattered throughout the Eastern and Atlantic Coastal ecoregions and is often interspersed with OW1 (Jack pine / Huckleberry – Black crowberry) on hummocky topography. This VT is more common in New Brunswick but mostly localized to the northeast. It is rare on Prince Edward Island.

Successional Dynamics: Dry, nutrient poor soils and stand-replacing disturbances strongly shape both the canopy structure and successional patterns of SP1. Historically SP1 stands originated from high intensity fires that initiated new, even-aged stands dominated by jack pine. The presence of jack pine decreases between disturbance events as it is replaced by black spruce (a species which has both greater longevity and the flexibility to regenerate either by seed or vegetative layering). As the potential impacts of fire are reduced through management, white pine and black spruce dominance will increase and the stand could transition to SP4a (White pine / Blueberry / Bracken variant Black spruce) or directly to SP5 (Black spruce / Lambkill / Bracken), the edaphic climax for this successional pathway.

Ecological Features

This closed canopy forest occurs as small to large patches. Jack pine is a shade-intolerant, fire-dependent species. This feature of the tree's life history means that fire suppression practices will likely reduce the abundance and frequency of

this ecosystem in the landscape. Fire scars on residual pine are often found scattered through SP1 stands. Jack pine retains most of its seed in tightly closed cones that open to release large seed crops, after they are heated by fire. The acidity

(low nutrient content) of the forest floor, due to the abundance of pine needles and ericaceous vegetation, reduces soil fauna, plant diversity, and vertebrate diversity and abundance. However, needles are an important food source for spruce grouse.

Characteristic Plants	SP1		SP1a	
	Freq. (%)	Cover (%)	Freq. (%)	Cover (%)
Jack pine	100	40.1	100	21.4
Black spruce	63	6.2	100	37.6
Red pine	38	2.0	43	0.1
Red maple	25	2.5	14	5.0
White birch	25	0.5	14	0.1
White pine			43	10.3
Tree Layer (Mean % Cover)		47		64
Lambkill	100	38.3	100	14.3
Black spruce	100	3.7	100	5.7
Lowbush blueberry	88	12.8	86	2.1
Wild raisin	88	0.1	71	1.1
Red maple	63	1.5	86	2.1
Rhodora	50	27.8	14	20.0
Velvet-leaf blueberry	50	18.3	29	8.5
False holly	50	0.2	43	0.9
Grey birch	50	0.2		
Serviceberry	38	0.3	29	0.3
Huckleberry	25	5.0	14	0.1
White pine	25	0.3	57	0.2
Sweetfern	25	0.1		
Balsam fir	13	0.1	43	0.8
White birch			29	0.1
Shrub Layer (Mean % Cover)		77		31
Teaberry	100	13.6	71	2.3
Bracken	63	24.2	86	25.7
Mayflower	63	0.1	57	0.3
Bunchberry	38	1.1	57	0.5
Pink lady's slipper	25	0.8	43	0.1
Painted trillium	13	0.1	29	0.3
Creeping snowberry			29	1.3
Herb Layer (Mean % Cover)		30		25
Schreber's moss	100	41.3	100	81.7
Grey reindeer lichen	88	3.0	57	1.1
Wavy dicranum	75	1.8	100	3.8
Star-tipped reindeer lichen	38	12.0	14	0.1
Hair-cap moss	25	2.0	71	0.1
Broom moss	25	1.0	29	1.0
Cup lichens	25	0.1	57	0.1
Plume moss	25	0.1	29	0.2
Dicranums	13	0.1	29	0.8
Stair-step moss	13	0.1	57	1.6
Hypnum moss			57	0.3
Naugehyde liverwort			43	1.5
Ladies' tresses			29	5.0
Bryo-Lichen Layer (Mean % Cover)		53		91

Distinguishing Features

Jack pine is diagnostic for this vegetation type found on dry, poor soils. Ericaceous species such as lambkill, blueberry and rhodora are common.

Reindeer mosses are common. The variant SP1a is dominated by black spruce with lesser jack pine.



Teaberry

Site Characteristics

Slope Position:	Upper ⁶ Level ² Crest ¹ Middle ¹
Surface Stoniness:	(Non - Slightly) ⁸ (Moderately) ¹ nd ¹
Bedrock Outcrop:	(Non-rocky) ⁹ nd ¹
Elevation Range:	21 - 82m
Slope Gradient:	Gentle ⁶ Level ² nd ²
Aspect:	East ² South ¹ West ³ None ³ nd ¹
Exposure:	Moderate ⁸ Mod. exposed ¹ nd ¹
Microtopography:	Slightly ⁴ Moderately ³ Level ¹ Strong ¹ nd ¹
Drainage:	Moderately well ³ Rapid ³ Well ³ nd ¹

Soil Characteristics

Soil Type:	ST ² ST ¹ ST ³ nd ¹
Parent Material:	Glacial till ⁹ Glaciofluvial ¹
Rooting Depth (cm):	(30-45) ² (>45) ⁷ nd ¹
Duff Thickness (cm):	(0-5) ¹ (6-10) ⁶ (11-20) ² nd ¹

