

SP3

Red Pine – White pine / Bracken – Mayflower

Pinus resinosa – *Pinus strobus* /
Pteridium aquilinum – *Epigaea repens*



Tuskapeake Brook,
Annapolis County

Concept: This early to mid-successional Vegetation Type (VT) has an overstory dominated by both red and white pine. Occurrences co-dominated by black spruce and pine are defined by the SP3a variant. Red Pine – White pine / Bracken – Mayflower usually follows stand-replacing disturbance events such as fire or harvesting.

Vegetation: Red and white pine are the dominant overstory trees, usually occurring in similar amounts. Black spruce is the third most common species, with the occasional presence of red maple, large-tooth aspen and red oak. The shrub layer consists mainly of ericaceous species such as lambkill, velvet-leaf blueberry and lowbush blueberry, along with wild raisin. Black spruce and balsam fir regeneration can also be extensive in some stands. Herb layer diversity is relatively low, characterized by species such as pink lady's slipper, mayflower, starflower, bunchberry and sarsaparilla. Bryophyte cover is usually low except in the black spruce variant (SP3a) where heavy cover of Schreber's moss, broom moss and wavy dicranum is common. In dense stands, the forest floor may also be dominated by a needle carpet.

Ecological Features

This closed or open canopy forest occurs as large patches. Red pine is a shade-intolerant, fire-adapted species whose persistence in this ecosystem will be promoted by fire. Fire scars on residual pine are often found scattered through SP3 stands. White pine is a long-lived species of the Acadian Forest

and, as one of the region's largest trees, may provide valuable wildlife habitat for cavity nesting birds such as owls and woodpeckers and mammals such as fishers and porcupines. 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. Seeds of red pine may provide food for pine siskins, nuthatches and chickadees. Saffron milkcap, is a well-known edible mushroom that forms a mycorrhizal relationship with red pine.

SP3a

Black spruce variant

Picea mariana

n=13

Environmental Setting: SP3 mainly occurs on dry to fresh, nutrient very poor to poor soils. This VT is found throughout mainland Nova Scotia, especially in the Western ecoregion, lowland ecodistricts along the Minas Basin, Annapolis Valley and Northumberland shore. This VT is very rare on Prince Edward Island, and somewhat uncommon in New Brunswick.

Successional Dynamics: Dry, nutrient poor soils and stand-replacing disturbances strongly shape both VT canopy structure and successional patterns. Historically, SP3 stands originated from fire disturbance creating mainly even-aged stands. As the potential impacts of fire are reduced through management white pine and black spruce will increase in dominance, possibly shifting SP3 to SP4 (White pine / Blueberry / Bracken) or directly to SP5 (Black spruce / Lambkill / Bracken), the edaphic climax for this successional pathway.

Characteristic Plants	SP3		SP3a	
	Freq. (%)	Cover (%)	Freq. (%)	Cover (%)
Red pine	100	32.1	100	15.0
White pine	100	31.4	100	15.0
Red oak	50	7.5		
Red maple	50	6.5	60	3.3
Black spruce	50	5.8	80	30.8
Large-tooth aspen	50	5.8		
White birch	25	3.5	20	7.0
Grey birch	13	2.0	20	2.0
Red spruce	13	2.0	20	12.0
Trembling aspen			20	12.0
Balsam fir			20	10.0
Tree Layer (Mean % Cover)		78		65
Red maple	100	2.7	80	1.0
Lambkill	100	2.0	100	5.6
White pine	88	1.1	60	0.4
Velvet-leaf blueberry	75	4.3	80	8.9
Balsam fir	75	4.1	80	8.0
Black spruce	63	8.0	60	6.3
Lowbush blueberry	50	9.3	60	0.8
Wild raisin	50	1.7	100	0.1
Red oak	50	1.5	40	0.1
Serviceberry	38	0.1	80	0.1
Huckleberry	25	5.0	60	5.7
Smooth serviceberry	25	3.5		
Red spruce	25	2.1	20	1.0
Grey birch	25	0.6	20	0.1
Sweetfern	25	0.1		
White birch	25	0.1	20	2.0
False holly	13	0.1	60	2.2
Rhodora			40	0.5
Shrub Layer (Mean % Cover)		27		31
Bracken	100	17.7	100	25.2
Starflower	88	1.4	100	0.4
Teaberry	75	5.0	60	1.4
Wild lily-of-the-valley	63	4.8	60	10.2
Bunchberry	63	3.5	80	2.6
Sarsaparilla	63	2.1	60	1.0
Mayflower	63	1.1	80	0.8
Partridge-berry	63	0.2		
Indian pipe	50	0.1	40	0.1
Pink lady's slipper	50	0.1	80	0.1
Rice grass	38	0.5		
Round-leaved pyrola	38	0.1		
Cow-wheat	25	0.1	20	0.1
Painted trillium	25	0.1	60	0.1
Princes'-pine	25	0.1		
Interrupted fern			40	0.5
Herb Layer (Mean % Cover)		31		38
Schreber's moss	75	17.2	100	51.8
Wavy dicranum	63	1.2	80	3.4
Broom moss	50	0.8	60	0.6
Bazzania	50	0.5	80	0.8
Hypnum moss	38	1.8	60	8.0
Grey reindeer lichen	38	0.9	40	5.5
Stair-step moss	13	2.0	80	1.6
Hair-cap moss	13	0.5	40	3.3
Ladies' tresses			60	0.3
Bryo-Lichen Layer (Mean % Cover)		16		68

Distinguishing Features

Both red pine and white pine need to be present to classify this softwood forest found on dry, nutrient poor soils.

The variant SP3a has black spruce co-dominant with the pines.



Mayflower

Site Characteristics

Slope Position:	Crest ³ Level ³ Upper ³ Middle ¹
Surface Stoniness:	(Very - Excessively) ³ (Moderately) ³ (Non - Slightly) ² nd ²
Bedrock Outcrop:	(Non-rocky) ⁵ (Slightly - Moderately) ² (Very-Excessively) ¹ nd ²
Elevation Range:	37 - 223m
Slope Gradient:	Level ⁵ Gentle ³ nd ²
Aspect:	North ¹ East ¹ South ² West ¹ None ⁵
Exposure:	Moderate ⁸ Mod. exposed ¹ nd ¹
Microtopography:	Slightly ⁴ Moderately ³ Level ¹ nd ²
Drainage:	Well ⁵ Imperfect ¹ Moderately well ¹ Rapid ¹ nd ²

Soil Characteristics

Soil Type:	ST2 ⁵ ST1 ¹ ST3-G ¹ ST15 ¹ nd ²
Parent Material:	Glacial till ¹⁰
Rooting Depth (cm):	(<30) ¹ (30-45) ² (>45) ³ nd ⁴
Duff Thickness (cm):	(0-5) ¹ (6-10) ³ (11-20) ³ nd ³

