

SP4

White pine / Blueberry / Bracken

Pinus strobus / *Vaccinium* spp. / *Pteridium aquilinum*

SP4a

Black spruce variant

Picea mariana

SP4b

Huckleberry variant

Gaylussacia baccata

n=47



Northeast Lake,
Queens County

Concept: This mid-successional Vegetation Type (VT) has abundant white pine, lesser but frequent black spruce and a small suite of shade-intolerant understory associates. In many stands, large diameter residual white pine are also present, having survived a previous disturbance or harvest. There are two variants: SP4a where black spruce is dominant in the overstory and SP4b where huckleberry is dominant in the understory. White pine / Blueberry / Bracken usually follows stand-replacing disturbance events such as fire or harvesting.

Vegetation: White pine is the dominant overstory tree (often in a super canopy position), along with frequent black spruce. Balsam fir, if present, is limited to the understory and is often damaged by balsam fir woolly adelgid (especially in western Nova Scotia). The shrub layer may be densely occupied by ericaceous species such as lambkill, velvet-leaf blueberry and lowbush blueberry, along with wild raisin and black spruce. Herb layer diversity is relatively low, characterized by species such as bracken, mayflower, teaberry, sarsaparilla and pink lady's slipper. Bryophyte cover is often extensive and includes Schreber's moss, broom moss and wavy dicranum.

Ecological Features

This closed-canopy forest typically forms large patches or matrix ecosystems. White pine has intermediate shade tolerance and may form an understory of young cohorts in early successional red maple, white birch and aspen forests. This life history strategy may reduce tree deformation by the white pine weevil. White pine is a long-lived species (greater than 200

years) 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. Older pines found in SP4 often have fire scars and frequently contain hollow trunks. Larger white pine may develop a super canopy, increasing susceptibility

Environmental Setting: SP4 occurs on dry to fresh-moist nutrient poor soils. The deep rooting capability of white pine allows this species to access moisture on sites where water deficits occur during the growing season. This VT is usually associated with granitic tills in western Nova Scotia, but can be found scattered throughout the province wherever similar soil types occur. In north central Nova Scotia, SP4 can also be found on finer textured soils. This VT is very rare on Prince Edward Island but relatively common in New Brunswick.

Successional Dynamics: Relatively dry, nutrient poor soils and stand-replacing disturbances strongly shape both VT canopy structure and successional patterns. Historically SP4 stands originated from fire disturbance and are typically even-aged, although scattered white pine can be significantly older due to this species' greater longevity and resistance to windthrow and fire. Earlier successional stages may include a jack pine (SP1) or red pine (SP2) component. Between stand-level disturbance events, senescence and patch disturbances create opportunities for balsam fir, black spruce, red maple, red oak and white birch. This VT can persist for a relatively long time, but stands will eventually succeed to SP5 (Black spruce / Lambkill / Bracken), the edaphic climax for this successional pathway.

to lightning strikes, especially on higher relief. 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. Following fire, the decay-resistant snags may stand for many decades, providing perch and cavity sites in the new forest.

Characteristic Plants	SP4		SP4a		SP4b	
	Freq. (%)	Cover (%)	Freq. (%)	Cover (%)	Freq. (%)	Cover (%)
White pine	100	58.5	100	10.7	100	37.3
Red maple	68	10.2	43	3.7	100	10.0
Black spruce	53	11.6	100	35.7	57	6.3
Red oak	37	3.4	4	3.0	57	7.3
Balsam fir	26	14.0	65	12.2	14	15.0
White birch	26	6.0	30	0.7	57	4.8
Red spruce	16	7.3	17	18.3		
Red pine	16	5.7	17	3.8	86	9.3
Large-tooth aspen	11	1.5	4	0.1	71	7.8
Grey birch	11	0.1	13	2.7	14	0.1
Tamarack			13	1.7		
Tree Layer (Mean % Cover)	80		61		74	
Red maple	89	3.7	78	0.5	100	3.1
Balsam fir	79	7.7	74	4.4	43	3.4
White pine	79	2.6	70	0.2	100	0.6
Lambkill	79	1.7	96	8.3	100	11.9
Black spruce	68	6.3	78	7.3	100	2.7
Wild raisin	63	0.4	74	1.2	57	0.2
Velvet-leaf blueberry	58	5.1	74	5.1	86	14.0
Serviceberry	58	0.3	43	0.6	29	0.1
Red oak	53	1.8	9	0.1	100	3.1
Lowbush blueberry	47	3.9	39	2.7	57	4.3
False holly	42	0.1	61	1.3	57	0.3
Huckleberry	37	2.9	17	10.0	100	34.0
Red spruce	21	0.8	9	0.2		
Witch-hazel	16	0.2	13	0.1	86	4.3
Bayberry	5	9.0			29	0.1
Grey birch	5	0.2	22	0.9		
White birch	5	0.1	22	0.4	14	0.1
Shrub Layer (Mean % Cover)	26		26		74	
Bracken	95	10.8	96	12.3	100	13.4
Starflower	84	0.6	61	0.2	86	1.4
Bunchberry	79	4.6	74	4.6	71	8.0
Wild lily-of-the-valley	79	3.2	52	0.3	57	0.1
Sarsaparilla	63	2.0	30	0.2	86	1.3
Teaberry	58	8.0	35	0.1	86	1.3
Mayflower	53	0.5	65	0.3	86	0.8
Pink lady's slipper	53	0.1	57	0.1	71	0.1
Twinflower	47	2.7	17	0.2	14	0.1
Partridge-berry	47	1.9	26	0.1	29	0.1
Indian pipe	47	0.1	13	0.1	57	0.1
Bluebead lily	42	0.7	26	0.8		
Goldthread	26	0.2	26	5.3		
Indian cucumber root	26	0.1	4	0.1	29	0.1
Painted trillium	26	0.1	26	0.1	29	0.1
Interrupted fern	21	0.2	4	0.2		
Herb Layer (Mean % Cover)	30		18		24	
Schreber's moss	100	21.1	100	67.7	86	8.4
Bazzania	63	2.3	43	1.4	71	1.0
Broom moss	63	1.0	39	1.4	43	1.2
Wavy dicranum	58	1.1	96	6.6	43	1.1
Hypnum moss	53	1.1	30	1.5	71	2.0
Stair-step moss	32	4.2	74	9.7	29	4.0
Hair-cap moss	32	1.9	17	0.1		
Pin cushion moss	26	0.1	9	0.1	43	0.1
Grey reindeer lichen	16	0.1	39	3.2	29	0.6
Ladies' tresses	11	0.2	48	2.3	14	0.1
Bryo-Lichen Layer (Mean % Cover)	27		86		12	

Distinguishing Features

This is a softwood forest dominated by white pine with lesser amounts of black spruce and red maple. Variant SP4a has dominant black spruce. Variant SP4b exhibits high cover to huckleberry in the understory. Lambkill and blueberry are common.



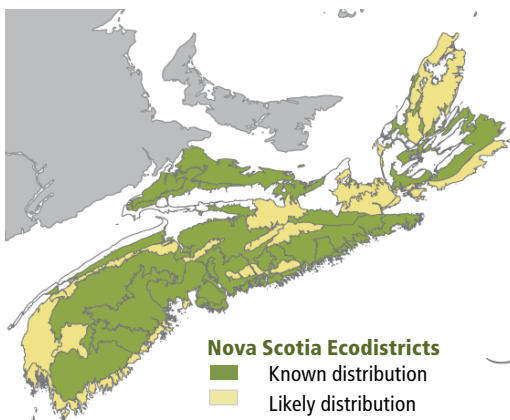
Pink lady's slipper
[Reg Newell]

Site Characteristics

Slope Position: Level³ Middle³ Upper³ Other¹
 Surface Stoniness: (Non - Slightly)⁶ (Very - Excessively)³ (Moderately)¹
 Bedrock Outcrop: (Non-rocky)⁸ (Slightly - Moderately)²
 Elevation Range: 13 - 207m
 Slope Gradient: Level⁶ Level³ Other¹
 Aspect: North³ East¹ South² West¹ None³
 Exposure: Moderate⁹ Other¹
 Microtopography: Slightly⁵ Level² Moderately² Strongly¹
 Drainage: Well⁵ Moderately well² Imperfect¹ Other²

Soil Characteristics

Soil Type: ST2³ ST1² ST3² ST2-L¹ ST15-L¹ ST6¹
 Parent Material: Glacial till⁹ Glaciofluvial¹
 Rooting Depth (cm): (<30)² (30-45)³ (>45)⁴ nd¹
 Duff Thickness (cm): (0-5)¹ (6-10)⁶ (11-20)³



Nova Scotia Ecodistricts
 ■ Known distribution
 ■ Likely distribution