

## WC4

### Red pine – Black spruce / Huckleberry – Rhodora / Sphagnum

*Pinus resinosa* – *Picea mariana* / *Gaylussacia baccata* – *Rhododendron canadense* / *Sphagnum* spp.

n=3



Lapland,  
Lunenburg County

**Concept:** This uncommon wet forest is characterized by red pine canopy dominance, a well-developed shrub layer, and prominent sphagnum moss cover. The early to mid-successional ecosystem is the wettest red pine forest found in Nova Scotia. Most occurrences are initiated by (and may be maintained through) fire, but windthrow can also expose mineral soil and promote red pine recruitment.

**Vegetation:** Canopy layers are dominated by red pine or co-dominated by red pine and either black spruce or white pine. Crown closure is typically low but increases on less saturated soil. The understory is well developed, with moderate to high shrub and bryophyte cover. Acid tolerant shrubs including huckleberry, rhodora, low bush blueberry, wild raisin and Labrador tea, among others, are frequent. Red pine recruitment is low to absent beneath the canopy. The herb layer is reduced except in stands with prominent bracken. Bryophyte cover is well developed but species poor. Ladies' tresses is the only prominent sphagnum species.

#### Ecological Features

The small patch Red pine – Black spruce / Huckleberry – Rhodora / Sphagnum is an uncommon ecosystem characterized by low canopy closure but high shrub and bryophyte cover. Soils are acidic with low surface and ground water flow, reducing microhabitat variability, productivity and species richness. Reduced productivity and the presence of allelopathic plants

(those that produce biochemicals that affect other plants) like lambkill can negatively influence black spruce regeneration and growth, resulting in lower canopy cover. These forests can have an older cohort of fire-scarred red pine "parent trees", frequently with cavities and hollow trunks. Rare plants are not documented from the ecosystem

**Environmental Setting:** The Red pine - Black spruce / Huckleberry - Rhodora / Sphagnum forest occurs on moderately exposed flats and gentle slopes. Soils are poorly drained glacial tills with low rooting potential and usually high organic layer accumulation. It is largely known from the Western ecoregion on moderately exposed flats and gentle slopes; microtopography is slight to moderate and aspect is variable. WC4 is somewhat rare in New Brunswick and absent from Prince Edward Island.

**Successional Dynamics:** This early to mid-successional forest originates with fire or windthrow, both of which may promote red pine regeneration. Tree uprooting resulting from windthrow exposes mineral soil required for red pine seed germination. Red pine's presence decreases between disturbance events. This favours black spruce, a longer-lived species with the flexibility to regenerate through either seeding or layering. In the absence of fire, the ecosystem will eventually succeed to WC2 (Black spruce / Lambkill – Labrador tea / Sphagnum).

and old growth potential is low. This wet forest is rare in Nova Scotia, and with its fire dependency, may present additional conservation challenges. WC4 may provide locally if not provincially unique habitat for particular wildlife, but specific associates are undocumented.

## Characteristic Plants

WC4

	Freq. (%)	Cover (%)
Red pine	100	19.0
Black spruce	67	14.0
Red maple	67	6.0
White pine	33	20.0
Balsam fir	33	3.0
<b>Tree Layer (Mean % Cover)</b>		<b>40</b>
Lambkill	100	27.7
Lowbush blueberry	100	5.5
Black spruce	100	2.4
Wild raisin	100	2.2
Serviceberry	100	0.1
Huckleberry	67	20.0
Rhodora	67	16.0
Grey birch	67	6.5
Red maple	67	2.8
False holly	67	2.5
Labrador tea	67	2.0
Tamarack	67	0.3
Speckled alder	67	0.1
White pine	67	0.1
Leather-leaf	33	80.0
Velvet-leaf blueberry	33	15.0
Pale laurel	33	2.0
Balsam fir	33	1.0
Broom crowberry	33	0.5
Red chokeberry	33	0.5
Ground juniper	33	0.3
Chokeberries	33	0.1
Trailing blackberry	33	0.1
Red pine	33	0.1
<b>Shrub Layer (Mean % Cover)</b>		<b>85</b>
Bracken	67	42.5
Bunchberry	67	20.0
Teaberry	67	13.0
Large cranberry	33	25.0
Creeping snowberry	33	5.0
Dwarf raspberry	33	2.0
Pitcher-plant	33	1.0
Rushes	33	1.0
Mayflower	33	0.5
False violet	33	0.2
Partridge-berry	33	0.2
Black crowberry	33	0.1
Bog-goldenrod	33	0.1
Cinnamon fern	33	0.1
Goldthread	33	0.1
Indian pipe	33	0.1
Pink lady's slipper	33	0.1
Rose pogonia	33	0.1
Rough aster	33	0.1
<b>Herb Layer (Mean % Cover)</b>		<b>62</b>
Ladies' tresses	100	79.3
Schreber's moss	67	3.5
Grey reindeer lichen	67	1.8
Brown fat-leaved sphagnum	33	5.0
Russ's sphagnum	33	5.0
Wavy dicranum	33	0.5
Star-tipped reindeer lichen	33	0.1
<b>Bryo-Lichen Layer (Mean % Cover)</b>		<b>85</b>

## Distinguishing Features

Red pine is diagnostic of this poorly drained softwood forest with a high shrub cover, dominated by lambkill, huckleberry and rhodora. Bracken, bunchberry and teaberry are often abundant.



Huckleberry

## Site Characteristics

Slope Position:	Level <sup>7</sup> Middle <sup>3</sup>
Surface Stoniness:	(Non - Slightly) <sup>10</sup>
Bedrock Outcrop:	(Non-rocky) <sup>7</sup> (Slightly - Moderately) <sup>3</sup>
Elevation Range:	28 - 101m
Slope Gradient:	Level <sup>10</sup>
Aspect:	West <sup>3</sup> None <sup>7</sup>
Exposure:	Moderate <sup>10</sup>
Microtopography:	Level <sup>7</sup> Moderately <sup>3</sup>
Drainage:	Poor <sup>10</sup>

## Soil Characteristics

Soil Type:	ST7 <sup>7</sup> ST4 <sup>3</sup>
Parent Material:	Glacial till <sup>7</sup> Glaciofluvial <sup>3</sup>
Rooting Depth (cm):	(<30) <sup>10</sup>
Duff Thickness (cm):	(6-10) <sup>3</sup> (11-20) <sup>3</sup> (21-40) <sup>3</sup>

