

WD8

Red spruce – Red maple / Wood sorrel – Sensitive fern / Sphagnum

Picea rubens – *Acer rubrum* / *Oxalis acetosella* –
Onoclea sensibilis / *Sphagnum* spp.

n=6



Tyndal Road,
Cumberland County

Concept: This ecosystem is one of three wet mixedwood forests in Nova Scotia. These Vegetation Types (VTs) are mostly distinguished by major differences in canopy composition and more minor differences in soil fertility and understory composition. This mature closed canopy forest ecosystem is characterized by red spruce and red maple co-dominance, moderate to high herbaceous cover and a well-developed sphagnum moss layer. It usually occurs on moist to wet mineral soils where it may persist as a type of edaphic climax.

Vegetation: The closed canopy is co-dominated by red spruce and red maple, with lesser balsam fir. Low to moderate cover is typical in the woody understory, where regenerating trees and false holly are characteristic. The well-developed herbaceous layer includes frequent cinnamon fern, wood sorrel, northern beech fern, wood aster, three seeded sedge, dwarf raspberry and sensitive fern, among other common upland plants. Bryophyte development is moderate, composed of sphagnum and lesser amounts of common upland moss and liverwort species.

Environmental Setting: This low elevation forest occurs on moist to wet sites. Most soils are poorly drained glacial tills of varying texture, with limited ground and/or surface water

inputs, and only intermediate nutrient availability. Flats, shallow depressions and gentle slopes with moderate microtopography are typical sites. Aspect is variable. Most occurrences are in the Nova Scotia Uplands and Western ecoregions. WD8 is uncommon on Prince Edward Island but widespread and abundant across south and central New Brunswick.

Successional Dynamics: This ecosystem can be expressed at a variety of successional stages, but most stands are mid-successional. It is maintained by limiting site conditions and typically small- to intermediate-scaled disturbances (e.g. tree mortality, windthrow and timber harvest events). Wet soils generally limit the potential for successional development, but depending on the ecological context and disturbance regime, WD8 could either maintain itself or transition to WC5 (Red spruce – Balsam fir/ Cinnamon fern / Sphagnum) or WC8 (Hemlock / Cinnamon fern – Sensitive fern / Sphagnum). Transition to WD3 (Red maple / Sensitive fern – Lady fern / Sphagnum) is also possible on richer sites. Stand-level disturbances are uncommon, but windthrow and timber harvest are possible mechanisms of renewal. Tree mortality through senescence can promote uneven-aged stands.

Ecological Features

This small patch forest often forms a transition between open wetland and upland forest, providing distinct if not important landscape functions. Mixedwood forests may support wildlife species associated with both coniferous and deciduous ecosystems. Wildlife that make use of either hardwood or softwood

structures will often seek small clumps of target canopy trees within broader matrices of different species. In WD8, hardwood canopy components are often associated with past disturbance events or areas with increased surface and/ or subsurface water. Sites are at least slightly mounded, providing increased

microhabitat variability. The Red spruce – Red maple / Wood sorrel – Sensitive fern / Sphagnum is a moderately productive mixedwood forest, with a well-developed canopy and often dense herbaceous and bryophyte layers. These forests may develop long-term continuity and an old growth character.

Characteristic Plants

WD8

	Freq. (%)	Cover (%)
Red spruce	100	37.8
Red maple	83	16.6
Balsam fir	83	7.8
Yellow birch	50	6.7
White spruce	33	17.5
Hemlock	33	12.0
Black spruce	17	10.0
Tree Layer (Mean % Cover)		73
Balsam fir	83	8.3
Red spruce	83	4.2
Red maple	67	2.1
False holly	67	0.5
Velvet-leaf blueberry	50	0.2
Yellow birch	50	0.1
Fly-honeysuckle	33	1.6
Mountain maple	33	0.6
Lambkill	33	0.3
Shrub Layer (Mean % Cover)		15
Cinnamon fern	100	5.1
Wood-sorrel	100	3.5
Bunchberry	100	1.6
Goldthread	100	1.6
Starflower	100	0.2
Northern beech fern	83	2.0
Sarsaparilla	83	1.7
Evergreen wood fern	83	1.5
Wood aster	83	0.5
Violets	83	0.2
Three seeded sedge	67	2.8
Twinflower	67	1.9
Dwarf raspberry	67	1.8
Woodland horsetail	67	1.2
Sensitive fern	67	1.1
Wild lily-of-the-valley	67	0.6
Creeping snowberry	67	0.3
New York fern	50	38.3
Interrupted fern	50	14.0
Partridge-berry	50	1.0
Bluebead lily	50	0.7
Indian pipe	50	0.1
Lady fern	33	4.5
Hay-scented fern	33	4.0
Oak fern	33	1.3
Crested wood fern	33	0.3
Herb Layer (Mean % Cover)		56
Bazzania	100	7.8
Schreber's moss	83	14.9
Stair-step moss	83	6.6
Hypnum moss	67	1.5
Common green sphagnum	50	13.3
Fern moss	50	6.0
Hair-cap moss	50	0.8
Rhizomniums	50	0.6
Pale fat-leaved sphagnum	33	25.0
Prickly sphagnum	33	3.5
Broom moss	33	2.6
Shaggy moss	33	2.5
Wavy dicranum	33	1.1
Bryo-Lichen Layer (Mean % Cover)		64

Distinguishing Features

Red maple and red spruce in the overstory layer define this wet mixedwood forest. False holly, cinnamon fern, three seeded sedge, dwarf raspberry and sensitive fern are good indicators of this vegetation type.



Woodland horsetail

Site Characteristics

Slope Position:	Level ³ Lower ³ Depression ² Toe ²
Surface Stoniness:	(Non - Slightly) ⁸ (Moderately) ¹ (Very - Excessively) ¹
Bedrock Outcrop:	(Non-rocky) ¹⁰
Elevation Range:	13 - 148m
Slope Gradient:	Level ⁵ Gentle ⁵
Aspect:	North ¹ East ¹ South ¹ West ¹ None ⁶
Exposure:	Moderate ⁷ Mod. exposed ¹ Mod. sheltered ¹ Sheltered ¹
Microtopography:	Level ³ Slightly ³ Moderately ² Strongly ²
Drainage:	Poor ⁷ Imperfect ³

Soil Characteristics

Soil Type:	ST4 ⁴ ST7 ³ ST10 ² ST14 ¹
Parent Material:	Glacial till ⁷ Organic ² Lacustrine ¹
Rooting Depth (cm):	(<30) ⁸ (30-45) ¹ nd ¹
Duff Thickness (cm):	(11-20) ⁵ (21-40) ³ nd ²

