

WD7

Balsam fir – White ash / Cinnamon fern – New York fern / Sphagnum

Abies balsamea – *Fraxinus americana* /
Osmunda cinnamomea – *Thelypteris noveboracensis* /
Sphagnum spp.

n=12



Sherbrooke Lake,
Lunenburg County

Concept: Balsam fir – White ash / Cinnamon fern – New York fern / Sphagnum Vegetation Type (VT) is the wettest and richest of the three wet mixedwood forests (WD6, WD7 and WD8) found in the province. This closed canopy forest occurs on wet mineral soils or peat, with intermediate or high nutrient availability. The unit is co-dominated by white ash and one or more coniferous tree species. Balsam fir is particularly prominent, but most stands also feature low levels of spruce and yellow birch. The understory is largely dominated by herbaceous and sphagnum cover.

Vegetation: The closed canopy is co-dominated by white ash and balsam fir, with lesser spruce (usually red) and yellow birch. Low to moderate cover is typical in the woody understory, where regenerating trees and fly-honeysuckle are characteristic. The well-developed herbaceous layer includes frequent cinnamon fern, dwarf raspberry, sensitive fern and New York fern, among other species. Bryophyte development is moderate, composed of sphagnum, shaggy moss and lesser amounts of common upland species. Common green sphagnum is prominent.

Ecological Features

Rich temperate mixedwood forests are uncommon in Nova Scotia, partly because nutrient demanding conifer species (e.g. cedar) are seldom present. By virtue of its rarity and restricted Canadian range, lesser disturbed examples of this unusual

ecosystem present a conservation opportunity. WD7 may support a mix of wet coniferous and deciduous forest values, including important wildlife habitat structures, hydrologic and biogeochemical functions. Few species of conservation

Environmental Setting: This moderately exposed wet forest is invariably found on level sites with slight microtopography and little exposed bedrock or surface stones. Soils have intermediate to high nutrient availability, largely maintained by enriched seepage, ground and/or surface water inputs. It occurs at low elevation across level to undulating landscapes on organic deposits or fine to medium textured mineral soils. Most stands are in upland regions of mainland Nova Scotia and across lower elevations of Cape Breton. The WD7 ecosystem has not been documented in New Brunswick or Prince Edward Island, but it likely occurs in southern New Brunswick.

Successional Dynamics: This ecosystem can be expressed at a variety of successional stages, but most stands are mid-successional, persisting as an edaphic climax. It is maintained by limiting site conditions and small- to intermediate-scaled disturbances. Tree senescence, windthrow and smaller scaled timber harvest events are the primary mechanisms of renewal. WD7 does not generally shift to other vegetation types after disturbance, but a transition to WD1 (White ash / Sensitive fern – Christmas fern) is possible on higher fertility sites. Excluding harvesting, stand-level disturbance events are rare but insect infestation may cause a significant reduction of balsam fir in some stands.

concern were found in available plot data. Similar to other wetlands, WD7 contributes to carbon and nitrogen budgets, helps regulate groundwater quality and flow, and represents an important component of landscape structure.

Characteristic Plants

WD7

	Freq. (%)	Cover (%)
Balsam fir	100	18.6
White ash	100	10.8
Red maple	83	16.5
Yellow birch	83	12.2
Red spruce	58	14.4
Black spruce	42	13.4
White spruce	25	14.0
Sugar maple	17	8.5
Hemlock	17	4.5
Tree Layer (Mean % Cover)		75
Balsam fir	83	8.7
Fly-honeysuckle	83	0.7
Yellow birch	75	0.6
White ash	58	4.1
Red maple	58	0.9
Red spruce	50	0.7
Sugar maple	50	0.4
Serviceberry	50	0.1
Striped maple	42	0.1
Winterberry	33	12.7
Mountain maple	25	18.0
Shrub Layer (Mean % Cover)		25
Cinnamon fern	92	17.2
Dwarf raspberry	92	9.4
Sarsaparilla	83	2.4
Bunchberry	83	1.7
New York fern	67	25.4
Sensitive fern	67	4.1
Wild lily-of-the-valley	67	2.4
Goldthread	67	1.7
Northern beech fern	67	1.2
Starflower	67	0.4
Three seeded sedge	58	3.3
Wood-sorrel	58	1.3
Bladder sedge	58	0.6
Wood aster	58	0.4
Partridge-berry	58	0.3
Twinflower	58	0.3
Crested wood fern	58	0.1
Woodland horsetail	50	2.4
Lady fern	50	1.9
Bluebead lily	50	0.1
Evergreen wood fern	42	0.6
Creeping snowberry	42	0.1
Interrupted fern	33	10.5
Oak fern	33	9.6
Blue joint	33	2.7
Meadow-rue	33	2.0
Short husk	25	5.0
Herb Layer (Mean % Cover)		76
Stair-step moss	83	6.7
Shaggy moss	75	8.3
Bazzania	75	4.3
Common green sphagnum	58	42.1
Schreber's moss	42	9.5
Pale fat-leaved sphagnum	25	28.3
Flat topped sphagnum	25	17.7
Prickly sphagnum	25	9.2
Bryo-Lichen Layer (Mean % Cover)		62

Distinguishing Features

White ash is diagnostic of this wet mixedwood forest. Fly-honeysuckle is characteristic along with a well developed herbaceous layer that often includes cinnamon fern, dwarf raspberry, sensitive fern, sensitive fern and New York fern.



Fly-honeysuckle

Site Characteristics

Slope Position:	Level ⁷ Depression ¹ Lower ¹ Toe ¹
Surface Stoniness:	(Non - Slightly) ⁹ (Moderately) ¹
Bedrock Outcrop:	(Non-rocky) ¹⁰
Elevation Range:	50 - 189m
Slope Gradient:	Level ¹⁰
Aspect:	East ¹ South ¹ West ¹ None ⁷
Exposure:	Moderate ⁷ Mod. exposed ² Mod. sheltered ¹
Microtopography:	Slightly ⁵ Level ³ nd ²
Drainage:	Poor ⁵ Very poor ⁵

Soil Characteristics

Soil Type:	ST14 ⁶ ST4 ¹ ST7 ¹ ST10 ¹ ST13 ¹
Parent Material:	Organic ⁴ Glacial till ³ Alluvium ¹ Glaciofluvial ¹ Lacustrine ¹
Rooting Depth (cm):	(<30) ⁶ (30-45) ³ nd ¹
Duff Thickness (cm):	(6-10) ³ (11-20) ¹ (21-40) ² (>40) ³ nd ¹

