

## WD2

### Red maple / Cinnamon fern / Sphagnum

*Acer rubrum* / *Osmunda cinnamomea* /  
*Sphagnum* spp.

n=8



Burnt Dam Flowage,  
Kings County

**Concept:** This common and widespread ecosystem is one of three wet red maple forests (WD2, WD3 and WD4) classified from Nova Scotia. It has lower tree and herbaceous species richness and soil fertility than WD3, and it lacks the Atlantic Coastal Plain flora that sets it apart from WD4. The Red maple / Cinnamon fern / Sphagnum forest is found on peat or poorly drained mineral soil, with low to moderate nutrient availability. It persists as an edaphic climax.

**Vegetation:** Canopy development is intermediate to high and almost entirely dominated by red maple. Other tree species are far less frequent and seldom abundant. The woody understory supports moderate cover but is species-poor and largely occupied by regenerating trees with scattered wild raisin and speckled alder. The herbaceous layer is better developed but also species-poor; only cinnamon fern and goldthread are frequent. Bryophyte development is moderate, composed of sphagnum and lesser amounts of common upland moss and liverwort species. Flat topped sphagnum is characteristic.

#### Ecological Features

WD2 is the most common deciduous wet forest in Nova Scotia. It is found in small to moderate sized basins or depressions, usually featuring small pools or narrow channels of standing or slowly moving water. Sites rarely support notable microrelief, and trees on those with more pronounced surface topography are often limited to hummocks. This is a

moderately productive ecosystem, but few rare plants, other than black ash, are documented. Similar to other wet deciduous forests, WD2 supports unique habitat values (e.g. as an important early source of nectar and pollen), complex stand structures, and important biogeochemical and landscape functions. Wet deciduous forests generally

**Environmental Setting:** Soils are usually organic deposits or poorly drained mineral soils, of varying texture. Low ground and surface water flow and poorly-decomposed organic material limit nutrient availability, but some sites provide at least moderate soil richness. Flats, shallow depressions and lower topographic positions of gentle slopes provide suitable habitat across lowland and upland ecoregions of Nova Scotia. Microtopography, surface stoniness and exposed bedrock are minimal. WD2 is common on Prince Edward Island and across south and central New Brunswick.

**Successional Dynamics:** This early to mid-successional ecosystem is a type of edaphic climax, largely maintained by saturated soil and reduced rooting potential. It is expected to persist as described, but after disturbance, it could transition to WD8 (Red spruce – Red maple / Wood sorrel – Sensitive fern / Sphagnum) or, on better sites, WD7 (Balsam fir – White ash / Cinnamon fern – New York fern / Sphagnum). Windthrow and harvesting are the main stand-level disturbance agents but in their absence, mortality of individuals and patches of trees through senescence, ice scour, flooding and/or other minor events, can create uneven-aged stands.

occur on sites that are richer than mixedwood or coniferous wet forests, but some exceptions occur. Canopy tree senescence and uprooting are relatively common and are often followed by vigorous stump sprouting. This process may support a uniquely persistent and poorly understood form of old growth.

Characteristic Plants	WD2	
	Freq. (%)	Cover (%)
Red maple	100	49.1
Black spruce	44	6.3
Grey birch	33	1.0
White birch	22	20.0
Yellow birch	22	7.5
White pine	22	5.0
Balsam fir	22	3.5
Red oak	11	10.0
Large-tooth aspen	11	2.0
Mountain-ash	11	2.0
Trembling aspen	11	2.0
Black ash	11	0.1
Tamarack	11	0.1
White ash	11	0.1
White spruce	11	0.1
<b>Tree Layer (Mean % Cover)</b>		<b>62</b>
Red maple	100	7.2
Black spruce	89	3.4
Wild raisin	89	3.1
Speckled alder	67	3.0
Lambkill	67	1.9
Balsam fir	67	1.5
Huckleberry	56	11.6
Velvet-leaf blueberry	56	3.0
White pine	56	1.9
Winterberry	44	3.0
False holly	33	0.5
Grey birch	33	0.3
Meadow-sweet	33	0.3
Labrador tea	22	1.1
<b>Shrub Layer (Mean % Cover)</b>		<b>32</b>
Cinnamon fern	89	26.4
Bunchberry	78	0.8
Goldthread	67	1.4
Three seeded sedge	56	10.4
Bracken	56	7.2
Starflower	56	0.1
New York fern	44	14.0
Sarsaparilla	44	0.7
Wild lily-of-the-valley	44	0.2
Crested wood fern	44	0.1
Teaberry	33	6.2
Tall white aster	33	3.3
Dwarf raspberry	33	1.0
Bluebead lily	33	0.5
Violets	33	0.3
Trailing blackberry	33	0.2
Wood aster	33	0.2
<b>Herb Layer (Mean % Cover)</b>		<b>60</b>
Flat topped sphagnum	67	14.5
Hypnum moss	67	3.1
Schreber's moss	67	0.6
Pale fat-leaved sphagnum	56	19.2
Common green sphagnum	44	3.3
Red fat-leaved sphagnum	33	13.3
Ladies' tresses	33	5.4
Hair-cap moss	33	1.7
Wavy dicranum	33	0.4
<b>Bryo-Lichen Layer (Mean % Cover)</b>		<b>32</b>

## Distinguishing Features

Red maple dominates this poorly drained hardwood forest. Cinnamon fern is well developed in the understory. The shrub and herb layers are poorly developed and contain species of low nutrient requirement. This shrub/herb layer difference helps separate WD2 from WD3.



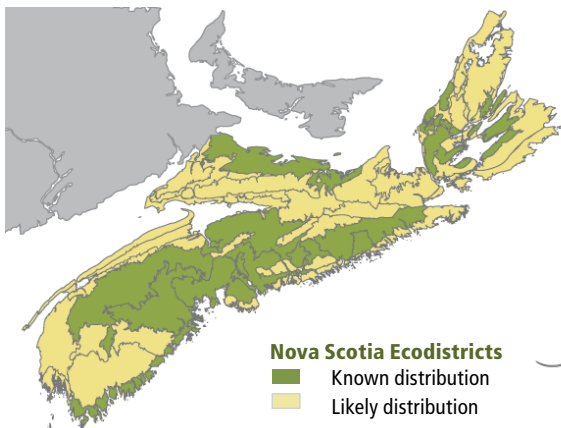
Wild raisin

## Site Characteristics

Slope Position:	Level <sup>7</sup> Depression <sup>1</sup> Middle <sup>1</sup> Upper <sup>1</sup>
Surface Stoniness:	(Non - Slightly) <sup>8</sup> (Very - Excessively) <sup>2</sup>
Bedrock Outcrop:	(Non-rocky) <sup>10</sup>
Elevation Range:	18 - 195m
Slope Gradient:	Level <sup>8</sup> Gentle <sup>2</sup>
Aspect:	North <sup>1</sup> West <sup>1</sup> None <sup>8</sup>
Exposure:	Moderate <sup>4</sup> Mod. exposed <sup>4</sup> Exposed <sup>1</sup> Mod. sheltered <sup>1</sup>
Microtopography:	Level <sup>6</sup> Slightly <sup>3</sup> Strongly <sup>1</sup>
Drainage:	Poor <sup>6</sup> Imperfect <sup>3</sup> Very poor <sup>1</sup>

## Soil Characteristics

Soil Type:	ST14 <sup>5</sup> ST7 <sup>1</sup> ST12 <sup>1</sup> nd <sup>3</sup>
Parent Material:	Organic <sup>6</sup> Glacial till <sup>1</sup> Lacustrine <sup>1</sup> Till/Bedrock <sup>1</sup> nd <sup>1</sup>
Rooting Depth (cm):	(<30) <sup>1</sup> (30-45) <sup>1</sup> (>45) <sup>3</sup> nd <sup>5</sup>
Duff Thickness (cm):	(0-5) <sup>1</sup> (11-20) <sup>1</sup> (>40) <sup>4</sup> nd <sup>4</sup>



**Nova Scotia Ecodistricts**  
■ Known distribution  
■ Likely distribution