

CE1

Eastern white cedar / Speckled alder / Cinnamon fern / Sphagnum

Thuja occidentalis / *Alnus incana* / *Osmunda cinnamomea* / *Sphagnum* spp.



Oxford Junction,
Cumberland County

Concept: This mid to late successional ecosystem is the only wet cedar forest found in Nova Scotia. The very uncommon Eastern white cedar / Speckled alder / Cinnamon fern / Sphagnum forest is characterized by cedar canopy dominance and moderate to high levels of sphagnum. CE1a, the poison ivy variant, is typified by species with Atlantic Coastal Plain affinity (e.g. poison ivy, inkberry, Elliott's goldenrod, catbriar and others).

Vegetation: Canopy layers are well developed, with moderate to high levels of cedar and lesser amounts of red maple, black spruce and white ash. Woody understory and herbaceous layers are variably developed. Common species include speckled alder, winterberry, cinnamon fern and three seeded sedge. Occurrences of CE1a may include poison ivy, huckleberry, inkberry, skunk cabbage, Elliott's goldenrod, catbriar and/or button sedge, as well as other Atlantic Coastal Plain species. The typically dense bryophyte layer includes prominent common green sphagnum.

Environmental Setting: The Eastern white cedar / Speckled alder / Cinnamon fern / Sphagnum forest usually occurs on poorly to very poorly drained flats and depressions, scattered at low elevation across western and northern Nova Scotia. Most stands are supported by nutrient medium

to rich organic soil, but poorly drained mineral soil also provides suitable habitat for this Vegetation Type (VT). Sites are moderately exposed with little microtopography or surface stoniness. In Yarmouth and Digby counties, lakeside stands can occur on elevated terraces or ridges called ice ramparts. These terraces are formed by the shoreward movement and pushing action of ice during winter freeze up. The VT is much more common in both New Brunswick and Prince Edward Island, although less so in the latter province. CE1a is not found outside Nova Scotia.

Successional Dynamics: Successional patterns of this mid to late successional Vegetation Type are not fully understood. Most occurrences are maintained by gap dynamics, but some stands show evidence of small-scale timber harvest, a disturbance agent that generally favours black spruce, balsam fir and/or tamarack regeneration. Windthrow, harvesting, flooding and ice scour are potential stand-level disturbance agents. Depending on the disturbance regime, site fertility and local seed sources, CE1 could transition from WD4 (Red maple / Poison ivy / Sphagnum) or WC7 (Tamarack – Black spruce / Lambkill / Sphagnum). Between major disturbance events, natural tree senescence promotes uneven age class development and related changes in stand structure.

Ecological Features

Occurrences of this small patch ecosystem rarely cover a hectare. The variably composed overstory provides moderate to dense canopy cover. Deer may browse cedar heavily in winter,

while snowshoe hare eat the foliage and gnaw young treebark. Cedar are long-lived and resistant to disease and insects. The oldest Nova Scotia trees exceed 250 years. Cedar wood is very

decay resistant resulting in dead trees that may persist for many decades. Cedar is legally protected and listed as vulnerable under the Nova Scotia Endangered Species Act.

Characteristic Plants	CE1		CE1a	
	Freq. (%)	Cover (%)	Freq. (%)	Cover (%)
Eastern white cedar	100	51.8	100	41.6
Red maple	80	9.8	100	9.4
White ash	60	7.7	60	12.0
Balsam fir	60	6.7	40	4.0
Tamarack	60	5.7	20	12.0
Black spruce	40	12.0	80	20.5
Red spruce	20	0.1	80	5.5
White pine			40	5.0
Tree Layer (Mean Cover)		81		83
Balsam fir	80	10.3	60	6.4
Eastern white cedar	80	2.8	60	10.5
Red maple	80	0.5	80	4.0
Speckled alder	80	0.5	60	1.3
Winterberry	60	0.7	80	0.4
Labrador tea	60	0.2	20	0.1
Lambkill	60	0.2	20	0.1
Black spruce	40	8.0	40	0.6
False holly	40	0.1	20	1.0
Ground hemlock (Yew)	40	0.1		
Mountain-ash	40	0.1	20	1.0
Highbush blueberry	20	2.0	40	0.1
Bayberry	20	0.1	40	1.3
Poison ivy			80	2.3
Huckleberry			80	1.8
White ash			40	1.3
Shrub Layer (Mean Cover)		17		33
Cinnamon fern	100	25.0	100	11.4
Wild lily-of-the-valley	100	0.4	80	1.5
Twinflower	80	0.8		
Three seeded sedge	60	2.3	60	2.9
Sarsaparilla	60	2.2	40	2.8
Dwarf raspberry	60	1.0	20	1.0
Sensitive fern	60	0.7	20	0.5
Partridge-berry	60	0.4	20	1.0
Creeping snowberry	60	0.1		
Oak fern	40	1.1		
Skunk cabbage	40	0.8	20	0.1
Fowl manna grass	40	0.5		
Massachusetts fern	40	0.5		
Bladder sedge	40	0.3		
Crested wood fern	40	0.1	20	1.0
Starflower	40	0.1	60	2.7
Bluebead lily	20	0.5	60	1.9
Royal fern	20	0.1	80	0.8
Blue flag			40	0.3
Trailing blackberry			40	0.2
Northern long sedge			40	0.1
Herb Layer (Mean Cover)		34		12
Common green sphagnum	80	12.0	60	17.3
Shaggy moss	80	1.9	20	0.1
Stair-step moss	60	31.3	20	0.5
Bazzania	60	3.7	60	3.5
Pale fat-leaved sphagnum	40	20.0	40	15.0
Brittle stem sphagnum	40	17.3		
Flat topped sphagnum	40	7.0	20	6.0
Blunt-leaved sphagnum	20	2.0	40	3.5
Ladies' tresses	20	2.0	40	11.5
Bryo-Lichen Layer (Mean Cover)		57		32

Distinguishing Features

These are wet softwood forests with cedar.

The variant, CE1a, displays a strong Atlantic Coastal

Plain flora affinity in the understory.

Species such as poison ivy, inkberry, Elliott's goldenrod and others are often present.



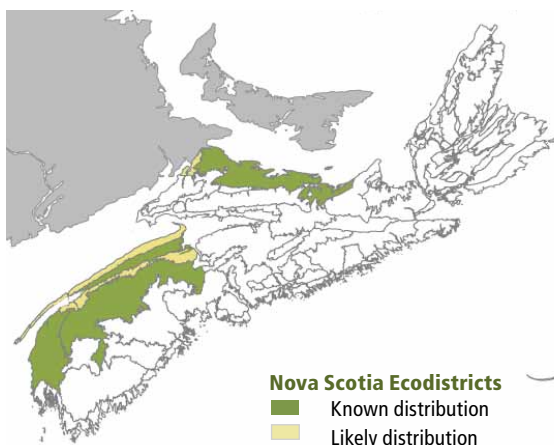
Poison ivy

Site Characteristics

Slope Position:	Level ⁷ Depression ² Lower ¹
Surface Stoniness:	(Non - Slightly) ⁸ (Moderately) ¹ (Very - Excessively) ¹
Bedrock Outcrop:	(Non-rocky) ¹⁰
Elevation Range:	14 - 168m
Slope Gradient:	Level ⁹ Moderate ¹
Aspect:	South ¹ None ⁹
Exposure:	Moderate ⁷ Mod. sheltered ² Sheltered ¹
Microtopography:	Level ⁶ Slightly ² Moderately ¹ nd ¹
Drainage:	Very poor ⁵ Poor ⁴ nd ¹

Soil Characteristics

Soil Type:	ST14 ⁹ ST4 ¹
Parent Material:	Organic ³ Lacustrine ¹
Rooting Depth (cm):	(<30) ⁴ (30-45) ¹ nd ⁵
Duff Thickness (cm):	(21-40) ¹ (>40) ⁹



Nova Scotia Ecodistricts

- Known distribution
- Likely distribution