

WD1

White ash / Sensitive fern – Christmas fern

Fraxinus americana / *Onoclea sensibilis* –
Polystichum acrostichoides

n=11



Angevine Lake,
Cumberland County

Concept: White ash / Sensitive fern - Christmas fern forest is characterized by prominent white ash and a species-rich herbaceous understory. It is typically found on imperfectly to poorly drained mineral deposits with high nutrient availability, and is one of the richest wet forests in the province.

Vegetation: The well-developed canopy is co-dominated by white ash and red maple, but the latter species occurs with lower cover. Yellow birch and sugar maple are also frequent but seldom abundant and often restricted to the understory. Some stands support moderate to high balsam fir in the overstory, but these stands are uncommon. Black ash has also been recorded as an infrequent and minor component of stand structure. Shrub cover and species richness is reduced. The herbaceous layer is well developed and diverse, frequently including sensitive fern, lady fern, dwarf raspberry, New York fern and Christmas fern, among other species. Bryophyte development is low to moderate, composed of small pockets of upland species and nutrient demanding wetland mosses (e.g. prickly sphagnum).

Environmental Setting: This is primarily a wet forest although it may develop on moist sites. Ground and surface water flow and/or seepage contribute to high moisture and nutrient input. Both mineral and organic soils can be found, but fine to medium textured mineral substrates are most common. It occurs at very low elevation on flats and lower topographic positions of gentle slopes, in shallow depressions, and adjacent to streams and other water bodies. Surface microtopography and exposed bedrock are typically low. Organic matter accumulation is low to moderate. WD1 is rare on Prince Edward Island and unreported from New Brunswick.

Successional Dynamics: The ecosystem is a type of edaphic climax and is expected to persist as described. Stand composition and structure are usually maintained by small- to intermediate-sized disturbance events and limiting site conditions. Due to its ecological setting, WD1 does not shift to other vegetation types after disturbance, but it does change in development stage. Red maple cover can also fluctuate over time. Excluding harvesting, stand-level disturbance events are rare, with gaps or small patches usually created by individual tree mortality through senescence, wind or ice scour.

Ecological Features

The White ash / Sensitive fern – Christmas fern is a productive ecosystem, with high species richness, complex stand structures, and a broad diversity of habitat values. This mature small patch forest is characterized by temperate tree and herbaceous species (e.g. white ash,

Christmas fern). Documented rare plants include black ash, but numerous other species may be supported. In spring and early summer, sites are inundated with water, most of which is concentrated in small pools or channels, providing habitat for amphibians and other wildlife.

Later in the growing season, surface and ground water levels fall below the rooting zone. Old growth potential is moderate but may be higher in sheltered areas, or on drier soils.

Characteristic Plants	WD1	
	Freq. (%)	Cover (%)
White ash	100	38.0
Red maple	100	20.9
Yellow birch	82	7.8
Balsam fir	55	16.2
White spruce	36	13.3
Sugar maple	27	11.0
Red oak	18	8.0
Trembling aspen	18	6.0
Red spruce	18	5.0
Tree Layer (Mean % Cover)		87
Balsam fir	100	5.2
White ash	100	4.3
Sugar maple	64	3.3
Striped maple	64	2.2
Yellow birch	55	1.9
Mountain maple	55	1.0
Red maple	45	2.5
Beaked hazelnut	45	2.4
Shrub Layer (Mean % Cover)		21
Dwarf raspberry	91	5.9
Sensitive fern	82	20.8
Violets	82	4.1
Cinnamon fern	82	3.1
Sarsaparilla	82	2.4
Lady fern	73	4.5
Wild lily-of-the-valley	73	1.1
Starflower	73	0.1
New York fern	64	4.2
Evergreen wood fern	64	3.2
Christmas fern	64	1.1
Northern beech fern	55	13.0
Jewelweed	55	6.5
Bladder sedge	55	3.7
Goldthread	55	3.2
Interrupted fern	55	2.3
Bunchberry	55	0.7
Wood aster	55	0.7
Partridge-berry	55	0.2
Bluebead lily	55	0.1
Lions paw	55	0.1
Oak fern	45	5.8
Water-horehound	45	1.9
Short husk	45	0.8
Wood-sorrel	45	0.6
Rose twisted stalk	45	0.1
Tall white aster	45	0.1
Wood reed	45	0.1
Crested wood fern	36	0.5
Bristle stalked sedge	36	0.1
Mitrewort	36	0.1
Fringed sedge	27	14.0
Herb Layer (Mean % Cover)		70
Fern moss	64	2.2
Stair-step moss	64	1.4
Prickly sphagnum	55	4.0
Bazzania	55	1.3
Common green sphagnum	45	9.7
Hypnum moss	45	1.1
Bryo-Lichen Layer (Mean % Cover)		26

Distinguishing Features

This is a poorly drained hardwood forest dominated by white ash with lesser levels of red maple. The herb layer is well developed and diverse, often dominated by high fern cover including sensitive fern, lady fern, New York fern and Christmas fern.



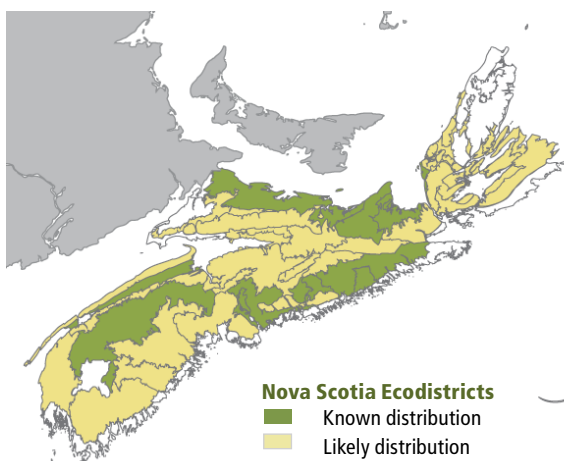
Dwarf raspberry

Site Characteristics

Slope Position:	Level ⁸ Lower ²
Surface Stoniness:	(Non - Slightly) ⁷ (Very - Excessively) ² nd ¹
Bedrock Outcrop:	(Non-rocky) ¹⁰
Elevation Range:	24 - 199m
Slope Gradient:	Level ⁷ Gentle ³
Aspect:	North ¹ East ¹ West ² None ⁶
Exposure:	Moderate ⁶ Mod. sheltered ⁴
Microtopography:	Level ⁵ Slightly ⁴ Moderately ¹
Drainage:	Imperfect ⁴ Poor ⁴ Very poor ²

Soil Characteristics

Soil Type:	ST9 ³ ST10 ³ ST13 ² ST12 ¹ ST14 ¹
Parent Material:	Glacial till ⁵ Alluvium ² Lacustrine ² Organic ¹
Rooting Depth (cm):	(<30) ³ (30-45) ⁵ nd ²
Duff Thickness (cm):	(0-5) ³ (6-10) ³ (11-20) ² (21-40) ¹ nd ¹



Nova Scotia Ecodistricts
 Known distribution
 Likely distribution