TH4

Sugar maple – White ash / Silvery spleenwort – Baneberry

Acer saccharum – Fraxinus americana / Deparia acrostichoides – Actaea spp.

n=27

Sandy Gunn Lake,
Pictou County

Concept: This late successional Vegetation Type (VT) has an overstory dominated by sugar maple, white ash and yellow birch. TH4 primarily occurs as a small patch VT on rich seepage sites embedded within larger tracts of TH1 and TH2 matrix forest. It is similar to TH3 (Sugar maple – White ash / Christmas fern), but is even more fertile, supporting numerous rich site indicator species. TH4 is the richest upland hardwood VT in Nova Scotia and, excluding floodplain forests, has the most diverse suite of understory plants. Due to the long-lived and shade-tolerant nature of dominant overstory trees, this VT will develop old forest characteristics which are maintained by gap disturbance. Sugar maple – White ash / Silvery spleenwort – Baneberry is one of several Acadian hardwood VTs found on zonal sites throughout Nova Scotia.

Vegetation: Sugar maple is the dominant overstory tree with lesser amounts of white ash and yellow birch. Scattered ironwood (when present) is typically found in the lower canopy or high shrub layer. The shrub layer is dominated by regenerating hardwood (mainly sugar maple) along with fly-honeysuckle, striped maple, mountain maple and beaked hazelnut. Alternate-leaved dogwood, if present, is diagnostic of this VT. Herb coverage is diverse and includes a suite of rich site indicators such as lady fern, sweet cicely, silvery spleenwort, wood goldenrod, Christmas fern, northern beech fern, red and white baneberry

and oak fern. Spring ephemerals may include spring-beauty, Dutchman's-breeches and dog tooth violet. The bryophyte layer is poorly developed, with moss cover generally restricted to tree trunks, stones and downed woody material.

Environmental Setting: TH4 is found on fresh-moist to moist, nutrient rich soils associated with seepage sites. These sites often occur where slope angle decreases as in toe slope positions and mid-slope benches. This VT is typically associated with (and found embedded within) larger tracts of TH1 and TH2 matrix forest. TH4 is mainly found in the Cobequid Hills, North Mountain and Cape Breton Hills ecodistricts. It is very rare on Prince Edward Island but abundant and widespread in southern New Brunswick.

Successional Dynamics: TH4 is a late successional, uneven-aged climatic climax VT dominated by shade-tolerant hardwood. Excluding harvesting, stand-level disturbance events are rare with gaps or small patches usually created by individual tree mortality, wind, or ice damage. Although TH4 sites generally maintain themselves through gap replacement, this VT can develop from other early and mid-successional VTs including IH3 (Large-tooth aspen / Christmas fern – New York fern) and IH5 (Trembling aspen – White ash / Beaked hazelnut / Christmas fern).

Ecological Features

This hardwood seepage forest typically occurs in small patches (less than 1 hectare up to 10 hectares), infrequently scattered as inclusions within broader hardwood matrix forest. Longevity of the overstory tree species increases the potential for old growth forest development. Vernal pools and moist surface depressions common

in this seepage forest provide habitat for red-backed salamanders, yellow-spotted salamanders and wood frogs, while seeds of ash and maple trees may be eaten by evening grosbeaks. Plants that favour moist rich sites are common, including several rare species (e.g. lance-leaved and little grapeferns, foamflower and anise-

root). This forest has the highest fern diversity of all VTs in the TH group, with 13 species present at least 20% of the time. These forests also host a variety of spring ephemeral plants like spring beauty, dog tooth violet and Dutchman's breeches that take advantage of early spring sunlight before tree leaf out.

Characteristic Plants	TH4	
	Freq. (%)	Cover (%)
Sugar maple	100	56.3
Yellow birch	74	16.7
White ash	48	20.9
Beech	19	19.4
Red maple	19	7.0
White spruce	15	3.5
Balsam fir	11	9.3
Tree Layer (Mean % Cover)		**84**
Sugar maple	100	19.0
Fly-honeysuckle	85	1.0
Striped maple	74	2.8
Yellow birch	63	4.6
Mountain maple	63	3.1
White ash	63	1.1
Balsam fir	59	1.4
Beech	56	11.2
Beaked hazelnut	52	3.5
White spruce	52	0.6
Alternate-leaved dogwood	48	0.9
Shrub Layer (Mean % Cover)		**37**
Evergreen wood fern	96	6.8
Lady fern	78	4.2
Sarsaparilla	78	3.3
Wood aster	74	6.0
Northern beech fern	74	4.5
Wood-sorrel	74	1.7
Silvery spleenwort	70	7.0
Violets	70	2.0
Rose twisted stalk	70	0.4
Christmas fern	67	3.0
Wild lily-of-the-valley	67	1.7
Wood reed	67	0.3
Starflower	59	0.4
Drooping wood sedge	59	0.2
Wood goldenrod	56	6.8
Red baneberry	48	0.5
Dwarf raspberry	44	3.1
White lettuce	44	0.1
Oak fern	41	2.8
Hairy sweet cicely	41	2.2
Eastern spreading wood fern	33	5.7
White baneberry	33	0.5
Braun's holly fern	33	0.3
Spinulose wood fern	30	9.3
Lions paw	30	0.8
Nodding trillium	30	0.1
New York fern	26	10.9
Hay-scented fern	26	6.5
Rattlesnake fern	26	0.8
Bladder sedge	26	0.2
Bluebead lily	26	0.2
Dewey's sedge	26	0.1
Small bedstraw	26	0.1
Solomon's seal	26	0.1
White panicle aster	26	0.1
Herb Layer (Mean % Cover)		**52**
Broom moss	41	0.6
Fern moss	22	1.3
Bryo-Lichen Layer (Mean % Cover)		**2**

Distinguishing Features

This is the richest upland hardwood forest and occurs on moist, middle to lower slope positions. The abundance of white ash and ironwood is used as a diagnostic feature of this forest. The presence of silvery spleenwort, hairy sweet cicely and ostrich fern are diagnostic of this rich, seepage forest.


Red baneberry

Site Characteristics

Slope Position: Lower[3] Middle[3] Upper[2] Crest[1] Level[1]
Surface Stoniness: (Non - Slightly)[5] (Moderately)[4] (Very - Excessively)[1]
Bedrock Outcrop: (Non-rocky)[9] (Slightly - Moderately)[1]
Elevation Range: 94 - 286m
Slope Gradient: Gentle[5] Moderate[3] Level[1] Steep[1]
Aspect: North[1] East[2] South[3] West[3] None[1]
Exposure: Moderate[3] Mod. exposed[3] Exposed[2] Mod. Sheltered[1] Sheltered[1]
Microtopography: Moderately[4] Slightly[4] Strongly[1] Other[1]
Drainage: Well[4] Moderately well[4] Imperfect[2]

Soil Characteristics

Soil Type: ST8[4] ST9[3] ST2-L[1] ST6[1] Other[1]
Parent Material: Glacial till[7] Colluvium[2] Till/Bedrock[1]
Rooting Depth (cm): (<30)[2] (30-45)[4] (>45)[3] nd[1]
Duff Thickness (cm): (0-5)[4] (6-10)[3] (11-20)[1] (21-40)[1] nd[1]
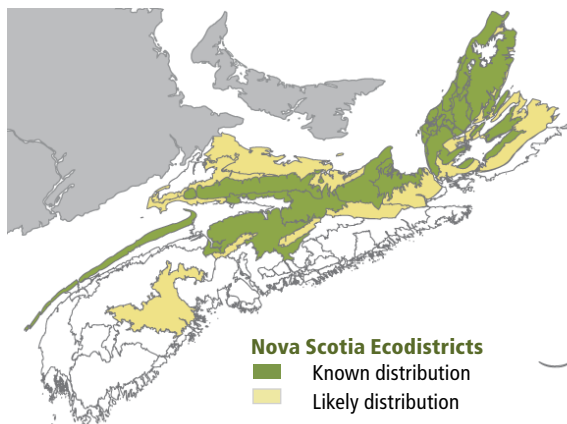
Nova Scotia Ecodistricts
■ Known distribution
■ Likely distribution