

IH3

Large-tooth aspen / Christmas fern – New York fern

Populus grandidentata / *Polystichum acrostichoides* –
Thelypteris noveboracensis

n=12



Lily Lake,
Annapolis County

Concept: This early successional Vegetation Type (VT) has an overstory dominated by large-tooth aspen and a variable mix of shade-tolerant hardwood species, balsam fir and red spruce. It is similar to IH1 (Large-tooth aspen / Lambkill / Bracken) but it is found on richer sites, as evidenced by a change in herbaceous cover and tree species composition. Large-tooth aspen / Christmas fern – New York fern usually follows stand-replacing disturbance events such as fire, windthrow or clearcutting. Most large-tooth aspen originates as vegetative regeneration from root suckers.

Vegetation: Large-tooth aspen is the dominant overstory tree, but a variety of other species can also be found including red maple, sugar maple, yellow birch, white ash, balsam fir and red spruce (among others). The shrub layer is moderately developed and includes regenerating trees, fly-honeysuckle, serviceberry and wild raisin. The herb layer has many plants indicative of moist and/or fertile site conditions including interrupted fern, New York fern, sensitive fern, bladder sedge, Christmas fern, lady fern, oak fern and large-leaved aster. The bryophyte layer is poorly developed.

Ecological Features

This early successional small patch forest is short lived. Large-tooth aspen is a very shade-intolerant tree and its regeneration is primarily through clonal reproduction from root suckers (which may support large fungal associates such as shoe-string root rot). Aspen colonizes sites rapidly after stand-level disturbances acting as a “nurse crop”

for later successional species that tend to grow up through the aspen, forming two-layered stands before the aspen is overtaken and dies out. Regenerating aspen stands provide cover and forage for many species. Moose and deer feed on its leaves and twigs, ruffed grouse eat its winter buds, snowshoe hare and mice consume its bark and twigs, and

Environmental Setting: IH3 is mainly associated with fresh to moist, nutrient medium to rich soils of variable texture. This VT is found scattered throughout western and central Nova Scotia. IH3 is relatively uncommon across southern New Brunswick and on Prince Edward Island.

Successional Dynamics: IH3 is an early successional VT that follows stand-level disturbances in both softwood and hardwood forests. Typical disturbance agents include fire, windthrow and harvesting. IH3 stands are usually dominated by even-aged, clonal-origin large-tooth aspen. Short-lived aspen will deteriorate due to natural senescence, with mortality further accelerated by insect predation, disease and/or wind damage. A mix of shade-tolerant softwoods and hardwoods in the shrub layer allows for a range of possible successional VTs including IH7 (Red maple / Hay-scented fern – Wood sorrel), MW1 (Red spruce – Yellow birch / Evergreen wood fern), MW3 (Hemlock – Yellow birch / Evergreen wood fern), SH3 (Red spruce – Hemlock / Wild lily-of-the-valley), TH1 (Sugar maple / Hay-scented fern), TH2 (Sugar maple / New York fern – Northern beech fern), TH3 (Sugar maple – White ash / Christmas fern), and in western Nova Scotia TH6 (Red oak – Yellow birch / Striped maple).

beavers make its bark a dietary staple. Resin from aspen buds is the primary source of bee propolis, an essential hive material. Older aspen trees provide soft snags and cavities for several species of birds. Aspen support many insects, most notably the forest tent caterpillar, which is an important food for birds and small mammals.

Characteristic Plants

IH3

	Freq. (%)	Cover (%)
Large-tooth aspen	100	54.5
Red maple	83	10.2
Balsam fir	58	8.1
Red spruce	50	6.8
Sugar maple	50	6.4
White ash	42	4.1
Yellow birch	33	5.0
White birch	33	4.0
Red oak	33	3.8
Beech	25	14.0
White pine	25	1.7
Trembling aspen	17	37.5
White spruce	17	7.5
Striped maple	17	5.5
Tree Layer (Mean % Cover)		90
Balsam fir	92	4.6
Red maple	83	0.4
Fly-honeysuckle	67	0.7
Striped maple	50	3.0
Red spruce	50	1.9
Large-tooth aspen	50	1.0
Sugar maple	50	0.9
Beech	42	2.5
White ash	42	2.2
Serviceberry	42	0.4
Wild raisin	42	0.2
Red oak	42	0.1
White pine	42	0.1
Yellow birch	33	7.4
Shrub Layer (Mean % Cover)		14
Wild lily-of-the-valley	92	1.7
Starflower	92	1.4
Sarsaparilla	75	3.8
Bluebead lily	67	1.3
Hay-scented fern	58	3.0
New York fern	58	1.3
Bracken	58	1.0
Christmas fern	58	0.8
Interrupted fern	58	0.7
Wood aster	58	0.6
Drooping wood sedge	50	0.2
Evergreen wood fern	42	0.1
Violets	42	0.1
Oak fern	33	1.3
Rose twisted stalk	33	0.1
Bristly club-moss	25	0.7
Sensitive fern	25	0.5
Cinnamon fern	25	0.4
Hawkweeds	25	0.4
Herb Layer (Mean % Cover)		14
Broom moss	83	0.4
Schreber's moss	67	0.6
Hair-cap moss	67	0.4
Stair-step moss	58	2.8
Hypnum moss	42	0.5
Wavy dicranum	33	0.5
Bazzania	33	0.1
Shaggy moss	25	11.7
Bryo-Lichen Layer (Mean % Cover)		6

Distinguishing Features

This hardwood forest occurs on well to imperfectly drained, nutrient rich soils and is dominated by large-tooth aspen. Moist site indicators include interrupted fern, cinnamon fern, sensitive fern, bladder sedge, other sedge species and buttercups. Rich site indicators are Christmas fern, lady fern and large leaf aster.



New York fern
[John Gillis]

Site Characteristics

Slope Position:	Level ⁴ Lower ² Middle ² Upper ²
Surface Stoniness:	(Non - Slightly) ⁶ (Moderately) ¹ (Very - Excessively) ¹ nd ²
Bedrock Outcrop:	(Non-rocky) ⁸ nd ²
Elevation Range:	33 - 190m
Slope Gradient:	Gentle ⁶ Level ³ Moderate ¹
Aspect:	North ³ East ² South ³ None ²
Exposure:	Moderate ⁶ Mod. exposed ² nd ²
Microtopography:	Slightly ⁴ Moderately ² Strongly ² nd ²
Drainage:	Moderately well ⁵ Imperfect ² Poor ¹ nd ²

Soil Characteristics

Soil Type:	ST12 ³ ST8 ² ST11 ² ST9 ¹ ST2-L ¹ nd ¹
Parent Material:	Glacial till ¹⁰
Rooting Depth (cm):	(30-45) ³ (>45) ⁵ nd ²
Duff Thickness (cm):	(0-5) ⁵ (6-10) ³ nd ²

