



Black River Road,  
Cumberland County

# IH1

## Large-tooth aspen / Lambkill / Bracken

*Populus grandidentata / Kalmia angustifolium / Pteridium aquilinum*

### IH1a

#### Red oak variant

*Quercus rubra*

n=21

**Concept:** This early successional Vegetation Type (VT) has an overstory dominated by large-tooth aspen accompanied by a strong component of red maple. The IH1a variant describes stands where red oak is a significant part of the overstory. IH1 has a well-developed understory of disturbance-tolerant woody and herbaceous plants, but reduced bryophyte cover. Large-tooth aspen / Lambkill / Bracken 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 and red maple are dominant overstory trees, but the latter species is usually less abundant. White birch, white pine and red oak are common associates – with red oak co-dominant in variant IH1a. The shrub layer is well developed, including wild raisin, serviceberry, velvet-leaf blueberry and bush-honeysuckle. The presence of regenerating balsam fir, red maple, red oak, white pine and black spruce indicate possible successional stages of this ecosystem. In the herb layer, species indicative of poor, dry conditions include bracken, teaberry, round-leaved pyrola, mayflower, pink lady’s slipper and/or princes’-pine. 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. It acts 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:** IH1 is mainly associated with dry to fresh, nutrient poor soils of glacial origin. Soils and sites are often stony. This VT is found mainly in the Western ecoregion, but is also scattered across mainland Nova Scotia on a variety of soils with low nutrient status. IH1 is common in central and southern New Brunswick but somewhat rare elsewhere in that province and on Prince Edward Island. The VT IH1a is even less common in New Brunswick and absent from Prince Edward Island.

**Successional Dynamics:** IH1 is an early successional VT that follows stand-level disturbances in both softwood and hardwood forests. Typical disturbance agents include fire, windthrow and harvesting. IH1 stands are typically dominated by even-aged, clonal-origin large-tooth aspen. The short-lived aspen will deteriorate due to natural senescence, with mortality further accelerated by insect predation, disease and/or wind damage. Possible successional VTs include IH2 (Red oak – Red maple / Witch-hazel), SP6 (Black spruce – Red maple / Bracken – Sarsaparilla), SP9 (Red oak – White pine / Teaberry) and SH4 (Red spruce – White pine / Lambkill / Bracken).

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 bird species. Aspen support many insects, most notably the forest tent caterpillar which is an important food for birds and small mammals.

Characteristic Plants	IH1		IH1a	
	Freq. (%)	Cover (%)	Freq. (%)	Cover (%)
Large-tooth aspen	100	66.2	100	38.6
Red maple	92	14.0	89	23.5
White pine	54	6.9	22	7.0
White birch	46	4.5	56	6.0
Black spruce	31	5.0	33	11.0
White spruce	31	4.5		
Red oak	31	3.5	100	18.2
Trembling aspen	23	0.1	11	5.0
Balsam fir	15	5.0	22	3.5
Hemlock	15	0.1		
Grey birch	8	2.0	11	4.0
<b>Tree Layer (Mean % Cover)</b>		<b>89</b>		<b>88</b>
Red maple	92	2.8	78	4.9
Serviceberry	92	0.8	78	0.1
Balsam fir	85	6.3	89	3.0
Wild raisin	85	2.1	78	0.2
Velvet-leaf blueberry	77	4.0	78	2.9
Lambkill	69	9.4	89	15.8
Red oak	69	1.3	89	0.7
White pine	69	0.9	67	0.8
Black spruce	54	3.0	67	6.3
Lowbush blueberry	54	2.3	67	1.3
Bush-honeysuckle	54	0.3		
Beaked hazelnut	38	4.4	11	0.1
Striped maple	38	1.1	44	2.8
Witch-hazel	38	0.6	44	12.7
White spruce	31	2.9		
Fly-honeysuckle	31	0.2	33	0.8
Large-tooth aspen	31	0.2	56	0.8
Beech	15	0.4	22	5.3
Huckleberry	8	0.1	33	12.0
<b>Shrub Layer (Mean % Cover)</b>		<b>31</b>		<b>42</b>
Sarsaparilla	100	4.6	78	4.0
Wild lily-of-the-valley	100	1.4	89	1.0
Bracken	92	15.3	89	6.9
Teaberry	69	10.6	89	11.9
Starflower	69	3.4	100	1.1
Partridge-berry	54	7.2	67	0.3
Bunchberry	54	3.4	67	2.8
Ground pine	54	1.5	11	0.6
Pink lady's slipper	54	0.1	33	0.1
Round-leaved pyrola	46	0.5	22	0.2
Mayflower	38	1.3	44	0.3
Wood aster	38	1.1	33	0.1
Indian cucumber root	38	0.1	33	0.3
Indian pipe	38	0.1	44	0.1
Painted trillium	38	0.1	22	0.1
Bluebead lily	31	0.5	56	0.1
Cow-wheat	31	0.1	22	0.1
Princes'-pine	15	0.5	33	0.8
<b>Herb Layer (Mean % Cover)</b>		<b>35</b>		<b>26</b>
Schreber's moss	77	0.8	89	0.6
Broom moss	62	1.0	78	0.7
Hypnum moss	46	1.0	78	1.2
Hair-cap moss	46	0.8	33	0.8
Wavy dicranum	15	1.1	56	0.2
Stair-step moss	8	0.3	44	1.2
<b>Bryo-Lichen Layer (Mean % Cover)</b>		<b>2</b>		<b>3</b>

## Distinguishing Features

These hardwood forests occur on well drained, nutrient poor sites dominated by large-tooth aspen. Ericaceous shrubs as well as mayflower, teaberry, round-leaved pyrola, bracken fern, pink lady's slipper and princes'-pine are common. Red oak is diagnostic for the variant IH1a.



Large-tooth aspen

## Site Characteristics

Slope Position: Level<sup>5</sup> Middle<sup>2</sup> Upper<sup>2</sup> Crest<sup>1</sup>  
 Surface Stoniness: (Non - Slightly)<sup>6</sup> (Moderately)<sup>2</sup> (Very - Excessively)<sup>2</sup>  
 Bedrock Outcrop: (Non-rocky)<sup>9</sup> (Slightly - Moderately)<sup>1</sup>  
 Elevation Range: 15 - 189m  
 Slope Gradient: Level<sup>5</sup> Gentle<sup>2</sup> Other<sup>2</sup> nd<sup>1</sup>  
 Aspect: North<sup>2</sup> East<sup>1</sup> South<sup>1</sup> West<sup>1</sup> None<sup>4</sup> nd<sup>1</sup>  
 Exposure: Moderate<sup>7</sup> Mod. exposed<sup>2</sup> Other<sup>1</sup>  
 Microtopography: Slightly<sup>5</sup> Moderately<sup>3</sup> Strongly<sup>1</sup> Other<sup>1</sup>  
 Drainage: Well<sup>5</sup> Moderately well<sup>3</sup> Imperfect<sup>1</sup> Rapid<sup>1</sup>

## Soil Characteristics

Soil Type: ST1<sup>3</sup> ST2<sup>3</sup> ST2-L<sup>2</sup> ST6<sup>1</sup> nd<sup>1</sup>  
 Parent Material: Glacial till<sup>8</sup> Glaciofluvial<sup>2</sup>  
 Rooting Depth (cm): (<30)<sup>1</sup> (30-45)<sup>2</sup> (>45)<sup>6</sup> nd<sup>1</sup>  
 Duff Thickness (cm): (0-5)<sup>4</sup> (6-10)<sup>4</sup> (11-40)<sup>1</sup> nd<sup>1</sup>

