

OF3

White pine – Balsam fir / Shinleaf – Pine-sap

Pinus strobus – *Abies balsamea* /
Pyrola elliptica – *Monotropa hypopithys*

n=10



Horne Settlement,
Hants County

Concept: This early to mid-successional Vegetation Type (VT) has abundant white pine in the canopy with only a scattered mix of other species. OF3 stands usually develop full overstory canopies resulting in needle carpet and/or moss dominated forest floors with reduced shrub and herb cover. White pine – Balsam fir / Shinleaf – Pine-sap represents the dominant softwood forest associated with abandoned agricultural lands in western Nova Scotia.

Vegetation: White pine is the dominant overstory tree. Common associates include white spruce, red maple and red spruce. Scattered sugar maple and black cherry can also be found in some stands. The shrub layer is usually poorly developed with balsam fir regeneration providing most of the cover. Herb layer development is also restricted, with typical upland species such as wild lily-of-the-valley, starflower, partridge-berry and goldthread. Sporadic occurrence of hawkweeds, goldenrods, asters and common speedwell reflect past agricultural land-use. Moss cover can be variable and interspersed with needle carpet. Where present, Schreber's moss and hair-cap moss are the main moss species, with shaggy moss also found in some stands.

Environmental Setting: OF3 is mainly associated with fresh to fresh-moist, nutrient medium to rich soils of medium to coarse texture (although finer textures can sometimes be found).

Ecological Features

This forest occurs in small patches of abandoned agricultural land, primarily on drumlins in western Nova Scotia. Past cultivation has leveled most pre-disturbance microtopography, while rock walls and piles, old foundations and wells provide additional evidence of agricultural

land use. Linear rock piles may provide dwellings for rodents, snakes, and insects like wasps and bees. Other unique aspects include the forest's close proximity to open fields and active farms and the frequent presence of apple and other fruit trees. These features may attract deer, red fox,

coyotes, red and flying squirrels, and several birds including ruffed grouse and American kestrel. Although these forests add to landscape structure, they have a simplified ecological make-up, reflected by low tree diversity, structural complexity and deadwood volume.

This VT is found mainly in western Nova Scotia, often on drumlins. Sites that have been tilled or pastured will have level microtopography and a distinct Ap (plough layer) soil horizon.

Successional Dynamics: OF3 is an even-aged, early to mid-successional VT dominated by white pine. As a long-lived species, white pine will generally maintain its presence in these stands as they develop over time. Usually balsam fir is the first to become prolific in the understory, but eventually other shade-tolerant species (such as red spruce, hemlock, sugar maple and beech) will also appear, especially if suitable seed sources are nearby. Natural disturbance agents include insects and disease (e.g. white pine weevil, white pine blister rust), fire and windthrow. Clearcut harvesting may trigger an earlier successional stage dominated by aspen, white birch and/or red maple). Depending in part on the level of advanced regeneration at time of harvest, OF3 may also succeed to OF4 (Balsam fir – White spruce / Evergreen wood fern – Wood aster) or other VTs dominated by balsam fir, red spruce, white pine or hemlock. On many drumlins, the long and intense history of agricultural land use often masks any signs of original forest composition. However, available evidence suggests that most sites likely supported a climax hemlock-beech mixedwood ecosystem similar to MW3 (Hemlock – Yellow birch / Evergreen wood fern).

Characteristic Plants

OF3

	Freq. (%)	Cover (%)
White pine	100	70.2
White spruce	44	8.8
Red maple	44	6.8
Red spruce	33	3.3
Grey birch	33	1.0
Sugar maple	11	13.0
Black cherry	11	12.0
Black spruce	11	7.0
Red oak	11	5.0
Balsam fir	11	0.1
Tamarack	11	0.1
White birch	11	0.1
Tree Layer (Mean % Cover)		83
Balsam fir	100	2.6
White pine	67	0.7
Red maple	56	0.9
Velvet-leaf blueberry	44	1.1
White ash	44	0.7
Wild raisin	44	0.1
Red spruce	33	1.0
Red oak	33	0.1
Serviceberry	33	0.1
Lowbush blueberry	22	0.8
Meadow-sweet	22	0.2
Black cherry	22	0.1
Hemlock	22	0.1
Mountain-ash	22	0.1
Shrub Layer (Mean % Cover)		6
Wild lily-of-the-valley	89	3.3
Starflower	56	1.0
Common speedwell	56	0.3
Shinleaf	56	0.2
Teaberry	44	0.3
Common woodrush	44	0.2
Partridge-berry	44	0.1
Pink lady's slipper	44	0.1
Goldthread	33	0.8
Poverty grass	33	0.3
Bracken	33	0.1
Checkered rattlesnake plantain	33	0.1
Pine-sap	33	0.1
Violets	22	1.5
Sarsaparilla	22	1.5
Ground pine	22	0.3
Drooping wood sedge	22	0.2
Evergreen wood fern	22	0.1
Indian cucumber root	22	0.1
Herb Layer (Mean % Cover)		12.0
Schreber's moss	78	26
Hair-cap moss	67	4.0
Hypnum moss	56	0.7
Broom moss	56	0.3
Wavy dicranum	56	0.2
Pin cushion moss	33	0.8
Shaggy moss	22	2.5
Bryo-Lichen Layer (Mean % Cover)		25

Distinguishing Features

This white pine dominated softwood forest usually occurs on drumlins in western Nova Scotia. Balsam fir regeneration is common. Level microtopography and a soil profile that shows a plough layer are good site indicators.



Pine-sap

Site Characteristics

Slope Position:	Middle ³ Upper ³ Level ² Lower ¹ Toe ¹
Surface Stoniness:	(Non - Slightly) ⁶ (Moderately) ⁴
Bedrock Outcrop:	(Non-rocky) ¹⁰
Elevation Range:	40 - 185m
Slope Gradient:	Gentle ⁷ Level ² Steep ¹
Aspect:	North ¹ East ⁴ South ³ West ¹ None ¹
Exposure:	Moderate ⁶ Mod. exposed ³
Mod. sheltered ¹	
Microtopography:	Level ⁴ Moderate ² Strongly ² Slightly ¹ nd ¹
Drainage:	Well ⁵ Moderately well ⁴ Imperfect ¹

Soil Characteristics

Soil Type:	ST8 ⁷ ST2-L ¹ ST9 ¹ ST11 ¹
Parent Material:	Glacial till ⁸ nd ²
Rooting Depth (cm):	(30-45) ⁶ (>45) ³ nd ¹
Duff Thickness (cm):	(0-5) ⁶ (6-10) ³ nd ¹

