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Site 3220: Michigan Island #6, Ashland County. 1956-08-17

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Data Form No. 20

Plant Ecology Research

Univ. of Wisconsin

STAND RECORD

FORESTS

Stand No. 3220

Name: MICHIGAN ISLAND #6

Locality: NORTHWEST

County: ASHLAND

T:

R:

Sec:

Date: 8-17-56

Observers: RICHARD & MIKE VOGL

Size of Stand 2

Size of Area Sampled: 500' STRIP

Forest Type: BETULA Papyrifera - THUJA

Soil Type:

Topography: LEVEL

Slope:

Directions

Condition of Stand: THIS STAND HAD BEEN CUT. IT HAD LARGE STANDS
OF ACER SPIC. & ALNUS. THERE WERE ALSO DENSE AREAS OF
THUJA SAPLINGS, AND OPEN AREAS.

Open Crown Trees:

% Canopy: 70 LOSS CHL

Stumps:

1.	4.	7.	10.
2.	5.	8.	11.
3.	6.	9.	12.

Soil Data:

pH	N	P	K	Ca	Mg	Org. Mat.	Colloids	W.H.C.
A ₀								
A ₁								
A ₂								
B								

DEPTH

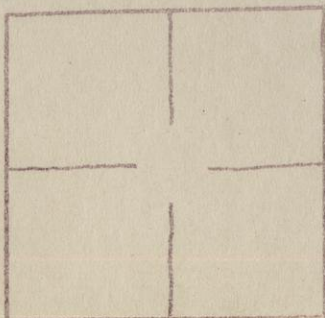
CHARACTERISTICS (Color, Texture, Structure, etc.)

A ₀	3"	deciduous
A ₁	2"	sandy loam
A ₂	2"	brn. sand & clay
B	1"	fine reddish sand compact

Parent Material:

ENTIRE PROFILE

Map:



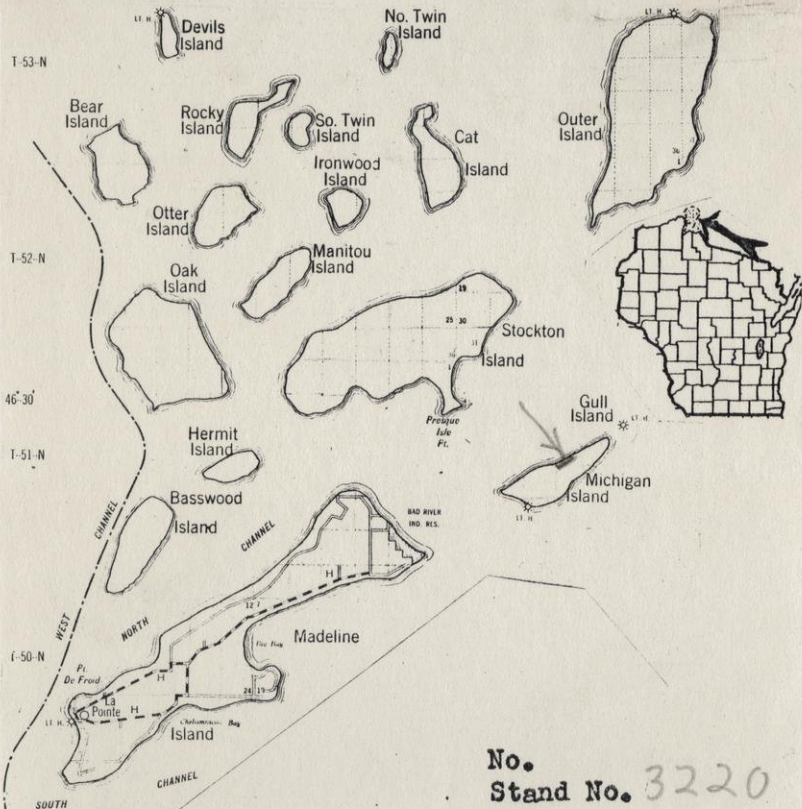
R-3-W

R-2-W

R-1-W

Northern WISCONSIN ASHLAND County

APOSTLE ISLANDS in LAKE SUPERIOR



No.
Stand No. 3220
Date:

Collected by

Grant Cottam
Richard J. Vogl

Plant Ecology Research
TREE DATA SUMMARY SHEET

Northern Pine-Hardwoods

Station Number:

3220

88 160 122 37 1 10,100 160

TREE	# PTS	# TRS	DOM. CLASSES			TOT. DOM.	# SAP	D. % SAP	F. % SDL.	F. % TRS.	% SUM F. TR.	D. % TRS.	DOM% TRS.	DFD INDEX	C. I.
			-80	-320	321										
Abies bals	13	18	16	2		945	68	42.5			14.8	11.2	7.4	33.4	
Acer rubru	3	4	4			147					3.4	2.5	1.5	7.4	
A. sacchar							1	.6							
A. spicatu															
Betula lut	3	5	3	2		685	2	1.2			3.4	3.1	6.8	13.3	
B. papyrif	27	54	42	11	1	3227	18	11.3			30.7	33.8	31.9	96.4	
Carpinus c															
Fagus gran															
Ostrya vir															
Picea glau															
Pinus Bank															
P. resinosa															
P. Strobus															
Populus ba															
P. grandid															
P. tremulo	9	15	12	3		866	3	1.9			10.2	9.4	8.6	28.2	
Prunus pen	6	7	7			140	4	2.5			6.8	4.4	1.4	12.6	
Quercus el															
Q. rubra															
Tilia amer															
Tsuga cana															
Thuja occi	26	56	37	19		4270	64	40.0			29.5	35.0	42.3	106.8	
Ulmus amer															
U. fulva															
PYRUS AMER.	1	1	1			20					1.1	.6	.2	1.9	
FRAXINUS NIGRA								100.0			99.9	100.0	100.1	300.0	

AVE. DIST. BTW'N TREES: 12.4

Ave Sap. Dist. 12.6

AVE B. A.: 63.1

TREES/ACRE: 283.3

274.4

DOM./ACRE: 2

17876.2

124.14

POINT RECORD TREES APOSTLE ISLANDS

3220

Point Number	1	2	3	4	5	6	7	8	9	10
<i>Abies balsamea</i>	90 35	75								
<i>Acer rubrum</i>	7	2	3		25		3	8	2	
<i>Acer saccharum</i>										
<i>Betula lutea</i>			220							
<i>Betula papyrifera</i>			45 70	220	30 15 65	90 22	12 25	40 20	70 100 55	50 30
<i>Quercus rubra</i>										
<i>Tsuga canadensis</i>										
<i>Thuja occidentalis</i>	110 3	120 45 50	20	25 110 50		70		110 45	40	20 35
POPULUS TREM										
PRUNUS PENN	23					16				
Tree distance	9.5 8.5 21 23	9.5 13 9 8	26 18 8.5 21	15 13 5 8	9.5 8.5 10 10	5 3 4 22	2 17 15 14.5	11.5 10 14 12	16 17 20 18.5	12 12.5 18 16
Sapling distance	8 6 21 10	18 16 10 18	18 24 9 35	12.5 32 14 18	13 15 17 24	14.5 20 18 20	4 2 3 5	5 14 12 9.5	16 16 14 16	16 23 15 30

 $\frac{2}{3}$ $\frac{2}{3}$ $\frac{1}{1}$ $\frac{8}{17}$ $\frac{8}{14}$ $\frac{2}{2}$

POINT RECORD TREES APOSTLE ISLANDS

Point Number	1	2	3	4	5	6	7	8	9	20
<i>Abies balsamea</i>	25		100							
<i>Acer rubrum</i>	1	1	1		2	1	3	3	2	1
<i>Acer saccharum</i>										
<i>Betula lutea</i>										
<i>Betula papyrifera</i>	30 50 80 1	80 25 30 1	25 45 55 3	110 130 2		220	110			
<i>Quercus rubra</i>										
<i>Tsuga canadensis</i>										
<i>Thuja occidentalis</i>	2	45 2		65 95 1	50 70 65 80	110 70 80	75 180 1	40 55 1	100 180 120 2	120 110 110 3
PRUNUS AMER										
PRUNUS PIERNA							30	14 18	21	18
Tree distance	12 8.5 4 16	25 8 26 19	15 13.5 4 7.5	8 7.5 22 17	13 22 5 28	9 9 7.5 16.5	21 18 13.5 17	13 4 12.5 23	12.5 28 7 20	8 50 14.5 26
Sapling distance	6 4 13 8	5 30 20 19	8 3 18 7	6 26 12 15	2 17 30 25	8 19 21 12	13.5 18.5 26 28.5	12 18 15.5 29	8 9.5 4 26	19 28 31 36

 $\frac{2}{2}$ $\frac{6}{13}$ $\frac{8}{20}$ $\frac{4}{5}$

POINT RECORD TREES APOSTLE ISLANDS

3220

Point Number	21	22	23	24	25	26	27	28	29	30
<i>Abies balsamea</i>	20			24	40 70			30		45 35 18
<i>Acer rubrum</i>	2	4	1	2	2	1	1	3	1	8
<i>Acer saccharum</i>										
<i>Betula lutea</i>	45									
<i>Betula papyrifera</i>	25	95 90 25		110	440		90		12	30
<i>Quercus rubra</i>							2			
<i>Tsuga canadensis</i>										
<i>Thuja occidentalis</i>				60 55	90	25 95 65	60		50	
	2		3		2	80	1		3	1
<i>POPULUS TREM</i>	90	140	19 26 24		2		45 60	55 80 40	40 55	
<i>PYRUS AMER</i>			20							
Tree distance	5 18.5 10 18	3 6 8 8.5	18.5 7.5 6 4	9 14 9.5 8	12.5 7.5 8 4	6 9.5 9 8	3 9 11.5 12	3 6 14.5 12	16 24 8 21	5 21 7 15
Sapling distance	14 8 10 12	5 4 7 8	4 8 7 9.4	3 7 5 12	4 5 12.5 10.5	13 24.5 12.5 5	8 12.5 8.5 13.5	6 4.5 8 10.5	15 17 22 30	10 21 19.5 12

5
84
17
95
96
124
1

POINT RECORD TREES APOSTLE ISLANDS

3220

Point Number	31	32	33	34	35	36	37	38	39	40
<i>Abies balsamea</i>	35				20		18	30 35		
<i>Acer rubrum</i>	1	2 60		3	3	2	1	1	2	2
<i>Acer saccharum</i>										
<i>Betula lutea</i>					290 50 80					
<i>Betula papyrifera</i>	13 21 1	30 35 15 3	26 30 29 2	27 25 15 22	290	15	35 23			
<i>Quercus rubra</i>										
<i>Tsuga canadensis</i>										
<i>Thuja occidentalis</i>			35		✓	60 75 90		65 40	65 30 40 110	230 60 120 2
<i>POPULUS TREM</i>	65			2	1	2	3	3		17
<i>FRAXINUS NIGRA</i>				✓						
Tree distance	8.5 14 8 25	5 2 21 16	7.5 8.5 11.5 16	15 8 12.5 13	3 14 17.5 19	9.5 10.5 25 8.5	8 1.5 6 9	9 8 7	10 12.5 8 11	8 9.5 11.5 18
Sapling distance	5 6 7.5 18.5	10 16 9.5 3	6 9 11 13.5	6 10 14 6	4 2 7 9	4 6 6.5 5	3 3 6 8	6 7 5 12	9 9.5 14.5 11	9.5 13 5 16

 $\frac{4}{5}$ $\frac{1}{1}$ $\frac{1}{3}$ $\frac{6}{15}$ $\frac{5}{13}$ $\frac{3}{3}$

STAND # 3220

SPECIES	T	H	M	L	O
TO				1	 17
TAX			 	 	36
AS			 	 	 82
AB					 24
CC				1	1
	2		21	72	65

STAND # 3220

BROWSE CONDITION BY SPECIES %

SPECIES	T	H	M	L	O	TOTAL
TO				5.9	94.1	100.0
TAX			25.0	69.4	5.6	100.0
AS		2.4	14.6	54.9	28.0	99.9
AB					100.0	100.0
CC				100.0		100.0

% EACH SPECIES CONTRIBUTES TO EACH BROWSE CATEGORY

	TO	TAX	AS	AB	CC	TOTAL
T						
H			100.0			100.0
M		42.9	57.1			100.0
L	1.4	34.7	62.5			100.0
O	24.6	3.1	35.4	36.9	1.4	100.0

% EACH CATEGORY CONTRIBUTES TO TOTAL BROWSE = CATEGORY/160

T	H	M	L	O	TOTAL
	1.3	13.1	45.0	40.6	100.0

TO	TAX	AS	AB	CC	TOTAL
10.6	22.5	51.3	15.0	.6	100.0

DEER DAMAGE REPORT FORM

Stand No. 3220

183.0 206.5 263.5 335.0													
Pt. No.	Sp	Dis	Con	Sp	Dis	Con	Sp	Dis	Con	Sp	Dis	Con	
1	AS	5	M	TO	8	O	TO	6	O	AS	7.5	M	
2	TAX	8	L	AS	8	O	AS	3	L	TO	1.8	O	
3	TAX	2	L	AS	2	L	TAX	5	L	TAX	1	M	
4	TO	3	O	AS	2	L	TAX	14	M	AS	9	L	
5	AB	8	O	AS	9.5	O	AS	4	L	AS	8	L	
6	AB	2	O	AS	2	O	AS	4	L	AS	8	L	
7	AS	2	L	TO	4	O	HR	7	O	AB	5	O	
8	AS	5	L	AS	7	L	TO	4	O	TO	5	O	
9	TAX	1.5	L	TAX	3	L	TAX	8	M	TAX	12	L	
10	AS	8	L	TAX	7	M	AS	4	L	AS	14	M	
11	TAX	5	L	AS	4	H	AS	4	M	TAX	3	L	
12	TAX	2	L	TAX	1	L	TAX	3	L	TAX	1	L	
13	TAX	5	L	TAX	6	L	AS	8	M	AS	4	H	
14	AB	5	O	AS	2	L	AS	8	L	TO	11	O	
15	AS	4	O	AS	4	L	TO	2	O	AS	5	L	
16	AS	7	L	AB	5	O	AS	8	L	AS	15	L	
17	TO	3	O	TAX	5	L	AS	8	L	AB	4	O	
18	AS	8	L	AS	7	L	AS	13	L	AB	12	O	
19	AB	4	O	TAX	1.5	L	AS	35	M	TAX	4	M	
20	TAX	7	L	TAX	8.5	O	AS	8.5	M	AS	10	L	
21	AS	7	L	AS	2.5	L	TAX	8	M	AS	9.5	L	
22	TAX	7.5	L	AS	10.5	L	AS	9	L	TAX	9	L	
23	AS	2	O	AS	1	O	TO	3	O	AS	4	M	
24	AS	8.5	O	AS	4	O	TAX	17.5	L	AS	16	L	
25	AS	8	L	AS	11.5	L	AS	7	L	AS	8	L	
26	TAX	2	M	TAX	5	L	TAX	3	L	AS	6	L	
27	TAX	2	L	TAX	1	L	TAX	4	M	TAX	4	L	
28	AS	3	O	AB	2	O	AB	4	O	AS	6	L	
29	AS	4	O	AS	10	O	AS	5	O	AS	14	O	
30	AS	4	O	AB	2	O	AS	7	O	AB	4	O	
31	CC	5	L	AB	7	O	TO	5	O	AS	14	O	
32	AS	3	O	AS	5	L	AS	10	L	AB	14	O	
33	TAX	4	M	AB	8.5	O	AS	7	L	TAX	4	L	
34	AS	3	M	AS	6	M	AS	10	M	AB	4	O	
35	AB	4	O	TO	10	O	AS	6	M	AB	9	O	
36	AS	4	O	AS	9	O	AB	3	O	AS	10	O	
37	AS	5	L	AS	3	L	AS	8	O	TO	14	O	
38	AB	3	O	TO	2.5	O	TO	3	O	AS	12	O	
39	TO	12	L	AS	5	O	AS	8	L	AS	12	L	
40	AB	4	O	AS	2	O	AS	11	M	AB	5	O	

Ave Dist 6.2
Browse per acre
1,133.2

988.0

DEER DAMAGE ON MICHIGAN ISLAND.

TAXUS SPOTTY

NOTE: IT SEEMS THAT ALL DAMAGE DONE BY DEER (OR HARE) WAS DONE LAST WINTER WHEN SNOW WAS ON GROUND. IN ALL STANDS ON ISLAND THE ONLY THINGS EATEN WERE FROM 2.5'-3' LEVEL AND THEY WERE TAXUS & ACER SPIC. IN THE CASE OF ACER

HERB FREQUENCY

NORTHERN PINE-HARDWOODS

Stand No. 3220
Quadrat No. 1-10

<i>Actaea pachypoda</i>	<i>Fragaria virginiana</i>	<i>Potentilla simplex</i>
<i>Actaea rubra</i>	<i>Galium lanceolatum</i>	<i>Prenanthes alba</i>
<i>Adiantum pedatum</i>	<i>Galium triflorum</i>	<i>Pteridium aquilinum</i>
<i>Allium tricoccum</i>	<i>Gaultheria procumbens</i>	<i>Pyrola elliptica</i>
<i>Anemone quinquefolia</i>	<i>Gaylussacia baccata</i>	<i>Pyrola rotundifolia</i>
<i>Aquilegia canadensis</i>	<i>Geranium maculatum</i>	<i>Pyrola secunda</i>
<i>Aralia nudicaulis</i>	<i>Geum canadense</i>	<i>Ranunculus recurvatus</i>
<i>Aralia racemosa</i>	<i>Gnaphalium obtusifolium</i>	<i>Rhus radicans</i>
<i>Arisaema atrorubens</i>	<i>Helianthemum sp.</i>	<i>Ribes americanum</i>
<i>Aster macrophyllus</i>	<i>Helianthus strumosus</i>	<i>Rosa sp.</i>
<i>Aster sagittifolius</i>	<i>Hepatica acutiloba</i>	<i>Rubus parviflorus</i>
<i>Athyrium angustum</i>	<i>Hepatica americana</i>	<i>Rubus (blackberry)</i>
<i>Botrychium virginianum</i>	<i>Impatiens biflora</i>	<i>Rubus (dewberry)</i>
<i>Brachyelytrum erectum</i>	<i>Linnaea borealis</i>	<i>Sambucus pubens</i>
5 <i>Carex ^{sp} albursina</i>	<i>Lonicera oblongifolia</i>	<i>Sanguinaria canadensis</i>
<i>Caulophyllum thalictroides</i>	<i>Lupinus perennis</i>	<i>Sanicula gregaria</i>
<i>Chimaphila umbellata</i>	<i>Lycopodium annotinum</i>	<i>Smilacina racemosa</i>
<i>Circaea alpina</i>	15 <i>Lycopodium complanatum</i>	<i>Smilacina stellata</i>
<i>Circaea latifolia</i>	<i>Lycopodium lucidulum</i>	<i>Smilax ecirrhata</i>
<i>Clintonia borealis</i>	<i>Lycopodium obscurum</i>	<i>Solidago ulmifolia</i>
<i>Coptis trifolia</i>	<i>Lysimachia quadrifolia</i>	<i>Streptopus roseus</i>
<i>Corallorrhiza maculata</i>	<i>Maianthemum canadense</i>	93 <i>Taxus canadensis</i>
<i>Cornus alternifolia</i>	<i>Mitchella repens</i>	<i>Thalictrum dioicum</i>
<i>Cornus canadensis</i>	<i>Mitella diphylla</i>	<i>Trientalis borealis</i>
<i>Cornus rugosa</i>	<i>Mitella nuda</i>	<i>Trillium grandiflorum</i>
<i>Corylus americana</i>	<i>Monotropa uniflora</i>	<i>Uvularia grandiflora</i>
<i>Corylus cornuta</i>	<i>Myrica asplenifolia</i>	<i>Uvularia sessilifolia</i>
<i>Cypripedium acaule</i>	<i>Onoclea sensibilis</i>	<i>Vaccinium angustifolium</i>
<i>Diervilla lonicera</i>	<i>Oryzopsis asperifolia</i>	<i>Vaccinium pennsylvanicum</i>
<i>Dirca palustris</i>	<i>Osmorhiza claytoni</i>	<i>Viburnum acerifolium</i>
<i>Dryopteris linnaeana</i>	<i>Oxalis montana</i>	<i>Viola canadensis</i>
<i>Dryopteris phegopteris</i>	<i>Phryma leptostachya</i>	31 <i>Viola ^{MISSOURIA} cucullata</i>
1 <i>Dryopteris spinulosa</i>	<i>Polygala pauciflora</i>	<i>Viola pallens</i>
<i>Epifagus virginiana</i>	<i>Polygonatum commutatum</i>	<i>Viola pubescens</i>
<i>Epigaea repens</i>	<i>Polygonatum pubescens</i>	<i>Waldsteinia fragarioides</i>

7, 5, 3, 1 ACER SPIC

HERB FREQUENCY

NORTHERN PINE-HARDWOODS

Stand No. 3220
Quadrat No. 11-20

Actaea pachypoda	Fragaria virginiana	Potentilla simplex
Actaea rubra	Galium lanceolatum	Prenanthes alba
Adiantum pedatum	17, 15, 13 Galium triflorum	Pteridium aquilinum
Allium tricoccum	Gaultheria procumbens	Pyrola elliptica
Anemone quinquefolia	Gaylussacia baccata	Pyrola rotundifolia
Aquilegia canadensis	Geranium maculatum	Pyrola secunda
Aralia nudicaulis	Geum canadense	Ranunculus recurvatus
Aralia racemosa	Gnaphalium obtusifolium	Rhus radicans
Arisaema atrorubens	Helianthemum sp.	Ribes americanum
Aster macrophyllus	Helianthus strumosus	Rosa sp.
Aster sagittifolius	Hepatica acutiloba	Rubus parviflorus
Athyrium angustum	Hepatica americana	Rubus (blackberry)
Botrychium virginianum	Impatiens biflora	Rubus (dewberry)
Brachyelytrum erectum	Linnaea borealis	Sambucus pubens
17 Carex albursina	Lonicera oblongifolia	Sanguinaria canadensis
Caulophyllum thalictroides	Lupinus perennis	Sanicula gregaria
Chimaphila umbellata	Lycopodium annotinum	Smilacina racemosa
Circaea alpina	Lycopodium complanatum	Smilacina stellata
Circaea latifolia	Lycopodium lucidulum	Smilax ecirrhata
15 Clintonia borealis	15 Lycopodium obscurum	Solidago ulmifolia
Coptis trifolia	Lysimachia quadrifolia	Streptopus roseus
Corallorrhiza maculata	19, 13 Maianthemum canadense	11 Taxus canadensis
Cornus alternifolia	Mitchella repens	Thalictrum dioicum
Cornus canadensis	Mitella diphylla	19, 17, 15 Trientalis borealis
Cornus rugosa	Mitella nuda	Trillium grandiflorum
Corylus americana	Monotropa uniflora	Uvularia grandiflora
Corylus cornuta	Myrica asplenifolia	Uvularia sessilifolia
Cypripedium acaule	Onoclea sensibilis	Vaccinium angustifolium
Diervilla lonicera	Oryzopsis asperifolia	Vaccinium pennsylvanicum
Dirca palustris	Osmorhiza claytoni	Viburnum acerifolium
Dryopteris linnaeana	Oxalis montana	Viola canadensis
Dryopteris phegopteris	Phryma leptostachya 19, 17, 15, 13, 11	Viola cucullata
15, 13, 11 Dryopteris spinulosa 17, 19	Polygala pauciflora	Viola pallens
Epifagus virginiana	Polygonatum commutatum	Viola pubescens
Epigaea repens	Polygonatum pubescens	Waldsteinia fragarioides

19, 17 ACER SPIC

HERB FREQUENCY

NORTHERN PINE-HARDWOODS

Stand No. 3220
Quadrat No. 21-30

Actaea pachypoda
Actaea rubra
Adiantum pedatum
Allium tricoccum
Anemone quinquefolia
Aquilegia canadensis
Aralia nudicaulis
Aralia racemosa
Arisaema atrorubens
Aster macrophyllus
Aster sagittifolius
Athyrium angustum
Botrychium virginianum
Brachyelytrum erectum
29, 23 Carex albursina
Caulophyllum thalictroides
Chimaphila umbellata
Circaea alpina
Circaea latifolia
25 Clintonia borealis
Coptis trifolia
Corallorrhiza maculata
Cornus alternifolia
Cornus canadensis
Cornus rugosa
Corylus americana
Corylus cornuta
Cypripedium acaule
Diervilla lonicera
Dirca palustris
2 Dryopteris linnaeana
Dryopteris phegopteris
25, 23 Dryopteris spinulosa
Epifagus virginiana
Epigaea repens

Fragaria virginiana
Galium lanceolatum
21 Galium triflorum
Gaultheria procumbens
Gaylussacia baccata
Geranium maculatum
Geum canadense
Gnaphalium obtusifolium
Helianthemum sp.
Helianthus strumosus
Hepatica acutiloba
Hepatica americana
Impatiens biflora
Linnaea borealis
Lonicera oblongifolia
Lupinus perennis
Lycopodium annotinum
Lycopodium complanatum
29 Lycopodium lucidulum
Lycopodium obscurum
Lysimachia quadrifolia
29, 25 Maianthemum canadense
Mitchella repens
Mitella diphylla
Mitella nuda
Monotropa uniflora
Myrica asplenifolia
Onoclea sensibilis
Oryzopsis asperifolia
Osmorhiza claytoni
Oxalis montana
Phryma leptostachya
Polygala pauciflora
Polygonatum commutatum
Polygonatum pubescens

Potentilla simplex
Prenanthes alba
Pteridium aquilinum
Pyrola elliptica
Pyrola rotundifolia
Pyrola secunda
Ranunculus recurvatus
Rhus radicans
Ribes americanum
Rosa sp.
Rubus parviflorus
Rubus (blackberry)
Rubus (dewberry)
Sambucus pubens
Sanguinaria canadensis
Sanicula gregaria
Smilacina racemosa
Smilacina stellata
Smilax ecirrhata
Solidago ulmifolia
Streptopus roseus
27 Taxus canadensis
Thalictrum dioicum
29 Trientalis borealis
Trillium grandiflorum
Uvularia grandiflora
Uvularia sessilifolia
Vaccinium angustifolium
Vaccinium pennsylvanicum
Viburnum acerifolium
Viola canadensis
Viola cucullata
Viola pallens
Viola pubescens
Waldsteinia fragarioides

29, 27, 21 ACER SPIC

HERS FREQUENCY

NORTHERN PINE-HARDWOODS

Stand No. 3220
Quadrat No. 31-40

Actaea pachypoda
 Actaea rubra
 Adiantum pedatum
 Allium tricoccum
 Anemone quinquefolia
 Aquilegia canadensis
 Aralia nudicaulis
 Aralia racemosa
 Arisaema atrorubens
 Aster macrophyllus
 Aster sagittifolius
 Athyrium angustum
 Botrychium virginianum
 Brachyelytrum erectum
 Carex albursina 10
 Carex sp. 10
 Caulophyllum thalictroides
 Chimaphila umbellata
 Circaea alpina
 Circaea latifolia
 39, 33 Clintonia borealis 25
 35 Coptis trifolia 5
 Corallorrhiza maculata
 Cornus alternifolia
 39, 35 Cornus canadensis 10
 Cornus rugosa
 Corylus americana
 Corylus cornuta
 Cyripedium acaule
 Diervilla lonicera
 Dirca palustris
 Dryopteris linnaeana
 35, 33 Dryopteris phegopteris 10
 Dryopteris spinulosa 40
 Epifagus virginiana
 Epigaea repens

Fragaria virginiana
 Galium lanceolatum
 20 Galium triflorum
 Gaultheria procumbens
 Gaylussacia baccata
 Geranium maculatum
 Geum canadense
 Gnaphalium obtusifolium
 Helianthemum sp.
 Helianthus strumosus
 Hepatica acutiloba
 Hepatica americana
 Impatiens biflora
 Linnaea borealis
 Lonicera oblongifolia
 Lupinus perennis
 Lycopodium annotinum
 5 Lycopodium complanatum
 5 Lycopodium lucidulum
 5 Lycopodium obscurum
 Lysimachia quadrifolia
 39, 35, 31 Maianthemum canadense
 Mitchellia repens
 Mitella diphylla
 Mitella nuda
 Monotropa uniflora
 Myrica asplenifolia
 Onoclea sensibilis
 Oryzopsis asperifolia
 Osmorhiza claytoni
 Oxalis montana
 Phryma leptostachya
 Polygala pauciflora
 Polygonatum commutatum
 Polygonatum pubescens

Potentilla simplex
 Prenanthes alba
 Pteridium aquilinum
 Pyrola elliptica
 Pyrola rotundifolia
 Pyrola secunda
 Ranunculus recurvatus
 Rhus radicans
 Ribes americanum
 Rosa sp.
 Rubus parviflorus
 Rubus (blackberry)
 Rubus (dewberry)
 Sambucus pubens
 Sanguinaria canadensis
 Sanicula gregaria
 Smilacina racemosa
 Smilacina stellata
 Smilax ecirrhata
 Solidago ulmifolia
 Streptopus roseus
 33 Taxus canadensis 25
 Thalictrum dioicum
 35, 31 Trientalis borealis 30
 Trillium grandiflorum
 Uvularia grandiflora
 Uvularia sessilifolia
 Vaccinium angustifolium
 Vaccinium pennsylvanicum
 Viburnum acerifolium
 Viola canadensis
 39, 33, 31 Viola cucullata 25
 Viola pallens
 Viola pubescens
 Waldsteinia fragarioides

33, 31 grass 10

39, 39 ACER SPIC 55

PRESENCE LIST

NORTHERN PINE-HARDWOODS

STAND NO. 3220

- X *Abies balsamea*
- X *Acer rubrum*
- X *Acer saccharum*
- X *Acer spicatum*
- Amelanchier sp.*
- X *Betula lutea*
- X *Betula papyrifera*
- Caprinus caroliniana*
- Carya cordiformis*
- Crataegus sp.*
- Fagus grandiflora*
- Fraxinus americana*
- X *Fraxinus nigra*

- Fraxinus pennsylvanica*
- Juglans cinerea*
- Larix laricina*
- Ostrya virginiana*
- Picea glauca*
- Pinus banksiana*
- Pinus resinosa*
- Pinus strobus*
- Populus balsamifera*
- Populus grandidentata*
- X *Populus tremuloides*
- X *Prunus pennsylvanica*
- Prunus serotina*

- Prunus virginiana*
- Quercus alba*
- Quercus ellipsoidalis*
- Quercus macrocarpa*
- Quercus rubra*
- Sorbus decora*
- X *Thuja occidentalis*
- Tilia americana*
- X *Tsuga canadensis*
- Ulmus americana*
- Ulmus fulva*

X PYRUS AMER.

HERBS AND SHRUBS

- Actaea pachypoda*
- Actaea rubra*
- Adiantum pedatum*
- Agrimonia gryposepala*
- Allium tricoccum*
- X *Alnus rugosa*
- Amphicarpa bracteata*
- Anemone canadensis*
- Anemone quinquefolia*
- Antennaria sp.*
- Apocynum androsaemifolium*
- Apocynum cannabinum*
- Aquilegia canadensis*
- X *Aralia nudicaulis*
- Aralia racemosa*
- Arctostaphylos uva-ursi*
- Arisaema atrorubens*
- Asarum canadense*
- Asclepias phytolaccoides*
- Aster cordifolius*
- Aster lateriflorus*
- X *Aster macrophyllus*
- Aster prenanthoides*
- X *Aster sagittifolius*
- Aster shortii*
- Aster umbellatus*
- Athyrium angustum*
- Aureolaria pedicularia*
- Boehmeria cylindrica*
- Botrychium virginianum*
- Brachyelytrum erectum*
- Bromus purgans*
- Campanula americana*
- X *Carex albusina* SP.
- Carex pensylvanica*
- Caulophyllum thalictroides*
- Celastrus scandens*
- Chimaphila umbellata*
- Chiogenes hispidula*

- Circaea alpina*
- Circaea latifolia*
- Claytonia caroliniana*
- Claytonia virginiana*
- X *Clintonia borealis*
- Convolvulus spithameus*
- X *Coptis trifolia*
- X *Corallorrhiza maculata*
- Corallorrhiza striata*
- Cornus alternifolia*
- X *Cornus canadensis*
- Cornus femina*
- Cornus rugosa*
- Corylus americana*
- Corylus cornuta*
- Cryptotaenia canadensis*
- Cypripedium acaule*
- Cypripedium pubescens*
- Cystopteris fragilis*
- Danthonia spicata*
- Dentaria diphylla*
- Desmodium glutinosum*
- Desmodium nudiflorum*
- Dicentra canadensis*
- Dicentra cucullaria*
- Diervilla lonicera*
- Dirca palustris*
- Dryopteris linneana*
- X *Dryopteris phegopteris*
- X *Dryopteris spinulosa*
- Epifagus virginiana*
- Epigaea repens*
- Equisetum arvense*
- Erythronium americanum*
- Fragaria virginiana*
- Galium aparine*
- Galium boreale*
- Galium circaezans*
- Galium concinnum*

- Galium lanceolatum*
- X *Galium triflorum*
- Gaultheria procumbens*
- Gaylussacia baccata*
- Geranium maculatum*
- Geum canadense*
- Gnaphalium obtusifolium*
- Goodyera pubescens*
- Goodyera repens*
- Habenaria bracteata*
- Hamamelis virginiana*
- Helianthus strumosus*
- Hepatica acutiloba*
- Hepatica americana*
- Hieracium canadense*
- Hydrophyllum virginianum*
- Hystrix patula*
- Impatiens biflora*
- X *Lactuca canadensis*
- Laportea canadensis*
- Lappula virginica*
- Lathyrus ochroleucus*
- Ledum groenlandicum*
- Linnaea borealis*
- Lonicera canadensis*
- Lonicera hirsuta*
- Lonicera oblongifolia*
- Lonicera prolifera*
- Luzula multiflora*
- X *Lycopodium annotinum*
- X *Lycopodium clavatum*
- Lycopodium complanatum*
- X *Lycopodium lucidulum*
- X *Lycopodium obscurum*
- Lycopodium tristachyum*
- Lycopus americanus*
- Lycopus uniflora*
- Lysimachia quadrifolia*
- X *Maianthemum canadense*

X PETASITES PAL.

Melampyrum lineare	Pyrola elliptica	Smilax herbacea
Mitchella repens	Pyrola rotundifolia	Smilax hispida
Mitella diphylla	Pyrola secunda	Solidago latifolia
Mitella nuda	Ranunculus abortivus	Solidago ulmifolia
Monarda fistulosa	Ranunculus recurvatus	Streptopus amplexifolius
Moneses uniflora	Ranunculus septentrionalis	X Streptopus roseus
X Monotropa uniflora	Rhus radicans	X Taxus canadensis
Myrica asplenifolia	Rhus typhina	Thalictrum dioicum
Onoclea sensibilis	Ribes americanum	Tiarella cordifolia
Oryzopsis asperifolia	Ribes cynosbati	X Trientalis borealis
Osmorhiza claytoni	Ribes lacustre	Trillium cernuum
X Osmunda cinnamomea	Ribes triste	Trillium grandiflorum
Osmunda claytoniana	Rubus idaeus	Uvularia grandiflora
Oxalis montana	Rubus parviflorus	Uvularia sessilifolia
Panax quinquefolia	Rubus hispidus	Vaccinium angustifolium
Parietaria pennsylvanica	Rubus - blackberry	Vaccinium pennsylvanicum
Parthenocissus vitacea	X Rubus - dewberry	Viburnum acerifolium
Pedicularis lanceolata	Rubus - raspberry	Viburnum affine
Phyrma leptostachya	Sambucus canadensis	Viburnum lentago
Podophyllum peltatum	Sambucus pubens	Viola canadensis
Polemonium reptans	Sanguinaria canadensis	Viola cucullata
Polygala pauciflora	Sanicula gregaria	X Viola incognita
Polygonatum commutatum	Schizachne purpurascens	Viola pallens
Polygonatum pubescens	Scutellaria lateriflora	Viola pubescens
Potentilla simplex	Shepherdia canadensis	Vitis aestivalis
Prenanthes alba	Smilacina racemosa	Vitis riparia
Pteretis nodulosa	Smilacina stellata	Waldsteinia fragarioides
Pteridium aquilinum	Smilax ecirrhata	Zanthoxylum americanum

Additional Species: