



LIBRARIES

UNIVERSITY OF WISCONSIN-MADISON

Site 6028 (Boreal Stand 28): White River Road, Ontonagon County, Michigan, Township 49N, Range 43W, Section 4. 1955-08-12

[s.l.]: [s.n.], 1955-08-12

<https://digital.library.wisc.edu/1711.dl/P6PBRTUCVHCSV84>

This material may be protected by copyright law (Title 17, US Code).

For information on re-use see:

<http://digital.library.wisc.edu/1711.dl/Copyright>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

STAND RECORD

FORESTS

Stand No. 28

Name: *White River Road*
 County: *Ontonogagon, N. Mich*
 Date: *Aug 12, 1955*

Locality:
 T: *49 N* R: *43 W* Sec: *4*

Observers: *PFM*

Size of Stand: *40 acres*
 Forest Type: *Hardwoods - spruce fir*
 Topography: *gently rolling*

Size of Area Sampled:

Soil Type:

Slope:

Directions

Condition of Stand:

Pine removed. Few very large pine now present
Hardwoods doing very poorly - Hemlocks + maples very shrubby
High water table.
Considerable gradual blowdown.
Reproduction of Hemlock, Maple progress - Ws + Ab - good reprod.
Young Ab heavily browsed by deer - spruce not at all or little. - discuss such a factor
Altho predominant Maple regen the stand will still have Ws since it is reprod. well in all openings
Stand reported by Federal Ranger - Berghlund Mich - Mr. H. Stabo.

Open Grown Trees:

% Canopy:

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.
Ao	_____	_____	_____	_____	_____	_____	_____	_____	_____
A1	_____	_____	_____	_____	_____	_____	_____	_____	_____
A2	_____	_____	_____	_____	_____	_____	_____	_____	_____
B	_____	_____	_____	_____	_____	_____	_____	_____	_____

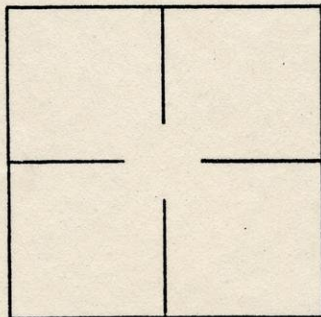
DEPTH

CHARACTERISTICS (Color, Texture, Structure, etc.)

Ao	<i>#1 - litter 1/4 ferment</i>	<i>#2 - litter 1/4 ferment</i>	<i>#3 - litter 1/4 ferment</i>
A1	<i>2" - black crumbly</i>	<i>3" - black crumbly</i>	<i>1" - black crumbly</i>
A2	<i>- lacking</i>	<i>- lacking</i>	<i>- lacking</i>
B	<i>6" + reddish brown clay loam</i>	<i>6" + red brown - clay to a clay loam</i>	<i>6" + red clay to clay loam</i>

Parent Material:

Map:



Spruce regen on mounds + stumps evident from seedling to sapling size
Stand over 150 - up to 200 yrs old - ring count on stump in adjacent piece

LICHENS OF GREAT LAKES SPRUCE-FIR COMMUNITIES
NORTHERN MICHIGAN
Ontonagon County



30 miles N. of Berglund on White River Logging
Company road - T49N R43W SEC 4.
Maple, balsam, hemlock, white spruce.
150-200 yrs. gently rolling. Considerable
gradual blowdown, logged for pine, high-perched
water table.

August 12, 1955. Coll. Paul F. Maycock

Plant Ecology Research
TREE DATA SUMMARY SHEET

University of Wisconsin

Spruce-fir
Northern Pine Hardwoods

Station Number: 28 - 2446

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.	N. limit Index
			-80	-320	321											
516.6 Abies bals	26	35				1799	20	12.5		65.0	23.0	21.9	12.5	57.4	401.8	459.0
11.4 Acer rubru	3	3				167	2	1.3		7.5	2.6	1.9	1.2	5.7	34.2	28.5
424.0 A. sacchar	30	62				5886	103	64.4		75.0	26.5	38.7	40.8	106.0	1060.0	530.0
A. spicatu																
165.0 Betula lut	8	9				544	1	0.6		20.0	7.1	5.6	3.8	16.5	132.0	82.5
B. papyrif																
Carpinus c																
Fagus gran																
34.2 Ostrya vir	5	6				471	13	8.1		12.5	4.4	3.7	3.3	11.4	102.6	34.2
281.0 Picea glau	12	12				1448	14	8.8		30.0	10.6	7.5	10.0	28.1	168.6	281.0
Pinus Bank																
P. resinosa																
55.3 P. Strobus	2	2				690				5.0	1.8	1.2	4.8	7.9	39.5	47.4
Populus ba																
P. grandid																
P. tremulo																
Prunus pen																
Quercus el																
Q. rubra																
18.4 Tilia amer	2	2				215	2	1.3		5.0	1.8	1.2	1.5	4.6	36.8	23.0
248.5 Tsuga cana	14	17				1812	1	0.6		35.0	12.4	10.6	12.5	35.5	284.0	71.0
162.4 Thuja occi	8	9				1090	3	1.9		20.0	7.1	5.6	7.6	20.3	142.1	142.1
Ulmus amer																
7.2 U. fulva	1	1				37	1	0.6		2.5	0.9	0.6	0.3	1.8	14.4	12.6
30.0 Frax. Nig	2	2				272				5.0	1.8	1.3	1.9	5.0	30.0	35.0
1954 TOTALS		160				14431	160	100.0		282.5	100.0	100.0	100.0	300.0	2446	1776.6

AVE. DIST. BTW'N TREES:

10.2

AVE. B. A.:

90.2

TREES/ACRE:

419

DOM./ACRE:

37,794

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 28 (1)

STATION NO.	1	2	3	4	5	6	7	8	9	10
<i>Abies balsam</i>	7' 29	13' 49			8 1/2 78 18 140	8' 24			3' 122	20 72
<i>Acer rubrum</i>					9 1/2 20					5' 52
<i>A. sacchar.</i>		16' 52 12 59	6' 25	6 145		14 1/2 210				
		8 70 17' 25		5 1/2 212		15 240				
<i>A. spicatum</i>			30 175			16 32				
<i>Betula lut.</i>				13' 65		6 1/2 85				
						1 1/2 35				
<i>B. papyrif</i>										
<i>Carpinus car</i>										
<i>Fagus gran</i>										
<i>Ostrya virg</i>									10 1/2 102	
									11 115	
<i>Picea glau</i>	7' 69	9' 151						10 1/2 190		
<i>Pinus Bank</i>										
<i>P. resinosa</i>										
<i>P. Strobus</i>										
<i>Populus bals</i>										
<i>P. grand</i>										
<i>P. trem</i>										
<i>Prunus pen.</i>										
<i>Quercus ell</i>										
<i>Q. rubra</i>										
<i>Tilia amer</i>										
<i>Tsuga can</i>	4' 20 13 1/2 49			6 1/2 50 10 41		21 160		6' 244		14 205
<i>Thuja occ</i>			2 1/2 85					9' 58 11 1/2 70		11 36
<i>Ulmus amer</i>										
<i>U. fulva</i>										
<i>Frax. nig.</i>									4' 121	
<i>Litter</i>	1"	1"	3"	2"	2"	4"	5"	3 1/2	4"	3 1/2
<i>Canopy</i>	65	15	55	35	55	65	40	90	50	80
<i>Distance</i>	31 1/2	46	51 1/2	35 1/2	29 1/2	47	53 1/2	37	28 1/2	50

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 28 (2)

STATION NO.	1	2	3	4	5	6	7	8	9	10
Abies balsam	13 75 6 1/2 61		8 32		3 19 2 1/2 45	14 1/2 64 9 70	14 52	4 69		13 36
Acer rubrum							2 79			
A. sacchar.	17 165 18 37	9 42 10 45	21 65	4 126 5 112	3 165 16 140	5 36 1 1/2 30		19 235 7 1/2 35	2 31 13 115	22 45
A. spicatum										
Betula lut.				5 42						18 40
B. papyrif										
Carpinus car										
Fagus gran										
Ostrya virg									6 32	
Picea glau	14 1/2 29						4 176			9 25
Pinus Bank										
P. resinosa										
P. Strobus										
Populus bals										
P. grand										
P. trem										
Prunus pen.										
Quercus ell										
Q. rubra										
Tilia amer		14 1/2 190								
Tsuga can			1 1/2 190	4 89				18 58	14 1/2 45	
Thuja occ			10 300				19 246			
Ulmus amer										
U. fulva										
Litter	2"	2"	3"	2 1/2	2	3	1 1/2	1 1/2	1"	1/2
Canopy	55	55	85	80	45	40	40	30	55	15
Distance	51	41 1/2	40 1/2	18	24 1/2	30	39	48 1/2	35 1/2	62

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 28 (3)

STATION NO.	1	2	3	4	5	6	7	8	9	10								
Abies balsam		2 26	28 62		5 61	17 1	62 86	4 10	29 27	14 42	2 41							
Acer rubrum	12 1/2 36																	
A. sacchar.	17 15	26 30	5 31	16 1/2 8 1/2	165 36	3 1/2 13 1/2	151 180	10 1/2 14	140 155	11 17	175 29	15 1/2 16	66 87	3 1/2 115	19 92	4 1/2 5	152 57	9 105
A. spicatum						3 34				9 74		16 120						
Betula lut.																		
B. papyrif																		
Carpinus car																		
Fagus gran																		
Ostrya virg			4 1/2 52	7 1/2 55														
Picea glau	14 1/2 120			22 180													3 1/2 42	
Pinus Bank																		
P. resinosa																		
P. Strobus			21 365															
Populus bals																		
P. grand																		
P. trem																		
Prunus pen.																		
Quercus ell																		
Q. rubra																		
Tilia amer																		
Tsuga can																	8 8 1/2	66 70
Thuja occ		11 1/2 159																
Ulmus amer																		
U. fulva																		
Litter	2	1/2	1/2	2	1/2	1 1/2	1/2	1"	1 1/2	2 1/2								
Canopy	30	40	55	50	75	1	40	45	40	50								
Distance	59	44 1/2	50 1/2	46 1/2	22 1/2	46	45 1/2	41 1/2	27 1/2	29								

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 28 (4)

STATION NO.	1	2	3	4	5	6	7	8	9	10
Abies balsam	6' 20	20 46	13 1/2 75	10 1/2 30 24 36	3 1/2 19 4 1/2 42	8 36				
Acer rubrum										13 1/2 22
A. sacchar.		3' 152			10 225		7' 60 15 71	10 1/2 111 12 105	3 24 6 115	14 115 20 56 10 1/2 24
A. spicatum							15 62	16 76		
Betula lut.		13 1/2 76		6 102				7' 49	11 48	
B. papyrif										
Carpinus car										
Fagus gran										
Ostrya virg			13 1/2 65							
Picea glau	10 1/2 151	9 1/2 65							12 1/2 210	
Pinus Bank										
P. resinosa										
P. Strobus					5 325					
Populus bals										
P. grand										
P. trem										
Prunus pen.										
Quercus ell										
Q. rubra										
Tilia amer	2 1/2 25									
Tsuga can	20 95		12 112	6 1/2 32		13 260				
Thuja occ						8 46	4 70			
Ulmus amer										
U. fulva			16 37							
Frax nigri.						4' 101				
Litter	1"	1"	1 1/2	1 1/2	1"	1 1/2	1"	3/4	1	1
Canopy	35	40	60	55	60	50	40	15	30	40
Distance	39	46	55	47	23	33	31	45 1/2	32 1/2	58

Av. Canopy - 48%

Av. Litter - 1.8"

POINT RECORD TREES *Saplings*

NORTHERN PINE-HARDWOODS

Stand No. 28 (1)

STATION NO.	1	2	3	4	5	6	7	8	9	10	
Abies balsam		7'						11½'			
Acer rubrum	11½'									18'	
A. sacchar.	13½'	3' 24 11½'		17' 4'	6	2½' 13	4' 7	1½' 10	6	10½' 17 10½'	3' 14
A. spicatum											
Betula lut.											
B. papyrif											
Carpinus car											
Fagus gran											
Ostrya virg			4' 3'	7'	10½' 5 10½'						
Picea glau	11'		5'	14'			3½'		14'		
Pinus Bank											
P. resinosa											
P. Strobus											
Populus bals											
P. grand											
P. trem											
Prunus pen.											
Quercus ell											
Q. rubra											
Tilia amer								10'			
Tsuga can											
Thuja occ	14½'							6½'			
Ulmus amer											
U. fulva											
Distance	50½'	45½'	19	42	32	26½'	18	34	52	42	

POINT RECORD TREES *Saplings* NORTHERN PINE-HARDWOODS

Stand No. 28 (2)

STATION NO.	1	2	3	4	5	6	7	8	9	10
Abies balsam	7		12		14 1/2	12	2 1/2 26	7	6	
Acer rubrum										
A. sacchar.	14 1/2	5 11 1/2	24 18	12 1/2 17	2 10	13 1/2 11	9 11 1/2	3 1/2 11	10 5	1 7 4 1/2
A. spicatum										
Betula lut.										
B. papyrif										
Carpinus car										
Fagus gran										
Ostrya virg		5							7	
Picea glau	11 15	15						11		4
Pinus Bank										
P. resinosa										
P. Strobus										
Populus bals										
P. grand										
P. trem										
Prunus pen.										
Quercus ell										
Q. rubra										
Tilia amer										
Tsuga can										
Thuja occ										
Ulmus amer										
U. fulva										
Distance	47 1/2	36 1/2	55	41 1/2	50 1/2	38 1/2	43	24	28	16 1/2

POINT RECORD TREES *Saplings* NORTHERN PINE-HARDWOODS

Stand No. 28(3)

STATION NO.	1	2	3	4	5	6	7	8	9	10	
Abies balsam	10			3 1/2			4 1/2 7		5	18	
Acer rubrum											
A. sacchar.	8	3 9	9 1/2 7	2 1	4 6 1/2	3 1/2 8	3 4	17 3	1 2 1/2	10 12	8 1/2 23
A. spicatum											
Betula lut.											
B. papyrif											
Carpinus car											
Fagus gran											
Ostrya virg	7		4								
Picea glau						4		16			
Pinus Bank											
P. resinosa											
P. Strobus											
Populus bals											
P. grand											
P. trem											
Prunus pen.											
Quercus ell											
Q. rubra											
Tilia amer								5 1/2			
Tsuga can	14										
Thuja occ											
Ulmus amer											
U. fulva											
Distance	39	28 1/2	14	22	13 1/2	47	15	24	25 1/2	59	

POINT RECORD TREES *Saplings* NORTHERN PINE-HARDWOODS

Stand No. 28 (4)

STATION NO.	1	2	3	4	5	6	7	8	9	10
Abies balsam	9 1/2 16			20					9 1/2	
Acer rubrum										
A. sacchar.		4 14 1/2	4 1/2 5 1/2	4 8	9 2 1/2	19 2 1/2	3 4	5 7	7 1 6 2	11 1/2 7 8
A. spicatum										27 9 1/2
Betula lut.	15'									
B. papyrif										
Carpinus car										
Fagus gran										
Ostrya virg		15	1 1/2							
Picea glau							2 3			
Pinus Bank										
P. resinosa										
P. Strobus										
Populus bals										
P. grand										
P. trem										
Prunus pen.										
Quercus ell										
Q. rubra										
Tilia amer										
Tsuga can										
Thuja occ						9'				
Ulmus amer										
U. fulva	11'									
Distance	51 1/2	38 1/2	9 1/2	34	42 1/2	23	18	16	36	27 1/2

University of Wisconsin
STAND NO. 28

[illegible]

	P.									10								20	
Carex disperma																			
Carex eburnea																			
Carex intumescens	✓			✓		✓											✓	3	15
Carex leptalea																			
Carex pedunculata	✓		✓	✓				✓			✓		✓	✓			✓	7	35
Carex pensylvanica																			
Carex projecta	✓											✓						1	5
Carex woodii																			
Carex spp.	✓																		1
Caulophyllum thalictroides																			
Celastrus scandens																			
Chamaedaphne calyculata																			
Chimaphila umbellata																			
Chrysanthemum leucanthemum																			
Chrysosplenium americanum																			
Cicuta maculata																			
Cinna latifolia																			
Circaea alpina	✓		✓																1 5
Cirsium altissimum																			
Cirsium arvense																			
Cirsium vulgare																			
Claytonia caroliniana																			
Claytonia virginica																			
Clematis virginiana																			
Clematis verticillaris																			
Clintonia borealis	✓			✓			✓			✓			✓	✓	✓	✓	✓	✓	9 45
Comandra richardsoniana																			
Comandra umbellata																			
Comptonia peregrina																			
Convolvulus spithameus																			
Coptis groenlandicum	✓						✓	✓		✓									3 15
Corallorhiza maculata																			
Corallorhiza striata																			
Corallorhiza trifida																			
Cornus alternifolia																			
Cornus canadensis	✓	✓					✓	✓		✓	✓		✓	✓	✓		✓	9	45
Cornus racemosa																			
Cornus rugosa																			
Cornus stolonifera																			
Corydalis sempervirens																			
Corylus americana																			
Corylus cornuta	✓						✓						✓		✓		✓	4	20
Cryptotaenia canadensis																			
Cynoglossum boreale																			
Cynoglossum officinale																			
Cypripedium acaule																			
Cypripedium arietinum																			
Cypripedium calceolus																			
Cypripedium reginae																			
Cystopteris bulbifera																			
Cystopteris fragilis																			
Dalibarda repens																			

	P.									10									20		
Desmodium glutinosum																					
Dicentra canadensis																					
Dicentra cucullaria																					
Diervilla lonicera	✓																				1
Dirca palustris																					
Dryopteris boottii																					
Dryopteris cristata																					
Dryopteris disjuncta	✓																				1
Dryopteris goldiana																					
Dryopteris marginalis																					
Dryopteris noveboracensis																					
Dryopteris phegopteris	✓																				1
Dryopteris spinulosa	✓		✓		✓	✓		✓				✓						✓	✓	7	35
Empetrum nigrum																					
Epifagus virginiana																					
Epigaea repens																					
Epilobium angustifolium																					
Epilobium glandulosum																					
Epilobium strictum																					
Equisetum arvense																					
Equisetum pratense																					
Equisetum scirpoides																					
Equisetum sylvaticum	✓																				1
Erigeron annuus																					
Erigeron philadelphicus																					
Erigeron strigosus																					
Erythronium albidum																					
Erythronium americanum																					
Eupatorium maculatum																					
Eupatorium perfoliatum																					
Eupatorium purpureum																					
Fagopyrum sagittatum																					
Festuca obtusa																					
Fragaria vesca	✓									✓								✓	2	10	
Fragaria virginiana	✓																				
Galium aparine																					
Galium asprellum	✓					✓														1	5
Galium boreale																					
Galium concinnum																					
Galium lanceolatum																					
Galium triflorum	✓	✓	✓		✓			✓		✓	✓	✓	✓				✓	✓	10	50	
Gaultheria hispidula																					
Gaultheria procumbens																					
Gaylussacia baccata																					
Gentiana andrewsii																					
Gentiana crinata																					
Gentiana linearis																					
Gentiana quinquefolia																					
Geocaulon lividum																					
Geranium bicknelli																					
Geranium maculatum																					
Geranium robertianum																					

[illegible]

[illegible]

Data Form No. 84f
TABULATION FORM

Plant Ecology Research
SPRUCE - FIR, SPRUCE - FIR MIXED HARDWOODS

University of Wisconsin
STAND NO. 28

[illegible]

[illegible]

	P.									10									20		
Trifolium pratense																					
Trifolium repens																					
Trillium cernuum																					
Trillium erectum																					
Trillium grandiflorum																					
Trillium undulatum																					
Uvularia grandiflora																					
Uvularia sessilifolia																					
Vaccinium angustifolium																					
Vaccinium cespitosum																					
Vaccinium corymbosum																					
Vaccinium angustifolium myrtilloides	✓																	✓	1	5	
Vaccinium ovalifolium																					
Vaccinium uliginosum																					
Vaccinium vitis-idaea																					
Veronica officinalis																					
Veronica scutellata																					
Veronica serpyllifolia																					
Viburnum acerifolium																					
Viburnum alnifolium																					
Viburnum cassinoides																					
Viburnum edule																					
Viburnum lentago																					
Viburnum rafinesquianum																					
Viburnum trilobum																					
Vicia americana																					
Viola adunca																					
Viola blanda,																					
Viola canadensis																					
Viola conspersa	✓						✓		✓											2	10
Viola cucullata																					
Viola incognita	✓		✓		✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Viola nephrophylla																					
Viola pallens																					
Viola papilionacea																					
Viola pubescens	✓																			1	5
Viola renifolia	✓								✓					✓		✓			✓	4	20
Viola selkirkii	✗								✗										✗	✗	✗
Viola sororia																					
Vitis riparia																					
Waldsteinia fragarioides	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Woodsia ilvensis																					
Xanthoxylum americanum																					
Tree Seedlings																					
Abies balsamea	✓	✓		✓			✓			✓	✓	✓					✓	✓	✓	9	45
Acer pensylvanicum																					
Acer rubrum	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Acer saccharum	✓		✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Acer spicatum																					

[illegible]

PRESENCE LIST

SPRUCE-FIR - MIXED HARDWOODS

STAND NO. 28

TREES

- ✓ *Abies balsamea*
- Acer pensylvanicum*
- ✓ *Acer rubrum*
- ✓ *Acer saccharum*
- ✓ *Acer spicatum*
- Amelanchier* spp.
- ✓ *Betula lutea*
- Betula papyrifera*
- Carpinus caroliniana*
- Crataegus* spp.
- Fagus grandifolia*
- ✓ *Fraxinus americana*

- ✓ *Fraxinus nigra*
- Fraxinus pennsylvanicum*
- Larix laricina*
- ✓ *Ostrya virginiana*
- ✓ *Picea glauca*
- Picea mariana*
- Pinus banksiana*
- Pinus resinosa*
- ✓ *Pinus strobus*
- Populus balsamifera*
- Populus grandidentata*
- Populus tremuloides*

- Prunus nigra*
- Prunus pensylvanica*
- ✓ *Prunus serotina*
- ✓ *Prunus virginiana*
- Pyrus americana*
- Pyrus decora*
- ✓ *Quercus rubra* var. *borealis*
- ✓ *Thuja occidentalis*
- ✓ *Tilia americana*
- ✓ *Tsuga canadensis*
- Ulmus americana*
- ✓ *Ulmus rubra*

SHRUBS

- Alnus crispa*
- Alnus rugosa*
- Arctostaphylos uva-ursi*
- Celastrus scandens*
- Chamaedaphne calyculata*
- Comptonia peregrina*
- Cornus alternifolia*
- Cornus racemosa*
- Cornus rugosa*
- Cornus stolonifera*
- Corylus americana*
- ✓ *Corylus cornuta*
- ✓ *Diervilla lonicera*
- Dirca palustris*
- Empetrum nigrum*
- Gaylussaccia baccata*
- Hamamelis virginiana*
- Ilex verticillata*
- Juniperus communis*
- Juniperus horizontalis*
- Ledum groenlandicum*
- ✓ *Lonicera canadensis*
- Lonicera dioica*

- ✓ *Lonicera hirsutum*
- Lonicera involucrata*
- Lonicera oblongifolia*
- Lonicera villosa*
- Parthenocissus quinquefolia*
- Parthenocissus vitacea*
- Prunus pumila*
- Pyrus melanocarpa*
- Rhamnus alnifolia*
- Rhus glabra*
- Rhus typhina*
- Ribes americanum*
- Ribes cynosbati*
- ✓ *Ribes glandulosum*
- Ribes hirtellum*
- Ribes lacustre*
- Ribes oxycanthoides*
- Ribes triste*
- Rosa* sp.
- Rubus allegheniensis*
- ✓ *Rubus* (blackberry)
- ✓ *Rubus* (dewberry)
- ✓ *Rubus* (raspberry)

- ✓ *Rubus idaeus*
- Rubus parviflorus*
- Salix* sp.
- Sambucus canadensis*
- Sambucus pubens*
- Shepherdia canadensis*
- Smilax tamnoides* var. *hispida*
- Spiraea alba*
- Spiraea latifolia*
- Symphoricarpos albus*
- Symphoricarpos occidentalis*
- Taxus canadensis*
- ✓ *Vaccinium angustifolium*
- ✓ *Vaccinium myrtilloides*
- Vaccinium vitis-idaea*
- Viburnum acerifolium*
- Viburnum cassinoides*
- Viburnum edule*
- Viburnum lentago*
- Viburnum rafinesquianum*
- Viburnum trilobum*
- Vitis vulpina*
- Zanthoxylum americanum*

HERBS

- Achillea millefolium*
- Actaea pachypoda*
- Actaea rubra*
- Adiantum pedatum*
- Agrimonia gryposepala*
- Agrostis perennans*
- Allium tricoccum*
- Amphicarpa bracteata*
- Anaphalis margaritacea*
- Anemone canadensis*
- Anemone cylindrica*
- Anemone quinquefolia*
- Anemone virginiana*
- Antennaria* sp.
- Apocynum androsaemifolium*
- Aquilegia canadensis*
- ✓ *Aralia nudicaulis*
- ✓ *Aralia racemosa*
- Arisaema atrorubens*
- Asarum canadense*
- Asclepias exaltata*
- Aster furcatus*
- ✓ *Aster macrophyllus*
- Aster nova-angliae*
- Aster paniculatus*

- Aster puniceus*
- Aster sagittifolius*
- Aster umbellatus*
- ✓ *Athyrium filix-femina*
- Athyrium thelypteroides*
- Botrychium lunaria*
- Botrychium matricariaefolium*
- Botrychium multifidum*
- Botrychium virginianum*
- Calypso bulbosa*
- Campanula rotundifolia*
- ✓ *Carex arctata*
- ✓ *Carex intumescens*
- Carex pensylvanica*
- Carex woodii*
- ✓ *Carex* spp.
- Chimaphila umbellata*
- Chrysanthemum leucanthemum*
- Chrysosplenium americanum*
- Cinna latifolia*
- ✓ *Circaea alpina*
- Claytonia caroliniana*
- Claytonia virginiana*
- Clematis virginiana*
- Clematis verticillaris*

- ✓ *Clintonia borealis*
- Comandra richardsiana*
- Comandra umbellata*
- ✓ *Coptis groenlandicum*
- Corallorhiza maculata*
- Corallorhiza striata*
- Corallorhiza trifida*
- ✓ *Cornus canadensis*
- Corydalis sempervirens*
- Cynoglossum officinale*
- Cypripedium acaule*
- Cypripedium calceolus* var. *pubescens*
- Cystopteris fragilis*
- Dalibarda repens*
- Desmodium glutinosum*
- Dicentra canadensis*
- Dicentra cucullaria*
- Dryopteris cristata*
- ✓ *Dryopteris disjuncta*
- Dryopteris goldiana*
- Dryopteris marginalis*
- ✓ *Dryopteris phegopteris*
- ✓ *Dryopteris spinulosa*

PRESENCE LIST

SPRUCE-FIR - MIXED HARDWOODS

Stand 28

Epigaea repens
 Epilobium angustifolium
 Epilobium glandulosum
 Epilobium strictum
 Equisetum pratense
 ✓ Equisetum sylvaticum
 Erigeron annuus
 Erigeron philadelphicus
 Erigeron strigosus
 Erythronium albidum
 Erythronium americanum
 ✓ Fragaria vesca
 Fragaria virginiana
 Galium aparine
 Galium boreale
 Galium concinnum
 Galium lanceolatum
 ✓ Galium triflorum
 Gaultheria hispidula
 Gaultheria procumbens
 Gentiana andrewsii
 Gentiana crinata
 Gentiana quinquefolia
 Geocaulon lividum
 Geranium bicknelli
 Geranium maculatum
 Geum rivale
 Goodyera repens
 Goodyera tessellata
 Habenaria hyperborea
 Habenaria orbiculata
 Habenaria psycodes
 Habenaria viridis
 Halenia deflexa
 Helianthus strumosus
 Hepatica acutiloba
 ✓ Hepatica americanum
 Hieracium aurantiacum
 Hieracium canadense
 Hieracium scabrum
 Impatiens capensis
 Iris lacustris
 Isopyrum biternatum
 Lathyrus ochroleucus
 ✓ Linnaea borealis
 Lobelia inflata
 Lycopodium annotinum
 ✓ Lycopodium clavatum
 Lycopodium clavatum var. megastachyon
 ✓ Lycopodium complanatum
 Lycopodium inundatum

Additional species

Moex
 Lichens
 Viola - same - micognita & selkirkii
 Onoclea asplenifolia
 Brachyelytrum erectum
 white Aster - Aster lateriflorus
 Ribes sp. - glandulosum
 Carex pedunculata
 7 me Carex - Carex brunnescens
 Lycopodium uniflorum
 Carex proserpina

✓ Lycopodium lucidulum
 Lycopodium obscurum
 Lycopodium obscurum var. dendroideum
 Lycopodium selago
 Lycopodium tristachyum
 Lysimachia ciliata
 Lysimachia quadrifolia
 Lysimachia terrestris
 ✓ Maianthemum canadense
 Malaxis unifolia
 Medeola virginiana
 Melampyrum lineare
 ✓ Mitchella repens
 Mitella diphylla
 ✓ Mitella nuda
 Moneses uniflora
 Monotropa hypopithys
 Monotropa uniflorus
 ✓ Onoclea sensibilis
 Orchis spectabilis
 Osmorhiza claytoni
 Osmorhiza longistylis
 ✓ Osmunda cinnamomea
 Osmunda claytoniana
 ✓ Oxalis montana
 Oxalis stricta
 Panax quinquefolius
 Panax trifolius
 Petasites palmatus
 Phlox divaricata
 Poa compressa
 ✓ Poa pratensis
 Polygala paucifolia
 Polygonatum biflorum
 ✓ Polygonatum pubescens
 Polymnia canadensis
 Polypodium virginianum
 Potentilla norvegica
 Potentilla simplex
 Potentilla tridentata
 Prenanthes alba
 Primula mistassinica
 ✓ Prunella vulgaris
 ✓ Pteridium aquilinum
 Pyrola asarifolia
 Pyrola elliptica
 Pyrola minor
 Pyrola rotundifolia
 Pyrola secunda
 Pyrola virens
 Ranunculus abortivus

Ranunculus acris
 Ranunculus pensylvanicus
 ✓ Ranunculus recurvatus
 Ranunculus repens
 Ranunculus septentrionalis
 Rhus radicans
 ✓ Rubus pubescens
 Sanguinaria canadensis
 Sanicula marilandica
 Satureja vulgaris
 Schizachne purpurascens
 Scutellaria epilobiifolia
 Scutellaria lateriflora
 Smilacina racemosa
 Smilacina stellata
 Smilacina trifolia
 Smilax herbacea
 Solidago canadensis
 Solidago flexicaulis
 Solidago graminifolia
 Solidago ulmifolia
 Stellaria calycantha
 Streptopus amplexifolius
 ✓ Streptopus roseus
 Taraxacum officinale
 Thalictrum dioicum
 Thalictrum polygamum
 Tiarella cordifolia
 ✓ Trientalis borealis
 Trillium cernuum
 Trillium erectum
 Trillium grandiflorum
 Trillium undulatum
 Uvularia grandiflora
 Uvularia sessilifolia
 Vicia americana
 Viola adunca
 Viola blanda
 Viola canadensis
 ✓ Viola conspersa
 Viola cucullata
 ✓ Viola incognita
 Viola nephrophylla
 Viola pallens
 Viola papilionacea
 ✓ Viola pubescens
 ✓ Viola renifolia
 Viola selkirkii
 Viola sororia
 ✓ Waldsteinia fragarioides

Goodyera obtusifolia
 Galium asprellum

FREQUENCY DATA
(Common Species)

SPRUCE-FIR - MIXED HARDWOODS

STAND NO. 28 (1)

TREE SEEDLINGS

- 0731 *Abies balsamea*
 8743 27 *Acer pensylvanicum*
 9876 43 2 *Acer rubrum*
 9876 43 2 *Acer saccharum*
 8 *Acer spicatum*
 8 *Betula lutea*
Betula papyrifera

- Fagus grandifolia*
Larix laricina
 09642 *Ostrya virginiana*
Picea glauca
Picea mariana
Pinus banksiana
Pinus resinosa
 86432 *Frax nigra*

- Pinus strobus*
Populus tremuloides
Prunus pensylvanica
Prunus serotina
 2 *Thuja occidentalis*
Tilia americana
 2 *Tsuga canadensis*
 2 *Prunus rug.*

SHRUBS

- Alnus rugosa*
Arctostaphylos uva-ursi
Comptonia peregrina
Corylus americana
 5 *Corylus cornuta*
Diervilla lonicera
Dirca palustris
Ilex verticillata
Ledum groenlandicum
 07 *Lonicera canadensis*
 9 *Lonicera hirsutum*

- Prunus pumila*
Pyrus melanocarpa
Ribes cynosbati
Ribes glandulosum
Ribes lacustre
Rosa sp.
Rubus (blackberry)
Rubus (dewberry)
Rubus (raspberry)
 4 *Rubus idaeus*

- Rubus parviflorus*
Sambucus pubens
Shepherdia canadensis
Spiraea alba
Symphoricarpos occidentalis
Taxus canadensis
Vaccinium angustifolium
Vaccinium myrtilloides
Viburnum acerifolium
Viburnum trilobum

HERBS

- Actaea pachypoda*
Actaea rubra
Adiantum pedatum
Anaphlis margaritacea
Anemone cylindrica
Anemone quinquefolia
Anemone virginiana
Antennaria spp.
Apocynum androsaemifolium
Aquilegia canadensis
 9 *Aralia nudicaulis*
Arisaema atrorubens
 09831 *Aster macrophyllus*
Athyrium filix-femina
Botrychium virginianum
Carex pensylvanica
Chimaphila umbellata
Chrysanthemum leucanthemum
 2 *Circaea alpina*
Claytonia caroliniana
Claytonia virginiana
 074 *Clintonia borealis*
 976 *Coptis groenlandicum*
Corallorhiza maculata
 9761 *Cornus canadensis*
Cystopteris fragilis
Dicentra canadensis
Dicentra cucullaria
Dryopteris disjuncta
Dryopteris phegopteris

- 7542 *Dryopteris spinulosa*
Epigaea repens
Epilobium angustifolium
Equisetum sylvaticum
Erythronium americanum
Fragaria vesca
Fragaria virginiana
Galium aparine
 8421 *Galium triflorum*
Gaultheria hispidula
Gaultheria procumbens
Gentiana quinquefolia
Geranium maculatum
Goodyera repens
Habenaria obtusata
Halenia deflexa
Hepatica acutiloba
 2 *Hepatica americana*
Hieracium aurantiacum
 2 *Linnaea borealis*
Lycopodium annotinum
Lycopodium clavatum
Lycopodium complanatum
Lycopodium lucidulum
Lycopodium obscurum
 098765432 *Maianthemum canadense*
Medeola virginiana
Melampyrum lineare
 874 *Mitchella repens*
Mitella diphylla

- Mitella nuda*
Monotropa uniflora
Osmorhiza claytoni
 72 *Oxalis montana*
Oxalis stricta
Polygala paucifolia
Polygonatum pubescens
Prenanthes alba
 9 *Pteridium aquilinum*
Pyrola elliptica
Pyrola rotundifolia
Pyrola secunda
Ranunculus acris
Rhus radicans
 653 *Rubus pubescens*
Sanguinaria canadensis
Smilacina racemosa
Smilacina stellata
Streptopus roseus
Tiarella cordifolia
Trientalis borealis
Trillium erectum
Trillium grandiflorum
Uvularia sessilifolia
Viola canadensis
Viola cucullata
Viola pallens
Viola pubescens
 9 *Viola renifolia*
 098765432 *Waldsteinia fragarioides*

Additional species

Mosses 123567890
Sichens 12370
Oryzopsis 139
Carex pedunculata 237

Brachyglottis 2456780
Vitis 245680
White aster 358
Carex 35
Prunella 5
Sycopsis 5
Onoclea 5
Salix 5
Viola 5680

Viola consp. 68
Carex arctata 80

FREQUENCY DATA
(Common Species)

SPRUCE-FIR - MIXED HARDWOODS

STAND NO. 28 (2)

TREE SEEDLINGS

08721 *Abies balsamea*
 876542 *Acer pensylvanicum*
 7654321 *Acer rubrum*
 890 *Acer saccharum*
 1532 *Acer spicatum*
 7532 *Betula lutea*
Betula papyrifera

Fagus grandifolia
Larix laricina
 041 *Ostrya virginiana*
 9 *Picea glauca*
Picea mariana
Pinus banksiana
Pinus resinosa

09654321 *Pinus rigida*

Pinus strobus
Populus tremuloides
Prunus pensylvanica
 1 *Prunus serotina*
Thuja occidentalis
Tilia americana
Tsuga canadensis

SHRUBS

Alnus rugosa
Arctostaphylos uva-ursi
Comptonia peregrina
Corylus americana
 064 *Corylus cornuta*
Diervilla lonicera
Dirca palustris
Ilex verticillata
Ledum groenlandicum
 9876 *Lonicera canadensis*

Prunus pumila
Pyrus melanocarpa
Ribes cynosbati
Ribes glandulosum
Ribes lacustre
Rosa sp.
Rubus (blackberry)
Rubus (dewberry)
Rubus (raspberry)
Rubus idaeus

Rubus parviflorus
Sambucus pubens
Shepherdia canadensis
Spiraea alba
Symphoricarpos occidentalis
Taxus canadensis
 5 *Vaccinium angustifolium*
 8 *Vaccinium myrtilloides*
Viburnum acerifolium
Viburnum trilobum

HERBS

Actaea pachypoda
Actaea rubra
Adiantum pedatum
Anaphalis margaritacea
Anemone cylindrica
Anemone quinquefolia
Anemone virginiana
Antennaria spp.
Apocynum androsaemifolium
Aquilegia canadensis
 6 *Aralia nudicaulis*
Arisaema atrorubens
 09863 *Aster macrophyllus*
Athyrium filix-femina
Botrychium virginianum
Carex pensylvanica
Chimaphila umbellata
Chrysanthemum leucanthemum
Circaea alpina
Claytonia caroliniana
Claytonia virginiana
 087654 *Clintonia borealis*
Coptis groenlandicum
Corallorhiza maculata
 86541 *Cornus canadensis*
Cystopteris fragilis
Dicentra canadensis
Dicentra cucullaria
Dryopteris disjuncta
Dryopteris phegopteris

094 *Dryopteris spinulosa*
Epigaea repens
Epilobium angustifolium
Equisetum sylvaticum
Erythronium americanum
 01 *Fragaria vesca*
Fragaria virginiana
Galium aparine
 084321 *Galium triflorum*
Gaultheria hispidula
Gaultheria procumbens
Gentiana quinquefolia
Geranium maculatum
Goodyera repens
Habenaria obtusata
Halenia deflexa
Hepatica acutiloba
Hepatica americana
Hieracium aurantiacum
 9 *Linnaea borealis*
Lycopodium annotinum
Lycopodium clavatum
Lycopodium complanatum
Lycopodium lucidulum
Lycopodium obscurum
 087654 *Maianthemum canadense*
Medeola virginiana
Melampyrum lineare
 8741 *Mitchella repens*
Mitella diphylla

Mitella nuda
Monotropa uniflora
Osmorhiza claytoni
 3 *Oxalis montana*
Oxalis stricta
Polygala paucifolia
Polygonatum pubescens
Prenanthes alba
 8 *Pteridium aquilinum*
Pyrola elliptica
Pyrola rotundifolia
Pyrola secunda
Ranunculus acris
Rhus radicans
 1 *Rubus pubescens*
Sanguinaria canadensis
Smilacina racemosa
Smilacina stellata
 4 *Streptopus roseus*
Tiarella cordifolia
 0 *Trientalis borealis*
Trillium erectum
Trillium grandiflorum
Uvularia sessilifolia
Viola canadensis
Viola cucullata
Viola pallens
 4 *Viola pubescens*
 053 *Viola renifolia*
 097654321 *Waldsteinia fragarioides*

Additional species

Moss 123456780 *Brachyketum* 23590
Lichens 1580 *Carex pedunc* 2458
Viola same 12345690 *Carex* sp. 3-projecta
Viola heat 13 *Dryopteris* 678
White 120 *lateriflorus*

Goodyera obtus. 7
Carex intum. 9