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**Site 6013 (Boreal Stand 13): Itasca State Park
Bohall Trail, Clearwater County, Minnesota,
Township 143N, Range 36W, Section 10.
1955-07-17**

[s.l.]: [s.n.], 1955-07-17

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[= Site 6013]

STAND RECORD

FORESTS

Stand No. 13

Name: *Hasca State Pk. Bohall trail*
 County: *Clearwater, Minn.*
 Date: *July 17, 1955*
 Size of Stand: *20 acres*
 Forest Type: *Norway - Wp - Ws - Bs*
 Topography: *gently rolling*

Locality:
 T: *143 N* R: *36 W* Sec: *S.W. 10*

Observers: *PFM*

Size of Area Sampled:
 Soil Type:
 Slope: Directions

Condition of Stand:

OK - some portions are heavily windblown - avoided
Norway pine - dominant - large trees 90-120' tall, spruce + balsam mainly
forming a second lower canopy at 70-80'
Beautiful stand
Stand re-encountered by PFM while checking on blowdown spruce-fir reported
by Dr. Buell - Rutgers, N.J.

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.
A ₀									
A ₁									
A ₂									
B									

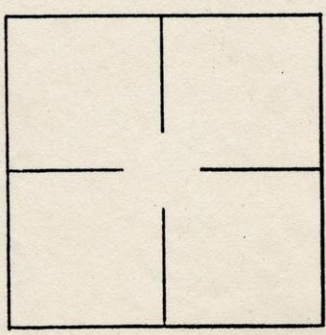
DEPTH

CHARACTERISTICS (Color, Texture, Structure, etc.)

DEPTH	CHARACTERISTICS (Color, Texture, Structure, etc.)
A ₀ 3 1/2" - 7" litter - pine + spruce needles #1 3 1/2" - 7" ferment	#2 2" - litter 4" - 2-ferment
A ₁ 1" black	1 1/2" black
A ₂ 1 1/2" greyish black - leached	1 1/2" grey-brown sand - leached
B 10" grey-brown - sand	10" + brown sand

Parent Material:

Map:



LICHENS OF GREAT LAKES SPRUCE-FIR COMMUNITIES

MINNESOTA

Clearwater County



Bohall Trail, Itasca State Park

T143N R36W SEC 10

Red pine, white spruce, balsam, white pine.

Over 150 yrs. Gently rolling, rather open,
understory rich in shrubs.

July 17, 1955. Coll. Paul F. Maycock

Plant Ecology Research
TREE DATA SUMMARY SHEET

Dry - Mesic
University of Wisconsin
284.7

Spence - fir
~~Northern Pine Hardwoods~~

✓ Station Number: 13 - 1240

Mid-range index

N. limit index

	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											
287.1	Abies bals	16	18				987	8	5.0		40.0	15.8	11.2	4.9	31.9	223.3	255.2
2.0	Acer rubru							29	18.1							1.0	1.0
	A. sacchar																
9.0	A. spicatu							4	2.5							1.0	1.0
	Betula lut																
135.0	B. papyrif	7	7				439	27	16.9		17.5	6.9	4.4	2.2	13.5	67.5	121.5
	Carpinus c																
	Fagus gran																
3.0	Ostrya vir							3	1.9							1.0	1.0
473.0	Picea glau	22	26				1864	29	18.1		55.0	21.8	16.2	9.3	47.3	283.8	473.0
92.8	Pinus Bank	5	5				704				12.5	4.9	3.2	3.5	11.6	11.6	92.8
1166.2	P. resinosa	40	90				14,184	4	2.5		100.0	39.6	56.2	70.8	166.6	499.8	999.6
191.1	P. Strobus	10	13				1829				25.0	10.0	8.2	9.1	27.3	136.5	163.8
	Populus ba																
	P. grandid																
8.0	P. tremulo															1.0	1.0
	Prunus pen							2	1.3								
	Quercus el																
9.0	Q. rubra	1	1				38	7	4.4		2.5	1.0	0.6	0.2	1.8	10.8	7.2
	Tilia amer																
	Tsuga cana																
	Thuja occi																
	Ulmus amer							1	0.6								
	U. fulva							1									
6.0	Prunus virg							15	9.4							1.0	1.0
5.0	Amelanchier							20	12.5							1.0	1.0
	Quercus macr							11	6.9							1.0	1.0
2387	TOTAL		160				20,045	160	100.0		252.5	100.0	100.0	100.0	300.0	1240	2120.1

AVE. DIST. BTW'N TREES:

13.3

AVE B. A.:

125.3

TREES/ACRE:

246

DOM./ACRE:

30,824

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 13 (1)

STATION NO.	1	2	3	4	5	6	7	8	9	10
Abies balsam	8½' 60	22' 105				25' 29 12½' 76	5' 28 8' 56	4' 25		33' 68
Acer rubrum										
A. sacchar.										
A. spicatum										
Betula lut.										
B. papyrif	23' 108								9' 28	
Carpinus car										
Fagus gran										
Ostrya virg										
Picea glau		13½' 135	14' 29	8' 150				13½' 100		
Pinus Bank		3' 78	12' 135	4' 150						
P. resinosa	18' 111 21' 190	20' 145	27' 131 15' 243	10' 180 9½' 121	11½' 80 12½' 200	20' 110	20	34 10½' 90 12' 299	21' 195 8½' 145	3' 54 13' 110
P. Strobus					14' 280	26' 105		14½' 138	14' 89	10' 144
Populus bals										
P. grand										
P. trem										
Prunus penn. <i>virginiana</i>										
Quercus ell										
Q. rubra										
Tilia amer										
Tsuga can										
Thuja occ										
Ulmus amer										
U. fulva										
LITTER	1½"	2½"	3½"	2"	3"	2"	2"	4"	2½"	4½"
CANOPY	18%	0%	1%	35%	15%	2%	40%	35%	13%	10%
Distance	70½'	58½'	68'	31½'	44½'	83½'	46½'	41'	52½'	59'

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 13(2)

STATION NO.	1	2	3	4	5	6	7	8	9	10
Abies balsam			13' 65		12' 45			4' 54		
Acer rubrum										
A. sacchar.										
A. spicatum										
Betula lut.										
B. papyrif								11' 195		
Carpinus car										
Fagus gran										
Ostrya virg										
Picea glau	10 1/2 18 16' 44			11 1/2 120	8 19		23' 121		24' 58	5' 24 6' 38
Pinus Bank							11' 185		10' 142	
P. resinosa	4' 270	15' 201 12 1/2 210	1' 265 8' 84	11' 218 12' 205	6' 25 20' 49	14' 225 1' 190	9' 78 11' 142	18' 165 6' 76	11' 72 21' 180	10' 250 3' 44
P. Strobus	14' 89	16' 108	18 1/2 168	16' 104		21' 155 9 1/2 141				
Populus bals										
P. grand										
P. trem										
Prunus pen.										
Quercus ell										
Q. rubra										
Tilia amer										
Tsuga can										
Thuja occ										
Ulmus amer										
U. fulva										
LITTER	3 1/2"	2"	3"	3 1/2"	4 1/2"	4"	5"	4 1/2"	3 1/2"	4 1/2"
CANOPY	15%	6%	10%	40%	15%	8%	2%	75%	20%	28%
Distance	44 1/2'	56 1/2'	40 1/2'	50 1/2'	46'	45 1/2'	54'	39'	66'	24'

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 13(3)

STATION NO.	1	2	3	4	5	6	7	8	9	10
Abies balsam	3' 25	7' 60				20' 32		22' 92		10' 33
Acer rubrum										
A. sacchar.										
A. spicatum										
Betula lut.										
B. papyrif			15' 19					9 1/2 45		
Carpinus car										
Fagus gran										
Ostrya virg										
Picea glau	18' 24	25' 38		7' 37	8' 42	13 1/2 120	23' 76			9 1/2 105
Pinus Bank						14' 156				
P. resinosa	6' 120 15' 200	6' 270 17' 145	8 1/2 213 22' 221	7' 142 22' 229	11' 85 8' 230	12' 44	10 1/2 97 14' 188	18' 240 30' 210	17' 279	18' 318
P. Strobus			22' 205	18' 239	6 1/2 281			19' 195	5' 120 12' 112	8' 121 4 1/2 215
Populus bals										
P. grand										
P. trem										
Prunus pen.										
Quercus ell										
Q. rubra										
Tilia amer										
Tsuga can										
Thuja occ										
Ulmus amer										
U. fulva										
LITTER	4"	3 1/2"	3 1/2"	4"	5"	2 1/2"	3"	1 1/2"	3 1/2"	2 1/2"
CANOPY	80%	15%	19%	16%	65%	4%	2%	5%	35	15
Distance	42'	55'	66 1/2'	61'	33 1/2'	59 1/2'	57'	89'	47 1/2'	45 1/2'

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 13(4)

STATION NO.	1	2	3	4	5	6	7	8	9	10
Abies balsam	12 1/2 92		24 1/2 42							
Acer rubrum										
A. sacchar.										
A. spicatum										
Betula lut.										
B. papyrif				16' 22			25' 22			
Carpinus car										
Fagus gran										
Ostrya virg		17' 32								
Picea glau	17' 107	12' 65 5' 82	13' 132		12 1/2 66		7' 82			
Pinus Bank					17' 99			28' 159	18' 34	21' 180
P. resinosa	19' 210	13' 172	4 1/2 136 15' 129	19' 84 11' 122	7' 85 6' 76	9' 185	12' 190	5' 210	10' 222	10 1/2 215
P. Strobus	10 1/2 145			12 1/2 111			42' 200	9 1/2 115	10 1/2 141	11' 105
Populus bals										
P. grand										
P. trem										
Prunus pen.										
Quercus ell										
Q. rubra						11 1/2 38				
Tilia amer										
Tsuga can										
Thuja occ										
Ulmus amer										
U. fulva										
LITTER	2 1/2"	3"	2"	2 1/2"	2 1/2"	1 1/2"	4 1/2"	4"	3"	2"
CANOPY	4%	5%	10%	5%	19%	58	0%	5%	3%	15
Distance	59'	47'	56 1/2'	58 1/2'	42 1/2'	52 1/2'	94'	39 1/2'	45 1/2'	45 1/2'

Avg. Canopy 20%

Avg. litter 3.2"

POINT RECORD TREES

SAPLINGS

NORTHERN PINE-HARDWOODS

Stand No. 13(1)

STATION NO.	1	2	3	4	5	6	7	8	9	10
Abies balsam			16'					18'		
Acer rubrum			1' 13'	7'	3'	19' 13'		5'	3' 2'	
A. sacchar.										
A. spicatum										
Betula lut.		30' 20'								
B. papyrif		16'		14' 21'	19'		22'			
Carpinus car										
Fagus gran										
Ostrya virg										11'
Picea glau	40' 13'		10 1/2'						7'	13'
Pinus Bank										
P. resinosa					7'					
P. Strobus										
Populus bals										
P. grand										
P. trem										
Prunus per. <i>Myrica</i>							3'			4'
Quercus ell										
Q. rubra							7'			
Tilia amer										
Tsuga can										
Thuja occ										
Ulmus amer										
U. fulva										
Amelanchier	26' 2'				11'	3 1/2' 7'	2'	4'	11'	3'
Juncus <i>macrocarpa</i>		24'		9'				1'		
Distance	81'	90'	40 1/2'	51'	30'	42 1/2'	34'	28'	23'	31'

SAPLINGS

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 13 (2)

STATION NO.	1	2	3	4	5	6	7	8	9	10
<i>Abies balsam</i>					20'					
<i>Acer rubrum</i>	1'			31'			8' 4'	12½' 8'		8'
<i>A. sacchar.</i>										
<i>A. spicatum</i>										
<i>Betula lut.</i>										
<i>B. papyrif</i>	30'		12'					28'		
<i>Carpinus car</i>										
<i>Fagus gran</i>										
<i>Ostrya virg</i>										
<i>Picea glau</i>	14' 9½'	20'		28'	15' 12'	9½' 10'			16'	6'
<i>Pinus Bank</i>										
<i>P. resinosa</i>								22'		
<i>P. Strobus</i>										
<i>Populus bals</i>										
<i>P. grand</i>										
<i>P. trem</i>										
<i>Prunus pennsylvanica</i> <i>per.</i>					21'	2'			4'	15' 13'
<i>Quercus ell</i>										
<i>Q. rubra</i>		6'	21'	3'			3½'			
<i>Tilia amer</i>										
<i>Tsuga can</i>										
<i>Thuja occ</i>										
<i>Ulmus amer</i>										
<i>U. fulva</i>										
<i>Amelanchier</i>		4' 4'	1½' 7'			7'			3' 1'	
<i>Juniper macro</i>				12'						
Distance	54½'	34'	41½'	74'	68'	28½'	20'	70½'	24'	42'

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 13(3)

STATION NO.	1	2	3	4	5	6	7	8	9	10
Abies balsam	15' 8'				2 1/2' 4 1/2'	16'				
Acer rubrum				1'			2' 6'	7'		3'
A. sacchar.										
A. spicatum								13 1/2'	13 1/2' 4 1/2'	
Betula lut.										
B. papyrif		19'	2'			10'				15' 14'
Carpinus car										
Fagus gran										
Ostrya virg			4'			7'				
Picea glau		16 1/2'	3'	12'	7'					16'
Pinus Bank										
P. resinosa	15'				13'					
P. Strobus										
Populus bals										
P. grand										
P. trem										
Prunus penn ^{virginiana}		11'		3' 4'		5'			4'	
Quercus ell										
Q. rubra										
Tilia amer										
Tsuga can										
Thuja occ										
Ulmus amer										
U. fulva							3'			
Amelanchier	5'		12'				17'			
Quercus macro		23'						5'		
Prunus pen.								3'		
Distance	43'	69 1/2'	21'	20'	27'	38'	28'	28 1/2'	25 1/2'	48'

POINT RECORD TREES

SAPLINGS

NORTHERN PINE-HARDWOODS

Stand No. 13 (4)

STATION NO.	1	2	3	4	5	6	7	8	9	10
Abies balsam										
Acer rubrum	1' 2'	3'	3' 2'			8'				3'
A. sacchar.										
A. spicatum										
Betula lut.										
B. papyrif	14	14'	2'	8'			5'	5' 4'	8' 6'	8' 7' 6' 3'
Carpinus car										
Fagus gran										
Ostrya virg										
Picea glau	11'			8' 6'	14' 11'	14' 22'	17'			7'
Pinus Bank										
P. resinosa										
P. Strobus										
Populus bals										
P. grand										
P. trem										
Prunus ^{virg} pen					8 1/2'	3'	7'			
Quercus ell										
Q. rubra					13'			17'		
Tilia amer										
Tsuga can										
Thuja occ										
Ulmus amer										
U. fulva										
Juercus macro	3'	4'	8'		9'			13'		
Amelanchier		4'								
Prunus pen							16'			
Distance	17'	25'	15'	26'	44 1/2'	47 1/2'	45'	39'	29'	19'

PRESENCE LIST

SPRUCE-FIR - MIXED HARDWOODS

STAND NO. 13

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*

✓ *Quercus macrocarpa*

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 oxyacanthoides*
- 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*
- Anaphlis 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 13

- ✓ *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 bicknellii
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
 ✓ *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 mistassinaca
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

Additional species

- Cakilegon schreiberi*
Oryzopsis asperifolia
Goodyera repens
Viola sp. - incognita
 Black barked or red when very small
 birch - collected. - white birch
Galium asprellum

FREQUENCY DATA
(Common Species)

SPRUCE-FIR - MIXED HARDWOODS

STAND NO. 13(1)

TREE SEEDLINGS

09761 *Abies balsamea*
Acer pensylvanicum
 96 *Acer rubrum*
Acer saccharum
Acer spicatum
Betula lutea
Betula papyrifera

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

SHRUBS

Alnus rugosa
Arctostaphylos uva-ursi
Comptonia peregrina
Corylus americana
 098654 *Corylus cornuta*
 0875 *Diervilla lonicera*
Dirca palustris
Ilex verticillata
Ledum groenlandicum
 7 *Lonicera canadensis*

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

HERBS

Actaea pachypoda
Actaea rubra
Adiantum pedatum
Anaphalis margaritacea
Anemone cylindrica
 984 *Anemone quinquefolia*
Anemone virginiana
Antennaria spp.
Apocynum androsaemifolium
Aquilegia canadensis
Aralia nudicaulis
Arisaema atrorubens
 8764321 *Aster macrophyllus* 90
Athyrium filix-femina
Botrychium virginianum
 07541 *Carex pensylvanica pedunculata*
Chimaphila umbellata
Chrysanthemum leucanthemum
 2 *Circaea alpina*
Claytonia caroliniana
Claytonia virginiana
 754 *Clintonia borealis*
Coptis groenlandicum
Corallorhiza maculata
 065431 *Cornus canadensis*
Cystopteris fragilis
Dicentra canadensis
Dicentra cucullaria
Dryopteris disjuncta
Dryopteris phegopteris

5 *Dryopteris spinulosa*
Epigaea repens
Epilobium angustifolium
Equisetum sylvaticum
Erythronium americanum
 9763 *Fragaria vesca*
 7763 *Fragaria virginiana*
Galium aparine
 64321 *Galium triflorum*
Gaultheria hispidula
Gaultheria procumbens
Gentiana quinquefolia
Geranium maculatum
 2 *Goodyera repens*
Habenaria obtusata
Halenia deflexa
Hepatica acutiloba
 9876 *Hepatica americana*
Hieracium aurantiacum
 09432 *Linnaea borealis*
Lycopodium annotinum
Lycopodium clavatum
Lycopodium complanatum
 2 *Lycopodium lucidulum*
Lycopodium obscurum
 98654321 *Maianthemum canadense*
Medeola virginiana
Melampyrum lineare
Mitchella repens
Mitella diphylla

1 *Pinus virginiana*
Pinus strobus
Populus tremuloides
Prunus pensylvanica
Prunus serotina
Thuja occidentalis
Tilia americana
Tsuga canadensis
 6 *Quercus macrocarpa*
 8 *Quercus rubra*

Rubus parviflorus
Sambucus pubens
Shepherdia canadensis
Spiraea alba
Symphoricarpos occidentalis
Taxus canadensis
 0985432 *Vaccinium angustifolium*
 0985432 *Vaccinium myrtilloides*
Viburnum acerifolium
Viburnum trilobum
 872 *Symphoricarpos albus*

Mitella nuda
Monotropa uniflora
Osmorhiza claytoni
Oxalis montana
Oxalis stricta
Polygala paucifolia
Polygonatum pubescens
Prenanthes alba
 864321 *Pteridium aquilinum*
Pyrola elliptica
Pyrola rotundifolia
Pyrola secunda
Ranunculus acris
 971 *Rhus radicans*
 976542 *Rubus pubescens*
Sanguinaria canadensis
Smilacina racemosa
Smilacina stellata
 2 *Streptopus roseus*
Tiarella cordifolia
 5 *Trientalis borealis*
Trillium erectum
Trillium grandiflorum
Uvularia sessilifolia
Viola canadensis
Viola cucullata
Viola pallens
Viola pubescens
Viola renifolia
Waldsteinia fragarioides

Additional species

Thalictrum flavum 1
Oryzopsis asperifolia 2367890
Galium boreale 3180
Galium asperillum 3

Athyrium filix fem 6
Fathyrus ochroleucus 78
 mod. 15 7890
Sambuca racemosa 0

FREQUENCY DATA
(Common Species)

SPRUCE-FIR - MIXED HARDWOODS

STAND NO. 13(2)

TREE SEEDLINGS

741 Abies balsamea
Acer pensylvanicum
Acer rubrum
Acer saccharum
Acer spicatum
Betula lutea
83 Betula papyrifera

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

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

SHRUBS

Alnus rugosa
Arctostaphylos uva-ursi
Comptonia peregrina
Corylus americana
987321 Corylus cornuta 0
732 Diervilla lonicera
Dirca palustris
Ilex verticillata
Ledum groenlandicum
Lonicera canadensis
5 Lonicera hirsutum

Prunus pumila
Pyrus melanocarpa
Ribes cynosbati
Ribes glandulosum
Ribes lacustre
Rosa sp.
Rubus (blackberry)
Rubus (dewberry)
Rubus (raspberry)
9632 Rubus idaeus

Rubus parviflorus
Sambucus pubens
Shepherdia canadensis
Spiraea alba
4 Symphoricarpos occidentalis
Taxus canadensis
06541 Vaccinium angustifolium
Vaccinium myrtilloides
Viburnum acerifolium
Viburnum trilobum
6 Viburnum rafinesquianum

HERBS

Actaea pachypoda
Actaea rubra
Adiantum pedatum
Anaphalis margaritacea
Anemone cylindrica
2 Anemone quinquefolia
Anemone virginiana
Antennaria spp.
Apocynum androsaemifolium
Aquilegia canadensis
97 Aralia nudicaulis
Arisaema atrorubens
7654321 Aster macrophyllus 890
Athyrium filix-femina
Botrychium virginianum
74 Carex pensylvanica pedunculata
Chimaphila umbellata
Chrysanthemum leucanthemum
Circaea alpina
Claytonia caroliniana
Claytonia virginiana
932 Clintonia borealis
Coptis groenlandicum
Corallorhiza maculata
9876532 Cornus canadensis 0
Cystopteris fragilis
Dicentra canadensis
Dicentra cucullaria
Dryopteris disjuncta
Dryopteris phegopteris

Dryopteris spinulosa
Epigaea repens
Epilobium angustifolium
Equisetum sylvaticum
Erythronium americanum
963 Fragaria vesca
763 Fragaria virginiana
Galium aparine
7654 Galium triflorum
Gaultheria hispidula
Gaultheria procumbens
Gentiana quinquefolia
Geranium maculatum
Goodyera repens
Habenaria obtusata
Halenia deflexa
531 Hepatica acutiloba
Hepatica americana
Hieracium aurantiacum
9654 Linnaea borealis
Lycopodium annotinum
2 Lycopodium clavatum
Lycopodium complanatum
Lycopodium lucidulum
Lycopodium obscurum
09875321 Maianthemum canadense
Medeola virginiana
Melampyrum lineare
Mitchella repens
Mitella diphylla

Mitella nuda
Monotropa uniflora
Osmorhiza claytoni
Oxalis montana
Oxalis stricta
Polygala paucifolia
Polygonatum pubescens
Prenanthes alba
08731 Pteridium aquilinum
Pyrola elliptica
Pyrola rotundifolia
Pyrola secunda
Ranunculus acris
Rhus radicans
098654321 Rubus pubescens
Sanguinaria canadensis
Smilacina racemosa
Smilacina stellata
02 Streptopus roseus
Tiarella cordifolia
Trientalis borealis
Trillium erectum
Trillium grandiflorum
9 Uvularia sessilifolia
Viola canadensis
Viola cucullata
Viola pallens
Viola pubescens
Viola renifolia
Waldsteinia fragarioides

Additional species

Galium boreale 136
Onycholepis asperifolia 123468
Lathyrus ochroleucus 1259
Mnium 12489

Thalictrum dioicum 2
Sphagnum hypnum 4