



Site 6031 (Boreal Stand 31): Lake Gratiot Rd, Keweenaw County, Michigan, Township 58N, Range 31W, Section 25. 1955-08-14

[s.l.]: [s.n.], 1955-08-14

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STAND RECORD

FORESTS

Stand No. 31

Name: Lake Gratiot Rd.
 County: Keweenaw Co., N. Mich.
 Date: Aug 14, 1955
 Size of Stand: 45 acres
 Forest Type: Spruce-fir-hardwoods
 Topography: Gently rolling, fairly level area

Locality:
 T: 58N R: 31W Sec: W_{1/4} 25
 Observers: PFM
 Size of Area Sampled:
 Soil Type:
 Slope: Directions

Condition of Stand:

Logged for pine & hemlock - pines 3'-4' on the butt removed.
 Understory rather sparse
 High water table
 Maple tends to be somewhat shrubby
 Few spots are windthrown - in places predominantly coniferous
 Many fairly large Prynus avium. - 1 53 sq" BA BH

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									

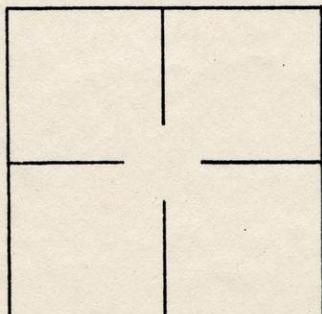
DEPTH
 A₀ ^{#1} 2" litter 1" ferment
 A₁ ^{#2} $\frac{1}{2}$ " black charred
 A₂ 4" grey-brownish red-clayish
 B 5" reddish brown

CHARACTERISTICS (Color, Texture, Structure, etc.)

#2 $\frac{1}{2}$ litter $\frac{1}{4}$ ferment
 3/4 black-fine
 3" - to #1 other reddish brown
 clay loam
 #3 $\frac{1}{2}$ litter $\frac{1}{2}$ ferment
 $\frac{1}{2}$ black crumbly
 3" grey reddish brown-loamy
 other red brown clay loam

Parent Material:

Map:



LICHENS OF GREAT LAKES SPRUCE-FIR COMMUNITIES

NORTHERN MICHIGAN

Keweenaw County



Road to Lake Gratiot, 1 mile off Hy. 41.

T58N R31W SEC 25.

Maple, balsam & white spruce. Gently rolling,
high water table. Logged for pine and hemlock,
heavy canopy, sparse understory.

August 14, 1955. Coll. Paul F. Maycock

Plant Ecology Research
TREE DATA SUMMARY SHEET

University of Wisconsin

163.5

Meine
Acer saccharum - Abies balsamea - Picea glaucaSpruce-fir
Northern Pine Hardwoods

notes.

70 Sep.

✓ Station Number: 31 - 2378

N. Limit
Index

766.4

8.5

612.0

23.5

1.0

1.0

551.0

654

8.4

1.0

10.2

1.0

23.4

11.9

2084.7

2090

28,993

Midrange
Index

862.2

3.4

489.6

28.2

10.0

3.0

551.0

76.3

P. resinos

P. Strobus

Populus ba

P. grandid

P. tremulo

Prunus pen

Quercus el

10.5

Q. rubra

Tilia amer

Tsuga cana

13.6

Thuja occi

Ulmus amer

U. fulva

Pyrus amer.

Amelanchier

Crataegus

TREE	# PTS	# TRS	DOM. CLASSES			TOT. DOM.	# SAP	D. % SAP	F. % SLD.	F. % TRS.	% SUM F. TR.	D. % TRS.	DOM% TRS.	DFD INDEX	C. I.
			-80	-320	321										
Abies bals	33	52		32.5		3973	31	19.4		82.5	33.0	32.5	30.3	95.8	670.6
Acer rubru	1	1		0.6		16	6	38		2.5	1.0	0.6	0.1	1.7	10.2
A. sacchar	37	74		46.3		5123	94	58.8		92.5	37.0	46.3	39.1	122.4	1224.0
A. spicatu															
Betula lut	1	1		0.6		405				2.5	1.0	0.6	3.1	4.7	37.6
B. papyrif							2	1.3							1.0
Carpinus c															
Fagus gran															
Ostrya vir															1.0
Picea glau	19	23		14.4		2837	4	2.5		47.5	19.0	14.4	21.7	55.1	330.6
Pinus Bank															
P. resinos															
P. Strobus	4	4		2.5		573				10.0	4.0	2.5	4.4	10.9	54.5
Populus ba															
P. grandid															
P. tremulo															
Prunus pen															
Quercus el															
Q. rubra	1	1		0.6		65				2.5	1.0	0.6	0.5	2.1	12.6
Tilia amer															1.0
Tsuga cana															
Thuja occi	1	1		0.6		16	2	1.3		2.5	1.0	0.6	0.1	1.7	11.9
Ulmus amer															
U. fulva							5	3.1							1.0
Pyrus amer.	2	2		1.3		73	3	1.9		5.0	2.0	1.3	0.6	3.9	15.6
Amelanchier	1	1		0.6		15	12	7.5		2.5	1.0	0.6	0.1	1.7	6.8
Crataegus							1	0.6							
TOTALS	160			13,096	160					250.0	100.0	100.0	100.0	300.0	2378

AVE. DIST. BTW'N TREES:

11.1

AVE. B. A. :

81.9

TREES/ACRE:

354

DOM. /ACRE:

28,993

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 31 (1)

STATION NO.	1	2	3	4	5	6	7	8	9	10
<i>Abies balsam</i>		13½ 62	4½ 60		8 45	12 110	19 212	19 89	29 156	10½ 103
<i>Acer rubrum</i>		16 55	8 56		18½ 54					
<i>A. sacchar.</i>	19 95	7 58	13½ 86	14 36	8 102	8½ 67	12½ 97	21 85	12 31	7 156
<i>A. spicatum</i>				18 91	3 65	17 38	14 69	13½ 160	4½ 87	18 27
<i>Betula lut.</i>				16 72	11 63		28 107	20 30	32 105	
<i>B. papyrif</i>										
<i>Carpinus car</i>										
<i>Fagus gran</i>										
<i>Ostrya virg</i>										
<i>Picea glau</i>	8½ 132	6½ 29			22 56		13 68			
11½ 105										
<i>Pinus Bank</i>										
<i>P. resinosa</i>										
<i>P. Strobus</i>	6½ 145									
<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>										
<i>Thuja occ</i>									4½ 16	
<i>Ulmus amer</i>										
<i>U. fulva</i>										
<i>Litter</i>	2"	2½	4"	½	3	1"	2	1	1½	1½
<i>Canopy</i>	60	70	75	85	90	65	70	55	50	45
<i>Distance</i>	45½	43	34½	60	30	50½	63½	73½	77½	40
	<i>Ave Canopy</i> 61.1					<i>Ave Litter</i> 1.5				

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 31 (2)

STATION NO.	1	2	3	4	5	6	7	8	9	10
<i>Abies balsam</i>		8 49 11 1/2 28 11 1/2 14	2 1/2 80	8 170 16 45	10 1/2 155	21 165		16 158 20 39	6 125 20 39	
<i>Acer rubrum</i>										
<i>A. sacchar.</i>	12 1/2 210 12 5 160	12 1/2 62 10 45	4 1/2 74 15 12 11 1/2	1 65 94	14 42 14 64	16 61 17	110 12 7 52 10 1/2	38 8 1/2 3 24 8	102 42 34 73	47
<i>A. spicatum</i>	19 155 15 30									
<i>Betula lut.</i>										
<i>B. papyrif</i>										
<i>Carpinus car</i>										
<i>Fagus gran</i>										
<i>Ostrya virg</i>										
<i>Picea glau</i>	15 110		16 59		12 1/2 165 21	7 189 163	12 163		13 152	
<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>				11 1/2 165						
<i>Tilia amer</i>										
<i>Tsuga can</i>										
<i>Thuja occ</i>										
<i>Ulmus amer</i>										
<i>U. fulva</i>										
Litter	1	2	1/2	1/2	1/4	3/4	1"	1	2	1 1/2
Canopy	60	55	60	70	55	15	60	85	75	85
Distance	7 1/2	4 5 1/2	4 2 1/2	21	4 7 1/2	55	66	34	43	4 3 1/2

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 31 (3)

STATION NO.	1	2	3	4	5	6	7	8	9	10
<i>Abies balsam</i>	8' 13 $\frac{1}{2}$	8' 32	5 $\frac{1}{2}$ 24	3 $\frac{1}{2}$ 25	10' 16 $\frac{1}{2}$	6 $\frac{1}{2}$ 98	10' 105	12' 55	9' 48	8 $\frac{1}{2}$ 22
<i>Acer rubrum</i>	17' 97	8' 35	10' 52		7' 31	4 $\frac{1}{2}$ 46	16' 58			
<i>A. sacchar.</i>	17' 39	7 $\frac{1}{2}$ 40	13' 40	17' 38	11' 45	9 $\frac{1}{2}$ 120		7' 80	6' 32	4 $\frac{1}{2}$ 38
<i>A. spicatum</i>					5 $\frac{1}{2}$ 50		6 $\frac{1}{2}$ 40	16' 76		
<i>Betula lut.</i>							120' 44			
<i>B. papyrif</i>										
<i>Carpinus car</i>										
<i>Fagus gran</i>										
<i>Ostrya virg</i>										
<i>Picea glau</i>			9' 120	6 $\frac{1}{2}$ 35	19' 29			10 $\frac{1}{2}$ 158	11' 110	
<i>Pinus Bank</i>								11' 57		
<i>P. resinosa</i>										
<i>P. Strobus</i>	6' 58		6' 185			5 $\frac{1}{2}$ 185				
<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>										
<i>Thuja occ</i>										
<i>Ulmus amer</i>										
<i>U. fulva</i>										
Litter	1"	1"	2	1 $\frac{1}{2}$	2	1	2 $\frac{1}{2}$	2	1 $\frac{1}{2}$	2
Canopy	75	75	60	65	65	85	45	55	65	55
Distance	45	29 $\frac{1}{2}$	36	35 $\frac{1}{2}$	34 $\frac{1}{2}$	40 $\frac{1}{2}$	36	45 $\frac{1}{2}$	43 $\frac{1}{2}$	33

POINT RECORD TREES

NORTHERN PINE-HARDWOODS

Stand No. 31 (4)

STATION NO.	1	2	3	4	5	6	7	8	9	10
<i>Abies balsam</i>	2½ 8	22 68	11½ 15	50 100	5 38	46 48	11 11	47 48	8 9	96 92
<i>Acer rubrum</i>			3	64						
<i>A. sacchar.</i>		11 25		5 9	46 29	5 17	65 70	14 12	76 55½ 10	12½ 38½ 35
<i>A. spicatum</i>									17 11½ 66	46 16½ 106
<i>Betula lut.</i>							12 405			
<i>B. papyrif</i>										
<i>Carpinus car</i>										
<i>Fagus gran</i>										
<i>Ostrya virg</i>										
<i>Picea glau</i>	4 4	87 9	125						8½ 76	44 12 560
<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>										
<i>Thuja occ</i>										
<i>Ulmus amer</i>										
<i>U. fulva</i>										
<i>Amelanchier</i>	1½ 2½	15 35								
<i>Pyrus amer.</i>	—	—								
Litter	2	2	1	2	1½	1"	3"	½	1	1
Canopy	30	25	65	60	55	65	60	40	55	60
Distance	16	34	15½	35	41	47	45½	53	53	43½

POINT RECORD TREES SAPLINGS

NORTHERN PINE-HARDWOODS

Stand No. 31 (1)

STATION NO.	1	2	3	4	5	6	7	8	9	10
<i>Abies balsam</i>	9	10	7		7½	13	9			
		14								
<i>Acer rubrum</i>										
<i>A. sacchar.</i>	12½ 8	2½ 16	12½ 15	17 13½ 14½	19 5	7½ 22	27 12½	13½ 9½ 4	19 4½ 9	9½ 14½ 10½
<i>A. spicatum</i>										
<i>Betula lut.</i>										
<i>B. papyrif</i>										
<i>Carpinus car</i>										
<i>Fagus gran</i>										
<i>Ostrya virg</i>										
<i>Picea glau</i>						12			11	
<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>										
<i>Thuja occ</i>										5
<i>Ulmus amer</i>										
<i>U. fulva</i>			8							
<i>Populus amer</i>	13									
<i>Amelanchier</i>									14	
<i>Catalpa</i>								13		
Distance	42½	42½	42½	64	42	54½	36	59	38½	39½

POINT RECORD TREES SAPLINGS

NORTHERN PINE-HARDWOODS

Stand No. 31 (2)

STATION NO.	1	2	3	4	5	6	7	8	9	10
<i>Abies balsam</i>		14 11	12		8	6	5½ 12 10			3
<i>Acer rubrum</i>							3½	10½		
<i>A. sacchar.</i>	11 15	11½ 20	8½ 10½	4½ 7	11½ 17	9½		1 11	5 4 6 16 6 10½ 8	1½
<i>A. spicatum</i>										
<i>Betula lut.</i>										
<i>B. papyrif</i>						16				
<i>Carpinus car</i>										
<i>Fagus gran</i>										
<i>Ostrya virg</i>										
<i>Picea glau</i>		10½				11				
<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>										
<i>Thuja occ</i>										
<i>Ulmus amer</i>										
<i>U. fulva</i>	11		16	15						
<i>Amelanchier</i>			12			15½				
Distance	57	47	48½	37	46	48½	31	28½	31	23

POINT RECORD TREES SAPLINGS

NORTHERN PINE-HARDWOODS

Stand No. 31 (3)

STATION NO.	1	2	3	4	5	6	7	8	9	10
<i>Abies balsam</i>		7		9½		9½	30 9½	9½	16	10½ 8
<i>Acer rubrum</i>			7½ 3	4						
<i>A. sacchar.</i>	9 6	10½ 12½	6½ 10½	7½ 5	20 7	6½ 14	11½ 4	10. 11	11½ 18	8 17
<i>A. spicatum</i>										
<i>Betula lut.</i>										
<i>B. papyrif</i>						10½				
<i>Carpinus car</i>										
<i>Fagus gran</i>										
<i>Ostrya virg</i>										
<i>Picea glau</i>										
<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>										
<i>Thuja occ</i>										11
<i>Ulmus amer</i>										
<i>U. fulva</i>										
<i>Amelanchier</i>	10	5		11		9½				
Distance	35½	31	28½	38½	38½	35½	59	49½	66½	37½

POINT RECORD TREES SAPLINGS

NORTHERN PINE-HARDWOODS

Stand No. 31(4)

STATION NO.	1	2	3	4	5	6	7	8	9	10
<i>Abies balsam</i>	3½		7 4	14½						
<i>Acer rubrum</i>										10
<i>A. sacchar.</i>	13 8½	3 9½	8½ 15	10 19	10 8½	9½ 3	8½ 7	8½ 4	10½ 9	11 7
<i>A. spicatum</i>										
<i>Betula lut.</i>										
<i>B. papyrif</i>										
<i>Carpinus car</i>										
<i>Fagus gran</i>										
<i>Ostrya virg</i>										
<i>Picea glau</i>										
<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>										
<i>Thuja occ</i>										
<i>Ulmus amer</i>										
<i>U. fulva</i>										11
<i>Populus amer</i>					6			3½		
<i>Anemone</i>					12	2	14½			
Distance	28	43	40	35½	33½	29	37½	36	46	38

	P.			10		20
<i>Carex disperma</i>						
<i>Carex eburnea</i>						
<i>Carex intumescens</i>	✓				✓	1 5
<i>Carex leptalea</i>						
✓ <i>Carex pedunculata</i>	✓	✓	✓	✓	✓	✓ 8 40
<i>Carex pensylvanica</i>	✓			✓	✓	3 15
<i>Carex projecta</i>						
<i>Carex woodii</i>						
<i>Carex spp.</i>	✓					1
<i>Caulophyllum thalictroides</i>						
<i>Celastrus scandens</i>						
<i>Chamaedaphne calyculata</i>						
<i>Chimaphila umbellata</i>						
<i>Chrysanthemum leucanthemum</i>						
<i>Chrysosplenium americanum</i>						
<i>Cicuta maculata</i>						
<i>Cinna latifolia</i>						
✓ <i>Circaeа alpina</i>	✓					1
<i>Cirsium altissimum</i>						
<i>Cirsium arvense</i>						
<i>Cirsium vulgare</i>						
<i>Claytonia caroliniana</i>						
<i>Claytonia virginica</i>						
<i>Clematis virginiana</i>						
<i>Clematis verticillaris</i>						
✓ <i>Clintonia borealis</i>	✓	✓	✓	✓	✓	✓ 7 35
<i>Comandra richardsonia</i>						
<i>Comandra umbellata</i>						
<i>Comptonia peregrina</i>						
<i>Convolvulus spithameus</i>						
✓ <i>Coptis groenlandicum</i>	✓			✓		1 5
<i>Corallorrhiza maculata</i>						
<i>Corallorrhiza striata</i>						
<i>Corallorrhiza trifida</i>						
<i>Cornus alternifolia</i>	✓					1
<i>Cornus canadensis</i>	✓					1
<i>Cornus racemosa</i>						
<i>Cornus rugosa</i>						
<i>Cornus stolonifera</i>						
<i>Corydalis sempervirens</i>						
<i>Corylus americana</i>						
✓ <i>Corylus cornuta</i>	✓	✓		✓	✓	3 15
<i>Cryptotaenia canadensis</i>						
<i>Cynoglossum boreale</i>						
<i>Cynoglossum officinale</i>						
<i>Cypripedium acaule</i>						
<i>Cypripedium arietinum</i>						
<i>Cypripedium calceolus</i>						
<i>Cypripedium reginae</i>						
<i>Cystopteris bulbifera</i>						
<i>Cystopteris fragilis</i>						
<i>Dalibarda repens</i>						

	P.		10		20
<i>Desmodium glutinosum</i>					
<i>Dicentra canadensis</i>					
<i>Dicentra cucullaria</i>					
<i>Diervilla lonicera</i>	✓				
<i>Dirca palustris</i>					1
<i>Dryopteris boottii</i>					
<i>Dryopteris cristata</i>					
<i>Dryopteris disjuncta</i>	✓				1
<i>Dryopteris goldiana</i>					
<i>Dryopteris marginalis</i>					
<i>Dryopteris noveboracensis</i>					
<i>Dryopteris phegopteris</i>					
<i>Dryopteris spinulosa</i>	✓			✓	✓
<i>Empetrum nigrum</i>					
<i>Epifagus virginiana</i>					
<i>Epigaea repens</i>					
<i>Epilobium angustifolium</i>	✓				1
<i>Epilobium glandulosum</i>	✓				1
<i>Epilobium strictum</i>					
<i>Equisetum arvense v. borealis</i>	✓				1
<i>Equisetum pratense</i>					
<i>Equisetum scirpoide</i>					
<i>Equisetum sylvaticum</i>	✓		✓		1 5
<i>Erigeron annuus</i>					
<i>Erigeron philadelphicus</i>					
<i>Erigeron strigosus</i>					
<i>Erythronium albidum</i>					
<i>Erythronium americanum</i>					
<i>Eupatorium maculatum</i>					
<i>Eupatorium perfoliatum</i>					
<i>Eupatorium purpureum</i>					
<i>Fagopyrum sagittatum</i>					
<i>Festuca obtusa</i>					
<i>Fragaria vesca</i>	✓				1
<i>Fragaria virginiana</i>	✓				
<i>Galium aparine</i>					
<i>Galium asprellum</i>	✓				1
<i>Galium boreale</i>					
<i>Galium concinnum</i>					
<i>Galium lanceolatum</i>					
<i>Galium triflorum</i>	✓	✓	✓	✓	✓ 5 25
<i>Gaultheria hispida</i>					
<i>Gaultheria procumbens</i>					
<i>Gaylussacia baccata</i>					
<i>Gentiana andrewsii</i>					
<i>Gentiana crinata</i>					
<i>Gentiana linearis</i>					
<i>Gentiana quinquefolia</i>					
<i>Geocaulon lividum</i>					
<i>Geranium bicknelli</i>	✓				
<i>Geranium maculatum</i>					
<i>Geranium robertianum</i>					

	P.			10.			20
<i>Geum aleppicum</i>							
<i>Geum canadense</i>							
<i>Geum rivale</i>							
<i>Glyceria striata</i>							
<i>Goodyera obtusifolia</i>	✓						1
<i>Goodyera pubescens</i>							
<i>Goodyera repens</i>							
<i>Goodyera tesselata</i>							
<i>Habenaria clavellata</i>							
<i>Habenaria hyperborea</i>							
<i>Habenaria obtusata</i>							
<i>Habenaria orbiculata</i>							
<i>Habenaria psycodes</i>							
<i>Habenaria viridis</i>							
<i>Hackelia virginiana</i>							
<i>Halenia deflexa</i>							
<i>Hamamelis virginiana</i>							
<i>Helianthus strumosus</i>							
<i>Hepatica acutiloba</i>							
<i>Hepatica americanum</i>	✓					✓	1 5
<i>Heracleum maximum</i>							
<i>Heuchera richardsonii</i>							
<i>Hieracium aurantiacum</i>							
<i>Hieracium canadense</i>							
<i>Hieracium pratense</i>							
<i>Hieracium scabrum</i>							
<i>Ilex verticillata</i>							
<i>Impatiens capensis</i>							
<i>Iris lacustris</i>							
<i>Isopyrum biternatum</i>							
<i>Juniperus communis</i>							
<i>Juniperus horizontalis</i>							
<i>Lactuca canadensis</i>	✓						1
<i>Laportea canadensis</i>							
<i>Lathyrus ochroleucus</i>							
<i>Ledum groenlandicum</i>							
<i>Lichens spp.</i>	✓	✓	✓	✓	✓	✓	8 40
<i>Lilium michiganense</i>							
<i>Linnaea borealis</i>							
<i>Listera auriculata</i>							
<i>Listera borealis</i>							
<i>Listera convallarioides</i>							
<i>Listera cordata</i>							
<i>Lobelia inflata</i>							
<i>Lonicera canadensis</i>	✓			✓			1 5
<i>Lonicera dioica</i>							
<i>Lonicera hirsuta</i>							
<i>Lonicera involucrata</i>							
<i>Lonicera oblongifolia</i>							
<i>Lonicera prolifera</i>							
<i>Lonicera villosa</i>							
<i>Luzula acuminata</i>							

	P.				10				20	
<i>Podophyllum peltatum</i>										
<i>Polygala paucifolia</i>										
<i>Polygonatum biflorum</i>										
<i>Polygonatum pubescens</i>										
<i>Polygonum cilinode</i>										
<i>Polymnia canadensis</i>										
<i>Polypodium virginianum</i>										
<i>Potentilla canadensis</i>										
<i>Potentilla norvegica</i>										
<i>Potentilla simplex</i>										
<i>Potentilla tridentata</i>										
<i>Prenanthes alba</i>										
<i>Primula mistassinaca</i>										
<i>Prunella vulgaris</i>	✓									1
<i>Prunus pumila</i>										
<i>Pteretis pensylvanica</i>	✓									1 5
<i>Pteridium aquilinum</i>	✓									1
<i>Pyrola asarifolia</i>										
<i>Pyrola elliptica</i>	✓									1
<i>Pyrola grandiflora</i>										
<i>Pyrola minor</i>										
<i>Pyrola rotundifolia</i>										
<i>Pyrola secunda</i>										
<i>Pyrola virens</i>										
<i>Pyrus floribunda</i>										
<i>Pyrus melanocarpa</i>										
<i>Ranunculus abortivus</i>										
<i>Ranunculus acris</i>	✓									1 5
<i>Ranunculus pensylvanicus</i>										
<i>Ranunculus recurvatus</i>										
<i>Ranunculus repens</i>										
<i>Ranunculus septentrionalis</i>										
<i>Rhamnus alnifolia</i>										
<i>Rhus glabra</i>										
<i>Rhus radicans</i>										
<i>Rhus typhina</i>										
<i>Rhus vernix</i>										
<i>Ribes americanum</i>										
<i>Ribes cynosbati</i>										
<i>Ribes glandulosum</i>										
<i>Ribes hirtellum</i>										
<i>Ribes lacustre</i>										
<i>Ribes oxyacanthoides</i>										
<i>Ribes triste</i>	✓									1
<i>Rosa sp.</i>										
<i>Rubus allegheniensis</i>										
<i>Rubus idaeus</i>	✓					✓				1 5
<i>Rubus hispida</i>										
<i>Rubus odoratus</i>										
✓ <i>Rubus parviflorus</i>	✓					✓		✓	✓	4 20
✓ <i>Rubus pubescens</i>	✓					✓		✓	✓	5 25
<i>Rubus (blackberry)</i>	✓						✓			1 5

	P.		10.		20
Rubus (dewberry)	✓				
Rubus (raspberry)					
Rumex acetosella					
Salix spp.					
Sambucus canadensis					
Sambucus pubens	✓				
Sanguinaria canadensis					
Sanicula gregaria					
Sanicula marilandica	✓		✓	✓	2 10
Satureja vulgaris	✓				
Saxifraga pensylvanica					
Schizachne purpurascens					
Scutellaria epilobiifolia					
Scutellaria lateriflora					
Senecio aureus					
Shepherdia canadensis					
Sium suave					
Smilacina racemosa					
Smilacina stellata					
Smilacina trifolia					
Smilax herbacea					
Smilax tamnoides var hispida					
Spiranthes gracilis					
Spiranthes romanzoffiana					
Solidago canadensis					
Solidago flexicaulis	✓		✓		1 5
Solidago gigantea					
Solidago graminifolia					
Solidago hispida					
Solidago juncea					
Solidago lepida					
Solidago macrophylla					
Solidago rugosa					
Solidago ulmifolia					
Spiraea alba					
Spiraea latifolia					
Stachys palustris					
Stellaria calycantha					
Stellaria longifolia					
Stellaria palustris					
Streptopus amplexifolius					
Streptopus roseus	✓		✓		1 5
Symporicarpos albus					
Symporicarpos occidentalis					
Taraxacum officinale					
Taxus canadensis					
Thalictrum dasycarpum					
Thalictrum dioicum					
Thalictrum polygamum					
Tiarella cordifolia					
Trientalis borealis	✓		✓		✓ 2 10
Trifolium hybridum					

	P.					10.				20	
Trifolium pratense											
Trifolium repens											
Trillium cernuum	✓					✓				1	5
Trillium erectum											
Trillium grandiflorum											
Trillium undulatum											
Uvularia grandiflora											
Uvularia sessilifolia	✓										1
Vaccinium angustifolium											
Vaccinium cespitosum											
Vaccinium corymbosum											
Vaccinium myrtilloides											
Vaccinium ovalifolium											
Vaccinium uliginosum											
Vaccinium vitis-idaea											
Veronica officinalis											
Veronica scutellata											
Veronica serpyllifolia											
Viburnum acerifolium											
Viburnum alnifolium											
Viburnum cassinooides											
Viburnum edule											
Viburnum lentago											
Viburnum rafinesquianum											
Viburnum trilobum											
Vicia americana											
Viola adunca											
Viola blanda											
Viola canadensis											
Viola conspersa	✓					✓				1	5
Viola cucullata											
✓ Viola incognita	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15
Viola nephrophylla											
Viola pallens											
Viola papilionacea											
✓ Viola pubescens	✓			✓				✓	✓	✓	4
✓ Viola renifolia	✓	✓	✓						✓	✓	4
Viola selkirkii	✗										\$
Viola sororia											
Vitis riparia											
Waldsteinia fragarioides											
Woodsia ilvensis	✓										1
Xanthoxylum americanum											
Tree Seedlings											
Abies balsamea	✓	✓	✓	✓	✓		✓	✓	✓	✓	9
Acer pensylvanicum											
Acer rubrum	✓	✓	✓	✓	✓	✓			✓	✓	7
Acer saccharum	✓	✓							✓	✓	14
Acer spicatum									✓	✓	70

PRESENCE LIST

SPRUCE-FIR - MIXED HARDWOODS

STAND NO. 31

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

- 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*
- Gaultheria procumbens*
- Hamamelis virginiana*
- Ilex verticillata*
- Juniperus communis*
- Juniperus horizontalis*
- Ledum groenlandicum*
- ✓ *Lonicera canadensis*
- Lonicera dioica*

- 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*

TREES

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

SHRUBS

- 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)

HERBS

- 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*

- 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*

- ✓ *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 cassinooides*
- Viburnum edule*
- Viburnum lentago*
- Viburnum rafinesquianum*
- Viburnum trilobum*
- Vitis vulpina*
- Zanthoxylum americanum*

- ✓ *Clintonia borealis*
- Comandra richardsonia*
- Comandra umbellata*
- ✓ *Coptis groenlandicum*
- Corallorrhiza maculata*
- Corallorrhiza striata*
- Corallorrhiza 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

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 hispida
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 biternum
Lathyrus ochroleucus
Linnaea borealis
Lobelia inflata
 Lycopodium annotinum
 Lycopodium clavatum
Lycopodium clavatum var. megastachyon
 Lycopodium complanatum
Lycopodium inundatum

Additional species

Mosses
Liliens.
Oryzopsis asperifolia
Carex pedunculata
Brachyelytrum erectum
Viola sp - heart incognita
Mertensia paniculata
Zizaniopsis sp - Milium effusum
Woodland Viburnum
Equisetum arvense var borealis

SPRUCE-FIR - MIXED HARDWOODS

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 uniflora
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

80 Natural species (total) present
48 " " frequency

FREQUENCY DATA
(Common Species)

SPRUCE-FIR - MIXED HARDWOODS

STAND NO. 31 (1)

5431 *Abies balsamea*
Acer pensylvanicum
65431 *Acer rubrum*
09761 *Acer saccharum*
Acer spicatum
6 *Betula lutea*
Betula papyrifera
6432 *Amelanchier*

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

Actaea pachypoda
Actaea rubra
Adiantum pedatum
Anaphlis margaritacea
Anemone cylindrica
Anemone quinquefolia
Anemone virginiana
Antennaria spp.
Apocynum androsaemifolium
Aquilegia canadensis
Aralia nudicaulis
Arisaema atrorubens
0971 *Aster macrophyllus*
0 *Athyrium filix-femina*
Botrychium virginianum
Carex pensylvanica
Chimaphila umbellata
Chrysanthemum leucanthemum
Circaea alpina
Claytonia caroliniana
Claytonia virginiana
875432 *Clintonia borealis*
7 *Coptis groenlandicum*
Corallorrhiza maculata
Cornus canadensis
Cystopteris fragilis
Dicentra canadensis
Dicentra cucullaria
Dryopteris disjuncta
Dryopteris phegopteris

TREE SEEDLINGS

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

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

SHRUBS

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

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

HERBS

Dryopteris spinulosa
Epigaea repens
Epilobium angustifolium
0 *Equisetum sylvaticum*
Erythronium americanum
Fragaria vesca
Fragaria virginiana
Galium aparine
0 82 *Galium triflorum*
Gaultheria hispida
Gaultheria procumbens
Gentiana quinquefolia
Geranium maculatum
Goodyera repens
Habenaria obtusata
Halenia deflexa
Hepatica acutiloba
Hepatica americana
Hieracium aurantiacum
Linnaea borealis
61 *Lycopodium annotinum*
7523 *Lycopodium clavatum*
Lycopodium complanatum
5 *Lycopodium lucidulum*
Lycopodium obscurum
76432 *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
Pteridium aquilinum
Pyrola elliptica
Pyrola rotundifolia
Pyrola secunda
Ranunculus acris
Rhus radicans
0 *Rubus pubescens*
Sanguinaria canadensis
Smilacina racemosa
Smilacina stellata
Streptopus roseus
Tiarella cordifolia
8 *Trientalis borealis*
Trillium erectum
Trillium grandiflorum
Uvularia sessilifolia
Viola canadensis
Viola cucullata
Viola pallens
Viola pubescens
942 *Viola renifolia*
Waldsteinia fragarioides

Additional species

Morse 1235689 *Viola coll. 289 megalota* *Viulfum canum 0*
Libens 126689 *Viola heurt 3570 megalota* *Viola conspersa 0*
Coryzopsis 147 *Zall grass sp 4* - *Mitchella effusa* *Viola septentrionalis*
Carex pedunculata 134 *Scrophularia 7*
Carex arctata 780 *Sanicula mar 0*

FREQUENCY DATA
(Common Species)

SPRUCE-FIR - MIXED HARDWOODS

STAND NO. 31 (2)

0987/ *Abies balsamea*
Acer pensylvanicum
⁸⁷ *Acer rubrum*
⁹⁸⁷⁶⁵⁴³⁴ *Acer saccharum*
Acer spicatum
⁰⁷¹ *Betula lutea*
Betula papyrifera
⁸ *Amelanchier*

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

Actaea pachypoda
Actaea rubra
Adiantum pedatum
Anaphlis margaritacea
Anemone cylindrica
⁹ *Anemone quinquefolia*
Anemone virginiana
Antennaria spp.
Apocynum androsaemifolium
Aquilegia canadensis
⁴ *Aralia nudicaulis*
Arisaema atrorubens
⁷ *Aster macrophyllus*
Athyrium filix-femina
Botrychium virginianum
⁸³ *Carex pensylvanica*
Chimaphila umbellata
Chrysanthemum leucanthemum
Circaea alpina
Claytonia caroliniana
Claytonia virginiana
⁰ *Clintonia borealis*
Coptis groenlandicum
Corallorrhiza maculata
Cornus canadensis
Cystopteris fragilis
Dicentra canadensis
Dicentra cucullaria
Dryopteris disjuncta
Dryopteris phegopteris

Additional species

Mosses 13578
Lichens 12
Oryzopsis aperta 120
Vitis sp. - collected 23467890
Incognita

TREE SEEDLINGS

Fagus grandifolia
Larix laricina
⁰⁹⁷ *Ostrya virginiana*
Picea glauca
Picea mariana
Pinus banksiana
Pinus resinosa

SHRUBS

Prunus pumila
Pyrus melanocarpa
Ribes cynosbati
Ribes glandulosum
Ribes lacustre
Rosa sp.
³ *Rubus* (blackberry)
Rubus (dewberry)
Rubus (raspberry)
Rubus idaeus

HERBS

⁶⁴² *Dryopteris spinulosa*
Epigaea repens
Epilobium angustifolium
Equisetum sylvaticum
Erythronium americanum
Fragaria vesca
Fragaria virginiana
Galium aparine
⁹² *Galium triflorum*
Gaultheria hispida
Gaultheria procumbens
Gentiana quinquefolia
Geranium maculatum
Goodyera repens
Habenaria obtusata
Halenia deflexa
Hepatica acutiloba
⁹ *Hepatica americana*
Hieracium aurantiacum
Linnaea borealis
Lycopodium annotinum
⁰⁸ *Lycopodium clavatum*
Lycopodium complanatum
Lycopodium lucidulum
Lycopodium obscurum
⁰⁹² *Maianthemum canadense*
Medeola virginiana
Melampyrum lineare
Mitchella repens
Mitella diphylla

⁹⁸ *Pyrus amer*
Pinus strobus
Populus tremuloides
Prunus pensylvanica
Prunus serotina
Thuja occidentalis
Tilia americana
Tsuga canadensis
⁴ *Prunus virginiana*

⁶⁵⁴ *Rubus parviflorus*
Sambucus pubens
Shepherdia canadensis
Spiraea alba
Symphoricarpos occidentalis
Taxus canadensis
Vaccinium angustifolium
Vaccinium myrtilloides
Viburnum acerifolium
Viburnum trilobum

² *Mitella nuda*
Monotropa uniflora
⁹² *Osmorhiza claytoni*
Oxalis montana
Oxalis stricta
Polygala paucifolia
Polygonatum pubescens
Prenanthes alba
Pteridium aquilinum
Pyrola elliptica
Pyrola rotundifolia
Pyrola secunda
Ranunculus acris
Rhus radicans

⁹⁸⁵⁴ *Rubus pubescens*
Sanguinaria canadensis
Smilacina racemosa
Smilacina stellata
¹ *Streptopus roseus*
Tiarella cordifolia
⁰ *Trientalis borealis*
Trillium erectum
Trillium grandiflorum
Uvularia sessilifolia
Viola canadensis
Viola cucullata
Viola pallens
⁹⁵² *Viola pubescens*
⁷ *Viola reniformis*
Waldsteinia fragarioides

Zall grass sp. 2 *Milium* off. *Sanicula mar.* 4
Canex arctica 3 *carex pedunculata* 46780
Brachylithrum 4689 *Stratiotes* 5
Solidago sp. 4 *Viola septentrionalis*

Big Botrychium as sp. 30 6 - multifidum
Coryn *Antennaria* 7
Ranunculus *acris* 9