Botanical Resources Inventory of the Butternut Hill Preserve

conducted by the Rensselaer-Taconic Land Conservancy, Inc.

1998

The Rensselaer County Plant Resources Survey

Executive Summary

The following is a series of reports containing the results of botanical inventories of three important natural areas in Rensselaer County: Grafton Lakes State Park (2350 acres, Town of Grafton), Dyken Pond Environmental Education Center (520 acres, towns of Berlin, Grafton, and Poestenkill), and the Rensselaer-Taconic Land Conservancy Butternut Hill Preserve (15.5 acres, Town of Berlin). Plant species discovered in each area are enumerated, and the presence of noteworthy concentrations of plants requiring special management are highlighted. The number of ferns and seed plants was: Grafton Lakes - 629 species, Dyken Pond - 393 species, and Butternut Hill - 157 species. In addition, 70 kinds of bryophytes (mosses and liverworts) also were found to occur in the Butternut Hill Preserve. These figures compare with 1388 species of ferns and seed plants that have been documented from throughout Rensselaer County. The distribution of selected species are shown on maps, as is the vegetation (ecological communities) of Grafton Lakes State Park and the Dyken Pond Center. The reports are available for use in the development of environmental education programs at Grafton Lakes State Park and the Dyken Pond Environmental Education Center.

The inventory data are being maintained in the Rensselaer-Taconic Land Conservancy's (R-TLC's) database. The data can be analyzed in various ways, including specific applications utilizing the R-TLC's Geographic Information System (G.I.S.).

Facts about the contemporary plant life of Rensselaer County are used by the R-TLC as one criterion of several in the evaluation of land that may be targeted for preservation through conservation easements or by other means.

Foreword

Since its founding in 1987, the Rensselaer-Taconic Land Conservancy, Inc. (R-TLC) has worked toward the preservation of the unique landscapes and noteworthy habitats that impart special character to Rensselaer County.

The R-TLC employs several criteria to evaluate the quality of land under consideration for potential protection, including the presence of native plants that are infrequent or possibly in decline. For this reason, the R-TLC began in 1994 to collect information about Rensselaer County's flora. A survey of Rensselaer County plants represented in the Herbarium of the New York State Museum and botanical inventories of some of the county's natural areas were started then, fostered by a grant from the Sweet Water Trust of Boston, Massachusetts, and the efforts of several R-TLC Directors. These data, soon to include some 5200 records stored in the R-TLC's database, are the most detailed collection of information ever assembled about the plant resources of Rensselaer County, but still much more needs to be done.

Additional support received recently by the R-TLC through the interest of Senator Joseph Bruno has carried the project forward significantly. With funds from the New York State Local Assistance Budget, thorough inventories were made of native and naturalized plants growing without cultivation in Grafton Lakes State Park, Rensselaer County's Dyken Pond Environmental Education Center, and Butternut Hill, the last a R-TLC-owned property in Berlin, New York. Grafton Lakes State Park and the Dyken Pond Center, large areas of publicly owned or accessible land (2350 and 502 acres, respectively), were selected for detailed field study. Both also offer successful environmental education programs. An upto-date census of plants within the park areas and information about where to find examples to show students and others can therefore be put to immediate use in environmental education. In keeping with standards employed in botanical inventories, specimens of all the species recorded by the R-TLC's botanical teams have been deposited at the New York State Museum where the collections will be available for further study.

The reports that follow include detailed maps produced by using the R-TLC's Geographic Information System (G.I.S.), which was employed to help organize and present information gathered on the field surveys. The maps will assist also in educational programming. Moreover, they are useful tools in the management of the botanical resources contained within the park boundaries.

Many volunteers, including R-TLC directors and persons in Rensselaer County with botanical and other needed skills, helped greatly in bringing the reports to completion. A total of 1515 hours was provided by volunteers, a significant tribute to the R-TLC and its work by the Rensselaer County community. The Rensselaer-Taconic Land Conservancy gratefully acknowledges this participation.

With the completion of the three reports, the R-TLC moves closer to being able to evaluate the botanical significance of lands it may consider desirable for preservation. Although the botanical resources of more areas in the county need to be surveyed, the R-TLC is now in a much better position to fulfill its land preservation goals.

Norton G. Miller, *Project Leader* Rensselaer-Taconic Land Conservancy, Inc. 28 February 1998

REPORT ON THE VEGETATION, VASCULAR PLANTS, AND BRYOPHYTES OF THE RENSSELAER-TACONIC LAND CONSERVANCY BUTTERNUT HILL PROPERTY, TOWN OF BERLIN¹, RENSSELAER COUNTY, NEW YORK.

Stuart McDaniel, Troy, New York, 30 March 1998

Summary. This report presents an inventory of vascular plant and bryophytes from the Rensselaer-Taconic Land Conservancy (R-TLC) Butternut Hill property in the Town of Berlin¹, Rensselaer County. Collections were made by the author during the summer and fall of 1997, and Norton G. Miller and Lorinda Leonardi of the New York State Museum Biological Survey during the two years since the Conservancy acquired the property in 1995. Identifications of specimens were made at the New York State Museum in Albany and collections are accessioned in the museum's herbarium (NYS). 158 species of vascular plants and 70 species of bryophytes have been identified.

Study Site. Butternut Hill is located six miles north of the community of Stephentown, on the east side of the Kinderhook Valley, separating the Rensselaer Plateau from the Taconic Mountains. The underlying bedrock is calcitic and dolomitic marble of the Stockbridge Formation, which is exposed in several small, isolated localities in eastern Rensselaer County. Soils derived from calcium and magnesium carbonates are rare in the county, and such outcrops often support locally unique floristic assemblages. The Conservancy's 15.5 acre parcel on Butternut Hill is situated on a steep, southwest-facing slope, and contains a variety of plant habitats. The lowest portion of the property, at 1,280 feet, is swampy, fed by seeps or springs at the base of the hill, and harbors a small, open calcareous wetland. The slope itself is dominated by well-drained talus and limestone outcrops while the top, at 1,660 feet, is more mesic. Near the top of Butternut Hill is a small cave, known locally as the "Bear's Den," about which there are some historical records of human use but no archeological evidence to date.

¹ There is some disagreement concerning the location of the Town boundary between Berlin and Stephentown. Maps variously show the boundary as lying either over Butternut Hill, through the Conservancy property, or up to ½ mile north of the hill. For the purposes of taxation, the property is considered wholly within the Town of Berlin, although a narrow strip lies in Stephentown.

The Van Rensselaer Manor Papers provide the best documentation of early land use history and settlement patterns in the region. The entire Manor of Rensselaerswyck was surveyed circa 1790 for the purpose of rent collection, and the resulting leases included notes regarding the condition and economic potential of various parcels of land. The survey maps, however, include few geographic details, thus correlation with modern maps is difficult. The current deed to the Conservancy land provides incomplete information regarding early owners, but it is likely that most of the property falls on land leased to Paul Braman, with portions on tracts leased to Elisha Berry and Ebenezer Peirce. The original survey documentation for these properties records that the land coincident with what is now Butternut Hill was, at settlement, "hilly and stony, proper only for wood," and mentions that "the timber is beech, maple, and a few hemlocks." It is unlikely that much of the land was ever under cultivation, but the above remarks suggest that the area was logged. The presence of old stumps and what appears to be a tote road for skidding logs support this conjecture. The remains of heavily oxidized barbed wire fences across the summit and along the western boundary of the property indicate parts of the area may have been grazed as well. Presently, parts of an adjacent tract have been cleared for downhill ski trails and a drainage ditch has been excavated immediately south of the open wetland. Unmarked off-road vehicle trails pass through the property below the talus and ascend to the cave.

Ecological Communities. The property can be divided into three regions that more or less correspond to communities described in Ecological Communities of New York State (Reschke 1990), although no rigorous ecological analysis was made. 1) The moist southwest corner supports an open, sloping rich fen, dominated in its lowest elevations by sedges, composites and some shrubs, notably Potentilla fruticosa. Mosses uncommon in New York, among them Helodium blandowii var. elodioides and Fissidens bushii, are found here as well. Acer rubrum and other species tolerant of saturated soils form the canopy over the remainder of the region below the talus, and Onoclea sensibilis and bryophytes, including Didymodon rigidulus, dominate the herb layer. 2) A calcareous talus slope woodland prevails over much of the steeper hillside. The canopy is largely Acer saccharum and Fagus grandifolia, and Tsuga canadensis, Ostrya virginiana, Carpinus caroliniana, Carya cordiformis, Tilia americana and Quercus rubra are also present. The herb layer is comprised of spring ephemerals, among them Trillium

erectum, Sanguinaria canadensis, and Panax quinquefolius (sparse), and several ferns, chiefly Cystopteris bulbifera, Dryopteris marginalis, and Polystichum acrostichoides. Also present are Dryopteris goldiana, Cypripedium parviflorum var. pubescens, and other orchids. Aquilegia canadensis, along with calciphilic bryophytes tolerant of xeric conditions, are found mostly on rock outcrops, while the epiphytic moss Orthotrichum sordidum approaches its southern limit of distribution here. 3) The hilltop and gentler slopes to the north and east support a mesic, closed canopy, beech-maple forest with an understory community of Matteuccia struthiopteris, forest herbs, and saplings of the dominant canopy trees mixed with the understory shrubs Hamamelis virginiana and Lindera benzoin.

Protected Plants. The Regulations of the Commissioner of Environmental Conservation lists plants known to be "exploitably vulnerable" in the state, among them all native orchids, all native ferns and numerous plants collected for horticultural, ornamental or medicinal uses. All those found on the Conservancy property are listed here, even though some may be locally abundant on Butternut Hill.

Panax quinquefolius
Sanguinaria canadensis
Cystopteris bulbifera
Dryopteris goldiana
Dryopteris marginalis
Matteuccia struthiopteris
Polystichum acrostichoides

Polypodium virginianum
Adiantum pedatum
Thelypteris palustris
Trillium erectum
Corallorhiza maculata
Galearis spectablis
Cypripedium parviflorum var. pubescens

VASCULAR PLANT CHECKLIST FOR RENSSELAER-TACONIC LAND CONSERVENCY'S BUTTERNUT HILL PROPERTY AND ADJACENT TRACTS.

Prepared by Stuart F. McDaniel, with contributions by Norton G. Miller

Apiaceae

Osmorhiza claytonii (Michx.) Clarke

Bland sweet cicely, sweet jarvil

NGM 10,582

Sanicula marylandica L.

Black snakeroot

NGM 11,842

Araliaceae

Aralia racemosa L.

Spikenard

SFM 1

Panax quinquefolius L.

SFM 3

American ginseng

Aristolochiaceae

Asarum canadense L.

Wild ginger

NGM 11,767

Asclepidaceae

Asclepias incarnata L.

Swamp milkweed

SFM 29

Asteraceae

Anaphalis margaritacea (L.) Benth. & Hooker

Pearly everlasting

f. ex Clarke

SFM 115

Aster divaricatus L.

Common white heart-leaved aster

SFM 41

A. lanceolatus var. simplex (Willd.) A. Jones

Tall white aster

SFM 55, 77, 84

A. lateriflorus (L.) Britt.

Calico aster

SFM 52

A. novae-angliae L.

New England aster

SFM 65; 70

A. novi-belgii L.

SFM 69

A. praealtus Poir.

SFM 40

A. prenanthoides Muhl. ex Willd.

SFM 83

A. sagittifolia Wedem. ex Willd.

SFM 61; 122

Erigeron pulchellus Michx.

NGM 11,830

Eupatorium maculatum L.

SFM 44

E. perfoliatum L.

SFM 50

E. rugosum Houtt.

SFM 43

Euthamia graminifolia (L.) Nutt. ex Cass.

SFM 51

Rudbeckia hirta L.

SFM 53

Senecio aureus L.

NGM 11,784

S. obovatus Muhl. ex Willd.

NGM 11,732; 11,768

Solidago arguta Ait.

SFM 39; 56

S. caesia L.

SFM 60; 120

S. canadensis var. scabra L.

SFM 36; 67; 81

S. flexicaulis L.

SFM 54; 76

S. gigantea Ait.

SFM 35; 64; 70

S. uliginosa Nutt.

SFM 59

New York aster

Willow aster

Crookstem aster

Arrow-leaf aster

Robin's plantain

Spotted Joe-Pye weed

Boneset

White snakeroot

Common flat-topped goldenrod

Black-eyed Susan

Heart-leaved groundsel

Running groundsel

Forest or cutleaf goldenrod

Wreath goldenrod

Common goldenrod

Zig-zag goldenrod

Late goldenrod

Swamp or bog goldenrod

Berberidaceae

Caulophyllum giganteum (Farw.) LeConte &

Blackwell †

NGM 11,725

Blue cohosh

Betulaceae

Corylus cornuta Marsh. NGM 10,586

Beaked hazelnut

Brassicaceae

Cardamine diphylla (Michx.) Wood NGM 11,770 Cut-leaved toothwort

Caprifoliaceae

Diervilla lonicera Mill.

Bush honeysuckle

SFM 73

Sambucus racemosa subsp. pubens (Michx.)

Red elderberry

House

NGM 11,766

 ${\it Viburnum\ aceri folium\ L.}$

Maple-leaved viburnum

NGM 10,587

Caryophyllaceae

Cerastium fontanum Baumg. emend Jalas

Common mouse-ear chickweed

NGM 11,828

Clusiaceae

Hypericum perforatum L.

St. Johnswort

SFM 9

Cornaceae

Cornus alternifolia L. f.

Alternate leaved dogwood

NGM 10,584

Cupressaceae

Juniperus communis L.

Common juniper

NGM 11,817

Cyperaceae

Sedge Carex baileyi Britt. **SFM 23** C. cristatella Britt. ex Britton & Brown **SFM 20** C. flava L. NGM 11,821; SFM 21 C. gracilescens Steud. NGM 11,787 C. granularis Muhl. ex Willd. NGM 11,819; SFM 12 C. hitchcockiana Dewey NGM 11,837; 11,841 C. hystericina Muhl. ex Willd. NGM 11,825 C. interior Bailey NGM 11,822 C. pedunculata Muhl. ex Willd. NGM 11,726 C. plantaginea Lam. † NGM 11,727 C. platyphylla Carey NGM 11,827 C. radiata (Wahl.) Small † SFM 4 C. rosea Schkuhr. ex Willd. NGM 11,839 C. tetanica Schkuhr ex Willd. NGM 11,823; 11,824 C. vulpinoidea Michx.

Dryopteridaceae

Cystopteris bulbifera (L.) Bernh. NGM 11,834; SFM 27

Eriophorum viridi-carinatum (Engelm.) Fern

NGM 11,820; SFM 18

SFM 24

Scirpus atrovirens Willd. SFM 17

Bulblet bladderfern

Cottongrass

Bulrush

Dryopteris cristata (L.) A. Gray

SFM 116

D. goldiana (Hooker ex Goldie) Gray

NGM 11,840; SFM 5

D. marginalis (L.) A. Gray

SFM 63

Matteuccia struthiopteris (L.) Todaro

SFM 46

Onoclea sensibilis L.

SFM 74

Polystichum acrostichoides (Michx.) Schott

SFM 117

Crested wood fern

Goldie's wood fern

Marginal shield fern

Ostrich fern

Sensitive fern

Christmas fern

Equisetaceae

Equisetum arvense L.

SFM123

Common horsetail

Geraniaceae

Geranium robertianum L.

NGM 11,838

Herb Robert

Hamamelidaceae

Hamamelis virginiana L.

NGM 10,588

Witch hazel

Iridaceae

Sisyrinchium montanum Green

NGM 11,826

Blue-eyed grass

Juglandaceae

Carya cordiformis (Wang.) Koch

NGM 11,729; SFM 25

Bitternut hickory

Juncaceae

Juncus effusus L.

SFM 16

Common rush

J. secundus Beauvois ex Poir. SFM 14 Rush

Lamiaceae

Clinopodium vulgare L.

Wild basil

SFM 8

Leonuris cardiaca L.

Motherwort

SFM 49

Lycopus americanus Muhl. ex Bart.

American water horehound

SFM 34

L. uniflorus Michx.

Water horehound

SFM 66

Mentha arvensis L.

Field mint

SFM 33; 68

Self heal

Prunella vulgaris L.

SFM 82

Lauraceae

Lindera benzoin (L.) Blume NGM 11,730

Spicebush

Liliaceae

Polygonatum biflorum (Walt.) Ell.

Solomon's seal

SFM 47

Maianthemum racemosum L.

False solomon's seal

SFM 57

Trillium erectum L.

Purple trillium

NGM 11,776

Big flowered bellwort

Uvularia grandiflora Sm.

NGM 10,590; 11,774

Sessile leaved bellwort

U. sessilifolia L. NGM 10,778

Onagraceae

Circaea lutetiana L.

Enchanter's nightshade

SFM 11

Orchidaceae

Epipactis helleborine (L.) Crantz

NGM 10,583

Corallorhiza maculata (Raf.) Raf.

SFM 72

Helleborine

Spotted coralroot

Osmundaceae

Osmunda claytoniana L.

SFM 42

Interrupted fern

Papaveraceae

Sanguinaria canadensis L.

NGM 11,832

Bloodroot

Pinaceae

Larix laricina (DuRoi) Koch

SFM 121

Larch, tamarak

Poaceae

Calamagrostis canadensis (Michx.) Beauv.

SFM 19

Danthonia compressa Austin

SFM 22

Elymus Xebingeri G. Tucker

SFM 13

Festuca trachyphylla (Hackel) Krajina

NGM 11,815

Glyceria striata (Lam.) Hitchc.

NGM 11,816

Muhlenbergia glomerata (Willd.) Trin.

SFM 85

M. sylvatica (Torrey) Torrey ex A. Gray

SFM 78

Schizachne purpurascens (Torrey) Swallen

NGM 11,769; 11,835

Bluejoint grass

Northern oatgrass

Ebinger's wild rye

Sheep's or hard fescue

Fowl manna grass

Spike muhly, Marsh timothy

Woodland dropseed, muhly

False melic

Polypodiaceae

Polypodium virginianum L.

Rock polypody

SFM 75

Primulaceae

Lysimachia ciliata L. SFM 10

Fringed loosestrife

Pteridaceae

Adiantum pedatum L. SFM 2

Maidenhair fern

Ranunculaceae

Actaea pachypoda Ell.

NGM 10,589

A. spicata L.

SFM 45

Anemone virginicus L.

SFM 118

Aquilegia canadensis L.

NGM 11,772

Clematis virginiana L.

SFM 30; 37

Hepatica nobilis var. acuta (Pursh.) Steyerm. †

NGM 11,731; 11,777

Ranunculus recurvatus Poir. ex Lam.

NGM 11,785

Thalictrum dioicum L.

NGM 11,779; 11,833

Doll's eyes

Red baneberry

Thimbleweed, tall anemone

Canada columbine

Virgin's bower

Sharp-lobed hepatica

Hooked crowfoot

Early meadow-rue

Rosaceae

Agrimonia gryposepala Wallr. †

SFM 31

Geum rivale L. †

NGM 11,786

Potentilla canadensis L.

NGM 11,831

Common agrimony

Water avens

Running cinquefoil

Potentilla fruticosa L.

NGM 11,818; SFM 7

Spirea alba DuRoi SFM 6 Shrubby cinquefoil

Meadowsweet

Rubiaceae

Galium lanceolatum Torrey

SFM 79

G. mollugo L.

NGM 11,829; SFM 15

G. triflorum Michx.

SFM 38; 52; 119

Wild licorice

Bedstraw

Northern three-lobed bedstraw

Saxifragaceae

Mitella diphylla L.

NGM 11,780

Bishop's cap, Mitrewort

Selaginellaceae

Selaginella apoda (L.) Fern.

NGM 11,723

Spike moss

Scrophulariaceae

Chelone glabra L.

SFM 38

White turtlehead

Solanaceae

Solanum dulacamara L.

SFM 38

Bittersweet

Thelypteridaceae

Thelypteris palustris Schott.

SFM 62

Marsh fern

Thymelaeaceae

Dirca palustris L.

NGM 10,585; 11,728

Leatherwood

Urticaceae

Laportea canadensis (L.) Wedd. SFM 26

Wood nettle

Verbenaceae

Verbena Xengelmannii Moldenke SFM 71

Violaceae

Viola canadensis L.

Canada or tall white violet

NGM 11,775

Yellow forest violet

V. pubescens (eriocarpa) Ait.

NGM 11,771

Long-spurred violet

V. rostrata Pursh.

Great-spurred violet

NGM 11,773

V. selkirkii Pursh† NGM 9,831

†Collected off R-TLC property

The following species have been identified in the field but no vouchers were collected.

Acer pensylvanicum L.

Striped maple

A. rubrum L.

Betula lenta L.

Red maple

A. saccharum Marsh.

Sugar maple

Allium tricoccum Ait.

Wild leek Sweet birch Paper birch

B. papyrifera Marsh.

Hornbeam

Carpinus caroliniana Walt. Claytonia caroliniana Michx.

Carolina spring-beauty

Cypripedium parviflorum var. pubescens (Willd.)

Yellow ladyslipper

Knight

Squirrel corn

Dicentra canadensis (Goldie) Walp. D. cucullaria (L.) Bernh.

Dutchman's breeches

Trout lily

Erythronium americanum Ker.

Fagus grandifolia Ehrh. Galearis spectablis (L.) Raf. Hydrophyllum virginianum L.

Juglans cinerea L.

Ostrya virginiana (Mill.) Koch

Pinus strobus L.
Prunus avium (L.) L.
P. serotina Ehrh.

Quercus rubra L.

Ranunculus abortivus L. Rhamnus cathartica L.

Ribes cynosbati L. Tiarella cordifolia L. Tilia americana L.

Toxicodendron radicans (L.) Kuntze

Tsuga canadensis (L.) Carr.

Urtica dioica L. Viola sororia Willd. American beech Showy orchis Virginia waterleaf

Butternut

Hop hornbeam White pine Sweet cherry

Wild black cherry

Red oak

Kidney-leaved buttercup Common buckthorn Prickley gooseberry

Foam flower, False mitrewort Basswood, American linden

Poison ivy

Eastern hemlock Stinging nettle Common violet

Plants of the following genera have been noted in the field in sterile condition.

Rhus sp.
Berberis sp.
Populus sp.
Salix sp.

BRYOPHYTE CHECKLIST FOR RENSSELAER-TACONIC LAND CONSERVENCY'S BUTTERNUT HILL PROPERTY AND ADJACENT TRACTS.

Prepared by Stuart F. McDaniel, with contributions by Norton G. Miller and Lorinda Leonardi

All records are vouchered by specimens in the New York State Museum

Mosses

Amblystegium varium (Hedw.) Lindb.

Anomodon attenuatus (Hedw.) Hüb.

A. minor (Hedw.) Fürnr.

A. rostratus (Hedw.) Schimp.

A. viticulosus (Hedw.) Hook. & Tayl.

Atrichum oerstedianum (C. Müll.) Mitt.

Aulacomnium palustre (Hedw.) Schwaegr.

Brachythecium oxycladon (Brid.) Jaeg.

B. rutabulum (Hedw.) Schimp. in BSG

Brotherella recurvans (Michx.) Fleisch.

Bryhnia novae-angliae (Sull. & Lesq. in Sull.) Grout

Bryoerythrophyllum recurvirostre (Hedw.) Chen

Callicladium haldanianum (Grev.) Crum

Calliergonella cuspidata (Hedw.) Loeske

Campylium stellatum var. protensum (Brid.) Bryhn

Climacium dendroides (Hedw.) Web. & Mohr

Cratoneuron filicinum (Hedw.) Spruce

Cryto-hypnum minutulum (Hedw.) Buck & Crum

C. pygmaeum (Schimp. in BSG) Buck & Crum

Dicranum flagellare var. flagellare Hedw.

D. scoparium Hedw.

Didymodon rigidulus Hedw.

Drepanocladus aduncus (Hedw.) Warnst.

Encalypta procera Bruch.

Entodon cladorrhizans (Hedw.) C. Müll.

Eurhynchium hians (Hedw.) Sande Lac.

Fissidens bryoides Hedw.

F. bushii (Card. & Thér.) Card. & Thér.

F. dubius P. Beauv.

Hedwigia ciliata (Hedw.) P. Beauv.

Helodium blandowii var. elodioides (Ren. & Card. in Röll) Crum et al.

Herzogiella turfacea (Lindb.) Iwats.

Homomallium adnatum (Hedw.) Broth.

Hypnum imponens Hedw.

H. lindbergii Mitt.

H. pallescens (Hedw.) P. Beauv.

Leskea gracilescens Hedw.

Leskeella nervosa (Brid.) Loeske

Leucobryum glaucum (Hedw.) Ångstr. ex Fr.

Leucodon brachypus (Brid.)

Mnium marginatum (With.) Brid. ex P. Beauv.

Orthotrichum anomalum Hedw.

O. obtusifolium Brid.

O. sordidum Sull & Lesq. in Aust.

Plagiomnium cuspidatum (Hedw.) T. Kop.

P. ellipticum (Brid.) T. Kop.

Platydictya confervoides (Brid.) Crum

Pleurozium schreberi (Brid.) Mitt.

Rhodobryum roseum (Hedw.) Limpr.

Rhytidiadelphus triquetrus (Hedw.) Warnst.

Sphagnum warnstorfii Russ.

Taxiphyllum deplantaum (Bruch & Schimp. ex Sull.) Fleisch.

Thuidium delcatalum var. radicans (Hedw.) Schimp. in BSG

T. recognitum (Hedw.) Lindb.

Tortella humilis (Hedw.) Jenn.

T. tortuosa (Hedw.) Limpr.

Tortula mucronifolia Schwaegr.

Ulota crispa (Hedw.) Brid.

Liverworts

Frullania eboracensis Gott.

F. riparia Hampe ex Lem.

Geocalyx graveolens (Schrad.) Nees

Harpanthus drummondii (Tayl.) Grolle

Jamesoniella autumnalis (DC.) Steph.

Lophocolea heterophylla (Schrad.) Dum.

Nowellia curvifolia (Dicks.) Mitt.

Porella platyphylla (L.) Pfeiff.

Radula complanata (L.) Dum.

