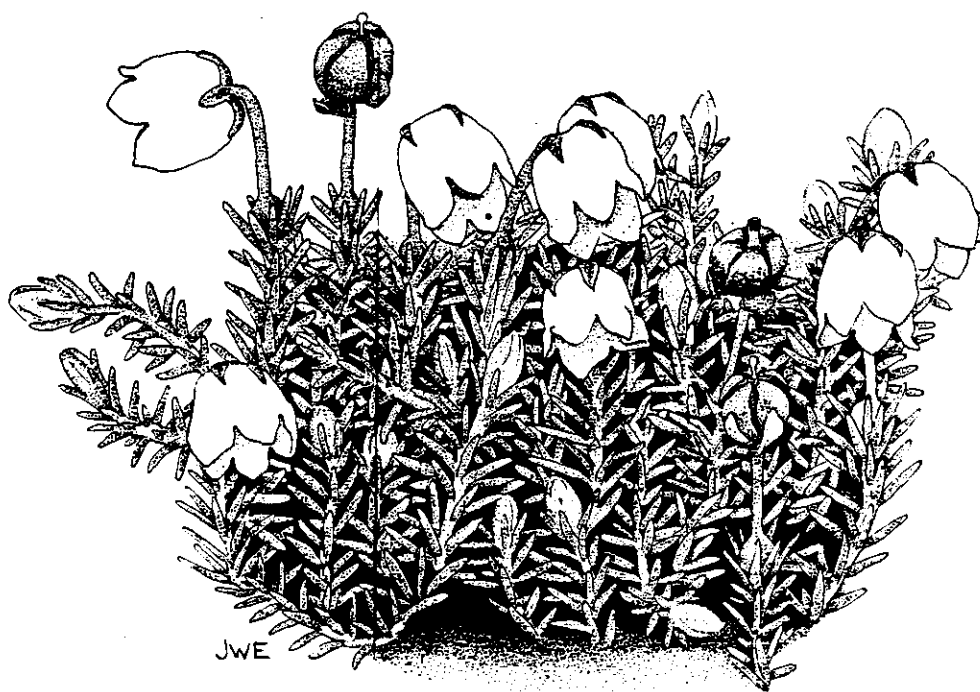


The Preliminary Vascular Flora of Baxter State Park



Maine State Planning Office

Baxter State Park

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The preliminary vascular flora of Baxter State Park

by

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Introduction

The earliest European travelers to Katahdin recognized the peculiar arctic alpine composition of its vegetation. The common alpine heaths, including bilberry (Vaccinium uliginosum), crowberry (Empetrum nigrum), mountain cranberry (Vaccinium vitis-idaea), Labrador tea (Ledum groenlandicum), and Lapland rosebay (Rhododendron lapponicum) were all recorded from the earliest ascents of Mt. Washington, and the similarity between the floras of these and other northeastern mountain tops was noted.

The early floristic records

The star-like saxifrage (Saxifraga foliolosa = S. stellaris var. comosa) was discovered by Rev. Joseph Blake in 1856 while making the first official state botanical excursion to the mountain. It is one of the rarest plants on the mountain, and is found nowhere else in the eastern United States. It grows in scattered areas on Mt. Albert in the Gaspé, and farther north in Labrador and on Baffin Island. This plant forms dense colonies in high arctic marshes above 70° N latitude.

A number of plant species collected or recorded from early expeditions have not been seen in recent times. Dr. Goodale collected a very fine sprig of few-flowered sedge (Carex rariflora) somewhere on Katahdin (Goodale, GH!), but the sedge has not been seen since. It should no longer be counted in the flora of Katahdin, and is not included here.

The most famous botanical expedition to Katahdin occurred in 1900 when M. L. Fernald led a small group of the New England Botanical Club on an extensive trip. Based at Chimney Pond, the group poured over the near slopes, collecting hundreds of specimens of vascular plants and bryophytes. Their records were published one year later (Churchill, 1901; Fernald, 1901; Williams, 1901; Kennedy & Collins, 1901), and very few additions to the flora have been made since (Ewer, 1930; Stebbins, 1927, 1929). Arctic-loving willow (Salix arctophila) was first discovered by Ewer (1930), and Stebbins (1927) brought back a fragment of a plant collected in the Chimney that was tentatively identified by Fernald as Allen's mustard (Draba allenii). The mustard has never again been recorded for Katahdin. Stebbins (1927) was also the first to collect Hornemann's willow-herb (Epilobium hornemannii) on Katahdin, as well as one-spiked running clubmoss (Lycopodium clavatum var. monostachyon), the mountain variety of the white mandarin (Streptopus amplexifolius var. oreopolus), and the northern variety of the marsh willow-herb (Epilobium palustre var. labradoricum).

Fernald described a new species of sedge from the gravelly shores of Depot Pond, Carex katahdinensis. A vast number of specimens can be found in herbaria throughout New England and the United States, but the plant has not been seen since on the shores of Depot Pond.

Early ecological study

The floristic and descriptive ecological work of Harvey (1903, 1909) closely followed that of Fernald. The first study, "A study of the physiographic ecology of Mt. Katahdin", is a classic non-statistical

examination of plant communities. The latter, "The floristic composition of the vascular flora of Mt. Katahdin, Maine", is a perfunctory comparison of the floristic composition of Katahdin with that of other arctic/alpine floras of New England, and selected regions in North America, Greenland and northern Europe.

Recent botanical research

The paleobotanical work of Andrews and Kasper (1962) that describes the Devonian psilopsid flora of the Trout Brook area of the park is the most noteworthy contribution to the botany of the area since the preliminary work of Fernald (1901) and others. Since that time, the character of the flora of Katahdin has been discussed in some general reports to the State Planning Office (May & Davis, 1978).

Dearborn (1963) prepared keys to the woody alpine and subalpine flora of the mountain as part of a botany course taught by Dr. Charles Richards at the University of Maine at Orono.

Hudson (1979) conducted an extensive search of the South Basin, Great Basin, North Basin, Northwest Basin, Klondike Pond Basin, and Little North Basin to determine the location of species found in Maine only on Katahdin (31 species and varieties). A new station for the star-like saxifrage, Saxifraga foliolosa (= S. stellaris var. comosa) was found in the South Basin. The sterile carpels of plants growing there were examined in thin section, and they revealed peculiar apomictic growths never before seen (Hudson, 1987). The presence of these odd vegetative growths within sterile fruits has not been explained.

Sprugel (1976, 1984) and Sprugel & Bormann (1981) have summarized the current understanding and characterization of wave-regenerated fir forests in eastern North America. Sprugel included sites on Katahdin along the southern rim of the Klondike between the Owl and Witherle Ravine. The most striking fir waves can be seen on the northern slopes of the Owl and the Brothers. The wave of dying trees normally takes place when an opening occurs (caused by blowdown, perhaps), and the canopies of the trees on the leeward edge of the opening are exposed to harsh conditions in both winter and summer. As the trees on the edge die they expose the next rank to the same stresses of winter dessication and frost damage, as well as summer drying, and the wave generally proceeds in the direction of the prevailing wind. Vigorous regeneration follows in the wake of the wave. Biomass and productivity, plant diversity and nutrient cycling patterns are apparently linked to the cycle of fir waves in these forests, and so they are described as a steady-state ecosystem (Sprugel & Bormann, 1981). There is no reason to suspect that fir waves will not be a major physiographic feature of the landscape for decades to come, other than the threats to all fir trees presented by spruce budworm, air pollution, and acid deposition.

During the course of the old-growth survey in the state that culminated in the reports prepared by Grena (1981) and the State Planning Office (1983), several stands of trees in Baxter State Park were sampled. Old-growth red spruce (Picea rubens) was sampled at the headwaters of Howe Brook, above Green Falls on Wassataquoik Mountain, on North Traveler Mountain, and above Basin Ponds at the foot of North Basin. The stand of spruce on North Traveler

is by far the finest in the park. Several other stands of old-growth were located during a study conducted in 1984 (Hudson et al., 1985). The subalpine forests of the upper slopes of Katahdin and outlying peaks were sampled extensively during the summer of 1984. The result is a detailed characterization of this forest type (Hudson et al., 1985).

The vegetation of Baxter State Park and Katahdin

Harshberger (1911) wrote a detailed account of the flora and relationships of the high mountains of New England in his Physiographic Survey of North America. His work is based not only on records available at the time, but on his own examination. He climbed Katahdin in 1901.

Harshberger describes four major vegetation formations that are easily identifiable, though significant changes in the vegetation of the lower slopes have occurred since his own ascent. His Coniferous Forest Formation lists black spruce (Picea mariana) as the dominant forest species of the lower slopes, along with white pine (Pinus strobus), paper birch (Betula papyrifera), yellow birch (Betula alleghaniensis), balsam fir (Abies balsamea), mountain ash (Sorbus americana), and red maple (Acer rubrum). Now the lowest slopes of Katahdin are mixed hardwoods and conifers. Black spruce is replaced with red spruce (Picea rubens), and balsam fir is now a dominant species in those areas most recently lumbered. In fact, a great deal of lumbering activity north of the mountain had already preceded Harshberger's trip to Katahdin, the mid-elevation slopes all around the mountain falling under the axe in the early decades of this century.

The upper slopes of Katahdin are covered with a uniform subalpine forest dominated by balsam fir, but also including red spruce, heart-leaved paper birch (Betula cordifolia), and sparingly, black spruce, cedar (Thuja occidentalis), mountain maple (Acer pensylvanicum), and mountain ash. The forest floor is not rich, and supports mountain sorrel (Oxalis acetosella), Clintonia (Clintonia borealis), star-flower (Trientalis borealis), goldthread (Coptis trifolia), wood ferns (Dryopteris spp.), long-beech fern (Thelypteris phegopteris), and a number of other species. The decline of subalpine forest in some places is clearly the result of insect infestation (spruce budworm), and in other places the result of some other agent or agents.

The subalpine forest grades into Harshberger's Dwarf Tree Formation or krummholz. Here both black spruce and balsam fir form the tangle of windswept pucker-brush, and heart-leaved paper birch, mountain ash, and red spruce can also be found.

The Alpine Formation is richest on Katahdin, but can be found to lesser degrees on all of the outlying peaks. A variety of associations of dwarf heaths, sedges, grasses, lichens and mosses are found. The thorough analysis of the alpine plant communities has not been done, but some comparisons with Mt. Washington can be made using Bliss' (1963) "Alpine plant communities of the Presidential Range, New Hampshire".

Any future survey of alpine plant communities on Katahdin should not overlook the vegetation of the high gullies and ravines. The greatest assemblage of rare arctic/alpine plants are found in just such places in the South Basin and the North Basin. One particularly seepy ledge in the South

Basin supports the only recently verified location for alpine cress (Cardamine bellidifolia), proliferating fescue (Festuca rubra var. prolifera), and alpine bistort (Polygonum viviparum). It is one of only three locations for the star-like saxifrage (Saxifraga foliolosa), and has a healthy stand of northern woodrush (Luzula confusa). A number of species reported for Katahdin early in this century were found in such places in the North Basin, though they have eluded more recent surveys.

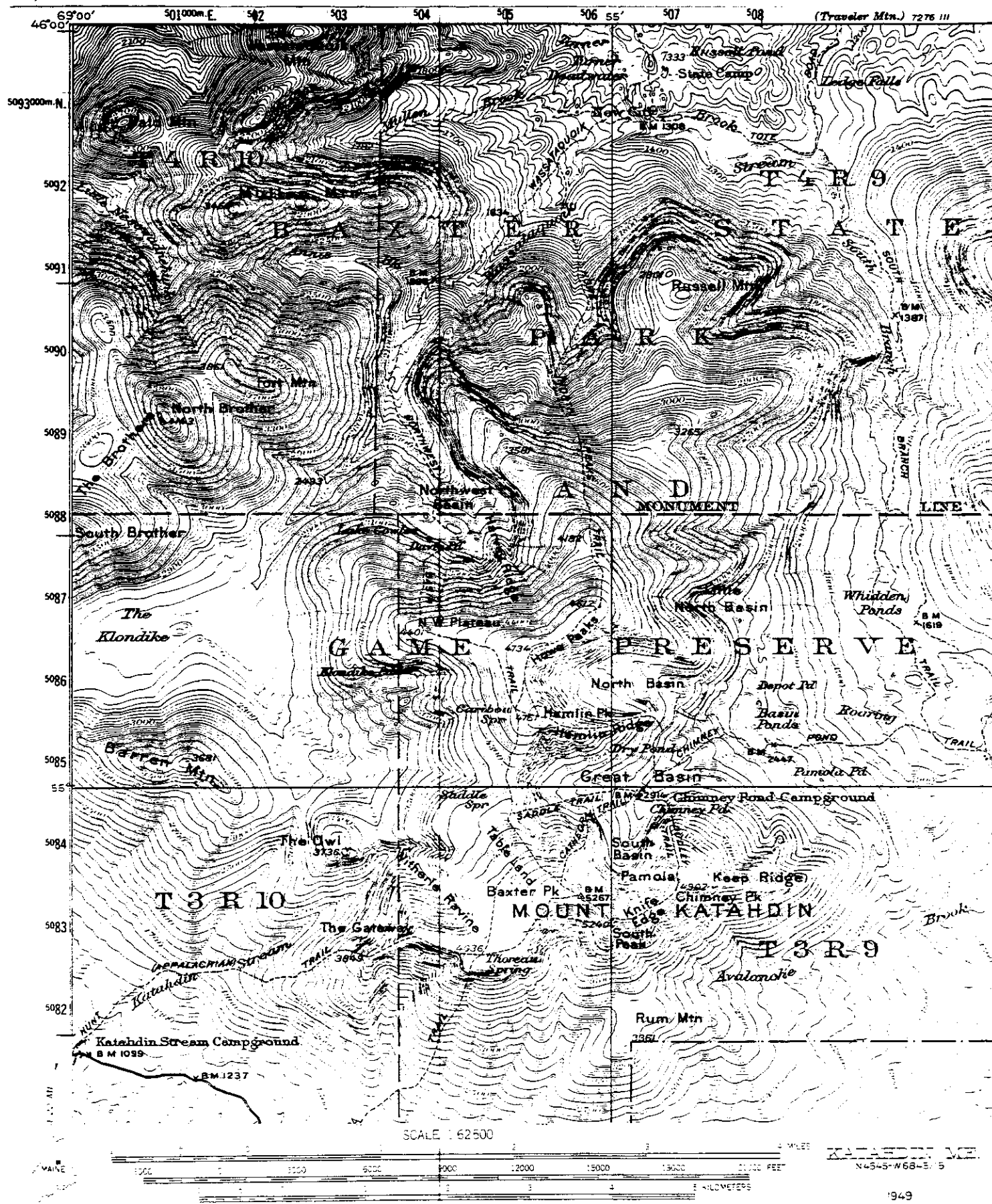


Figure 1. U.S.G.S. Topographic Map of Mt. Katahdin

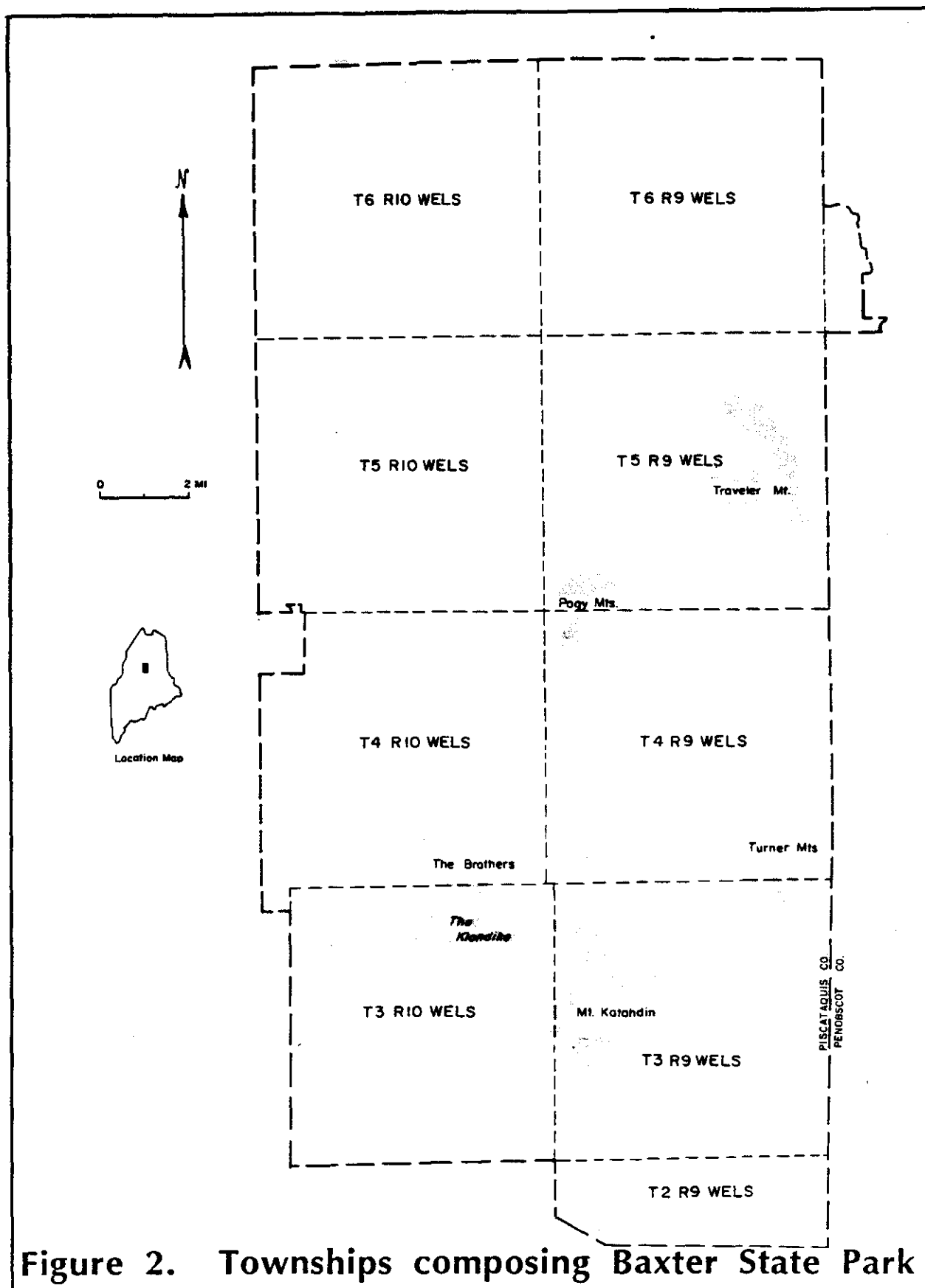


Figure 2. Townships composing Baxter State Park

Preliminary list of the vascular flora of Baxter State Park.

The following list of vascular plants was compiled during a survey of old-growth forest in Baxter State Park in 1984, and during several other visits in subsequent years. This is not a complete flora since a number of low elevation wetlands around the perimeter of the Park and a considerable portion of the northwest corner of the Park have not been thoroughly surveyed.

Two hundred eighty six (286) species representing sixty-one (61) families are listed below. Information on distribution is also preliminary. Parts of seven townships were surveyed during the course of this survey. In addition, those plants recorded for the Klondike are listed as a separate column below.

The nomenclature follows Kartesz & Kartesz (1980), and synonyms are provided when the nomenclature departs from that found in a standard manual for the northeast (Fernald, 1970). Families are listed according to the system of Cronquist (1981). Fern allies and ferns precede gymnosperms. Dicotyledonous flowering plants precede monocotyledonous plants.

LEGEND: T = Trout Brook Township [T6 R9]
 1 = T5 R9
 2 = T4 R9
 3 = T4 R10
 K = Mt. Katahdin Township [T3 R9]
 5 = T3 R10
 6 = T2 R9
 K1 = The Klondike [T3 R10, in part]

See Figure 2, Townships Composing Baxter State Park.

Family

Genus/Species

T 1 2 3 K 5 6 K1

Equisetaceae

Equisetum sylvaticum L.

wood horsetail

x

x

Equisetum arvense L.

field horsetail

x

x

Lycopodiaceae

Lycopodium selago L.

fir clubmoss

x x

Lycopodium clavatum L.

running clubmoss

x x x x x

Lycopodium complanatum L.

ground cedar

x x x

Lycopodium obscurum L.

ground pine

x x x x x

Lycopodium lucidulum Michx.

shining clubmoss

x x

x

Lycopodium annotinum L.

bristly clubmoss

x x x x x

x

Isoetaceae

Isoetes echinospora Durieu

Merlin's grass

x

x

ssp. muricata Löve & Löve (= I. muricata)

Ophioglossaceae

Botrychium sp.

grape fern

x

Botrychium virginianum (L.) Sw.

rattlesnake fern

x

Osmundaceae

Osmunda regalis L.

royal fern

x

Osmunda cinnamomea L.

cinnamon fern

x

Family

Genus/Species		T	1	2	3	K	5	6	K1
<u>Osmunda claytoniana</u> L.	interrupted fern	x	x			x	x	x	x
Polypodiaceae (Asplenaceae and Dennstaedtiaceae in part)									
<u>Athyrium felix-femina</u> (L.) Roth	lady fern	x	x						x
<u>Dennstaedtia punctilobula</u> (Michx.) T. Moore	hay-scented fern	x	x		x		x		
<u>Dryopteris campyloptera</u> (Kunze) Clarkson (= <u>D. spinulosa</u> v. <u>americana</u>)	mountain wood-fern	x		x		x		x	
<u>Dryopteris intermedia</u> (Willd.) Gray (= <u>D. spinulosa</u> v. <u>intermedia</u>)	intermediate wood-fern	x		x		x		x	
<u>Gymnocarpium dryopteris</u> (L.) Newman	oak fern	x	x		x				x
<u>Matteucia struthiopteris</u> (L.) Todaro	ostrich fern				x				
<u>Onoclea sensibilis</u> L.	sensitive fern				x				
<u>Polypodium virginianum</u> L.	Polypody	x							
<u>Polystichum braunii</u> (Spencer) Fee	Braunn's holly fern					x			
<u>Pteridium aquilinum</u> (L.) Kuhn.	bracken	x	x		x	x			
<u>Thelypteris phegopteris</u> (L.) Slosson (= <u>Dropteris</u> p.)	long-beech fern	x	x		x	x	x		x
Taxaceae									
<u>Taxus canadensis</u> Marsh.	American yew						x		
Pinaceae									
<u>Abies balsamea</u> (L.) P. Mill.	balsam fir	x	x	x	x	x	x	x	x
<u>Juniperus communis</u> L.	ground juniper	x							
<u>Larix laricina</u> (DuRoi) K. Koch	larch	x	x	x	x			x	x
<u>Picea mariana</u> (P. Mill) B.S.P.	black spruce			x	x	x	x		x
<u>Picea rubens</u> Sarg.	red spruce	x	x		x	x	x		x
<u>Pinus resinosa</u> Ait.	red pine	x	x						
<u>Pinus strobus</u> L.	white pine					x			
<u>Thuja occidentalis</u> L.	eastern red cedar	x	x		x	x	x		
Nymphaeaceae									
<u>Nuphar luteum</u> ssp. <u>variegatum</u> (Dur.) E.O. Beal (= <u>N. variegatum</u>)	bullhead lily			x	x	x		x	
Ranunculaceae									
<u>Actaea pachypoda</u> Ell.	doll's eyes	x		x					
<u>Actaea rubra</u> (Ait.) Willd.	red baneberry	x				x	x		
<u>Clematis virginiana</u> L.	virgin's bower					x			
<u>Coptis trifolia</u> (L.) Salisb. ssp. <u>groenlandica</u> (Oeder) Hulten (= <u>C. groenlandica</u>)	goldthread					x	x	x	x
<u>Ranunculus acris</u> L.	common buttercup					x			
<u>Ranunculus flabellaris</u> Raf.	yellow water-crowfoot			x					
<u>Ranunculus flammula</u> L.	spearwort					x			
<u>Thalictrum dioicum</u> L.	meadow rue	x		x					
<u>Thalictrum pubescens</u> Pursh (= <u>T. polygamum</u>)	meadow rue								x

Family

Genus/Species		T	1	2	3	K	5	6	K1
Pappavaraceae									
<u>Corydalis sempervirens</u>	pale corydalis					x			
(L.) Pers.									
Ulmaceae									
<u>Ulmus americana</u> L.	American elm					x	x		x
Myricaceae									
<u>Myrica gale</u> L.	sweet gale					x	x		x x x
Fagaceae									
<u>Fagus grandifolia</u> Ehrh.	American beech					x			
Betulaceae (Corylaceae)									
<u>Betula alleghaniensis</u> Britt.	yellow birch					x		x	x
(= <u>B. lutea</u>)									
<u>Betula cordifolia</u> Regel	heart-leaved paper birch					x	x	x	x
(= <u>B. papyrifera</u> v. <u>cordifolia</u>)									
<u>Betula glandulosa</u> Michx.	dwarf birch							x	
<u>Betula minor</u>	small birch							x	
(Tuckerman) Fern.									
<u>Betula papyrifera</u> Marsh.	paper birch							x	x x x x x
Corylaceae									
<u>Alnus incana</u> (L.) Moench	speckled alder					x		x	x x x x x
ssp. <u>rugosa</u> (DuRoi) Clausen (= <u>A. rugosa</u>)									
<u>Alnus viridis</u> (Chaix) DC.	mountain alder							x	x x x
(= <u>A. crispa</u>)									
<u>Corylus cornuta</u> Marsh.	beaked hazelnut							x	x
Caryophyllaceae									
<u>Minuartia groenlandica</u>	mountain sandwort							x	x x x x
(Retz.) Ostenf. (= <u>Arenaria groenlandica</u>)									
<u>Silene vulgaris</u>	bladder campion								x
(Moench) Garcke (= <u>S. cucubalus</u>)									
<u>Stellaria media</u> L. Vill.	common chickweed							x	x
Polygonaceae									
<u>Polygonum scandens</u> L.	climbing false buckwheat							x	x
<u>Polygonum viviparum</u> L.	alpine bistort								x
<u>Rumex acetosella</u> L.	sheep sorrel							x	x x x
<u>Rumex crispus</u> L.	yellow dock							x	x
Hypericaceae									
<u>Hypericum perforatum</u> L.	common St. John's wort								x
Sarraceniaceae									
<u>Sarracenia purpurea</u> L.	pitcher plant							x	x x x
Droseraceae									
<u>Drosera intermedia</u> Hayne	spatulate-leaved sundew								x
<u>Drosera rotundifolia</u> L.	round-leaved sundew							x	x x x x x
Violaceae									
<u>Viola macloskeyi</u> Lloyd	small white violet							x	x x x x
(= <u>V. blanda</u>)									
<u>Viola incognita</u> Brainerd	unknown violet							x	x x x x
<u>Viola palustris</u> L.	alpine marsh violet							x	x
<u>Viola septentrionalis</u>	northern blue violet							x	
Greene									

Family

Genus/Species		T	1	2	3	K	5	6	K1
Salicaceae									
<u>Populus tremuloides</u> Michx.	quaking aspen	x	x		x		x		
<u>Salix arctophila</u> Cockerell ex Heller	arctic-loving willow								x
<u>Salix argyrocarpa</u> Anderss.	silver willow								x
<u>Salix bebbiana</u> Sarg.	Bebb's willow	x		x	x				x
<u>Salix candida</u> Flugge ex Willd.	hoary willow			x	x				
<u>Salix herbacea</u> L.	dwarf willow						x		
<u>Salix uva-ursi</u> Pursh.	bearberry willow						x		
Cruciferae									
<u>Cardamine bellidifolia</u> L.	alpine cress						x		
<u>Cardamine pensylvanica</u> Muhl. ex Willd.	bittercress			x	x				
Ericaceae									
<u>Andromeda polifolia</u> L. (= <u>A. glaucophylla</u>)	bog rosemary								x x
<u>Arctostaphylos alpina</u> (L.) Spreng.	alpine bearberry				x	x			
<u>Cassiope hypnoides</u> (L.) D. Don	moss plant						x		
<u>Chamaedaphne calyculata</u> (L.) Moench	leatherleaf			x	x	x		x	x
<u>Epigaea repens</u> L.	trailing arbutus			x	x		x		
<u>Gaultheria hispidula</u> (L.) Muhl. ex Bigelow	snowberry	x		x	x	x			x
<u>Gaultheria procumbens</u> L.	wintergreen			x			x		
<u>Gaylussacia baccata</u> (Wang.) K. Koch	huckleberry			x			x		
<u>Kalmia angustifolia</u> L.	sheep laurel	x	x	x	x	x	x	x	x
<u>Kalmia polifolia</u> Wang.	bog laurel			x	x	x	x	x	x
<u>Ledum groenlandicum</u> Oeder	Labrador tea	x	x	x	x	x	x	x	x
<u>Loiseluria procumbens</u> (L.) Desv.	alpine azalea						x		
<u>Monotropa uniflora</u> L.	Indian pipe							x	
<u>Phyllodoce caerulea</u> (L.) Bab.	mountain heath						x		
<u>Rhododendron canadense</u> (L.) Torr.	Rhodora	x	x	x	x	x			x
<u>Rhododendron lapponicum</u> (L.) Wahlenb.	Lapland rosebay						x		
<u>Vaccinium angustifolium</u> Ait.	low sweet blueberry	x			x	x			x
<u>Vaccinium caespitosum</u> Michx.	dwarf bilberry							x	
<u>Vaccinium myrtilloides</u> Michx.	velvet-leaf blueberry	x	x		x	x	x		x
<u>Vaccinium oxycoccos</u> L.	bog cranberry			x	x	x		x	x
<u>Vaccinium uliginosum</u> L.	alpine bilberry			x	x	x			x
<u>Vaccinium vitis-idaea</u> L.	mountain cranberry			x	x	x			x
Empetraceae									
<u>Empetrum eamsii</u> Fern. & Wieg.	purple crowberry						x	x	
ssp <u>atropurpureum</u> (Fern. & Wieg.) D. Love (= <u>E. atropurpureum</u>)									
<u>Empetrum nigrum</u> L.	black crowberry			x	x	x			x

Family

Genus/Species		T	1	2	3	K	5	6	K1
Pyrolaceae									
<u>Moneses uniflora</u>	one-flowered wintergreen		x	x					x
(L.) Gray									
<u>Pyrola elliptica</u> Nutt.	shinleaf		x	x			x		
Diapensiaceae									
<u>Diapensia lapponica</u> L.	Diapensia				x	x	x		
Primulaceae									
<u>Lysimachia nummularia</u> L.	moneywort								x
<u>Trientalis borealis</u> Raf.	star-flower	x	x		x	x	x		x
Saxifragaceae									
<u>Mitella nuda</u> L.	miterwort	x			x				
<u>Ribes glandulosum</u> Grauer	skunk currant	x	x		x	x	x		x
<u>Ribes lacustre</u>	swamp black currant				x	x			x
(Purs.) Poir.									
<u>Saxifraga paniculata</u>	white mountain saxifrage						x		
P. Mill. (= <u>S. aizoon</u>)									
<u>Saxifraga foliolosa</u> R. Br.	star-like saxifrage						x		
(= <u>S. stellaris</u> v. <u>comosa</u>)									
Rosaceae									
<u>Amelanchier arborea</u> (Michx. f.)	shadbush						x		
Fern. var. <u>laevis</u> (Wieg.) Ahles									
<u>Amelanchier bartramiana</u>	mountain juneberry	x	x		x	x	x		
(Tausch) M. Roemer									
<u>Aronia melanocarpa</u> (Michx.) Ell.	chokeberry						x		
(= <u>Pyrus m.</u>)									
<u>Fragaria virginiana</u>	wild strawberry	x			x				
Duschesne									
<u>Geum canadense</u> Jacq.	avens						x		
<u>Malus sylvestris</u> (L.) P. Mill.	apple				x				
(= <u>Pyrus malus</u>)									
<u>Potentilla erecta</u> (L.) Raeusch.	cinquefoil				x				
<u>Potentilla fruticosa</u> L.	shrubby cinquefoil						x		
<u>Potentilla norvegica</u> L.	rough cinquefoil					x		x	
<u>Potentilla tridentata</u>	three-leaved cinquefoil	x	x				x	x	
(Soland.) Ait.									
<u>Prunus pensylvanica</u> L.f.	wild red or pin cherry	x	x		x	x	x		
<u>Prunus serotina</u> Ehrh.	black cherry					x			
<u>Rubus idaeus</u> L.	raspberry		x		x		x		x
<u>Rubus occidentalis</u> L.	black raspberry					x			
<u>Rubus pubescens</u> Raf.	dwarf raspberry	x			x		x		x
<u>Sorbus americana</u> Marsh.	mountain ash		x		x	x	x		x
(= <u>Pyrus a.</u>)									
<u>Spiraea latifolia</u>	meadow sweet	x	x		x	x	x		x
(Ait.) Borkh.									
Leguminosae									
<u>Trifolium aureum</u> Pollich	hop clover				x		x		
(= <u>T. agrarium</u>)									
<u>Trifolium pratense</u> L.	red clover				x		x		
<u>Trifolium repens</u> L.	white clover				x		x		

Family

Genus/Species		T	1	2	3	K	5	6	K1
Onagraceae									
<u>Circaea alpina</u> L.	enchanter's nightshade					x			
<u>Circaea lutetiana</u> (L.)	enchanter's nightshade					x	x		x
Aschers. & Magnus ssp. <u>canadensis</u> (L.) Aeschers. & Magnus (= <u>C. quadrisulcata</u>)									
<u>Epilobium anagallidifolium</u>	pimpernel-leaved willow-herb						x		x
Lam. (= <u>E. alpinum</u> in part)									
<u>Epilobium angustifolium</u> L.	fireweed					x	x		x
<u>Epilobium pringleanum</u>	glandular-leaved willow-herb								x
Hauskn. (= <u>E. glandulosum</u>)									
<u>Epilobium hornmannii</u>	Hornemann's willow-herb					x	x		
Reichenb.									
<u>Epilobium palustre</u> L.	willow-herb						x		
<u>Oenothera biennis</u> L.	evening primrose						x	x	
Cornaceae									
<u>Cornus alternifolia</u> L. f.	green osier						x		
<u>Cornus canadensis</u> L.	bunchberry					x	x	x	x
<u>Cornus sericea</u> L.	red osier					x		x	
ssp. <u>sericea</u> (= <u>C. stolonifera</u>)									
Santalaceae									
<u>Geocaulon lividum</u>	northern Commandra						x		
(Richards.) Fern.									
Aquifoliaceae									
<u>Nemopanthes mucronata</u>	mountain holly							x	x
(L.) Trel.									
Aceraceae									
<u>Acer rubrum</u> L.	red maple					x	x	x	x
<u>Acer pensylvanicum</u> L.	striped maple					x	x		x
<u>Acer saccharum</u> Marsh.	sugar maple							x	
<u>Acer spicatum</u> Lam.	mountain maple					x	x		x
Anacardiaceae									
<u>Toxicodendron toxicarium</u>	poison ivy							x	
(Salisb.) Gillis (= <u>Rhus toxicodendron</u>)									
Oxalidaceae									
<u>Oxalis acetosella</u> L.	common wood-sorrel					x	x		
(= <u>O. montana</u>)									
Araliaceae									
<u>Aralia nudicaulis</u> L.	wild sarsaparilla					x	x		x
Umbelliferae									
<u>Heracleum lanatum</u> Michx.	cow parsnip							x	x
(= <u>H. maximum</u>)									
Gentianaceae (Menyanthaceae)									
<u>Menyanthes trifoliata</u> L.	bog bean					x	x	x	
Apocynaceae									
<u>Apocynum cannabinum</u> L.	dogbane						x		x
Callitrichaceae									
<u>Callitriche verna</u> (L.)	water starwort					x			x
emend. Kuetz. (= <u>C. palustris</u>)									

Family

Genus/Species		T	1	2	3	K	5	6	K1
Labiatae									
<u>Lycopus uniflorus</u> Michx.	water-horehound					x			
<u>Prunella vulgaris</u> L.	heal-all			x	x		x		
<u>Scutellaria lateriflora</u> L.	mad-dog skullcap								x
Plantaginaceae									
<u>Plantago major</u> L.	common plantain					x	x	x	
Scrophulariaceae									
<u>Castilleja septentrionalis</u> Lindl.	pale painted cup						x		
<u>Chelone glabra</u> L.	turtlehead								x
<u>Veronica wormskjoldii</u>	alpine speedwell						x		
Roemer & Shultes ssp. <u>wormskjoldii</u> (= <u>V. alpina</u>)									
<u>Veronica americana</u> (Raf.) Schwein ex Benth.	American brooklime					x			
<u>Veronica officinalis</u> L.	common speedwell						x		
<u>Veronica scutellata</u> L.	marsh speedwell					x			
<u>Veronica serpyllifolia</u> L.	thyme-leaved speedwell						x		
Oleaceae									
<u>Fraxinus americana</u> L.	white ash		x						
<u>Fraxinus nigra</u> Marsh.	black ash						x		
<u>Syringa vulgaris</u> L.	lilac				x				
Lentibulariaceae									
<u>Utricularia intermedia</u> Hayne	bladderwort			x	x			x	
<u>Utricularia vulgaris</u> L.	common bladderwort				x				
Campanulaceae									
<u>Campanula rotundifolia</u> L.	harebell						x	x	
Rubiaceae									
<u>Galium mollugo</u> L.	bedstraw					x			
<u>Galium trifolium</u> Michx.	sweet-scented bedstraw				x	x			
<u>Galium</u> sp.	bedstraw		x	x					x
<u>Hedyotis caerulea</u> (L.) Hook. (= <u>Houstonia c.</u>)	bluets					x		x	
<u>Mitchella repens</u> L.	partridge-berry		x						
Caprifoliaceae									
<u>Diervilla lonicera</u> P. Mill.	bush honeysuckle					x		x	
<u>Linnaea borealis</u> L.	twinsflower		x	x	x	x	x		x
<u>Lonicera canadensis</u> Bartr.	fly honeysuckle		x		x				
<u>Sambucus racemos</u> L.	red-berried elder					x		x	
ssp. <u>pubens</u> (Michx.) House var. <u>pubens</u> (Michx.) Koehne (= <u>S. pubens</u>)									
<u>Symphoricarpos albus</u> L. Blake	snowberry					x			
<u>Viburnum edule</u> (Michx.) Raf.	hobblebush						x	x	
<u>Viburnum cassinoides</u> L.	wild raisin		x				x		x
Compositae									
<u>Achillea millefolium</u> L.	yarrow		x	x		x			
<u>Anaphalis margaritacea</u> (L.) Benth. & Hook. f. ex C.B. Clarke	pearly everlasting		x			x		x	
<u>Antennaria</u> sp.	pussy toes			x		x		x	
<u>Arnica mollis</u> Hook.	Arnica						x		x

Family

Genus/Species		T	1	2	3	K	5	6	K1
<u>Aster acuminatus</u> Michx.	whorled-wood aster	x		x		x		x	
<u>Aster nemoralis</u> Ait.	bog aster			x					x
<u>Aster novae-anglae</u> L.	New England aster			x		x			
<u>Cirsium vulgare</u> (Savi)	bull thistle				x				
Tenore									
<u>Eupatorium maculatum</u> L.	Joe-pye weed							x	
<u>Eupatorium rugosum</u> Houtt.	Joe-pye weed				x				
<u>Euthamia graminifolia</u> (L.) Nutt. ex Cass. (= <u>Solidago graminifolia</u>)	grass-leaved goldenrod				x				
<u>Gnaphalium sylvaticum</u> L.	woodland cudweed					x			
<u>Hieracium aurantiacum</u> L.	orange hawkweed		x		x				x
<u>Hieracium pilosella</u> L.	mouse-ear hawkweed					x			
<u>Hieracium caespitosum</u> Dumart. (= <u>H. pratense</u>)	tall yellow hawkweed	x	x		x				
<u>Lactuca canadensis</u> L.	Canadian lettuce					x		x	
<u>Leucanthemum vulgare</u> Lam. (= <u>Chrysanthemum leucanthemum</u>)	ox-eye daisy					x		x	
<u>Prenanthes altissima</u> L.	tall rattlesnake root						x	x	x
<u>Prenanthes boottii</u> (DC.) Gray	Boott's rattlesnake root						x		x
<u>Prenanthes nana</u> (Bigelow) Torr. (= <u>P. trifoliolata</u>)	low rattlesnake root	x							
<u>Solidago cutleri</u> Fern.	alpine goldenrod						x	x	
<u>Solidago macrophylla</u> Pursh.	large-leaved goldenrod	x	x			x	x		x
<u>Taraxacum officinale</u> Weber	common dandelion					x			
Hydrocharitaceae									
<u>Vallisneria americana</u> Michx.	water celery						x		x
Zosteraceae									
<u>Potamogeton</u> sp.	pondweed						x		x x
Iridaceae									
<u>Sisyrinchium mucronatum</u> Michx.	blue-eyed grass					x			
<u>Iris versicolor</u> L.	blue flag					x	x		x
Juncaceae									
<u>Juncus brevicaudatus</u> (Engelm.) Fern.	short-tailed rush							x	
<u>Juncus filiformis</u> L.	thread-like rush						x		x
<u>Juncus tenuis</u> Willd.	path sedge					x			x
<u>Juncus trifidus</u> L.	highland rush						x	x x	
<u>Luzula confusa</u> Lindeberg	northern woodrush						x		x
<u>Luzula parviflora</u> (Ehrh.) Desv.	small-flowered woodrush						x		
<u>Luzula spicata</u> (L.) DC.	spiked woodrush						x	x	x
Cyperaceae									
<u>Carex arctata</u> Boott	drooping wood sedge					x		x	x
<u>Carex bigelowii</u> Torr.	Bigelow's sedge						x	x x	
<u>Carex brunnescens</u> (Pers.) Poir	brownish sedge					x	x		

Family

Genus/Species		T	1	2	3	K	5	6	K1
<u>Carex canescens</u> L.	silvery sedge		x						x
<u>Carex convoluta</u> Mackenzie	convoluted sedge		x						
<u>Carex crinita</u> Lam.	long-haired sedge	x	x						
<u>Carex intumescens</u> Rudge	inflated sedge		x	x		x			
<u>Carex laevivaginata</u> (Kukenth.) Mackenzie	smooth-sheathed sedge						x		
<u>Carex lenticularis</u> Michx.	white mountain sedge					x			x
<u>Carex limosa</u> L.	quagmire sedge								x
<u>Carex nigra</u> (L.) Reichard	black sedge								x
<u>Carex oligocarpa</u> Willd.	few-fruited sedge						x		
<u>Carex pauciflora</u> Lightf.	few-flowered sedge								x
<u>Carex paupercula</u> Michx.	very depauperate sedge	x	x	x					x
<u>Carex pensylvanica</u> Lam.	Pennsylvania sedge	x	x			x			
<u>Carex rosea</u> Willd.	rosey sedge						x		x
<u>Carex rostrata</u> Stokes ex With.	beaked sedge						x		
<u>Carex stricta</u> Lam.	upright sedge	x				x			
<u>Carex trisperma</u> Dewey	three-seeded sedge	x		x	x	x	x	x	
<u>Carex</u> sp.	sedge					x			
<u>Cyperis</u> sp.	umbrella sedge					x			
<u>Dulichium arundinacium</u> (L.) Britt.	three-way sedge	x	x						
<u>Eleocharis obtusa</u> (Willd.) Shultes var. <u>ovata</u> Drapalik & Mohlenbrock (= <u>E. ovata</u>)	spike rush		x	x					
<u>Eriophorum alpinum</u> L. (= <u>Scirpus hudsonianus</u>)	bulrush								x
<u>Eriophorum vaginatum</u> L. ssp. <u>spissum</u> (Fern.) Hulten (= <u>E. spissum</u>)	cotton grass					x	x		x
<u>Scirpus atrocinctus</u> Fern.	wool grass			x	x	x			x
<u>Scirpus caespitosus</u> L.	deer's hair			x	x				x
<u>Scirpus microcarpus</u> Presl. (= <u>S. rubrotinctus</u>)	red-tinged sedge					x			
Gramineae									
<u>Agropyron repens</u> (L.) Beauv.	quack grass		x			x			
<u>Agrostis mertensii</u> Trin. (= <u>A. borealis</u>)	boreal bentgrass					x	x		x
<u>Agrostis perennans</u> (Walt.) Tuckerman	Lapland bentgrass						x		
<u>Bromus tectorum</u> L.	brome grass						x		
<u>Bromus</u> sp.	brome grass						x		
<u>Calamagrostis canadensis</u> (Michx.) Beauv.	blue joint	x		x	x	x	x		x
<u>Cinna latifolia</u> (Trev. ex Goepp.) Griseb.	drooping woodreed						x		x
<u>Danthonia spicata</u> (L.) Beauv. ex Roemer & Schultes	poverty grass					x	x		x
<u>Deschampsia flexuosa</u> (L.) Trin.	crinkled hairgrass					x	x		x

Family

Genus/Species		T	1	2	3	K	5	6	K1
<u>Festuca rubra</u> L.	proliferous fescue						x		
var. <u>prolifera</u> Piper (= <u>F. prolifera</u>)									
<u>Glyceria canadensis</u> (Michx.) Trin.	ratlesnake grass								x
<u>Hierocloe alpina</u> (Willd.) Roemer & Shultes	sweet grass						x		
<u>Phleum pratense</u> L.	timothy					x		x	
<u>Poa compressa</u> L.	Canada bluegrass				x			x	
<u>Poa nemoralis</u> L.	wood bluegrass					x			
<u>Poa pratensis</u> L.	Kentucky bluegrass					x	x		
Liliaceae									
<u>Allium schoenoprasum</u> L.	onion						x		
<u>Clintonia borealis</u> (Ait.) Raf.	blue bead lily			x		x	x	x	x
<u>Maianthemum canadense</u> Desf.	Canada mayflower	x	x			x	x	x	x
<u>Medeola virginiana</u> L.	Indian cucumber root	x		x					
<u>Smilacina racemosa</u> (L.) Desf.	false spikenard	x				x			
<u>Streptopus amplexifolius</u> (L.) DC.	white mandarin			x		x	x		x
<u>Streptopus roseus</u> Michx.	rose twisted-stalk	x	x			x			x
<u>Trillium erectum</u> L.	stinking Benjamin	x				x			
<u>Trillium undulatum</u> Willd.	painted Trillium						x	x	x
<u>Uvularia sessilifolia</u> L.	wild oats	x		x					
<u>Veratrum viride</u> Ait.	false hellebore						x		
Orchidaceae									
<u>Calopogon tuberosus</u> (L.) B.S.P. (= <u>C. pulchellus</u>)	grass pink								x
<u>Cypripedium acaule</u> Ait. f. <u>blanda</u> Fern.	mocassin flower	x	x			x			
<u>Goodyera repens</u> (L.) R. Br.	rattlesnake plantain								x
<u>Platanthera blephariglottis</u> (Willd.) Lindl. (= <u>Habenaria blephariglottis</u>)	white-fringed orchis								x
<u>Habenaria dilatata</u> (Pursh) Lindl. ex Beck	bog candle					x			
<u>Habenaria psycodes</u> (L.) Lindl.	small purple-fringed orchis								x
<u>Pogonia ophioglossoides</u> (L.) Juss.	beard flower					x			x x

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