

Key Plants appearing in the Field Guides to Native Plant Communities of Minnesota: Forests & Woodlands



**John C. Almendinger, Coordinator
Ecological Land Classification Program
Minnesota Department of Natural Resources
Forestry Resource Assessment Office
413 SE 13th Street
Grand Rapids, MN 55744
john.almendinger@dnr.state.mn.us**

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Forests & Woodlands

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Introduction

Between 2003 and 2005 the Minnesota Department of Natural Resources published a series of field guides¹ to identify the different Native Plant Communities (NPCs) of the state. These guides cover all plant communities except for deep-water environments. Within these guides are keys that use plants as a means of identifying the NPCs in the field. For resource managers to use these keys requires that they recognize plants with high fidelity for the communities.

This workbook was specifically designed to help foresters and other land managers that commonly employ timber harvesting as a management prescription. It is designed to be a training manual for learning the plants that appear in the field keys¹ to forests and woodlands (52 NPCs). To this end, the workbook provides photos, field tips for identification, and places to take a few notes during training sessions. No plant keys are provided, rather the field identification tips focus on the characters of key plants that are normally present and observable. Plants appearing in this workbook are not taxonomically arranged, rather they are arranged by their general appearance or by groupings familiar to most land managers who have probably had just a single course or field session that focused on plant identification. For each plant there is a tabular summary of its use in the field guides that tells the reader in which Section key the plant appears and in which ecological System. Plants with many key references are among the first that a field forester should try to learn. Also in the table is each plant's occurrence and usual abundance by System and Floristic Region. This gives the forester a feel for the plant's general abundance and affinity for the higher levels (System & Floristic Region) of the classification.

Included in this workbook are 302 different plants. While this sounds like a lot of plants for the field forester to learn, they will soon find that about 30-50 species will differentiate most of the forest and woodland ecosystems in the local area that they manage.

Acknowledgments

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Minnesota Department of Natural Resources (2005). *Field Guide to the Native Plant Communities of Minnesota: the Eastern Broadleaf Forest Province*. Ecological Land Classification Program, Minnesota County Biological Survey, and Natural Heritage and Nongame Research Program. MNDNR St. Paul, MN.
Minnesota Department of Natural Resources (2005). *Field Guide to the Native Plant Communities of Minnesota: the Prairie Parkland and Tallgrass Aspen Parklands Provinces*. Ecological Land Classification Program, Minnesota County Biological Survey, and Natural Heritage and Nongame Research Program. MNDNR St. Paul, MN.
2. Smith, Welby R. (2008) *The Trees and Shrubs of Minnesota*. University of Minnesota Press, Minneapolis, MN
3. Janssens, Joannes A. (2007) *Noteworthy Mosses & Liverworts of Minnesota: field keys and habitat descriptions of common bryophytes*. Minneapolis, Minnesota.

Species Groups and Organization

Plants appearing in this workbook are not taxonomically arranged, but rather they are arranged by their general appearance or by groupings familiar to most land managers. The purpose is to allow quick navigation to field notes and photos of plants appearing in the Native Plant Community Field Guides. For the botanist, the index serves as a taxonomic listing of the plants.

Coniferous trees – are woody plants capable of attaining heights over 30 feet, forming only a single main stem, and have needle-like leaves that are evergreen (except for Tamarack). Trees are able to attain both height and diameter growth because they have meristematic tissues at the ends of branches (apical) and between the different-functioning wood (vascular cambium), and between wood and the bark (bark cambium). In temperate climates, alternating periods of dormancy (winter) and growth (summer) cause woody plants with vascular cambium to form annual growth rings that are most evident in cross-section. Pages 1-3.



Deciduous trees – are woody plants capable of attaining heights over 30 feet, tending to form a single main stem, and have broad, net-veined leaves that are shed each year. Like coniferous trees, deciduous trees have a vascular cambium and form annual rings. Pages 4-12.



Tall deciduous shrubs – are woody plants usually less than 30 feet tall, tend to form clumps of stems, and have broad, net-veined leaves that are shed each year. Like trees, tall shrubs have a vascular cambium and form annual rings. Pages 13-21.



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Prickly, deciduous half-shrubs – are woody plants generally less than 3 feet tall that lose their leaves each fall and lack or have short-lived vascular cambia. Thus, deciduous half-shrubs are not capable of extended radial growth which is evident in the field as plants with a great many stems (colonies), many dead stems, and shreddy bark. Here “prickly” refers to either true prickles (modified bark) or spines (indurated stipules or branches). Prickly carries little taxonomic importance here, rather it is a convenient way of segregating half-shrubs using an obvious field character. Pages 22-23.



Smooth, deciduous half-shrubs – share all of the attributes of prickly half-shrubs (above) except that they are not obviously beset with spines or prickles. This group does not include the common half-shrubs of the Ericaceae family, which are mostly evergreen. Pages 24-28.



Ericaceous half-shrubs – half-shrubs of the Ericaceae family that lack prickles and usually have evergreen leaves. Blueberries are the deciduous exception in this workbook. Pages 29-30.



Ericaceous semi-woody plants – are a group of low, evergreen plants in the Ericaceae family or in genera associated with the Ericaceae. Most of these plants are technically woody, but their stems are slender, small, and short-lived. Pages 31-34.



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Woody vines – are woody plants that maintain over winter a vine or woody stub from which herbaceous, vine-like, growth emanates each year. Stubs are more common in the LMF Province unless in riparian areas. The vine growth-form is increasingly common in the EBF and PPA/TAP Provinces, but stubs are probably still the more common condition away from riparian habitats. Pages 35-36.



Miscellaneous herbs – is a necessary and pragmatic category of all herbaceous plants not fitting the following special categories. This happens only because the workbook presents a limited set of plants that are diagnostic of community differences. If an unknown herb doesn't fit any of the following categories, then one should search for a match under miscellaneous herbs. Pages 37-51.



Spring ephemerals – are small herbaceous plants that appear before the forest canopy leafs-out, are soon withering, and have underground storage organs. The species here tend to form colonies where their ephemeral habit is often obvious by at least some individuals turning yellow and collapsing. These plants will not be seen after early June and have limited value in site classifications. Page 52.



Bedstraws and weak-stemmed clingy plants – belong mostly to the bedstraw genus, *Galium*. Most bedstraws are weak-stemmed, decumbent or climbing plants that usually have hooked bristles somewhere on the plant that allows the seeds, leaves, or stems to stick to other plants or clothing. Included are two peatland plants, *Stellaria longifolia* and *Campanula aparinoides*, that are similarly weak-stemmed and bristly. Pages 53-54.



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Mints and other herbs with opposite leaves – are a group of plants with an upright central stem that is usually unbranched (or with a strong central stem) and with opposite leaves. Pages 55-58.



Plant's with cat's paw leaves – are a taxonomically diverse group that share in common their tendency to be tall, have (apparently) ternately compound leaves, with small leaflets that resemble the outline of a cat's paw. Pages 59-60.



Peas and vetches – are a group of upright or climbing herbs with pinnately compound leaves and tendrils at the leaf tips. All have flowers and pods resembling the common garden pea. Pages 61-62.



Smartweeds – are herbs with alternate leaves and a distinctive sheath (ochrea) above the leaves that define this taxonomic group. Pages 63-64.



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Umbels – are herbaceous members of the Umbelliferae plant family, which are distinguished by ternately compound leaves (usually), with wide petioles that sheath the stem, and with distinctive inflorescences (umbels) where numerous pedicels attach at a single point and spread to form flat-topped clusters of small flowers. Pages 65-67.



Trailing and vine-like herbs – are a group of herbs where the main stem of the plant lies along the ground or climbs on other plants. Upright carrion-flower (*Smilax ecirrata*) is the exception, but is not distinguished from its relative vines in the field guides. Pages 68-69.



Leafy violets – are members of the Violaceae family that have stem leaves on the flowering stalks. Basal leaves resembling the stem leaves are often present, so searching for flowering stems is an important field task. Page 70.



Composites with just disk or ray flowers – are members of the Asteraceae family that have just disk (e.g. joe pye weed) or just ray (e.g. dandelions) flowers, evident in the field because they don't have the obvious daisy-like heads. Pages 71-72.

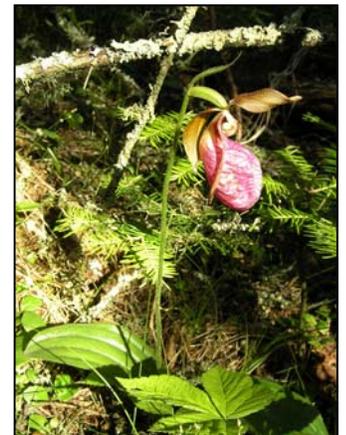


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Composites with disk and ray flowers – are members of the Asteraceae family generally characterized by forming the familiar daisy-like heads composed of tiny, tubular disk flowers in the center and larger, petal-like ray flowers around the edge. Pages 73-77.



Lilies and orchids with just basal leaves – are a group of herbs with only basal leaves that are apparently parallel-veined and occur singly, or as rosettes. Thus, the flowers or fruits occur on leafless or seemingly leafless stalks. Pages 78-79.



Leafy orchids – are members of the Orchidaceae family with leaves on the flowering stems. Pages 80-81.



Plants resembling Solomon's seal – are a group of plants in the Liliaceae family that are similar in that they tend to have arching stems about 1-2 feet long and with alternate, parallel-veined, leaves. They can be quite difficult to distinguish when sterile, but nearly all of the herbs in this group produce a few fertile plants that should be sought out in the field and matched to their sterile counterparts. Pages 82-84.



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Unique plants – are represented here by a few plants that are unusual, easily recognized, and don't fit into the other groups. Pages 85-86.



Ferns with triangular blades – are a group of ferns where the leafy blades are roughly triangular in outline. Page 87.



Ferns with feathery blades – are a group of ferns where the leafy blades look like feathers in outline. The exception is maidenhair fern (*Adiantum pedatum*), where the rachis is split to form a circular blade that, otherwise, would have appeared feathery. Pages 88-91.



Clubmosses and firmosses – are members of the Lycopodiaceae family that form colonies from creeping rhizomes and tend to have vertical stems that are not branched. Page 92.



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Groundpines and groundcedars – are members of the Lycopodiaceae family that form colonies from creeping rhizomes and tend to have vertical stems that branch, presumably resembling miniature cedar or pine trees. Page 93.



Horsetails and scouring rushes – are members of the genus, *Equisetum*. They have round, hollow, jointed central stems that may or may not have side branches. They appear to be entirely composed of stems and branches, having nothing that resembles a leaf. Pages 94-95.



Sedges without pendant spikelets – are members of the sedge genus, *Carex*, recognized by having flowering stems that are triangular in cross-section, leaves with mid-veins, and seeds enclosed in a sac-like structure called a perigynium. This group has spikelets of perigynia and subtending scales that are tight to the stem and ascend. Pages 96-100.



Sedges with pendant spikelets – are members of the genus *Carex* as above, but differ in having spikelets that are pendant on long stalks. Page 101.



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Cottongrasses – are members of the genus *Eriophorum* and are familiar peatland plants with cottony tufts at the tips of grass-like stalks. Pages 102-103.



Grasses – are members of the Poaceae family that are generally characterized by having round, segmented stems with joints (like bamboo), and seeds subtended by two specialized bracts (lemma and palea). Pages 104-107.



Sphagnum mosses – are members of the genus, *Sphagnum*. These mosses grow in mats of many individuals to form a ground-cover. These mosses are distinguished from others by having a “head,” which is really a rounded cluster of leafy branches at stem nodes that have yet to elongate. Page 108.



Brown mosses – a large and taxonomically variable group. This group includes mosses that tend to not obviously branch (acrocarps) and proliferous branchers (pleurocarps). The genera, *Plagiomnium*, *Rhizomnium*, *Hypnum*, and *Calliergon* have species that are important in our field guides as a widespread pool species in Forested Rich Peatlands and sometimes Wet Forests. Pages 109-110.



Feathermosses – are a large and taxonomically variable group. This group includes mosses that tend to pinnately branch, forming delicate, feather-like, individuals. The genera, *Pleurozium*, *Ptilium*, *Thuidium*, and *Hylocomium*, are the most important feathermosses in our field guides. Page 111.



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Coniferous Trees

Balsam Fir (*Abies balsamea*)



Field Tips: Evergreen tree with flat, white-striped, blunt-tipped, single needles attached directly to the branch. Bark smooth and with resin blisters. Female cones 2-4" long and upright on branches.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
FDn	WFn, FPn, MHn		FPS, FDc, FPw, WFw, FFn, MHc
Occurrence in ECS Field Keys			
LAP-FP, LAP-MH, MIM-FD, MIM-MH			

Tamarack (*Larix laricina*)



Field Tips: Coniferous tree with soft, deciduous, needle-like leaves in fascicles of 10-25 needles from short shoots. Purplish cones ~1/2" long, shedding winged seeds in the fall.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
FPw, FPS	APn, FPn	OPn	WFw, OPp, WFn, WMn
Occurrence in ECS Field Keys			
MDL-AP, MDL-FP, MOP-AP, MOP-FP, NSU-AP, NSU-FP, WSU-AP, WSU-FP			

Black Spruce (*Picea mariana*)



Field Tips: Evergreen tree with single needles <1" long, square in section, and on twigs beset with short reddish hairs. The crown commonly "mop-topped," caused by dense, cone-producing branches at the tree's apex.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	APn, FPn, FPw	FDn	WFn, OPn, FPS
Occurrence in ECS Field Keys			
LAP-AP			

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Jack Pine (*Pinus banksiana*)



Field Tips: Evergreen tree with rather straight needles, 1-2" long, in fascicles of two. The only pine in MN to not shed cones, bearing its lifetime production. Cones initially closed, opening in response to heat and sometimes age.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FDC	FDn	FDw

Occurrence in ECS Field Keys

MDL-FD, MOP-FD, NSU-FD, WSU-FD

Red Pine (*Pinus resinosa*)



Field Tips: Evergreen tree with rather straight needles, 3-6" long, in fascicles of two. Bark on bole flaking, revealing reddish plates. Cones shed in second year and unarmed.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FDc, FDn	

Occurrence in ECS Field Keys

MDL-FD, MOP-FD, NSU-FD, WSU-FD

White Pine (*Pinus strobus*)



Field Tips: Evergreen tree with rather straight needles, 2-4" long, in fascicles of five. Bark greenish-gray, becoming gray-black and furrowed. Cones shed around fall of second year and unarmed.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FDn	FDc, MHn, MHc, APn, FDs, FPn, WFn, MHs, OPn	

Occurrence in ECS Field Keys

MDL-FD, NSU-FD

Key plants appearing in the Field Guides to Native Plant Communities:
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White Cedar (*Thuja occidentalis*)



Field Tips: Evergreen tree with scale-like needles on flattened branchlets. Branching usually in a single plane to form the familiar cedar "sprays." Cones small (~1/2" long), scales opposite, releasing 2-winged seeds in about a year.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FPn	WFn	FDn, MHn, FPw, OPn
Occurrence in ECS Field Keys			
MIM-FP			

Key plants appearing in the Field Guides to Native Plant Communities:
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Deciduous Trees

Box elder (*Acer negundo*)



Field Tips: Tree with opposite, pinnately compound leaves on green twigs. Leaflets 3-5, coarsely toothed. Fruit the familiar maple "keys" with 2 seeds.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	MHw, FFs	FFn, FDs, MHs, FPs, WFs	WMs, WFw, FPw, FDw, MRs
Occurrence in ECS Field Keys			
LAP-FF, LAP-MH, NSU-FF, PPL-FF			

Red maple (*Acer rubrum*)



Field Tips: Familiar tree with opposite, simple, palmately veined maple leaves. Sinuses between the main leaf lobes <1/2 way to mid-rib and sharp-angled. Lower leaf surface slightly whitened below.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FDn, MHc, MHn, WFn	FDC, FPs, FPn, FDs, WFs	OPn, APn, WMn
Occurrence in ECS Field Keys			
MIM-MH			

Silver maple (*Acer saccharinum*)



Field Tips: Familiar tree with opposite, simple, palmately veined maple leaves. Sinuses between the main leaf lobes >1/2 way to mid-rib and rounded. Lower leaf surface strongly whitened below.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FFs, FFn		WFs
Occurrence in ECS Field Keys			
MDL-FF, MIM-FF, MOP-FF, NSU-FF, PPL-FF, WSU-FF			

Key plants appearing in the Field Guides to Native Plant Communities:
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Sugar maple (*Acer saccharum*)



Field Tips: Familiar tree with opposite, simple, palmately veined maple leaves. Sinuses between the main leaf lobes ~1/2 way to mid-rib and rounded. Lower leaf surface green, glabrous or only slightly whitened by hairs.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
MHc, MHn, MHs	WFs		WFn, FDn, FDs, FFs

Occurrence in ECS Field Keys

MDL-MH, MIM-MH, NSU-MH, PPL-WF, PPL-WF, WSU-MH
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Yellow birch (*Betula alleghaniensis*)



Field Tips: Tree with papery bark, lustrous gray outside and bronzy beneath. Leaves alternate, simply serrate, rounded at base and from short-shoots on older branches. Twigs with wintergreen odor. Female catkins fracturing in winter.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WFn	WFs, MHn, FPs, FPn

Occurrence in ECS Field Keys

MDL-WF, MIM-WF, MOP-WF, NSU-MH, WSU-WF
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Paper birch (*Betula papyrifera*)



Field Tips: Tree with the familiar papery bark, white outside and pinkish beneath. Leaves alternate, simply serrate, wedge-shaped at base and from short-shoots on older branches. Twigs odorless. Female catkins fracturing in fall.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
FDn	MHn, MHc, FPn	FPs, FDC, WFn, FDs, FPw, WFw	MHw, WFs, APn, MHs, OPn, WMn, FFn

Occurrence in ECS Field Keys

LAP-MH, LAP-WF, MIM-FD, MIM-WF

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Bitternut hickory (*Carya cordiformis*)



Welby Smith, MNDNR

Field Tips: Tree with alternate, pinnately compound leaves. Leaflets 7-9 decreasing in size from the large terminal. Distinctive, large, yellow terminal bud. Fruit the familiar nut with a thin husk.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHs		FDs, MHc, FFs
Occurrence in ECS Field Keys			
MIM-MH			

Hackberry (*Celtis occidentalis*)



Welby Smith, MNDNR

Field Tips: Trees, with alternate, simple, lance-ovate leaves with 3-5 veins from base, and blade attachment to the petiole usually unequal (like elm). Bole and larger branches with warty bark. Fruit a blackish drupe.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FFs	MHs	FDs, WFs, FFn
Occurrence in ECS Field Keys			
MIM-FF, MIM-MH, PPL-FF			

Black ash (*Fraxinus nigra*)



John C. Almendinger, MNDNR

Field Tips: Tree with opposite, pinnately compound leaves from thick branchlets. Leaflets stalkless, with rank odor, and the terminal lanceolate, similar to laterals. Fruits winged to tip around the whole seed.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
WFs, WFn, WFW	FFn	MHn, FPw, FPs, MHs, FPh, MHc	FFs, FDn, WMn, WMs, FDC
Occurrence in ECS Field Keys			
LAP-MH, MDL-WF, MIM-MH, MIM-WF, MOP-WF, WSU-WF			

Key plants appearing in the Field Guides to Native Plant Communities:
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Green ash (*Fraxinus pennsylvanica*)



Welby Smith, MNDNR

Field Tips: Tree with opposite, pinnately compound leaves from slender branchlets. Leaflets with petioles, without rank odor, and the terminal broader than laterals. Fruits winged to about the seed's middle.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHw, FFn	FFs, Mhc	FDs, MHs, WFs	MHn, Fdc, FDw, WFn, Wfw, WMs, Fdn, UPs
Occurrence in ECS Field Keys			
LAP-FF, LAP-MH, PPL-FF			

Butternut (*Juglans cinerea*)



Welby Smith, MNDNR

Field Tips: Tree with alternate, pinnately compound leaves on twigs with chambered, dark brown pith. Leaflets 11-17 and smelling distinctly of juglone. Fruit elongate.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			MHs, Mhc, WFs, FDs
Occurrence in ECS Field Keys			
MIM-MH			

Black walnut (*Juglans nigra*)



Welby Smith, MNDNR

Field Tips: Tree with alternate, pinnately compound leaves on twigs with chambered, light brown pith. Leaflets 11-17 and smelling distinctly of juglone. Fruit the familiar walnut, and nearly round.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FDs, FFs, MHs
Occurrence in ECS Field Keys			
PPL-FF			

Key plants appearing in the Field Guides to Native Plant Communities:
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Ironwood (*Ostrya virginiana*)



Monica Zachay, MNDNR

Field Tips: Small trees, with alternate, simple, ovate, finely-toothed leaves that feel fuzzy. Leaves large at the branchlet tip, becoming small towards base. Bark distinctly flaky/shreddy. Female catkin with seeds in inflated pouches, resembling hops.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
MHc, MHs	MHn	WFs, FDs	MHw, FDc

Occurrence in ECS Field Keys

MDL-MH, MIM-MH, PPL-MH, WSU-MH

Balsam poplar (*Populus balsamifera*)



John C. Almendinger, MNDNR

Field Tips: Tree, with alternate, simple, ovate-lanceolate leaves with small rounded teeth and bronze-guttaceous below. Buds are sticky and fragrant. Flowers in catkins, the females producing small seeds with cottony hairs.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
WFw	MHw	FPw, FDw, WFn, WPn, FFn, MHn, WMs, FDn	

Occurrence in ECS Field Keys

LAP-WF, MOP-MH, MOP-WF, NSU-WF

Cottonwood (*Populus deltoides*)



John C. Almendinger, MNDNR

Field Tips: Tree, with alternate, simple, triangular leaves with coarse teeth, the leaf base straight across the flattened petiole. Flowers in catkins, the females producing small seeds with cottony hairs.

Notes:



Habitat Distribution (Presence by Floristic Region)

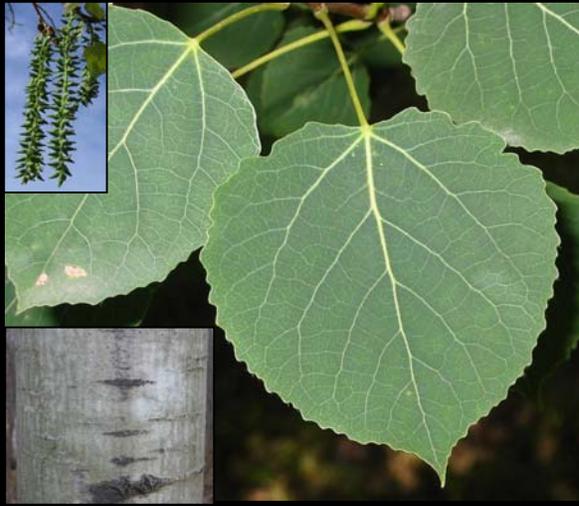
75-100%	50-75%	25-50%	5-25%
		FFs	MHw

Occurrence in ECS Field Keys

MIM-FF, PPL-FF

Key plants appearing in the Field Guides to Native Plant Communities:
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Quaking aspen (*Populus tremuloides*)



Field Tips: Tree, with alternate, simple, ovate leaves with fine teeth, the leaf base rounded across the flattened petiole. Bark initially smooth, green-white becoming ridged. Flowers in catkins, the females producing small seeds with cottony hairs.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
WFw, FDw	MHw, FDn, FDc	MHc, MHn, FDs	WFn, WPn, UPn, FPs, FFn, WPs, MHs, WFs, UPs
Occurrence in ECS Field Keys			
LAP-MH, LAP-WF, MIM-MH, NSU-FD, PPL-FD			

Black cherry (*Prunus serotina*)



Welby Smith, MNDNR

Field Tips: Tree with alternate, simple leaves and peeling bark with numerous lenticels. Leaves long-pointed, finely-serrate, gland-tipped teeth, and orange fuzz along lower midrib. Flowers and fruits from a pendant raceme.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			MHw, FDw
Occurrence in ECS Field Keys			
MIM-MH			

White oak (*Quercus alba*)



Welby Smith, MNDNR

Field Tips: Tree with alternate, simple, obovate leaves with 7-9 deep (>1/2 to midrib) lobes lacking bristle-tips. Branches often lustrous gray. Acorns sessile or on short (<1/2") stalks, the cup not fringed.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		MHs, FDs	WFs, MHc
Occurrence in ECS Field Keys			
MIM-FD			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Swamp white oak (*Quercus bicolor*)



Welby Smith, MNDNR

Field Tips: Tree with alternate, simple, obovate leaves with >6 shallow (<1/3 to midrib) lobes lacking bristle-tips. Acorns on long (1-2") stalks, the cup with scales near the rim having slender tips forming a slight fringe.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FFs
Occurrence in ECS Field Keys			
PPL-FF			

Northern pin oak (*Quercus ellipsoidalis*)



Welby Smith, MNDNR

Field Tips: Tree with alternate, simple, deeply lobed (nearly to midrib) leaves and lobes bristle-tipped. Acorn cup covering ~1/3 of nut and upper cup scales appressed. Acorn usually striped. Buds not strongly angled.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FDs	FDc, FDn, FPs, UPs, FDw, MHs
Occurrence in ECS Field Keys			
MIM-FD, PPL-FD, WSU-FD			

Bur oak (*Quercus macrocarpa*)



John C. Almendinger, MNDNR

Field Tips: Tree with alternate, simple, deeply lobed leaves (>1/2 to midrib) at base but less so near the wide tip. Lobes without bristle-tips. Leaves fuzzy below. Acorn cup with scales not appressed forming the "bur."

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
FDw, FDs, MHw	FDc, FFn	MHc, WFw, WFs, MHs	MHn, WFn, FPw, UPs, FPs, FDn, UPn, FFs, WPs
Occurrence in ECS Field Keys			
MIM-FD, MIM-WF, PPL-FD			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Northern red oak (*Quercus rubra*)



Field Tips: Tree with alternate, simple, leaves with bristle-tipped lobes. Sinuses cut 1/2-2/3 to midrib and narrowing to base. Acorn cup covering 1/6-1/3 of acorn. Acorn usually not striped.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHc	MHs, MHn	FDc, WFs, FDs, FPs	FDn, WFn, FPn, APn, FFn
Occurrence in ECS Field Keys			
MIM-FD, MIM-MH, NSU-MH			

Black oak (*Quercus velutina*)



Welby Smith, MNDNR

Field Tips: Tree with alternate, simple, deeply lobed (>6/10 to midrib) leaves and lobes bristle-tipped. Acorn cup covering 1/3-1/2 of nut and upper cup scales not appressed forming a short fringe. Buds 5-angled.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FDs
Occurrence in ECS Field Keys			
PPL-FD			

Peach-leaved willow (*Salix amygdaloides*)



Welby Smith, MNDNR

Field Tips: Tree with alternate, simple, ovate-lanceolate leaves with long narrow tips, green above and pale green (glaucous) and hairless below. Twigs green-yellow, maturing to brownish branchlets.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FFs, WMs
Occurrence in ECS Field Keys			
NSU-FF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Mountain ashes (*Sorbus spp.*)



John C. Almendinger, MNDNR

Field Tips: Tree or multi-stemmed very tall shrub. Leaves alternate, compound, odd-pinnate with 11-17 serrate leaflets. Flower clusters with many white flowers, yielding distinctive, small orange fruits (pomes).

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FDn	WFn,FPn,MHn

Occurrence in ECS Field Keys

NSU-FD, NSU-MH

Basswood (*Tilia americana*)



Field Tips: Tree with alternate, simple, heart-shaped leaves with gland-tipped teeth. Fragrant flowers and round, hard fruits (~1/4") from distinctive leafy bracts.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
MHs, MHc, WFs	MHn, MHw	FFn, FDs, FFs	WFn, FDc, FDn

Occurrence in ECS Field Keys

LAP-FF, LAP-MH, MDL-MH, MIM-FF, MIM-MH, MIM-WF, MOP-MH, NSU-MH, WSU-MH

American elm (*Ulmus americana*)



Welby Smith, MNDNR

Field Tips: Tree, with alternate, simple, ovate leaves with strong, mostly unbranched veins to marginal teeth and unequal blade attachment at base. Bark white/brown striped in vertical section. Fruits hairless except for frill at edge.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
MHw, FFs	FFn, WFs, WFw, FPs, MHs	FDs, WFn, FPw, MHc, MHn	FDw, FDc, WMs, WMn

Occurrence in ECS Field Keys

LAP-FP, MIM-MH

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Tall Deciduous Shrubs

Mountain maple (*Acer spicatum*)

John C. Almendinger, MNDNR



Field Tips: Tall shrub (3-15') with simple, opposite, maple leaves with long-tapering lobe tips. New twigs green, becoming red and then tan. Seeds the familiar maple "key" in long racemes that are initially upright and drooping later.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHn, WFn	FDn	MHc, WFw, FPn, WFs, FDc

Occurrence in ECS Field Keys

LAP-MH, LAP-MH, LAP-WF, MIM-MH, NSU-WF

Speckled alder (*Alnus incana*)



John C. Almendinger, MNDNR

Field Tips: Tall, multiple-stemmed shrub. Alternate, doubly-serrate leaves on white-speckled twigs. Winter buds stalked. Female catkin is a persistent woody cone on a very short stalk.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FPn, WFn, WFw	FPS, OPn, WFs	WMn, FPw, FFn, APn, MRn, FDn, FDw, MHn

Occurrence in ECS Field Keys

MDL-AP, MDL-FP, MOP-AP, MOP-FP, NSU-AP, NSU-FF, NSU-FP, NSU-MH, WSU-AP, WSU-FP, WSU-MH

Juneberries (*Amelanchier spp.*)

John C. Almendinger, MNDNR



Field Tips: Tall shrub, usually with multiple stems. Buds long-tapered, red, and hairy. Leaves alternate, simple, ovate, and toothed. Flower cluster a raceme of white, long-petaled flowers that yield a red to deep purple, apple-like fruit.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
FDw, MHw, FDn, FDc	WFw, MHc	MHn, FPw, FDS, WFn, FPn	FPS, UPn, MHs, FFn

Occurrence in ECS Field Keys

WSU-MH

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Bog birch (*Betula pumila*)



John C. Almendinger, MNDNR



Field Tips: Shrub up to ~4' high. Leaves fan-shaped (obovate), leathery, shiny above, glandular below, many small rounded teeth. Female catkin shattering in late fall/winter and seeds wind dispersed over snow.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
FPw	FPs, Opn	WPn, FPn, OPp, APn	WMs, FDw, MRn, UPn, WMn

Occurrence in ECS Field Keys

LAP-FP, MDL-AP, MDL-FP, MIM-FP, MOP-AP, MOP-FP, NSU-AP, NSU-FP, WSU-AP, WSU-FP

Blue beech (*Carpinus caroliniana*)



Monica Zachay, MNDNR

Field Tips: Shrub or small tree with smooth, gray bark covering fluted, "muscled" wood. Leaves alternate, serrate, shiny, largest near tip and progressively smaller towards the base of the branchlet.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WFs	MHc, MHs, FFn

Occurrence in ECS Field Keys

MIM-MH, PPL-WF

Pagoda dogwood (*Cornus alternifolia*)



Field Tips: Tall shrub or creeping beneath duff with short vertical shoots. Alternate leaves with veins parallel to leaf edge. Young branchlets yellow-green. White flowers in flat-topped clusters yielding dark blue fruits on red stalks.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHc	MHs, MHn, WFs	FDs, FDc, WFn, FFn

Occurrence in ECS Field Keys

LAP-MH, MDL-MH, MIM-WF, MOP-MH, NSU-MH

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Gray dogwood (*Cornus racemosa*)



Field Tips: Tall (3-6') shrub, forming thickets. Leaves opposite, lanceolate, 3-4 veins parallel to leaf margin. Branchlets not mottled and not with red-brown pubescence; older twigs gray. Flowers white; berries white.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHw	FDs, FDw	WFs	WFw, FDc, FPs, FFn, MHs, WFn, MHc, FPw, FPn
Occurrence in ECS Field Keys			
MIM-FD, MIM-WF, PPL-FD			

Round-leaved dogwood (*Cornus rugosa*)



Field Tips: Tall shrub with opposite, ovate leaves with 5-7 veins a side parallel to leaf edge. Young branchlets green with purplish flecks. Fruit clusters gaudy with light blue fruits and magenta/pink stalks.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			MHc, FDn, FDc, FPs, WFn, MHn, FDs, FPn, MHs, WFs
Occurrence in ECS Field Keys			
MDL-FD, MIM-FD, NSU-FD, WSU-FD			

Red-osier dogwood (*Cornus sericea*)



Field Tips: Tall (3-6') shrub, forming thickets. Leaves opposite, oval, 5-9 veins parallel to leaf margin. Stems not mottled, brilliant red fall to spring, turning green throughout growing season. Flowers white; berries bluish white.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
FPw, WFw	FPs, FPn	WMs, WFn, FDw, OPp	WMn, WPn, WMp, OPn, WFs, FDn, MRs, FDc, WPs, MHn
Occurrence in ECS Field Keys			
LAP-FP, LAP-WF, WSU-FP, WSU-MH			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

American hazelnut (*Corylus americana*)



John C. Almendinger, MNDNR

Field Tips: Tall shrub with multiple stems. Leaves alternate, doubly serrate. Twigs and leaf petioles beset with bristly, red, glandular hairs. Male catkins stalked and somewhat pendant. Fruit husk with frilly seam rather than a beak.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
FDs	FDw, FDC		FFn, MHc, MHs, MHw, WFs, MHn, WFn, WFW, UPs, UPn
Occurrence in ECS Field Keys			
LAP-FD, MDL-FD, MIM-FD, MIM-MH, PPL-MH, WSU-FD, WSU-FF			

Beaked hazelnut (*Corylus cornuta*)



John C. Almendinger, MNDNR

Field Tips: Tall shrub with multiple stems. Leaves alternate and doubly serrate. Twigs with soft, soon-deciduous hairs. Male catkins sessile and stick out, not pendant. Fruit husk with a long, tubular beak.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
FDn, MHn	MHc, FDC, MHw, WFn, WFW		FDw, WFs, FDs, FFn, FPw, FPn, MHs
Occurrence in ECS Field Keys			
MDL-FD, MIM-MH, NSU-WF			

Hawthorn (*Crataegus* spp.)



Michael D. Lee, MNDNR

Field Tips: Several species of tree-like shrubs, usually thorny and with simple, alternate, toothed leaves (often coarsely, doubly serrate). Flowers white, and the fruits resembling small apples in large clusters.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			WFs, FFn, FDC, FDw, FDs, MHs, MHc, FFs
Occurrence in ECS Field Keys			
LAP-FD, PPL-WF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Leatherwood (*Dirca palustris*)



Field Tips: Shrub with tree-like form; branches and twigs incredibly flexible and very difficult to break. Leaves alternate, glabrous and entire with petioles concealing axillary buds leaving scars that encircle the twigs.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		MHc	MHn, MHs

Occurrence in ECS Field Keys

MDL-MH, MIM-MH, WSU-MH

Winterberry (*Ilex verticillata*)



Field Tips: Shrub (2-8') with alternate, obovate leaves with acuminate tip and fine gland-tipped teeth. Leaf veins deeply set. White flowers in axillary clusters; females yielding bright red fruits that persist after leaf-fall.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			WFn, FPs, WFs, FFn, FPn, FDs, FDc

Occurrence in ECS Field Keys

MIM-WF, NSU-WF, WSU-AP, WSU-WF

Sweet gale (*Myrica gale*)



Field Tips: Tall (2-4') shrub with alternate, obovate leaves toothed near the tip, dotted with yellow glands, and very fragrant (bayberry). Flowers in catkins, the females producing numerous, water-dispersed seeds.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			OPn

Occurrence in ECS Field Keys

NSU-AP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Chokecherry (*Prunus virginiana*)



Field Tips: Tall shrub (3-10') with branchlets dull reddish gray and without spines. Leaves alternate, simple, dull green, wider towards tip and with straight (not incurved) teeth. Flowers in pendant racemes, yielding red-purple drupes.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHc	FDs, FDc, FDw, MHn, MHs, WFw	WFs, FFn, WFn, FDn, FPw	FPs, FFs, MHw, UPs, UPn
Occurrence in ECS Field Keys			
MIM-FF, MOP-FF, NSU-FF, NSU-MH			

Bebb's willow (*Salix bebbiana*)



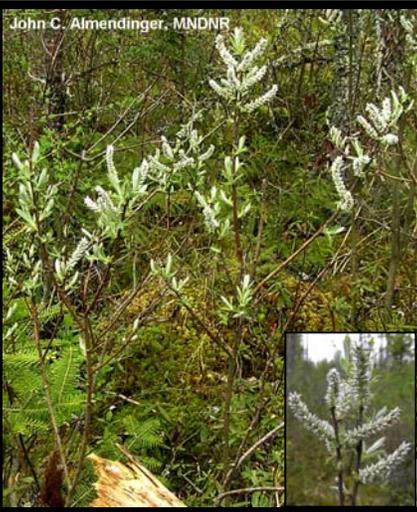
Field Tips: Usually a tall (6-10') shrub with multiple stems. Alternate, elliptic, entire to crenate leaves that are hairy below making it appear gray-green often with pinkish veins. Twigs green, maturing to red-brown branchlets.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FDw, WFw, WPn, FPw	OPp, WMn, WMs, UPn, FPn, WMp, FPs, WPs, MRn, FDn
Occurrence in ECS Field Keys			
MDL-FP, MOP-FP, NSU-FP, WSU-FP			

Sage-leaved willow (*Salix candida*)



Field Tips: Low (~2') willow layering in peat to form colonies of scattered, small, yellowish-turning-red stems. Leaves alternate, lanceolate, light green above and densely white-wooly beneath, and with the edges rolled under.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		OPp, FPw	OPn, WMs, WPn, FPs, MRn, FPn, WMn
Occurrence in ECS Field Keys			
LAP-FP			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Pussy willow (*Salix discolor*)



Field Tips: Usually a tall (6-10') shrub with multiple stems. Alternate, oblanceolate, crenate to serrate leaves that are glabrous/glaucous below, making it appear pale green. Twigs green-brown, maturing to brown branchlets.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FPw	WMs, WPn, WMp, WMn, FPs, FPn, OPp	FDw, MRn, OPn, UPn, WPs, WFw

Occurrence in ECS Field Keys

MDL-FP, MOP-FP, NSU-FP, WSU-FP

Prairie willow (*Salix humilis*)



Field Tips: Tall shrub unique among willows to sandy, dry habitats in MN. Leaves with revolute edges, dark green surface, light green and densely hairy below. First-year branchlets fuzzy and yellow/brown mottled.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FDc	FDn, FDw

Occurrence in ECS Field Keys

MDL-FD, MOP-FD, NSU-FD, WSU-FD

Bog willow (*Salix pedicellaris*)



Field Tips: Low (~2') willow layering in peat to form colonies of scattered, small, reddish stems. Leaves alternate, oval/oblong, leathery, dark green above and whitened beneath, and with prominent yellow-red midrib.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		OPn	FPn, OPp, FPs, APn, MRn, WMn

Occurrence in ECS Field Keys

MOP-FP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Nannyberry (*Viburnum lentago*)



Field Tips: Tall tree-like shrub (5-15') with opposite, finely serrate, acuminate leaves on warty-winged petioles. Unmistakable long terminal bud. White flowers of two sizes in large, flat clusters yielding blue-black fruits.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WFs, FFn, FDw, FDs	MHs, MHw, WFW, WFn, FFs, MHC, FPs, MHn

Occurrence in ECS Field Keys

LAP-FD, NSU-MH

Downy arrowwood (*Viburnum rafinesquianum*)



Field Tips: Tall shrub (2-6') with opposite, coarsely-toothed, ovate-lanceolate, simple leaves. White flowers of two sizes in large, flat clusters yielding blue-black fruits (drupes) with stones that are flattened and grooved.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
MHW	MHC, FDw	FDs, FDC, MHn	WFW, FDn, FFn, MHs

Occurrence in ECS Field Keys

MIM-WF, NSU-FD, NSU-MH

Highbush cranberry (*Viburnum trilobum*)



Field Tips: Tall shrub with opposite, three-lobed, maple-like leaves. Flowers in a flat-topped compound cyme with the outer ring of flowers larger than the central ones. Fruit a red edible drupe, tart.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
MHW	WFW	FDw, WFn, FPw	FFn, FPs, MHn, FDs, MHC

Occurrence in ECS Field Keys

MDL-MH, MIM-MH

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Prickly ash (*Zanthoxylum americanum*)



Field Tips: Tall shrub (up to 10') with a pair of stout spines below each leaf. Leaves pinnately compound with 5-11 ovate, entire leaflets. Small, greenish flowers yielding a red, fleshy follicle that splits to reveal the seed(s).

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FDs	MHs	FFs, FFn, MHw, WFs, MHc
Occurrence in ECS Field Keys			
PPL-FD			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Prickly, Deciduous Half-shrubs

Prickly gooseberry (*Ribes cynosbati*)



Field Tips: Low shrub (2-3'), prickles persistent, axillary spines slender. Alternate clusters of maple-like leaves on short shoots, leaf undersides without resin dots. Flowers 2-4 from axils. Fruits purple-black and prickly.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	MHs, MHc	FDs, MHw, MHn, WFw	WFn, FPw, WFw, FFs, FDC, FDw, FPn, FPs, FFn
Occurrence in ECS Field Keys			
MIM-WF			

Swamp gooseberry (*Ribes hirtellum*)



Field Tips: Low shrub (2-3'), prickles soon shed with bark, leaving a few axillary spines. Alternate clusters of maple-like leaves on short shoots. Flowers 2-4 from axils, stamens exceed petals; fruits green-purple and smooth.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	WFw, FPs	FDw, FPw, WFw	FPn, MHn, WMn, FDn, WFw, OPn
Occurrence in ECS Field Keys			
MDL-WF, MOP-WF, NSU-WF			

Prickly & Smooth wild roses (*Rosa acicularis* / *blanda*)



Field Tips: Prickly shrubs 1-4' tall, with alternate, compound leaves and large stipules. Large pink flowers with many yellow stamens yielding the familiar red hips.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
WFw	FDc, FDw	FDn	FFn, FPw, FDs, MHn, WFw, FPn, MHc
Occurrence in ECS Field Keys			
MDL-FD, MIM-FD, MOP-MH, NSU-FD, NSU-FD, WSU-FD			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Tall blackberries (*Rubus* sections: *Alleghenienses*, *Canadenses*, *Arguti*)



Field Tips: Prickly shrub (2-6') with tall, arching canes with hooked bristles. Leaves alternate, palmately compound with 5 serrate leaflets. Flowers white, yielding the familiar berry, the receptacle coming off with the berry.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FDs, FDC	MHc, MHn, WFs, FDn, MHs
Occurrence in ECS Field Keys			
MIM-FD, WSU-FD, WSU-MH			

Trailing blackberries (*Rubus* section *Flagellares*)



Field Tips: Low, trailing blackberries that send up vertical shoots from evenly spaced nodes to form linear colonies. The canes often rooting at the tip. Stems with scattered, small, needle-like prickles. Leaves palmately compound with 3-5 leaflets. Berries red/black and adherent to receptacle.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			None >5
Occurrence in ECS Field Keys			
MIM-FD			

Red raspberry (*Rubus idaeus*)



Field Tips: Prickly shrub (1-4') with purplish, arching canes. Leaves alternate, pinnately compound, 3-7 serrate, white-backed leaflets. Flowers white, yielding the familiar berry easily removed from receptacle.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHw, WFw	FPw, FDs	FDc, WFn, FDn, FPs, FDw, WFs, FPh	MHs, MHn, WMs, MHc, WMn, FFn, WPs
Occurrence in ECS Field Keys			
LAP-FP, LAP-MH, MDL-FP, MIM-MH, MOP-FP, NSU-FP, NSU-MH, WSU-FP			

Smooth, Deciduous Half-shrubs

Climbing bittersweet (*Celastrus scandens*)

Welby Smith, MNDNR



Field Tips: In forests, usually a single, slender, trailing, woody, sterile shoot. Leaves mostly alternate, simple, serrulate, and with distinctive orange buds in their axils. Vine-like, flowering, and with the familiar bittersweet fruits (arils) in the open.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDs, MHc, FDw, MHs, UPs

Occurrence in ECS Field Keys

LAP-FD

Sweet fern (*Comptonia peregrina*)



John C. Almendinger, MNDNR

Field Tips: Half-shrub (1-2') with very distinctive leaves that are alternate, pinnately cut, resin-dotted, and pubescent. Blades aromatic when crushed. Fruit a bur-like nutlet.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDn

Occurrence in ECS Field Keys

NSU-FD

Bush honeysuckle (*Diervilla lonicera*)



Diervilla lonicera

Alaina Berger, MNDNR

Field Tips: Low (1-2') half-shrub with persistent, abandoned branchlets and shreddy bark. Opposite, serrately toothed leaves. Paired yellow flowers yielding dried capsules, never red fleshy fruits like true honeysuckles.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FDn, FDc	MHn, MHc	FDs, WFn

Occurrence in ECS Field Keys

MDL-MH, MIM-MH, MOP-FD, NSU-FD, WSU-MH

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Fly honeysuckle (*Lonicera canadensis*)



Field Tips: Low (1-3') half-shrub with persistent, abandoned branchlets and shreddy bark. Opposite, entire leaves with long hairs on margin near base. Paired red fruits fused at their base to form "flies."

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FDn, MHn	WFn	FPn, MHc, FDc, WFw, FPs

Occurrence in ECS Field Keys

LAP-FP, LAP-WF, MDL-FD, MIM-WF, MOP-FD, MOP-MH

Wild honeysuckle (*Lonicera dioica*)



Field Tips: Low (1-2') half-shrub or vine. Simple leaves opposite, entire, hairless above and distinctly whitened beneath. When fertile, the uppermost leaves fused together below a cluster of flowers yielding bright red berries.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHw	FDw, FPs, WFw, FPw	FDc, MHc, FDs, WFn, FDn, MHn, FFn

Occurrence in ECS Field Keys

MIM-FP, MOP-FP, WSU-FP

Hairy honeysuckle (*Lonicera hirsuta*)



Field Tips: Low (1-2') half-shrub or vine. Leaves opposite, entire, hairy fringed, and pubescent above. When fertile, the uppermost leaves fused together and below a cluster of yellow-orange flowers.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			MHn, FDn, WFn, MHc, FPn, FDc

Occurrence in ECS Field Keys

NSU-MH, WSU-MH

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Mountain fly honeysuckle (*Lonicera villosa*)

John C. Almendinger, MNDNR



Field Tips: Low (1-2') deciduous shrub. Branches with red, shreddy bark and white pith. Internodes short, producing tufts of opposite, short-petioled, elliptic, hairy leaves. Flowers paired, yellow-white, fragrant, yielding blue berries.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FPw, FPs, FPn	OPn, WFn

Occurrence in ECS Field Keys

WSU-FP

Shrubby cinquefoil (*Potentilla fruticosa*)

Michael D. Lee, MNDNR



Field Tips: Half-shrub with shreddy bark and alternate, compound leaves with 5 leaflets; the upper three leaflets united at base separate from 2 laterals. Flowers 5-parted, yellow, yielding clusters of seeds enclosed by sepals.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WPn, OPp, FPw	UPn, FDw, OPn, WFw, WMP

Occurrence in ECS Field Keys

MOP-FP

Sand cherry (*Prunus pumila*)

John C. Almendinger, MNDNR



Field Tips: Low shrub (1-3') usually as a clump of a few, equal-sized stems. Leaves alternate, with cherry glands on petiole, serrate, often thickened/revolute edge. White flowers and black fruits from 1-3 pedicels in axils.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDc, FDw, UPn, WPn

Occurrence in ECS Field Keys

MDL-FD

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Dwarf alder (*Rhamnus alnifolia*)



Field Tips: Low (1-3') shrub with alternate, oval, glossy leaves; veins strong and inset below surface and the margins with distinctive, round, fine teeth. Small yellow-green flowers from lower leaf axils yielding black berries.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
FPw	WFw	FPS, FPN, WFn, FDw	FFn, OPn, OPp, WPn
Occurrence in ECS Field Keys			
LAP-FD, NSU-FP			

Wild black currant (*Ribes americanum*)



Field Tips: Low shrub (2-3'), without prickles or spines. Alternate clusters of maple-like leaves on short shoots, and with abundant resin dots on lower surface. Flowers on pendant racemes, bracts longer than pedicels, berries turning black.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	WFs	WFw, FFn, WFn	MHw, WMs, FPS, FPw, FFs, FDw, MHc, WMn
Occurrence in ECS Field Keys			
MIM-MH, MIM-WF			

Swamp red currant (*Ribes triste*)



Field Tips: Low shrub (2-3'), without prickles or spines. Alternate clusters of maple-like leaves on short shoots; larger and less-cut than most currants. Flowers on pendant racemes from axils, yielding bright red berries.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	WFn	FPS, WFw	WFs, MHn, FPw, FPN, FDn, FDw
Occurrence in ECS Field Keys			
NSU-WF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Thimbleberry (*Rubus parviflorus*)



Field Tips: Low shrub (1-4') with shreddy bark and lacking prickles. Leaves alternate, simple, maple-like. Flowers white yielding a raspberry-like, edible fruit.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDn, MHn
Occurrence in ECS Field Keys			
NSU-MH			

Snowberry & Wolfberry (*Symphoricarpos spp.*)



Field Tips: Low (1-2') half-shrubs with dead branchlets and shreddy bark. Leaves opposite, ovate/elliptic, entire, and whitened beneath. Clusters of pinkish flowers mostly from axils yielding white, globose fruits.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FDc, FDw, FDs	MHw, UPn, UPs, MHc, FDn, FFn
Occurrence in ECS Field Keys			
LAP-FD, LAP-FD, MDL-FD, MIM-FD, MOP-FD, WSU-FD			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Ericaceous Half-shrubs

Bog rosemary (*Andromeda glaucophylla*)

John C. Almendinger, MNDNR



Field Tips: Low mat-like Ericaceous shrub. Leaves evergreen, alternate, entire, edges rolled under, tipped with small spine, blue/green above, snowy white below. White/pink urn-shaped flowers. Fruits with persistent beaks.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	APn	OPn, FPn	FPw

Occurrence in ECS Field Keys

LAP-AP, MDL-AP, MIM-AP, MIM-FP, MOP-AP, MOP-FP, NSU-AP, WSU-AP

Leatherleaf (*Chamaedaphne calyculata*)



John C. Almendinger, MNDNR

Field Tips: Low evergreen Ericaceous shrub. Leaves leathery, alternate, entire, green above, golden brown scales below, progressively smaller towards the branch tip. White urn-shaped flowers pendant from axils.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
APn		OPn, FPn	WMn, FPs

Occurrence in ECS Field Keys

MDL-AP, MDL-FP, MIM-AP, MIM-FP, MOP-AP, MOP-FP, NSU-AP, WSU-AP, WSU-FP

Bog laurel (*Kalmia polifolia*)

John C. Almendinger, MNDNR



Field Tips: Low, mat-like Ericaceous shrub. Leaves evergreen, opposite, entire, edges rolled under, smooth above, dense white hair below. Pink bowl-shaped flower. Red fruit with long, persistent style.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	APn		FPn, OPn

Occurrence in ECS Field Keys

LAP-AP, MDL-AP, MIM-AP, MIM-FP, MOP-AP, NSU-AP, NSU-FP, WSU-AP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Labrador tea (*Ledum groenlandicum*)



John C. Almendinger, MNDNR

Field Tips: Low (2-3') Ericaceous shrub with alternate, leathery, evergreen, leaves with edges rolled under and densely orange woolly below. Clusters of white flowers at branch tips yielding capsules with persistent, long styles.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
FPn	FPw, APn	FPs	OPn, WFn, FDn

Occurrence in ECS Field Keys

LAP-WF, LAP-WF, MIM-FP, MOP-AP, MOP-FD, NSU-AP, WSU-FP

Lowbush blueberry (*Vaccinium angustifolium*)



John C. Almendinger, MNDNR

Field Tips: Low (1') Ericaceous shrub with green branches. Leaves lanceolate, serrate, and gland-tipped (glands often deciduous). White urn-shaped flowers yielding blue, edible berries with calyx persistent on berry.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
FDc	FDn	FPn	APn, MHc, FPs, FDw, WFn, MHn, FDs

Occurrence in ECS Field Keys

LAP-AP, LAP-FD, MDL-FD, MIM-AP, MIM-FD, MIM-MH, MIM-WF, NSU-MH, WSU-FD, WSU-MH

Velvet-leaved blueberry (*Vaccinium myrtilloides*)



John C. Almendinger, MNDNR

Field Tips: Low (1') Ericaceous shrub with green branches. Leaves lanceolate, entire and hairy. White urn-shaped flowers yielding blue or blue-black, edible berries with calyx persistent on berry.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
FDc	FDn	FPn	APn, MHc, FPs, FDw, WFn, MHn, FDs

Occurrence in ECS Field Keys

LAP-AP, LAP-FD, MDL-FD, MIM-AP, MIM-FD, MIM-MH, MIM-WF, NSU-MH, WSU-FD, WSU-MH

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Ericaceous Semi-woody Plants

Bearberry (*Arctostaphylos uva-ursi*)



Field Tips: Small, colonial, low-growing, evergreen plant with alternate, small, shiny, oblanceolate, rounded leaves. Pink flowers in terminal clusters, and urn-shaped. Fruits red.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDC, FDw, FDn

Occurrence in ECS Field Keys

MDL-FD, MOP-FD

Pipsissewa (*Chimaphila umbellata*)



Field Tips: Low (~6") evergreen, Ericaceous plant. Leaves 3 to 8 in whorls, and sharply toothed. Flower cluster umbel-like with pendant, pink flowers yielding a reddish capsule; the short, umbrella-shaped stigma persistent.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FDC	FDn, FDS

Occurrence in ECS Field Keys

NSU-FD, PPL-FD, WSU-FD

Goldthread (*Coptis trifolia*)



Field Tips: Small, low-growing, evergreen plant with trifoliate, glossy, toothed leaves. White flowers giving way to a claw-like whorl of green fruits. Creeping, thread-like rhizomes brilliant gold, hence the name.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FPn	WFn	FPw, FDn, FPs, MHn

Occurrence in ECS Field Keys

LAP-WF, MDL-FD, MOP-FP, WSU-FP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Trailing arbutus (*Epigaea repens*)



Field Tips: Creeping Ericaceous, evergreen plant with egg-shaped leaves of varying size. Entire plant coarsely beset with cinnamon-colored hairs. White tubular flowers appearing very early and very fragrant.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FDn
Occurrence in ECS Field Keys			
MDL-FD			

Creeping snowberry (*Gaultheria hispidula*)



Field Tips: Creeping, evergreen Ericaceous plant beset with stiff brown hairs on the stems and underside of the leaves. Tiny, alternate, roundish leaves with sharp tips. White, pungent berries edible in small doses.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FPn		APn, WFn, FPw
Occurrence in ECS Field Keys			
LAP-AP, LAP-FP, MDL-AP, MDL-WF, MIM-AP, MOP-AP, MOP-FP, MOP-WF, NSU-WF, WSU-AP, WSU-WF			

Wintergreen (*Gaultheria procumbens*)



Field Tips: Small, Ericaceous plant with alternate, evergreen, shiny, entire leaves that smell like wintergreen. White urn-shaped flowers single from axils and yielding a red, waxy, edible berry.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FDc, FDn	
Occurrence in ECS Field Keys			
MDL-FD, MOP-FD, NSU-FD, WSU-FD			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

One-flowered pyrola (*Moneses uniflora*)



Field Tips: Tiny herb forming colonies of basal leaves that are roundish, with small teeth, and less than 1" long. Flowering stem leafless, and with a single, white, nodding flower yielding a round capsule with a persistent style.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FPn, FPp, WFp, FDn
Occurrence in ECS Field Keys			
WSU-WF			

Pink shinleaf (*Pyrola asarifolia*)

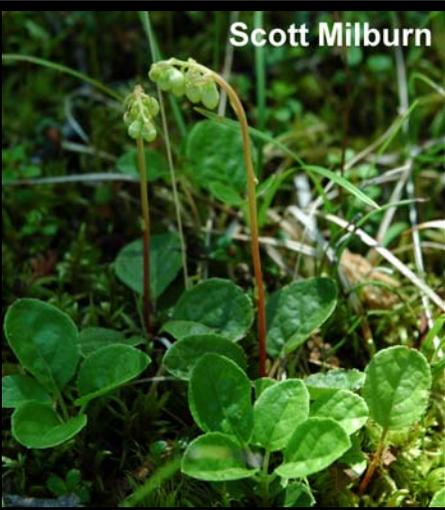


Field Tips: Low, leathery, evergreen herb with all basal leaves. Petioles longer than the round blade is wide. Pink, nodding, short-stalked flowers. Greater affinity for peatlands than other shinleaves.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FPs, FPw, WFw, FPn, FDc, MHc, MHn, FDs, FDn
Occurrence in ECS Field Keys			
MIM-FP			

One-sided pyrola (*Pyrola secunda*)



Scott Milburn

Field Tips: Small, evergreen herb usually with "basal" leaves from two nodes and a short, but distinct internode. Flower cluster a one-sided raceme of white flowers yielding a round capsule with a persistent, thick style.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FDc, FPn, FPw, FDn, FPp, WFp, MHn, FDw, MHc, FDs
Occurrence in ECS Field Keys			
LAP-FP, MDL-FD, MIM-FP, NSU-FD			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Large cranberry (*Vaccinium macrocarpon*)



Field Tips: Low, trailing, evergreen Ericaceous plant forming mats. Leaves alternate, oval, >1/3" long, blunt-tipped, edges curled under, shiny green above, whitened below. Flowers pink with recurved petals. Red berries oblong on pedicels with bracts above middle.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FPh, OPn
Occurrence in ECS Field Keys			
MIM-AP			

Small cranberry (*Vaccinium oxycoccos*)



Field Tips: Low, trailing, evergreen Ericaceous plant forming mats. Leaves alternate, oval, <1/3" long, sharply-pointed, edges curled under, shiny green above, whitened below. Flowers pink with recurved petals. Red berries round on pedicels with bracts below middle.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
APn	FPh	FPw, OPn	FPs
Occurrence in ECS Field Keys			
MDL-AP, MDL-FP, MIM-AP, MOP-AP, MOP-FP, NSU-AP, NSU-FP, WSU-AP, WSU-FP			

Lingonberry (*Vaccinium vitis-idaea*)



Field Tips: Low, evergreen, Ericaceous plant with mostly upright branches. Leaves alternate, oval, shiny green above, tips slightly notched, distinctive black raised dots on underside. Flowers 4-parted; berries red and edible.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FPw, FPh, APn
Occurrence in ECS Field Keys			
LAP-AP, MOP-AP, MOP-FP, NSU-FP			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Woody Vines

Moonseed (*Menispermum canadense*)



Welby Smith, MNDNR

Field Tips: Woody vine with alternate, nearly round, coarsely toothed, palmately veined, leaves. Flowers greenish-white. Female plants yielding a grape-like cluster of purple drupes, the stones resembling a half-moon.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FFs	FFn, MHs, WFs, FDs

Occurrence in ECS Field Keys

LAP-FF, MDL-FF, MIM-FF, MIM-MH, MOP-FF, WSU-FF

Virginia creepers (*Parthenocissus* spp.)



John C. Almendinger, MNDNR

Field Tips: Leaves palmately compound with 5 (3-7), obovate, serrate leaflets arising from a woody vine with tendrils or from short woody stubs. Inconspicuous flowers yielding a grape-like cluster of blue-black fruits.

Notes:

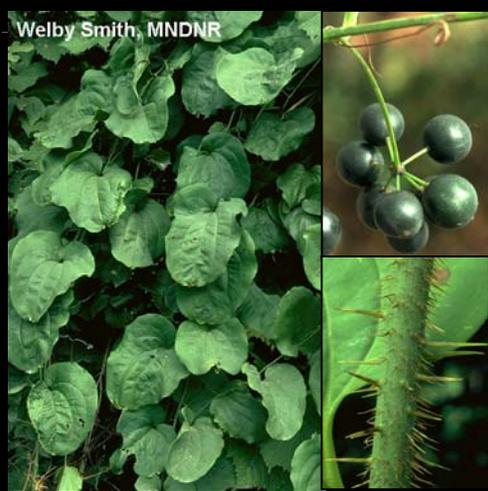
Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
WFs, FDs	MHs, FPs, MHw	FFn, FFs, MHc, WFn	WMs, FDC, FPw, MHn, FDw, FPN

Occurrence in ECS Field Keys

LAP-WF, MDL-FF, MDL-WF, MIM-WF, MOP-FF, MOP-MH, MOP-WF, WSU-FF, WSU-MH, WSU-WF

Greenbrier (*Smilax tamnoides*)



Welby Smith, MNDNR

Field Tips: Upright or climbing woody vine with green stems and dark, straight, slender prickles. Alternate, heart-shaped, entire leaves with distinctive, parallel main veins. Female plants producing a "ball" of blue berries.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHw, FFn	MHs, FDw, MHc, FDs, FFs	WFs, FDC, MHn

Occurrence in ECS Field Keys

LAP-FF, MDL-FF, MDL-MH, MIM-FD, MIM-FF, MOP-FF, PPL-FF, WSU-FF, WSU-WF

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Poison ivy (*Toxicodendron rydbergii*)



Field Tips: Low (1-2') colonial plant with trifoliate, coarsely toothed leaves from short woody stems. Fruits round, whitish, from axillary panicles, persistent on woody stalks of a few individuals in the colony.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
FDw, Wfw	FDs, MHw, FDc	MHs, FFs, MHc, FPw, FPs, WFs	WFn, FFn, WMs, MHn, UPn, UPs, FDn, WPs
Occurrence in ECS Field Keys			
MDL-FD, MIM-MH, PPL-MH			

Wild grape (*Vitis riparia*)



Field Tips: Leaves simple, palmately lobed, ciliate, and not tomentose on undersides. Leaves arising from a woody vine with tendrils or from short woody stubs. Inconspicuous flowers yielding the familiar clusters of grapes.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
FDw, MHw	FDs, FDc, FPs	Wfw, MHc, WFs, MHs, FPw, FFs, FFn	WFn, WMs, MHn, UPn, UPs, WPs, FDn
Occurrence in ECS Field Keys			
MDL-FD, MIM-MH, PPL-MH			

Miscellaneous Herbs

Sharp-lobed hepatica (*Anemone acutiloba*)



Field Tips: Low herb with distinctive, over-wintering, basal leaves that have three, roughly equal, pointed lobes resembling a liver in section, "liverleaf." White to lavender flowers appearing in early spring.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		MHs	WFs, MHc
Occurrence in ECS Field Keys			
MIM-MH, PPL-MH			

Round-lobed hepatica (*Anemone americana*)



Field Tips: Low herb with distinctive, over-wintering, basal leaves that have three, roughly equal, rounded lobes resembling a liver in section, "liverleaf." White to lavender flowers appearing in early spring.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	MHc	MHn	FDc, FDs, FDn
Occurrence in ECS Field Keys			
MIM-MH, WSU-FD, WSU-MH			

Wood anemone (*Anemone quinquefolia*)



Field Tips: Small (<6"), colonial, herb appearing as a single, palmately divided (3-5x) leaf when sterile or as a whorl of 3-parted leaves when fertile. Single white flower above the whorl yielding a cluster of dry, hairy seeds.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	MHn, FDc, MHc	FDn, MHs, FDw, FDs, WFn	WFs, WFw, FFn, FPn
Occurrence in ECS Field Keys			
LAP-FP, MIM-MH			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Pussytoes (*Antennaria* spp.)



Field Tips: Low (<6") colonial composite with small (~1") basal leaves that are white-woolly beneath. Heads crowded at the terminus of flowering stalks, imaginatively resembling a cat's paw. Floral parts obscure often lacking male parts.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FDc, UPn, UPs	FDn, FDs, FDw
Occurrence in ECS Field Keys			
MOP-FD, WSU-FD			

Spreading dogbane (*Apocynum androsaemifolium*)



Field Tips: Tall (2-3') herb with branches spreading, lacking a strong central stem above. Leaves entire with bristle tip and with milky juice. Clusters of bell-shaped pinkish flowers yielding a distinctive pencil-shaped pods of cottony seeds.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHw	FDc, FDw	FDn, WFw, FDs	MHc, MHn, MHs
Occurrence in ECS Field Keys			
LAP-WF, MDL-FD, MDL-MH, MIM-MH, MOP-FD, WSU-FD			

Wild sarsaparilla (*Aralia nudicaulis*)



Field Tips: Tall (1-2') herb consisting of a distinctive single, tripartite, basal leaf from a thick black rhizome with many, annual, leaf scars. Flowers and blue/black fruits in a compound umbel from a separate, but nearby stalk.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHn, FDn, MHc	WFw, WFn, FDw, MHw, FDc, FDs	FPw, MHs, FPn	WFs, FPs, FFn
Occurrence in ECS Field Keys			
LAP-WF, MDL-FD, MIM-WF, PPL-MH, WSU-MH			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

American spikenard (*Aralia racemosa*)



Field Tips: Tall (2-4') herb with very wide, pinnately compound stem leaves (no spiny base; not just basal leaves). Flower cluster terminal, flowers small and white, yielding dark purple berries with persistent styles.
Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHn, FDn, MHc	WFw, WFn, FDw, MHw, FDC, FDs	FPw, MHs, FPn	WFs, FPs, FFn
Occurrence in ECS Field Keys			
LAP-WF, MDL-FD, MIM-WF, PPL-MH, WSU-MH			

Jack-in-the-pulpit (*Arisaema triphyllum*)



Field Tips: Fertile plants with distinctive pulpits (spathe) about male or female column of flowers, yielding a cluster of red berries. Basal leaves resembling Trillium, but laterals opposite, asymmetric, and with marginal vein.
Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
WFs	MHs	WFn, FFn, MHn, MHc	FFs, FDs, FPs, WMs
Occurrence in ECS Field Keys			
MDL-MH, MIM-FF, MIM-MH, MIM-WF, MOP-MH, NSU-MH, PPL-FF, WSU-MH			

Wild ginger (*Asarum canadense*)



Field Tips: Aromatic, creeping herb usually in colonies consisting of fuzzy, heart-shaped, entire, apparently basal leaves. Distinctive 3-parted flower with maroon lobes that lies on the ground. Ant-dispersed seeds.
Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		WFs, MHs, MHn, WFw, WFw, MHc	FFn, FFs, FDs
Occurrence in ECS Field Keys			
LAP-MH, MDL-MH, MIM-MH, MIM-WF, MOP-MH, MOP-WF, PPL-MH, WSU-MH			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Wild calla (*Calla palustris*)



John C. Almendinger, MNDNR

Field Tips: Low (~1') aquatic or semi-terrestrial herb. Entire, heart-shaped basal leaves from long rhizome and with veins parallel to leaf edge. Leaf-like, white spathe surrounding column of pinkish flowers yielding fleshy red berries.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FPs, FPn, OPn, WMn, MRn, WFn
Occurrence in ECS Field Keys			
MIM-FP, NSU-FP			

Common marsh marigold (*Caltha palustris*)



John C. Almendinger, MNDNR

Field Tips: Low (<1') herb occurring in loose clumps of distinctive, heart or kidney-shaped, dark green, entire to crenate basal leaves. Bright yellow, buttercup blossoms in early spring. Poisonous if uncooked.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FPs, WFs, FPw, WFn, FPn, WMs, WMn, OPp, WFw, OPn, WMp
Occurrence in ECS Field Keys			
MDL-WF, MIM-FP, MIM-MH, MIM-WF, MOP-WF, PPL-WF, WSU-WF			

Bastard toadflax (*Comandra umbellata*)



John C. Almendinger, MNDNR

Field Tips: Low (<1'), parasitic but green, herb with small, whitish flowers in clusters. Normally sterile, with abundant, alternate, oblong leaves ~1" long near the base but distinctively, and gradually tapering to shorter leaves towards the tip of the stem.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FDw, UPn, UPs, WPs, WPn, FDn
Occurrence in ECS Field Keys			
LAP-FD			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Bunchberry (*Cornus canadensis*)



John C. Almendinger, MNDNR

Field Tips: Small colonial herb with 4-6 leaves in a terminal whorl, veins parallel with leaf margin. Terminal cluster of small, greenish flowers above 4 white bracts giving the illusion of a single flower. Bright red fruits in a "bunch."

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FDn, FPn, FPw	WFn, FPs, WFw, MHn	FDc, FDw

Occurrence in ECS Field Keys

MDL-AP, MDL-FD, MDL-FP, MDL-MH, MIM-WF, MOP-AP, MOP-MH, NSU-AP, NSU-MH, WSU-MH, WSU-WF

Pointed-leaved tick trefoil (*Desmodium glutinosum*)



John C. Almendinger, MNDNR

Field Tips: Tall (1-2') herb with long-petioled, trifoliate leaves clustered at stem top. Lateral leaflets asymmetric ovate; terminal round ovate and largest. Pea-like pods constricted between seeds fragmenting to triangular, sticky, fruits.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FDs	MHc, MHs	WFs, FDc, FFn

Occurrence in ECS Field Keys

MIM-FD, MIM-MH, PPL-MH, WSU-MH

Flowering spurge (*Euphorbia corollata*)



John C. Almendinger, MNDNR

Field Tips: Tall (1-2') herb with milky sap. Leaves alternate, linear/elliptic, subtending flowering branches with much smaller leaves. Flower clusters flat-topped and with white, petal-like appendages.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			UPs, FDs, WPs

Occurrence in ECS Field Keys

PPL-FD

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Common strawberry (*Fragaria virginiana*)



Field Tips: Low herb with trifoliate, toothed, basal leaves and spreading by stolons. Terminal leaflet with center tooth distinctly smaller than adjacent teeth. White flowers yielding strawberries with seeds set in pits.
Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
WFw, FDc	FDw, WFn, WPs, FDn	WPn, FPw, MHn, UPn, MHw, FDs, MHC, FPs	FPn, WFs, WMp, FFn, UPs, WMs, MHs
Occurrence in ECS Field Keys			
MDL-MH, NSU-FD			

Wild geranium (*Geranium maculatum*)



Field Tips: Low, perennial herb forming loose colonies of long-petioled, palmately cleft (5-7), gland-tipped basal leaves. Flowers in pairs, petals pink/purple and longer than the calyx. Crane's bill fruits, splitting into curly segments.
Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	WFs, MHs	FDs	MHC, FFs, FFn
Occurrence in ECS Field Keys			
MIM-FD, MIM-MH, MIM-WF, PPL-MH, WSU-MH, WSU-WF			

White avens (*Geum canadense*)



Field Tips: Tall (2-4') herb with pinnately compound basal leaves appearing trifoliate at the tip and with small, irregular, paired leaflets below. Flowers white, yielding a bur-like head of fruits with hooked styles.
Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	WFs	MHs, FFs	FDs, FFn, WFn, MHC
Occurrence in ECS Field Keys			
MIM-FF, MIM-MH, PPL-FF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Avens (*Geum* spp.)

John C. Almendinger, MNDNR



Field Tips: Tall (2-4') herbs with pinnately compound basal leaves, the stem leaves smaller towards the top. Flowers white, yellow, or purple, yielding a very distinctive bur-like head of fruits with hooked styles.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
Not meaningful, diverse genus			
Occurrence in ECS Field Keys			
LAP-WF			

Appendaged waterleaf (*Hydrophyllum appendiculatum*)



Michael D. Lee, MNDNR

Field Tips: Biennial herb 1-2' tall with palmately (1st year) or pinnately divided (2-3 year) rosettes of basal leaves with "water spots." Stem leaves maple-like in outline. Flower cluster coiled; flowers lavender or pink-purple.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			WFs
Occurrence in ECS Field Keys			
PPL-MH			

Virginia waterleaf (*Hydrophyllum virginianum*)



Monica Zachay, MNDNR

Field Tips: Perennial herb, 1-2' tall, forming colonies of pinnately divided basal leaves with "water spots." Stem leaves similar to basal leaves. Flower cluster coiled; flowers white to lavender.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	MHs	FFs, WFs	MHc, FFn
Occurrence in ECS Field Keys			
MIM-FF, MIM-MH, PPL-FF, PPL-MH			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Touch-me-nots (*Impatiens* spp.)



Field Tips: Tall (1-4') succulent, annual herb. Alternate leaves with coarse, gland-tipped (white) teeth. Pendant orange (yellow) flowers yielding long capsules that, when touched, explosively split lengthwise expelling seeds.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
WFs	WFn, FPs, FFs	WMs, WMn, MRs, WFw, FPw	MHs, FFn, FPn, MRn, MHn, WPs, MHc

Occurrence in ECS Field Keys

MDL-WF, MIM-MH, MOP-FP, MOP-WF, NSU-FP, NSU-WF, WSU-FP, WSU-MH, WSU-WF

Northern blue flag (*Iris versicolor*)



Field Tips: Tall (1-3') with flattened sprays of linear, sword-like basal leaves. Flowering stems with leaves and showy, blue-purple, six-parted flowers. Capsules with stacked seeds (like pancakes) evident throughout growing season.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FFn, FPn	WFn, WFs, WMn, WFw, OPn, OPp, FPw, MRn, WPs, WMp

Occurrence in ECS Field Keys

WSU-MH

Wood nettle (*Laportea canadensis*)



Field Tips: Tall (2-3') herb with alternate, ovate, sharply toothed leaves on long petioles. Flower clusters flat-topped and composed of green, male or female flowers without petals. Plant beset with stinging hairs.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
FFs, FFn, WFs		MHs	MHw, WFn

Occurrence in ECS Field Keys

LAP-FF, MDL-FF, MIM-FF, MIM-MH, MIM-WF, MOP-FF, NSU-FF, PPL-MH, WSU-FF

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Hoary puccoon (*Lithospermum canescens*)



John C. Almendinger, MNDNR

Field Tips: Low (1') herb with alternate, sessile leaves with prominent, depressed midrib and dense pubescence making it seem gray-green. Flowers yellow/orange and yielding 1-4 nutlets with hard, shiny, white seed coats.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		UPn, UPs, FDC	WPs, WPn
Occurrence in ECS Field Keys			
MDL-FD			

Cow wheat (*Melampyrum lineare*)



John C. Almendinger, MNDNR

Field Tips: Low growing (<1') annual herb. Older plants much branched, with linear, opposite leaves some developing distinctive ears/lobes near their base. White tubular flowers with yellow tips yielding hard white seeds that turn black.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FDn	FDc
Occurrence in ECS Field Keys			
MDL-FD, MOP-FD, NSU-FD, WSU-FD			

Buckbean (*Menyanthes trifoliata*)



John C. Almendinger, MNDNR

Field Tips: A trailing herb from a rhizome covered with old leaf bases. Leaves long-stalked and trifoliate with elliptic leaflets. Usually in vernal pools. Flowers with white, hairy petals.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		OPn, FPs	FPn, APn, FPw
Occurrence in ECS Field Keys			
MDL-AP, MOP-AP, MOP-FP, NSU-AP, NSU-FP			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Paniced bluebells (*Mertensia paniculata*)



Field Tips: Herb (1-2') often in colonies. Leaves alternate, entire, pubescent above and below, and with winged petioles. Flowers in a loose, pendant cluster of blue-violet bell-shaped flowers.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			WFn
Occurrence in ECS Field Keys			
NSU-MH			

Two-leaved miterwort (*Mitella diphylla*)



Field Tips: Low, herb with maple-like basal leaves. Flowering stems with a single pair of opposite sessile leaves. White flowers resembling snowflakes yielding a capsule of shiny black seeds.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	WFs	MHs	MHc, WFn
Occurrence in ECS Field Keys			
PPL-WF, WSU-WF			

Naked miterwort (*Mitella nuda*)



Field Tips: Low, colonial herb with round, coarsely toothed, palmately veined, basal leaves with scattered, stiff, upright hairs. Flowers resembling snowflakes yielding a cup-like capsule with shiny black seeds inside.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	WFn, WFw, FPw	FPn, FPs	MHn, FDn, WFs
Occurrence in ECS Field Keys			
MDL-MH, MDL-WF, MIM-WF, MOP-FD, MOP-MH, MOP-WF, NSU-FD, NSU-MH, WSU-MH, WSU-WF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Blue phlox (*Phlox divaricata*)



Field Tips: Herb, ~1' tall, with opposite, lanceolate, 1-nerved leaves, 2-4.5 times long as wide. Flowers usually blue (white to purple), tubular below and abruptly spreading to 5 lobes; the calyx pubescent.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			MHs, WFs, FFs
Occurrence in ECS Field Keys			
PPL-MH			

Spreading Jacob's ladder (*Polemonium reptans*)



Field Tips: Herbs, 1-2' tall, with distinctive, pinnately compound leaves, with many uniform leaflets, imaginatively forming "ladders." Flower cluster a panicle of blue flowers, the stamens shorter than the petals.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			MHs, WFs
Occurrence in ECS Field Keys			
PPL-MH			

Gaywings (*Polygala paucifolia*)



Field Tips: Resembles wintergreen, but herbaceous and with small, scale-like leaves below the larger leaves. Large leaves with a ring of short hairs near upper margin. Distinctive magenta flowers in the spring.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FPn, FDn
Occurrence in ECS Field Keys			
MDL-FD			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Kidney-leaved buttercup (*Ranunculus abortivus*)



Field Tips: Small (~1') terrestrial, glabrous buttercup. Basal leaves round, crenate; stem leaves of varying shape and divided. Yellow flowers yielding a cluster of flat, seeds with tiny beaks on the side.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FFn, MHs, FFs, WFs	WFn, FDs

Occurrence in ECS Field Keys

MDL-FF, MIM-FF, MOP-FF, MOP-MH, WSU-FF

Hispid buttercup (*Ranunculus hispidus*)



Field Tips: Generally fuzzy herb (~1') with 2-8 yellow flowers on 1-4 flowering stems. Basal leaves palmately 3-parted early; later leaves nearly ternately compound. Seeds 15-40 in a bur-like head and with short, straight styles.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WFs	FFs, MHw, FFn, MHs, WFw, WFn

Occurrence in ECS Field Keys

LAP-MH, MIM-MH

Hooked crowfoot (*Ranunculus recurvatus*)



Field Tips: Terrestrial herb with basal leaves shaped like gooseberry leaves, with the terminal lobe not cut to midrib. The plant quite hairy. Fruit cluster a ball of seeds with strongly hooked (recurved) styles.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WFs	WFn, MHs

Occurrence in ECS Field Keys

MDL-MH, MIM-WF, NSU-MH, WSU-MH

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Bloodroot (*Sanguinaria canadensis*)



John C. Almendinger, MNDNR

Field Tips: Low perennial herb from a thick rhizome with red, blood-like sap. Leaves all basal, round, and distinctively cut. Single flowers with large white petals appear on a leafless stalk very early in the spring; fruit a long capsule.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHs	MHc, WFs	MHw, FDs, FFn, MHn, FFs

Occurrence in ECS Field Keys

PPL-MH, WSU-MH

Maryland black snakeroot (*Sanicula marilandica*)



John C. Almendinger, MNDNR

Field Tips: Tall (1-3') herb with basal leaves that are palmately divided into 4-7 lobes. Flowers bisexual or male, greenish-white petals, styles exceeding narrowly triangular calyx lobes. Fruits covered with hooked bristles.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
MHw	FDw, MHc, WFw	FDs, MHn, FDC, MHs, WFs	FFn, FFs, WFn, FDN

Occurrence in ECS Field Keys

MOP-MH

Skunk cabbage (*Symplocarpus foetidus*)



Lynden Gerdes, MNDNR

Field Tips: Perennial, ill-scented herb with very large, rhubarb-like basal leaves. Flowers appearing beneath snow by virtue of chemical heating; consisting of a maroon hood (spathe) and a column of tiny flowers (spadix). Fruit cluster, baseball-sized and knobby.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WFs	FPs

Occurrence in ECS Field Keys

WSU-FP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Starflower (*Trientalis borealis*)



Field Tips: Small herb with terminal whorl of 4-8 unequal leaves. Unusual 7-parted, white, star-like flower(s) that appears suspended on a very slender pedicel. Fruit a hard, white capsule persisting well after the plant has withered.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FPn, FDn, FPw, MHn, FPs, WFn		FDc, MHc, WFw, FDs, FDw, WFs

Occurrence in ECS Field Keys

MDL-FD, MIM-WF, NSU-FD

Nodding trillium (*Trillium cernuum*)



Field Tips: Low (~1') herb with whorl of three, heart-shaped, net-veined leaves. Flowers single, large, from a short (1-2") terminal pedicel that arches below the leaves. Petals white and usually shorter than sepals.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
MHw		WFn, MHn	FFn, MHs, MHc, FDw, WFw, WFs, FDs, FDn

Occurrence in ECS Field Keys

NSU-WF

Large-flowered trillium (*Trillium grandiflorum*)



Field Tips: Low (~1') herb with whorl of three, heart-shaped, net-veined leaves. Flowers single, large, from a terminal pedicel that stands above the leaves. Petals white and longer than sepals.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		MHc	WFs, MHn, MHs

Occurrence in ECS Field Keys

WSU-MH

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Stinging nettle (*Urtica dioica*)



John C. Almendinger, MNDNR

Field Tips: Tall (2-3') herb with opposite, lanceolate, sharply toothed leaves on long petioles. Flower clusters are "strands" of tiny, green, mostly male or female flowers, from the leaf axils. Plant beset with stinging hairs.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FFs	WFs	MHw, FFn, MHs, WFn, Wfw, WMs, WMn, FDs

Occurrence in ECS Field Keys

MIM-MH, MIM-MH, PPL-MH

Kidney-leaved violet (*Viola renifolia*)



John C. Almendinger, MNDNR

Field Tips: Low (<3") colonial violet with leaves all basal, alternate from rhizome (not clumped), kidney-shaped, 1-2" across, rounded at tip or tip obscure, hairy. White flowers with purple-striped lips on leafless stalks.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			Fps, FPw, WFn, FPn, FDn, Wfw, MHn

Occurrence in ECS Field Keys

MOP-FPn

Spring Ephemerals

Cut-leaved toothwort (*Cardamine concatenata*)



Field Tips: Perennial herb, ~1' tall, with distinctive, palmately cleft leaves with little "ears" on the margins. The leaves 3 or 2 from a whorl above the middle of the stem; ephemeral. Flowering early, white petals.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			WFs, MHs

Occurrence in ECS Field Keys

PPL-WF

Carolina spring beauty (*Claytonia caroliniana*)



Field Tips: Low spring herb with a few basal leaves and a single pair of stem leaves. Stem leaves with evident petiole and 2.3-4.7 times as long as wide. Flowers a few in a loose raceme; white striped with pink.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			None >5

Occurrence in ECS Field Keys

NSU-MH

Virginia spring beauty (*Claytonia virginica*)



Field Tips: Low spring herb with a few basal leaves and a single pair of stem leaves. Stem leaves with barely distinguished petiole and 5.3-15 times as long as wide. Flowers a few in a loose raceme; white striped with pink.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			WFs, MHs, FFs

Occurrence in ECS Field Keys

PPL-WF

Bedstraws & Weak-stemmed Clingy Plants

Marsh bellflower (*Campanula aparinoides*)



Field Tips: A low, weak-stemmed herb usually reclining on adjacent plants. Stem triangular, usually with some tiny, recurved spines on the angles that can be felt. Leaves linear and alternate. White, bell-shaped flowers.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	WMn	WMs, OPn, FPw, FPs, OPp, FPn	MRs, MRn, WMp, WPs, WPn, WFn, WFs

Occurrence in ECS Field Keys

LAP-FP, MDL-FP

Cleavers (*Galium aparine*)



Field Tips: Winter annual, terrestrial bedstraw, often climbing on other plants. Leaves in whorls of 6 (5-8), nearly linear, bristle-tipped. Stems and leaf veins bristly, sticking to clothes. Tiny white flowers yielding a bristly, double fruit.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHs	WFs, FFs	FPs, FDs

Occurrence in ECS Field Keys

MIM-FF, MIM-MH, MIM-WF, PPL-MH, WSU-WF

Northern bedstraw (*Galium boreale*)



Field Tips: Tall (1-2'), perennial, terrestrial bedstraw. Only large leaved (>1") bedstraw in MN with 4 leaves per whorl. White flowers in many-flowered terminal panicles yielding glabrous or bristly fruits, the bristles not hooked.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
FDw, UPn	FDc, WPn, WFw	FDs, WPs	OPp, UPs, MHw, FPw, MHc, MHs, WMp, WFs, FDn, WFn

Occurrence in ECS Field Keys

LAP-MH, MDL-FD, MIM-FD, MOP-FD, PPL-MH

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Labrador bedstraw (*Galium labradoricum*)



Field Tips: Wetland bedstraw with leaves in whorls of 4 becoming reflexed with age. The leaves generally without midvein bristles. The flowers 4-parted and ovaries smooth.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FPw	OPp, OPn, FPs, FPn, WMn, MRn, WMs, MRs
Occurrence in ECS Field Keys			
OPp, OPn, FPs, FPn, WMn, MRn, WMs, MRs			

Sweet-scented bedstraw (*Galium triflorum*)



Field Tips: Low, perennial, terrestrial bedstraw with prostrate stems and whorls of 6 oblanceolate leaves up to ½" wide. Stems not very bristly; not easily sticking to clothes. Tiny white flowers yielding a bristly, double fruit.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHw, FPw	MHn, WFw, WFn, FPs, FFn, FDn, FDs	MHc, WFs, FPn, FDC, MHs	FDw, FFs, WMs
Occurrence in ECS Field Keys			
MOP-FP, NSU-FP, WSU-FD			

Long-leaved chickweed (*Stellaria longifolia*)



Field Tips: Weak, decumbent herb. Stem 4-angled, often sticky-rough. Leaves opposite, and very narrow. Flower cluster much branched with single, white flowers seemingly suspended in space on very slender pedicels.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			WFs, FPn, WFn, WMn, FPw, WFw, FPs, FFn, MRn
Occurrence in ECS Field Keys			
MIM-WF, MOP-WF, NSU-WF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Mints & Other Herbs with Opposite Leaves

Blue giant hyssop (*Agastache foeniculum*)



Field Tips: Tall (2-3') mint with terminal spike of lavender flowers. Leaves opposite, ovate, serrate, distinctly whitened beneath. Pungent, licorice-like smell.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDw, FDC, UPn

Occurrence in ECS Field Keys

LAP-FD, LAP-FD, MDL-FD

Alpine enchanter's nightshade (*Circaea alpina*)



Field Tips: Small (usually <6") herb with opposite, coarsely toothed leaves less than twice as long as wide. Fruit fuzzy with hooked bristles and lacking furrows.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	WFn	FPS, FPw	MHw, MHn, WFs, WFw, FPn, FDn

Occurrence in ECS Field Keys

LAP-MH, LAP-WF, MDL-WF, MOP-WF, NSU-MH, NSU-WF, WSU-MH, WSU-WF

Common enchanter's nightshade (*Circaea lutetiana*)



Field Tips: Low herb (~ 1') with opposite, shallowly toothed leaves more than twice as long as wide. Fruit fuzzy with hooked bristles and with 10 deep meridional furrows.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	WFs, MHs, FDs	MHw, MHc	FFn, FFs, WFn

Occurrence in ECS Field Keys

MDL-FF, MDL-MH, MIM-FF, MIM-MH, MIM-WF, MOP-WF, NSU-MH, NSU-WF

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Northern bugleweed (*Lycopus uniflorus*)



Field Tips: Small (~1') mint, occurring mostly in vernal pools. Leaves opposite, coarsely toothed but not deeply lobed, slight or no fragrance. Small white flowers in middle and upper leaf axils yielding nutlets. Roots from distinct tubers.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WFn, FPs, WMn, WMs, FFn, MRn, OPp, OPn, FFn, WFs	MRs, WFw, WMp, FPw, FFs

Occurrence in ECS Field Keys

MIM-FF, MOP-FP, NSU-FP

Yellow loosestrife (*Lysimachia terrestris*)



Field Tips: Tall (~2') herb with opposite (not whorled), entire, black-dotted leaves. Flower cluster a terminal raceme of yellow flowers, the petals marked with dark black-red dots or lines.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FFn, WMn

Occurrence in ECS Field Keys

NSU-FF

Tufted loosestrife (*Lysimachia thysiflora*)



Field Tips: Tall (~2') unbranched herb with opposite, lance-shaped leaves with black spots. Flower clusters on long stalks from leaf axils and terminated with a tuft of small yellow flowers.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	Fps	WMn, FFn, OPn, FPw, WMs, OPp, MRn	MRs, WFn, WFw, FFn, WMp

Occurrence in ECS Field Keys

MDL-FP, MIM-FF, MOP-FP, NSU-FF, NSU-FP, WSU-FP, WSU-WF

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Common mint (*Mentha arvensis*)



Field Tips: Tall (1-3') mint with opposite, lanceolate, serrate leaves. Plant beset with hairs and with very strong peppermint odor. Small pink-white flowers in dense clusters from upper axils.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		WMp, WMs	MRs, WMn, OPp, WFn, FFn, WFs
Occurrence in ECS Field Keys			
MDL-FF, MIM-FF, MOP-FF, NSU-FF			

Wild bergamot (*Monarda fistulosa*)



Field Tips: Tall (1-3') mint with opposite, deltoid-lanceolate leaves with distinctive aroma. Single, terminal and large (~1") "head" with leafy bracts and wide-spreading, lavender, tubular flowers creating a fluffy cluster.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		UPn	UPs, FDC, WPs, FDw, FDs
Occurrence in ECS Field Keys			
PPL-FD, WSU-FD			

Lopseed (*Phryma leptostachya*)



Field Tips: Herb (1-2') with opposite, ovate, coarsely toothed leaves. Small pinkish flowers in terminal and sometimes axillary spikes, maturing gradually from base to tip. Seeds soon reflexed or "lopped" against the stem.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHw	FDs	MHs, MHc	FDw, FFn
Occurrence in ECS Field Keys			
LAP-FD, LAP-FD, LAP-MH, MIM-FD, MIM-MH			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Clearweed (*Pilea spp.*)



Field Tips: Low (generally <1') herbs with opposite ovate leaves. Resembling small nettles, but without stinging hairs and usually shiny-translucent leaves. Clusters of small, greenish, flowers in axils appearing late.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FFs, MRs, FPs, WFs, WMs	FFn, MRn, WFn, MHs, WMn
Occurrence in ECS Field Keys			
MIM-FF, MIM-FP			

Mad dog skullcap (*Scutellaria lateriflora*)



Field Tips: Tall (2-3') herb with opposite, lanceolate, toothed, petiolate leaves. Distinctive lateral shoots from axils with numerous blue snapdragon flowers, tan-green nutlets, and bracts. Name, from historic use to treat rabies.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		WFn, FFn, WFs, FPs, FFs	MRs, WMn, FPh, WFW
Occurrence in ECS Field Keys			
MDL-WF, MIM-FF, MOP-WF, NSU-WF, PPL-FF, WSU-WF			

Germander (*Teucrium canadense*)



Field Tips: Tall (~2') mint with sessile, opposite, oblong leaves with regularly crenate-serrate margins. Stem hairy, rarely branched, with a terminal raceme of many pink-purple flowers. Odor unpleasant to most.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			OPp, FFs, WMs
Occurrence in ECS Field Keys			
PPL-FF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Plants with Cat's-paw Leaves

White baneberry (*Actaea pachypoda*)



Field Tips: Tall (2-3') or decumbent herb. Alternate, fern-like (2-3 times ternately compound), sharply serrate leaves. Flower cluster a terminal raceme of white flowers yielding white doll's-eye fruits on fleshy magenta pedicels.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			MHn
Occurrence in ECS Field Keys			
NSU-MH			

Red baneberry (*Actaea rubra*)



Field Tips: Tall (1-2') herb with alternate, fern-like (2-3 times ternately compound), sharply serrate leaves. Flower cluster a terminal raceme of white flowers yielding red or white fruits on slender pedicels.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHw	MHn	WFw, MHC, MHs, WFn	FDn, FFn, FDw, FDs, WFs, FDC, FPw
Occurrence in ECS Field Keys			
MOP-FD			

Columbine (*Aquilegia canadensis*)



Field Tips: Tall (1-3') herb with 2-3 times ternately compound leaves and "cat's paw" leaflets that feel rubbery. Distinctive red and yellow flowers with long, nectar-filled spurs, yielding distinctive long, dry fruits (follicles).

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FDs	FDc, MHw, WFw, MHC, MHc, FDw, FDn, FFn, MHn, FPw
Occurrence in ECS Field Keys			
LAP-FD, MDL-FD, MOP-FD, WSU-MH			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Blue cohosh (*Caulophyllum thalictroides*)



John C. Almendinger, MNDNR

Field Tips: Tall (~2'), spreading herbs with ternately compound leaves and "cat's paw" leaflets. Leaflets not rubbery. Unusual berry-like, blue fruit with a fleshy stalk.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	MHs	WFs	MHc, MHw, FFn, FDs, MHn
Occurrence in ECS Field Keys			
MDL-MH, MIM-MH, PPL-MH, WSU-MH			

Tall meadow-rue (*Thalictrum dasycarpum*)



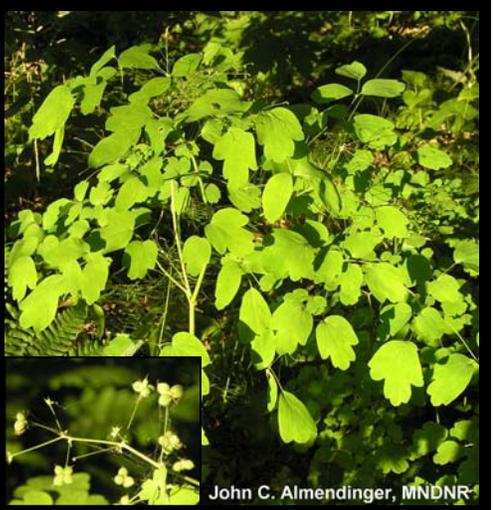
John C. Almendinger, MNDNR

Field Tips: Erect herb 2-4' tall with 2-4 times ternately compound leaves with "cat's paw" leaflets that are usually longer than wide and with just 3 lobes. Separate male and female plants with dense clusters of whitish flowers.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
WPs	FDw, FFn, WPn	UPn, FPw, WFw, WMs	WFn, WMp, MHw, UPs, WFs, FDs, OPp, WMn, MRs
Occurrence in ECS Field Keys			
LAP-FD, LAP-WF, MIM-FF, NSU-FP			

Early meadow-rue (*Thalictrum dioicum*)



John C. Almendinger, MNDNR

Field Tips: Erect, spreading herb 1-2' tall with 2-4 times ternately compound leaves with "cat's paw" leaflets. Leaflets puberulent below and don't feel rubbery. Separate male and female plants.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHc	MHs, FDC	WFs, MHn, MHw, FFn, FDs	WFn, WFw, FDw, FFs, FDn, FPs
Occurrence in ECS Field Keys			
MDL-FD, MIM-FD, MIM-MH, MIM-WF, MOP-MH, NSU-WF, PPL-MH, WSU-FD, WSU-MH, WSU-WF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Peas & Vetches

Pale vetchling (*Lathyrus ochroleucus*)



John C. Almendinger, MNDNR

Field Tips: Twining herb resembling garden peas. Leaves compound, tendril-tipped, 4-8 elliptic leaflets that are hairless and feel rubbery. Flower cluster a raceme of 5-10 creamy white, flowers yielding a pea-pod.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FDc	FDw, MHC, MHn	FDn, MHw, WFw, FDs
Occurrence in ECS Field Keys			
MDL-MH, NSU-FD			

Marsh vetchling (*Lathyrus palustris*)



John C. Almendinger, MNDNR

Field Tips: Tall (1-3'), often climbing pea with alternate, pinnately compound, tendril-tipped leaves from winged stem. Only MN pea native to peatlands. Flowers purple, yielding typical pea pods.

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		WPn, WMp	WMs, FDw, WPs, WMn, UPn, WFw, OPp, MRs
Occurrence in ECS Field Keys			
MOP-WF			

Veiny pea (*Lathyrus venosus*)



John C. Almendinger, MNDNR

Field Tips: Twining herb resembling garden peas. Leaves compound, tendril-tipped, 8-12 elliptic leaflets that are veiny and fuzzy beneath. Flower cluster a raceme of 5-19 violet/purple, flowers yielding a pea-pod.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FDc, MHw, FDw, WPs	FDn, WMp, MHC, MHn, UPs, WFw, FDs
Occurrence in ECS Field Keys			
LAP-FD, MDL-MH, MIM-MH, MOP-FD, NSU-MH, WSU-MH			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

American vetch (*Vicia americana*)



Field Tips: Upright/climbing pea-like plant with tendril-tipped compound leaves with 5-9 pairs of leaflets. Flowers a few from axils, purple/blue, yielding pea-pods.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FDw	FDc, WFw	WPs, FDn, UPs, WMp, UPn, MHn
Occurrence in ECS Field Keys			
LAP-FD, MDL-MH, MOP-MH, WSU-FD			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Smartweeds

Water smartweed (*Polygonum amphibium*)



John C. Almendinger, MNDNR

Field Tips: Aquatic or terrestrial herb (2-3'). Leaves alternate, lanceolate, entire; arising from swollen stem nodes and below a papery sheath (ochrea). Flower cluster a compact terminal cluster of bright pink flowers.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MRs, WMp	WMn	OPp, WMs, WPs, OPn

Occurrence in ECS Field Keys

MOP-FP, NSU-FP

Halberd-leaved tearthumb (*Polygonum arifolium*)



Photo provided by Dan Teague www.masswildplants.com

Field Tips: Tall (1-3'), annual smartweed often climbing on other plants. Leaves alternate and shaped like a medieval, halberd spearhead. Plant beset with reflexed prickles. Flower small, white-pink, yielding black seeds.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			WFs

Occurrence in ECS Field Keys

WSU-WF

Dotted smartweed (*Polygonum punctatum*)



Photo by Craig C. Freeman

Field Tips: Tall (1-3') annual smartweed. Alternate, lanceolate leaves subtended by glabrous, hair-fringed sheaths (ochreas). Flower clusters terminal and axillary; greenish flowers; gland-dotted sepals; seeds shiny.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			MRs, FFn, WMn, FPs

Occurrence in ECS Field Keys

MDL-FF, MIM-FF, MOP-FF, NSU-FF, WSU-FF

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Great water dock (*Rumex orbiculatus*)



Field Tips: Very tall (2-5') unbranched herb. Leaves alternate, but most distinguished by very long (1-2'), narrow (~1-2") basal leaves turning brilliant red in fall. Flower cluster dense with many seeds enclosed in heart-shaped, ornamented "valves."

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FPs, WMs	WMn, FPn	FPw, MRs, OPn, WFs
Occurrence in ECS Field Keys			
MIM-FP			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Umbels

Spotted water hemlock (*Cicuta maculata*)



Field Tips: Very tall (2-4') herb with hollow, purple-blotched stem. Leaves 2-3 times pinnately compound. Many flat-topped clusters of tiny, white flowers well above the leaves. Deadly poisonous, avoid contact.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	Wmp	WPn, WPs, FFn, WMs, WFs	WFn, WFw, MRs, OPP, FPs, UPn, FDw, MHc
Occurrence in ECS Field Keys			
MDL-MH, MIM-FF, MOP-MH, WSU-MH			

Honewort (*Cryptotaenia canadensis*)



Field Tips: Tall (1-2') herb with trifoliate leaves; lower leaves long-petioled often with lobed laterals; upper leaves sessile with lanceolate laterals. Flowers in a compound umbel of tiny white flowers. Fruits dry, resembling caraway.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	MHs	WFs, FFs, FDs	MHw, FFn, MHc
Occurrence in ECS Field Keys			
LAP-FF, MIM-MH, PPL-FD			

Cow parsnip (*Heracleum lanatum*)



Field Tips: Very tall (3-6' or more) coarse herb. Leaves very large, once-compound, generally hairy, leaflets palmately lobed, and with very wide sheathing base. Flower cluster flat-topped, about 8" across, with tiny white flowers.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FFs, WFs, FFn, MHs
Occurrence in ECS Field Keys			
PPL-MH			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Clayton's sweet cicely (*Osmorhiza claytonii*)



Field Tips: Tall (1-2') herb with fern-like leaves. Leaves and stems green and hairy, faintly anise-scented. Flower cluster a compound umbel of tiny white flowers. Fruits dry, black, linear with barbed "tail" and style "beak" <.3mm.

Notes:



John C. Almendinger, MNDNR

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
FDs, MHw	MHc, MHs, MHn, WFs	MHc, MHs, MHn, WFs	WFn, FDC, FFs, FPw, FDw
Occurrence in ECS Field Keys			
LAP-MH, MDL-FF, MDL-WF, MIM-FF, MOP-FF, MOP-MH, MOP-WF, WSU-WF			

Water parsnip (*Sium suave*)



John C. Almendinger, MNDNR

Field Tips: Tall (2-6') umbel usually in vernal pools. Compound leaves once-divided when terrestrial, finely divided when submerged. Stem hollow and purple blotched. Flower cluster flat-topped with small white flowers.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			MRn, MRs, FFn, WMn, WMp, WMs
Occurrence in ECS Field Keys			
MDL-WF, MOP-WF			

Heart-leaved alexanders (*Zizia aptera*)



John C. Almendinger, MNDNR

Field Tips: Glabrous herb, ~2' tall with stem leaves that are once or twice ternately compound but the basal leaves are simple, round-ovate, and with crenate margins. Tiny yellow flowers in an umbel.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	UPn	UPs, WPs, WPh	MHw, FDC
Occurrence in ECS Field Keys			
PPL-FD			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Golden alexanders (*Zizia aurea*)



Field Tips: Tall (~2') umbel with ternately compound, hairless leaves. The flower cluster a compound umbel, lacking bracts, and with small, yellow flowers. The fruits ovate-oblong and glabrous.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	WPs	WPn, FDw, UPn	WMp, MHw, FDs, WMs, OPp, MHs, UPs, WFw, FFn

Occurrence in ECS Field Keys

LAP-FD, MIM-FD

Trailing & Vine-like Herbs

Hog peanut (*Amphicarpaea bracteata*)



Field Tips: Creeping herbaceous vine with trifoliate leaves; leaflets entire, ovate. White pea-like flowers above yielding pods. Rudimentary flowers on hair-like branches "burrowing" into the ground and yielding a "peanut."

Notes:

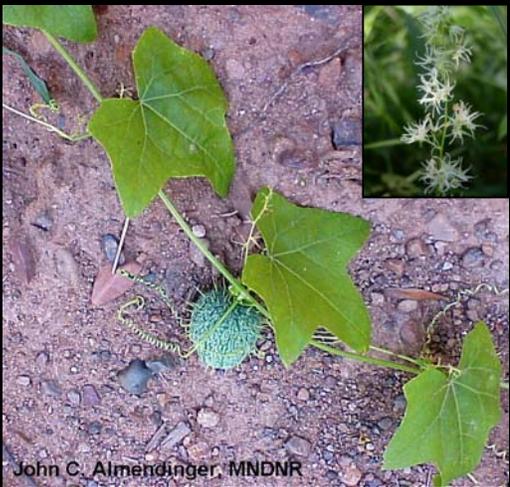
Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FDs, MHc	WFs, MHs	FFn, FDC, MHn, MHw, WFw, FDw, WFn, FFs, FPs

Occurrence in ECS Field Keys

MDL-FD, MDL-MH, MIM-FD, MOP-MH, WSU-FD

Wild cucumber (*Echinocystis lobata*)



Field Tips: Tall, climbing annual with 3-forked tendrils, leaves deeply and sharply 5-lobed, maple-like, and pale green. The distinctive fruits watermelon-shaped, 2" long, and spiny, disintegrating into little nets of vascular tissue often evident before the plants emerge in the spring.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FFn, FFs

Occurrence in ECS Field Keys

LAP-FF

Twinflower (*Linnaea borealis*)



Field Tips: Creeping, evergreen plant with opposite, terminally toothed leaves. Short, vertical shoots with leaves varying in size. Flowers a pair of white, bell-shaped flowers on a Y-shaped stalk yielding a single, dry seed.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FPw, FDn	FPn	WFn, FPs, FDC

Occurrence in ECS Field Keys

LAP-WF, MDL-FP, MDL-WF, MOP-FP, MOP-MH, MOP-WF, NSU-FD, NSU-FP, NSU-WF, WSU-FP, WSU-MH, WSU-WF

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Dwarf raspberry (*Rubus pubescens*)



Field Tips: Low, trailing herb without prickles. Leaves compound with 3 leaflets, the laterals quite asymmetric about the midvein. Flowers solitary or just a few, white, and yielding a raspberry-like, edible fruit.

Notes:

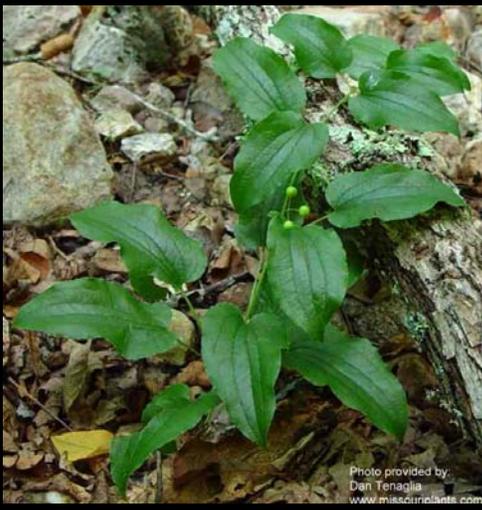
Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
FPw, WFn, WFw, MHw, FPn, FPs	MHn, FDn	FDw, WFs, MHc, Fdc	FFn, WMs, FDs, OPn, WMn, WPn, OPp

Occurrence in ECS Field Keys

LAP-FD, MIM-FP, MIM-WF, NSU-FD, WSU-FD, WSU-MH, WSU-WF

Carrion-flowers & Greenbrier (*Smilax* spp.)



Field Tips: Upright herb (~1') or climbing herb with tendrils or woody vine with thorns. Alternate, heart-shaped, entire leaves with distinctive, parallel main veins. Female plants producing a "ball" of blue berries.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
Not meaningful, diverse genus			

Occurrence in ECS Field Keys

LAP-FF, MDL-FF, MDL-MH, MIM-FD, MIM-FF, MOP-FF, WSU-FF, WSU-WF, MDL-WF

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Leafy Violets

Yellow & Canada violets (*Viola pubescens* / *canadensis*)



John C. Almendinger, MNDNR

Field Tips: Only violets in MN with wide (2-3") leaves, and with at least some leaves and flowers on an aerial stem. Flowers yellow or blue/white yielding a dry capsule that splits into 3 segments, exposing the seeds.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHc, MHs	MHn, MHw, FFn	FFs, WFw, FDs, WFs, WFn, FDw, FDn

Occurrence in ECS Field Keys

MIM-FF, MIM-MH, NSU-MH, PPL-FF, PPL-MH, WSU-MH

Sand & Dog violets (*Viola adunca* / *conspersa*)



John C. Almendinger, MNDNR

Field Tips: Only violets in MN with small (<1" wide) leaves, and with at least some leaves and flowers on an aerial stem. Sometimes spreading into a circular mat.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			MHw, FDc, WFw, WFs, FDw, FDn, FFn

Occurrence in ECS Field Keys

MDL-FD, MOP-FD

Composites with Just Disk or Ray Flowers

Swamp thistle (*Cirsium muticum*)



Field Tips: Tall (2-5') thistle with extremely large basal leaves, often over a foot long. Stem lacking spines. Bracts below the flowers not spiny and with cobwebby hairs.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FPw	WPn, OPp, WPs, FDw, WMs, WFn, FPs, WFw, WFs, FFn

Occurrence in ECS Field Keys

LAP-FD, MIM-MH

Spotted Joe pye weed (*Eupatorium maculatum*)



Field Tips: Tall (2-4') composite with toothed, lanceolate leaves in whorls of 3-7 around a purple or purple-spotted stem. Flower cluster flat-topped, the heads a "hairy" mass of pink-purple, tubular disc flowers.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
FPw	WMs	OPp, FPs, WMp, WMn, WFw	WFn, FPn, MRs, MRn, WPs, OPn, FFn, WPn

Occurrence in ECS Field Keys

NSU-WF

White snakeroot (*Eupatorium rugosum*)



Field Tips: Tall, 2-3' composite with opposite, petioled, broadly ovate, coarsely toothed leaves. Flower cluster flat-topped; heads with white disc flowers. Sterile plants superficially like lopseeds, but snakeroot with fibrous roots.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FDs	MHs, FFs, WFs

Occurrence in ECS Field Keys

PPL-FD

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Rough hawkweed (*Hieracium umbellatum*)



Field Tips: Tall (1-3') composite with alternate, irregularly toothed leaves that don't clasp the stem. Usually lacking basal leaves and plant without any spines/bristles. Flowers yellow and all rays (like dandelions) on 3-4 heads.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDc, FDw, FDn

Occurrence in ECS Field Keys

MOP-FD

White rattlesnakeroot (*Prenanthes alba*)



Field Tips: Tall (2-4') composite, often present as just basal leaves, which are distinctively triangular in outline, with milky juice, and very irregularly toothed. The heads pinkish, pendant, and yielding seeds with long reddish hairs (pappus).

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FDw	WFs, WFn, MHC, FDc, MHn, MHs, WFw, FDs, FDn

Occurrence in ECS Field Keys

LAP-FD

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Composites with Disk & Ray Flowers

Yarrow (*Achillea millefolium*)



Field Tips: Tall (1-3') composite with very distinctive, many-divided, "feathery" basal and stem leaves. White disk and few white ray flowers organized in a flat-topped cluster (corymb). Foliage aromatic.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		UPs, WPs, FDw, UPn, FDc	WFw, WPn, WMp, WMs, FDs
Occurrence in ECS Field Keys			
LAP-FD, MDL-FD			

Bog aster (*Aster borealis*)



John C. Almendinger, MNDNR

Field Tips: Tall (1-2') composite. Yellow disk and white (lavender) ray flowers. Stem leaves alternate, long (2-5"), narrower than any other Aster (<1/2"), and with edges that curve upward.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	OPp	FPs, FPw, OPn, WMs	WMp, WMn, WPn, FPn, UPn
Occurrence in ECS Field Keys			
LAP-FP			

Side-flowering aster (*Aster lateriflorus*)



John C. Almendinger, MNDNR

Field Tips: Tall (1-2') composite. Purplish disk and white ray flowers. Stem leaves linear/rhombic, glabrous beneath. Distinctive, flowering branches from axils on main stem that stick out sideways and have miniature leaves.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
WFw		FFn, WFn, FDw, FPw	WFs, MHw, MHC, MHn, FDs, FFs, FPs
Occurrence in ECS Field Keys			
MDL-MH			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Large-leaved aster (*Aster macrophyllus*)



Field Tips: Composite (1-2' tall) forming large colonies of heart-shaped basal leaves that differ from most other asters by their large size (5-8" long), cordate base, and spine-tipped teeth. Glandular in inflorescence; rays lavender.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
MHn, FDn	MHc, FDc	WFn	FDs, FPn, WFs
Occurrence in ECS Field Keys			
MOP-FD			

Skyblue aster (*Aster oolentangiensis*)



Field Tips: Tall (1-3') composite from a tuft of distinctive basal leaves that are entire, long-petioled, and feel like sandpaper above. Flower cluster an open panicle of many flowers; rays blue and disks yellow.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			UPs, WPs, FDc, FDs
Occurrence in ECS Field Keys			
WSU-FD			

Flat-topped aster (*Aster umbellatus*)



Field Tips: Tall (2-4') composite. Flower clusters a dense flat-topped panicle with 30-300 heads and white rays. Alternate, entire, elliptical leaves with well developed veins and evidently reticulate between veins beneath.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		MHw, FDw, WFw, OPp, WFn, FPw, WMs, WFn	WPs, UPn, FPn, WMp, FDn, WFs, WMn, MHn, OPn
Occurrence in ECS Field Keys			
NSU-FP, WSU-FP			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Bur marigold & Beggarticks (*Bidens spp.*)



Scott Milburn

Field Tips: Annual composites with simple or compound leaves. Usually in ponded habitats, the plants germinating and developing upon drying out. Flowering in late summer, rays yellow, distinctive 4-barbed, "beggar's tick" fruits.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MRs	FPs	WMn, FFs, MRn, WFn, FFn, WFs, FPn, WMs, OPn

Occurrence in ECS Field Keys

MIM-FF, PPL-FF

Palmate sweet coltsfoot (*Petasites frigidus*)



Jason Johnson, MNDNR

Field Tips: Low (<1') composite forming colonies of basal leaves that are palmately veined and deeply cut into 5-7 lobes, white wooly beneath. Flowering stalks appearing very early before basal leaves and rarely seen.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	WFw		WFn, MHn, FDn, FPn, FDw

Occurrence in ECS Field Keys

LAP-MH, LAP-WF, MIM-MH, MOP-MH

Arrow-leaved sweet coltsfoot (*Petasites sagittatus*)



John C. Almendinger, MNDNR

Field Tips: Low (<1') composite forming colonies of basal leaves that are pinnately veined and with arrowhead shape, white wooly beneath. Flowering stalks appearing very early before basal leaves and rarely seen.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WFw	FPw, WMp, OPp

Occurrence in ECS Field Keys

MOP-WF

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Woodland sunflower (*Helianthus strumosus*)



Field Tips: Tall (3-4'), perennial composite. Lower stem leaves opposite, nearly entire, with sandpaperly stiff hairs from white bases. 1-few heads; involucre bracts with narrow, spreading tips; disks and rays yellow.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDs, FDC, MHs, MHc, FDw

Occurrence in ECS Field Keys

MIM-MH, PPL-FD, WSU-FD

Tall coneflower (*Rudbeckia laciniata*)



Field Tips: Very tall (2-6') composite forming colonies of large distinctively divided basal leaves (up to 1'). Disk gumdrop-shaped, young green flowers turning yellow, maturing from outside to center. Large, drooping, yellow rays.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHw, WFs, FFs	FFn	MHs, MHc, FDs, WFW, WMs

Occurrence in ECS Field Keys

LAP-WF, MDL-FF, MIM-MH, MIM-WF, MOP-FF, PPL-MH, WSU-FF, WSU-MH

Balsam ragwort (*Senecio pauperculus*)



Field Tips: Composite with yellow disk and ray flowers. Basal rosette of petiolate, oblanceolate leaves of all sizes and very evenly toothed resembling an ice-saw. Meandering "tracks" of leaf-miners often visible on basal leaves.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDc, RFn, WPn, WFW

Occurrence in ECS Field Keys

MDL-FD

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Zigzag goldenrod (*Solidago flexicaulis*)



Field Tips: Herbaceous composite (1-2'). Alternate leaves on zigzag stem with distinctive "circular saw" teeth and winged petioles. Goldenrod flowers in short, axillary clusters and flowering very late ~ September.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	MHs, MHc	WFs, MHn	FDs, WFn
Occurrence in ECS Field Keys			
LAP-MH, MDL-MH, MIM-MH, MIM-WF, NSU-MH, PPL-MH, WSU-MH			

Hairy goldenrod (*Solidago hispida*)



Field Tips: Medium-tall (1-2') goldenrod with distinctive basal leaves that are wide (1-3") and very hairy. Stem leaves broad near base, becoming bract-like above. Small clusters of heads from upper 10 or more leaf axils.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			FDc, FDn
Occurrence in ECS Field Keys			
MOP-FD			

Bog goldenrod (*Solidago uliginosa*)



Field Tips: Medium tall composite (1-3') with alternate leaves, the lower leaves distinctively long (6-12" commonly) and with a long, stalked, sheathing base. Spike-like inflorescence of yellow flowers, appearing late.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FPw	FPn, FPs, OPn, OPp, WFn
Occurrence in ECS Field Keys			
LAP-FP, MOP-FP, NSU-FP			

Lilies & Orchids with Just Basal Leaves

Wild leek (*Allium tricoccum*)



Field Tips: Emerging very early in the spring as a large tuft of wide (3-8cm), onion-smelling leaves, soon withering. In summer, usually smelled before seen, is a leafless brown stalk with black, shiny seeds in groups of 3. Bulbs near summer stalks.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		MHs	MHc, FFs, WFs, MHn

Occurrence in ECS Field Keys

MDL-MH

Bluebead lily (*Clintonia borealis*)



Field Tips: Low (<1') lily-like plant with 2 to 5 thick, glossy, green basal leaves. Flower cluster of a few, yellow, bell-shaped flowers yielding large blue berries on a leafless stalk.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FDn, MHn	WFn, FPn	FDc, MHc, FPs

Occurrence in ECS Field Keys

LAP-FP, MDL-MH, MOP-FP, MOP-MH, NSU-FP, NSU-MH

Stemless lady's slipper (*Cypripedium acaule*)



Field Tips: Low growing orchid with just 2-3 parallel-veined basal leaves. Leafless flowering stalk (~1') with a single, large, pink "moccasin" flower or "lady's slipper". Large fluted capsule evident in fall.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FPn, FPs, APn

Occurrence in ECS Field Keys

LAP-AP, MDL-FP, MOP-FP, WSU-AP, WSU-FD, WSU-FP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Downy rattlesnake plantain (*Goodyera pubescens*)



Field Tips: Orchid (~1' tall) with an evergreen rosette of green basal leaves with distinctive white zones along the veins (reticulate). Flowers small, white, tightly clustered near the tip of the leafless flowering stalk.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDs

Occurrence in ECS Field Keys

PPL-FD

Lesser rattlesnake plantain (*Goodyera repens*)



Field Tips: Small orchid (<6") with evergreen rosette of green basal leaves with distinctive white zones along the veins (reticulate). Flowers small, white; adjacent flowers pointing the same direction (secund) in a loose spiral.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FPn, FDn, WFn

Occurrence in ECS Field Keys

MOP-FP

Small northern bog orchid (*Platanthera obtusata*)



Field Tips: Small (~6") orchid with a single basal leaf and flower stalk. Flower cluster a raceme of 4-18 greenish flowers.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FPn, FPs, WFn

Occurrence in ECS Field Keys

MDL-FP, NSU-FP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Leafy Orchids

Yellow lady's slipper (*Cypripedium calceolus*)



Field Tips: Tall (1-2') orchid with alternate, sheathing stem leaves up to 3" wide, parallel veins, hairy above and below. Flowers large, yellow "lady's slippers" with three long, twisted, brown bracts.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FPw, FPs, MHc, WFw, WFn, FPn, MHs, FDw, FDs

Occurrence in ECS Field Keys

MDL-MH

Showy lady's slipper (*Cypripedium reginae*)



Field Tips: Large (2-3') orchids with alternate, parallel veined, wide (2-4") leaves along the stem. Large, pink/white "lady's slipper" flowers.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FPw, WFw	FPn, FPs, FDw, WMs, WFn

Occurrence in ECS Field Keys

MOP-FP

Heart-leaved twayblade (*Listera cordata*)



Field Tips: Small (<6") orchid with just one pair of ovate-triangular leaves at the stem's middle that stick out sideways. Flower cluster a spike of 6-21 tiny, green/maroon flowers, with forked lip petals.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FPn

Occurrence in ECS Field Keys

MDL-FP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Tall Northern bog orchid (*Platanthera hyperborea*)



Field Tips: Tall (~2') orchid with 3-7 linear leaves that get smaller up the stem. Flower cluster a tight terminal raceme of 20-60 greenish flowers. Lip lanceolate and spurred.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FPs	FPn, WFn, FPw, WFs, WMs

Occurrence in ECS Field Keys

NSU-FP

Plants Resembling Solomon's Seal

Canada mayflower (*Maianthemum canadense*)



Field Tips: Small, colonial, lily-like herb appearing as a single leaf when sterile or with 2-3, lance-shaped leaves with parallel veins when fertile. White flowers in loose clusters and later with red or red-speckled white berries.
Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
MHw, FDn, FDc, MHn, FDw	WFn, WFw, MHc, FDs, FPs, FPn, FPw	WFs, FFn	MHs

Occurrence in ECS Field Keys

MDL-FP, MIM-MH, MOP-FP, NSU-FF, NSU-FP, NSU-WF, PPL-FD, WSU-FF, WSU-FP

Giant Solomon's seal (*Polygonatum biflorum*)



Field Tips: Large (1-2'), unbranched herb with alternate, short-petioled, ovate leaves with parallel veins. Leaf undersides are glabrous. Flowers 1-3 from leaf axils, pendant, and yielding round blue berries.
Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		MHw	MHs, FDs, WFs, FDw, FDc

Occurrence in ECS Field Keys

MIM-MH, PPL-MH

Hairy Solomon's seal (*Polygonatum pubescens*)



Field Tips: Large (1-2'), unbranched herb with alternate, short-petioled, ovate leaves with parallel veins. The veins with short hairs on underside. Flowers 1-2 from leaf axils, pendant, and yielding round blue berries.
Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHn	MHc	WFs, MHw, MHs, FDs, WFn, FDc, FDn

Occurrence in ECS Field Keys

MDL-FD, MDL-MH, MIM-MH, MOP-MH, NSU-MH, PPL-MH, WSU-FD

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Common false Solomon's seal (*Smilacina racemosa*)



John C. Almendinger, MNDNR

Field Tips: Large (1-2'), unbranched lily-like herb with alternate, sessile, elliptic leaves with parallel veins. Flower cluster a terminal panicle of many white flowers yielding red or white berries dotted with purple.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	MHc, MHs	FDs, MHw, WFs	MHn, FDC, WMp, FFn, FFs
Occurrence in ECS Field Keys			
NSU-MH, WSU-MH			

Starry false Solomon's seal (*Smilacina stellata*)



John C. Almendinger, MNDNR

Field Tips: Small (~1'), unbranched lily-like herb with alternate, sessile, somewhat folded, lanceolate leaves with parallel veins. Flower cluster a terminal raceme; ~10 white flowers yielding black-striped fruits that turn red.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FDw, MHw, WFw	FPw, WFs	FDs, FFn, MHs, FDC, FFs, WFn, UPs, WPn, WMs, FPs
Occurrence in ECS Field Keys			
MIM-FD, MOP-FP, MOP-WF			

Three-leaved false Solomon's seal (*Smilacina trifolia*)



John C. Almendinger, MNDNR

Field Tips: Small lily-like herb with 3, lance-shaped leaves with parallel veins. White flowers in loose clusters and later with red or red-speckled white berries.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
FPn	FPw, FPs	APn	WFn, OPn
Occurrence in ECS Field Keys			
MDL-AP, MDL-AP, MDL-FP, MDL-WF, MIM-WF, MOP-AP, MOP-FP, MOP-WF, NSU-AP, NSU-FP, NSU-WF, WSU-AP, WSU-FP, WSU-WF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Rose twistedstalk (*Streptopus roseus*)



Field Tips: Low (~1.5') lily-like herb. Unbranched or once-branched. Leaves alternate, sessile, with very distinctive cilia on edge. Flowers solitary at the nodes yielding red, triangular berries.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
MHn	MHc, FDn	MHw, WFh	FDc, WFs, FFn, FDs, FFh

Occurrence in ECS Field Keys

LAP-MH, MDL-FD, MDL-WF, MIM-FD, MIM-MH, MOP-FD, MOP-WF, NSU-FD, PPL-MH, WSU-FD, WSU-WF

Large-flowered bellwort (*Uvularia grandiflora*)



Field Tips: Large (1-2') lily-like herb with perfoliate leaves. Sterile plants unbranched, fertile plants branched. Yellow, drooping flowers (as a uvula) in spring yielding triangular capsule.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
MHc	MHs, MHn	FDs	WFs, FDc, FFh, WFh, FDn

Occurrence in ECS Field Keys

LAP-MH, MDL-FD, MDL-MH, MDL-WF, MIM-FD, MIM-MH, MOP-MH, PPL-MH, WSU-FD, WSU-WF

Pale bellwort (*Uvularia sessilifolia*)



Field Tips: Low (~1') lily-like herb with alternate, sessile, hairless leaves shredding into parallel segments in fall. Sterile plants unbranched, fertile plants branched. Creamy, drooping flowers in spring yielding triangular capsule.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHc	MHn, FDc, FFh, FDs, WFh	FDn, WFh

Occurrence in ECS Field Keys

LAP-WF, MDL-FD, NSU-FD, NSU-FF, NSU-MH, WSU-FD

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Unique Plants

Round-leaved sundew (*Drosera rotundifolia*)



Field Tips: Minute herb consisting of a basal rosette of leaves shaped like a soup-spoon and beset with red, gland-tipped, sticky hairs that catch insects. White flowers in a one-sided raceme, yielding dry, many-seeded capsules.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		APn, OPn	APn

Occurrence in ECS Field Keys

LAP-AP, MOP-FP, NSU-AP, NSU-FP

Indian pipe (*Monotropa uniflora*)



John C. Almendinger, MNDNR

Field Tips: Pure white, saprophytic plant with scale-like leaves and a single terminal flower. Flower drooping at first, then turning upright when the plant matures and dries to a brown color.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			APn, FDn, FPn, FDc, MHs, MHc, MHN, FDs

Occurrence in ECS Field Keys

LAP-AP, MDL-AP, MOP-AP, NSU-AP, WSU-AP

Pitcher plant (*Sarracenia purpurea*)



John C. Almendinger, MNDNR

Field Tips: Unique, insectivorous plant with only basal leaves in circular clusters. The leaves tubular, ~6" long, green with red veins, and upright to catch water and insects. The single flowers large, 2-3" across, and gaudy red/yellow on leafless stems 1-2' tall.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		APn, OPn	FPn, FPw

Occurrence in ECS Field Keys

LAP-AP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Scheuchzeria (*Scheuchzeria palustris*)



Field Tips: Sedge-like plant with unusual leaves: alternate, tubular with a pore at the tip, and with wide dilated sheaths. Fruits are pod-like capsules in groups of 3.
Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		APn	OPn
Occurrence in ECS Field Keys			
MDL-AP, MIM-AP, NSU-AP, WSU-AP			

Ferns with Triangular Blades

Rattlesnake fern (*Botrychium virginianum*)



Field Tips: Largest (~1' tall) of MN Botrychiums, with a broadly triangular, finely dissected (tri-pinnate) blade. Spore-bearing stalk not at all like vegetative blade, arising from the vegetative blade (well above the ground).
Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	MHw, WFw	MHc, MHn, MHs, FDs, WFn	FDw, FPw, FPn, WFs, FPs
Occurrence in ECS Field Keys			
LAP-FD, MDL-FP, MIM-MH, MOP-FP, MOP-MH, PPL-MH			

Common oak fern (*Gymnocarpium dryopteris*)



Field Tips: Low-growing (<1') fern with triangular blades that resemble a miniature bracken. Black, smooth stem. Lower pinnae asymmetric with lower pinnules longer. Spore-clusters on normal, vegetative blades.
Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	WFn		MHn, FPn, FDn, FPw
Occurrence in ECS Field Keys			
LAP-WF, MDL-FD, MOP-WF, NSU-MH, NSU-WF, WSU-MH			

Bracken (*Pteridium aquilinum*)



Field Tips: Tall (2-3') distinctive fern with triangular fronds. Spore-clusters on normal, vegetative blades and located along the rolled pinnule margins (not as "dots" on the undersides of blade).
Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FDc, FDn, MHc	FDs, MHw, MHn	MHs, FDw, WFw
Occurrence in ECS Field Keys			
MDL-MH, MIM-FD, MIM-MH, NSU-FD, NSU-MH, PPL-MH, WSU-FD, WSU-MH			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Ferns with Feathery Blades

Maidenhair fern (*Adiantum pedatum*)



Monica Zachay, MNDNR

Field Tips: Distinctive fern, 1-2' tall. The rachis split, arching, and with pinnae on just one side; appearing semi-circular. Stipe dark and shiny. Spores born on vegetative blades at leaf margins.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		MHs, WFs	MHc
Occurrence in ECS Field Keys			
MIM-MH, PPL-MH			

Lady fern (*Athyrium filix-femina*)



John C. Almendinger
MNDNR

Field Tips: Ferns 1-2' tall. Blades bipinnate-pinnatifid with black/brown scales at base. Lowest pinnae about as long as middle ones and reflexed downward and above stipe. Spore-clusters on normal, vegetative blades.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
WFn	MHn, WFs, MHs, MHc	FDs, WFw	FFn, FPn, FDn, FPw, FPs, FDC
Occurrence in ECS Field Keys			
LAP-WF, MDL-FF, MDL-MH, MDL-WF, MIM-FD, MIM-WF, MOP-MH, MOP-WF, NSU-WF, WSU-WF			

Shield fern or Wood fern (*Dryopteris carthusiana / intermedia*)



John C. Almendinger, MNDNR

Field Tips: Ferns 1-2' tall. Blades bipinnate-pinnatifid with golden scales at base. Lowest pinnae about as long as middle ones and asymmetric with lower pinnules the longest. Spore-clusters on normal, vegetative blades.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	WFn	Fps, MHn, FPn, FDn, WFw, FPw	FFn, FDC, MHc, WMn, FDS, MHs
Occurrence in ECS Field Keys			
LAP-MH, MDL-AP, MIM-FD, MIM-WF, NSU-MH, PPL-MH, WSU-AP			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Crested fern (*Dryopteris cristata*)



Field Tips: Ferns 1-2' tall. Blades pinnate. Lowest pinnae slightly shorter, wider, and more triangular in outline than middle ones; all pinnae with bristly-tipped teeth and deep-set veins. Spore-clusters on normal, vegetative blades.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FPn	FPs, FPw, WFn	FFn, OPn, WFs, WFw, WMn
Occurrence in ECS Field Keys			
MOP-FP, WSU-FP			

Ostrich fern (*Matteuccia struthiopteris*)



Field Tips: Tall (2-3') fern in distinct clumps. Blades once-pinnate, the pinnae widest at the middle and gradually tapering to very small pinnae at the base. Spore-clusters on separate stalks unlike the normal, vegetative blades.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FFn	WFs	MHw, WFn, MHn, FFs, MHs
Occurrence in ECS Field Keys			
LAP-FF, LAP-WF, MDL-MH, MDL-WF, MIM-FF, MIM-MH, MIM-WF, MOP-MH, NSU-FF, NSU-WF, PPL-MH, WSU-MH, WSU-WF			

Sensitive fern (*Onoclea sensibilis*)



Field Tips: Rather short (~1') fern in loose colonies. Blades pinnate with pinnae opposite and wavy edged. Spore-clusters on separate stalks unlike the normal, vegetative blades. Blades "sensitive" to early frost and bruising.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	FFn, WFs	WFn	WMn, MRn, FFs, FPn, FPs, WMs, WPs, MHn
Occurrence in ECS Field Keys			
MDL-MH, MDL-WF, MIM-FF, MIM-WF, MOP-WF, NSU-WF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Interrupted fern (*Osmunda claytoniana*)



Field Tips: Tall (2-3') fern in distinct clumps. Blades pinnate-pinnatifid, not hairy. Fertile blades with a few, contracted, spore-bearing pinnae near the middle of the blade that "interrupt" normal vegetative pinnae above and below.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		MHc	WFn, MHn, MHs, FDs, WFs, FDn, FPn
Occurrence in ECS Field Keys			
MDL-WF, NSU-WF, PPL-MH, WSU-MH			

Royal fern (*Osmunda regalis*)



Field Tips: Ferns 2-3' tall. Blades clearly bipinnate, and distinctive among MN ferns. The pinnules lance-linear and entire. Spore-clusters at apex of special fronds with some vegetative pinnae.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			WFn, FPs
Occurrence in ECS Field Keys			
MIM-WF			

Long beech fern (*Phegopteris connectilis*)



Field Tips: Small fern (~1'). Blades bipinnate-pinnatifid. Lowest pinnae not connected to stem by green wings, as long as middle ones, strongly reflexed downward and above. Spore-clusters on normal, vegetative blades.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			WFn, MHn
Occurrence in ECS Field Keys			
NSU-MH, NSU-WF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Common polypody (*Polypodium virginianum*)



Field Tips: Very small fern (~6") commonly growing on rocks . Blades pinnatifid, leathery and evergreen, the segments alternating up the rachis. Spore-clusters on normal, vegetative blades.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDn

Occurrence in ECS Field Keys

NSU-FD, PPL-MH

Northern marsh fern (*Thelypteris palustris*)



Field Tips: Rather short (~1') fern in colonies of scattered individuals. Blades once-pinnate; middle and lower pinnae of similar size and at right-angles to the rachis. Spore clusters on blades similar to normal, vegetative blades.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FPs, FPw	OPn, FPn, WMn	WMs, WFn, MRn, MRs, WPs, WFs, OPp, FFn

Occurrence in ECS Field Keys

MDL-WF, MIM-WF, MOP-WF, WSU-WF

Clubmosses & Firmosses

Bristly clubmoss (*Lycopodium annotinum*)



Field Tips: Low-growing, evergreen, fern ally with "leaves" arranged like a bottle-brush; prickly from spine-like leaf tips. Trailing (shallow) horizontal stem with little-branched, upright shoots often tipped with sessile "cones".

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDn, FPn, WFn, MHn

Occurrence in ECS Field Keys

MOP-FD, NSU-FP

Running clubmoss (*Lycopodium clavatum*)



Field Tips: Low-growing, evergreen, fern ally with "leaves" arranged like a bottle-brush; soft from long-wispy leaf tips. Trailing horizontal stem with little-branched, upright shoots. "Cones" on long branched stalks.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDn

Occurrence in ECS Field Keys

MOP-FD, NSU-FD, WSU-FD

Shining firmoss (*Huperzia lucidula*)



Field Tips: Low-growing, evergreen, fern ally with shiny "leaves" arranged like a bottle-brush. Underground stem shallow or trailing, with unbranched or few-branched upright shoots. Sporangia born on leaves, not in cones.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			WFn, MHn, FDn, FPn

Occurrence in ECS Field Keys

MDL-WF

Groundpines & Groundcedars

Groundpines (*Lycopodium dendroideum* / *hickeyi*)



Jason Johnson, MNDNR

Field Tips: Low-growing, evergreen, fern ally with "leaves" arranged like a bottle-brush. Underground stem deep in the soil (not trailing), with upright shoots that are many times branched resembling little trees.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FDn, MHn	

Occurrence in ECS Field Keys

MDL-FD, MDL-MH, MOP-FD, MOP-MH, NSU-FD, WSU-FD, WSU-MH

Northern & Wirey groundcedar (*Diphasiastrum complanatum* / *digitatum*)



Alaina Berger, MNDNR

Field Tips: Low-growing, evergreen, fern ally with creeping, underground, horizontal stem. Upright stems branched; branches flattened and with scale-like "leaves" resembling sprays of northern white cedar.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FDn

Occurrence in ECS Field Keys

MDL-FD, NSU-FD

Horsetails & Scouring Rushes

Field horsetail (*Equisetum arvense*)



Field Tips: Terrestrial horsetail with whorls of simple branches with angles of about 45 degrees. Stems rigid and lacking definite white, rough bumps (silica spicules). Fertile stalks brown and withering upon maturation of the cone.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	WFw	WFs, WPs, FFn	FDw, WFn, MHw, WMp, WMs, FPw, FPs, WPn, OPp

Occurrence in ECS Field Keys

LAP-WF, WSU-WF

Water horsetail (*Equisetum fluviatile*)



Field Tips: Tall (2-4') horsetail with a weak, easily crushed stem. Sterile plants with whorls of branches shortening progressively towards the top, central stem often greatly tapered at the tip, lacking branches, and wavy. Usually in standing water.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		Fps, FPw, OPn	FPn, MRn, WMs, WMn, APn, WFn, MRs, OPp

Occurrence in ECS Field Keys

LAP-FP, MDL-AP, MOP-AP, NSU-AP, WSU-AP

Meadow horsetail (*Equisetum pratense*)



Field Tips: Terrestrial horsetail with whorls of simple branches, with angles of about 90 degrees. Stems rigid and with ridges having definite white, rough bumps (silica spicules). Fertile stalks initially brown, but turning green and developing branches.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FFn, MHw, WFw, WFn, FDw, WMp, WFs, MHn, FPn	

Occurrence in ECS Field Keys

MDL-MH

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Woodland horsetail (*Equisetum sylvaticum*)



Jason Johnson, MNDNR

Field Tips: Horsetail with whorls of compound branches. Distinctive cinnamon-colored sheaths. Fertile stalks initially brown, but turning green and developing branches and resembling sterile shoots.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WFn	WFw, FPn, MHn, WFs, FDn, FPw

Occurrence in ECS Field Keys

MDL-MH, NSU-FP, WSU-FP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Sedges without Pendant Spikelets

Brome-like sedge (*Carex bromoides*)



Field Tips: Low (~1') tufted sedge with slender, lax leaves. Culms barely exceeding the leaves with 3-8 loose spikelets that are female above and male below. Bracts small, awn-tipped. Slender, perigynium with long beak.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			WFs, FFn
Occurrence in ECS Field Keys			
MIM-WF			

Creeping sedge (*Carex chordorrhiza*)



Field Tips: Small (<1') sedge with creeping stems that send up short, vertical shoots from each node; apparent as a line of similar shoots; easily seen when pulled from the peat. Crowded terminal clusters of 3-8 spikes.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		OPn	APn, FPn, FPs, WmN
Occurrence in ECS Field Keys			
MDL-AP, MOP-AP, NSU-AP, WSU-AP			

Hayden's sedge (*Carex haydenii*)



Field Tips: Tall (1-3') sedge in loose tufts. Leaves wide (~1/3"), shorter than flowering stems. Terminal male spike(s) above 2-3 stalkless, upright, female spikes. Basal sheaths not filamentous and perigynia shorter than their scales.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
			WPs, Wmp, MRs
Occurrence in ECS Field Keys			
MIM-WF			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Interior sedge (*Carex interior*)



Field Tips: Slender, tufted sedge (1-2'). Flower clusters 3-5 sessile spikes, few flowered and spreading to give a starry appearance. The terminal spike with a distinct, brown zone of male flowers beneath the female flowers.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		FPw, FPs, FPn	OPn, WMs, WFn, WFs, WPs, OPp, WMp
Occurrence in ECS Field Keys			
MOP-FP, NSU-FP			

Bladder sedge (*Carex intumescens*)



Field Tips: Sedge, ~2' tall growing in clumps. Leaves wide (~1/2") and soft. Flower cluster of terminal male spike above 1-3 short female spikes set in the axils of long, leaf-like bracts. 2-12 large, inflated, beaked perigynia.

Notes:



Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
	WFn	FFn	MHn, WFs, FPn, MHc, FPs, FFs
Occurrence in ECS Field Keys			
LAP-WF, MOP-WF			

Fen wiregrass sedge (*Carex lasiocarpa*)



Field Tips: Tall (2-3') sedge forming monotypic swards. Leaves narrow, longer than flowering stems, arched, folded, wire-like. Terminal male spike(s) above 1-3 stalkless female spikes. Woolly seed covering. Peppery smell.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
OPn	OPp	FPs, WMn	APn, FPw, WMs, FPn
Occurrence in ECS Field Keys			
LAP-AP, MDL-AP, MIM-AP, MOP-AP, MOP-FP, NSU-FP, WSU-AP			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Bog wiregrass sedge (*Carex oligosperma*)



John C. Almendinger, MNDNR

Field Tips: Leaves shorter than flowering stems, rolled into cylinders at tips. Brown stem base. Cluster of 3-15 seeds in y-shaped crotch composed of the stem or terminal male spike and a long, bract below the female flowers.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		APn	

Occurrence in ECS Field Keys

LAP-AP, MDL-AP, MIM-AP, MOP-AP, NSU-AP, WSU-AP

Long-stalked sedge (*Carex pedunculata*)



Jason Johnson, MNDNR

Field Tips: Low (<1') sedge growing in dense, pom-pom tufts. Blades appearing all basal, with deep purple bases, and over-wintering. Flowering early, the culms of varying length that wither to hair-like strands with 4-5 tiny spikelets.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHn	WFn, WFs, MHc	MHs, WFw, FDn, FFn, FPs

Occurrence in ECS Field Keys

LAP-WF, MIM-MH, MOP-MH, WSU-MH

Retorse sedge (*Carex retrorsa*)



Photo: Scott Milburn

Field Tips: Densely tufted, tall (2-3') sedge with 1-2 male spikes just above 3-8 female spikes on short peduncles. Seeds in large, inflated, long-beaked sacks, with the beaks spreading or pointing down the stem (retorse).

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FFn, WFw

Occurrence in ECS Field Keys

MDL-FF, MOP-FF

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Awl-fruited sedge (*Carex stipata*)



Field Tips: Tall (2-3') clumped sedge. Culms stout, sharply 3-angled. Flower cluster of many, crowded, small few-flowered spikes with non-leafy bracts; appearing as a single, terminal spike. Male spikelets inconspicuous.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	WFs	WFn	WMs, FFn, WMn, FPn

Occurrence in ECS Field Keys

MDL-WF, MIM-WF, MOP-WF, WSU-WF

Three-fruited bog sedge (*Carex trisperma*)



Field Tips: Low (~1') weakly clumped sedge, the stems drooping and leaves lax. The flower cluster has 1-3, few-flowered, widely spaced spikes. The lowest spike with a slender bract longer than the entire inflorescence.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FPn, APn	WFn, FPs

Occurrence in ECS Field Keys

LAP-AP, LAP-AP, MDL-AP, MIM-AP, MOP-AP, NSU-AP, NSU-FP, WSU-AP

Beaked sedge (*Carex utriculata*)



Field Tips: Tall (2-4') sedge forming swards. Leaves taller than flowering stems, sheaths with cross-veins. Spikes sessile, 2-3 male spikes above 1-4 female spikes crowded with inflated, long-beaked perigynia.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WMn	OPn, MRn, WMs, APn, MRs

Occurrence in ECS Field Keys

MIM-AP, NSU-AP, WSU-AP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

White beak rush (*Rhynchospora alba*)

John C. Almendinger, MNDNR



Field Tips: Low (~1') loosely clustered sedge. Leaves shorter than the flowering stems. Flowers/seeds in 1-3 tuft-like spikelets. Seeds hidden among white/pale brown scales.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			OPn, APn

Occurrence in ECS Field Keys

MDL-AP, NSU-AP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Sedges with Pendant Spikelets

Graceful sedge (*Carex gracillima*)



Field Tips: Tufted sedge (1-2') with purple leaf bases. Flower clusters 3-5 spikes on slender pedicels and drooping. The terminal spike with a brown zone of male flowers beneath the female flowers. Perigynia without a beak.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		WFn, FFn, WFs	WFw, MHn, MHC, MHS

Occurrence in ECS Field Keys

WSU-MH

Candle-lantern sedge (*Carex limosa*)



Field Tips: Small, (~1') sedge with bluish green leaves and roots covered with yellow-brown felt. Flower cluster includes a male terminal spike and 1-5 pendant female spikes that hang like "candle lanterns."

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		OPn	APn, FPn, FPs, OPp

Occurrence in ECS Field Keys

MDL-AP, MOP-AP, NSU-AP, WSU-AP

Cyperus sedge (*Carex pseudocyperus*)



Field Tips: Tall (2-3') tufted sedge with stout culms. A single short-stalked terminal male spike and 3-6 female spikes below. Spikes nodding, long, crowded, perigynia with long, sharp points (bottle-brush) and pointing a bit backwards.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			FPn, FPs

Occurrence in ECS Field Keys

MOP-FP, NSU-FP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Cottongrasses

Tall cottongrass (*Eriophorum polystachion*)



John C. Almendinger, MNDNR

Field Tips: Growing isolated or in small colonies, not strongly tufted. Inflorescence with 2-8 peduncled, cottony spikelets with several of the chestnut-colored floral bracts longer than the flower cluster.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		OPp	OPn, FPw, WPn

Occurrence in ECS Field Keys

MDL-AP

Delicate cottongrass (*Eriophorum tenellum*)



Field Tips: Growing isolated or in small colonies, not strongly tufted. Inflorescence with 3-6 peduncled, cottony spikelets with a single, erect, leaf-like bract that is shorter than the flower cluster.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
			None >5%

Occurrence in ECS Field Keys

NSU-AP

Tussock cottongrass (*Eriophorum vaginatum*)



John C. Almendinger, MNDNR

Field Tips: Densely tufted sedge with narrow basal leaves and stem leaves with inflated basal sheaths. Flowering stalks with a single, terminal, cottony spike lacking leafy bracts.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		APn	

Occurrence in ECS Field Keys

LAP-AP, MDL-AP, MIM-AP, MIM-AP, MOP-AP, NSU-AP, WSU-AP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Tawny cottongrass (*Eriophorum virginicum*)



Field Tips: Sedge in loose colonies with flat leaves often rolled at the tips. Flowering stalks with several cottony spikes and leafy bracts exceeding the spikes. "Cotton" usually tawny. Distinctive by flowering very late (~August).
Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
		APn	
Occurrence in ECS Field Keys			
LAP-AP, MDL-AP, MIM-AP, MIM-AP, MOP-AP, NSU-AP, WSU-AP			

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Grasses

Big bluestem (*Andropogon gerardii*)



John C. Almendinger, MNDNR

Field Tips: Very tall (3-6') grass with fall foliage curing to a purplish hue. Plants usually tufted. The inflorescence digitally branched, hence the nickname "turkey foot". The inflorescence shattering entirely in the fall and winter.

Notes:



Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
UPn, UPs, WPs	WPn		FDc, OPp, FDw, WMp

Occurrence in ECS Field Keys

MDL-FD, WSU-FD

Bearded shorthusk (*Brachyelytrum erectum*)



Jason Johnson, MNDNR

Field Tips: Tall (2-3') clumped grass with wide (0.5") fuzzy blades and sheaths. Florets long-awned in appressed panicle. Culms snapping at first node each fall, leaving a collection of white "bamboo stubs" at the base.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		MHn, MHc	MHs, WFn, WFs

Occurrence in ECS Field Keys

MDL-MH, MOP-MH, WSU-MH

Fringed brome (*Bromus ciliatus*)



John C. Almendinger, MNDNR

Field Tips: Tall (2-4') grass growing mostly in small clumps. Inflorescence an open panicle with branches evident. Spikelets with several seeds, the lemmas with a distinctive fringe of hairs on their margins but hairless otherwise.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FPw, WFw	FDw, FPs	WFn, OPp, WMs, FDc, WPs, WPn, FFn, FDn, FPn, WMn

Occurrence in ECS Field Keys

LAP-FP

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Bluejoint (*Calamagrostis canadensis*)



Field Tips: Tall (2-4') grass often forming monotypic swards. Inflorescence an open panicle with branches evident. Inflorescence and leaves becoming flaggy (secund). Unusual ability to form late-season branches in leaf axils.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
WMn	WFw, FPn	WMp, FPs, FDw, WMs, WFn, FPw, OPn, MRn, MRs	WPs, FFn, FDn, WPn, OPp, APn, WFs

Occurrence in ECS Field Keys

LAP-FD, LAP-FD, MDL-AP, MOP-AP, NSU-AP, WSU-AP

Poverty grass (*Danthonia spicata*)



Field Tips: Low (~1') strongly tufted grass with leaves of past years persistent and curly. Flowering stalk with sessile spikelets with a few, hairy "seeds" with awns twisted, bent at right angles, and black at the bend.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FDc	FDn, FDw

Occurrence in ECS Field Keys

MOP-FD, NSU-FD, WSU-FD

Virginia wild rye (*Elymus virginicus*)



Field Tips: Tall (1-3') clumped grass with blades ~1/3" wide. Flower cluster a spike of sessile florets, each with a mix of fertile and sterile flowers, all with stiff, long-awned glumes and lemmas to produce a broom-like inflorescence. Awns straight.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FFn	FFs, WFs	MRs, WFn

Occurrence in ECS Field Keys

MIM-FF

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Fowl manna grass (*Glyceria striata*)



John C. Almendinger, MNDNR

Field Tips: Tall (2-3') loosely clumped grass. Flower cluster a panicle with ascending branches drooping at tips. Florets green/purple early but turning a very light tan in summer. Small seeds with 7 strongly raised ribs.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	FPw, WFs, WFn	FPs, WMs, WFw, FPn	WPs, WMp, OPp, WPn, FDw

Occurrence in ECS Field Keys

MDL-WF, MIM-WF, MOP-WF, WSU-WF

Mountain rice grass (*Oryzopsis asperifolia*)



John C. Almendinger, MNDNR

Field Tips: Low (1') tufted, grass, with wide blades, current blades upright and green, blades of past years decumbent and turning brown from the tip towards base. Flowering spike persistent all summer with glumes gaping.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
	MHn, MHc, FDc, FDn, FDw	WFw, FDs	MHw, WFn, MHs

Occurrence in ECS Field Keys

LAP-WF, MDL-FD, MIM-MH

False melic grass (*Schizachne purpurascens*)



Chel E. Anderson, MNDNR

Field Tips: Tufted grass with long, arching culms. The purplish spikelets drooping from a lax panicle. Lemmas with basal tuft of hair and long awn seemingly from near middle of lemma.

Notes:

Habitat Distribution (Presence by Floristic Region)

75-100%	50-75%	25-50%	5-25%
		FDw, FDc, FDn, WFw, MHw, WFn, MHc, MHn	

Occurrence in ECS Field Keys

LAP-WF, MIM-FD, MIM-WF

Key plants appearing in the Field Guides to Native Plant Communities:
Forests & Woodlands

Prairie cordgrass (*Spartina pectinata*)



Jeff Weigell

Field Tips: Very tall (3-6') grass from a tough, "cordlike" rhizome. The leaves coarse, and with hairless sheaths. The inflorescence a narrow panicle with spikelets crowded along one side of the branch (secund) giving the appearance of a brush or comb.

Notes:

Habitat Distribution (Presence by Floristic Region)			
75-100%	50-75%	25-50%	5-25%
WPs, WMp, WPn		UPn	WMs, UPs, FDw, MRs
Occurrence in ECS Field Keys			
LAP-FD			

Sphagnum Mosses

Sphagnum moss (*Sphagnum* spp.)

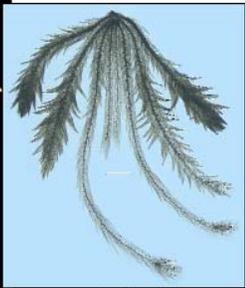


Sphagnum wulfenianum (1 mm)

rough carpet



spherical capitulum



single fascicle
(four pendent in center and four spreading branches)

Sphagnum wulfenianum (1 mm)

Field Tips: Peat-forming mosses in carpets, hummocks, or hollows. All species belong to the single genus, *Sphagnum*. The evident characters in the field are: unbranched upright stems and fascicles of branches arranged spirally around the stem. At the top of the stem, branch internodes are short as are the branches, which causes the appearance of a distinct head (capitulum). Below the head, nodes and branches are longer and the branch fascicles evident. Each fascicle will have some branches that spread and some that droop next to the stem. In shade, most *Sphagnum* mosses are green, but in the open they are often richly colored red, orange, purple, or yellow. *Sphagnum magellanicum* and *S. angustifolium* are two of the most common mosses in this group (below).

Notes:

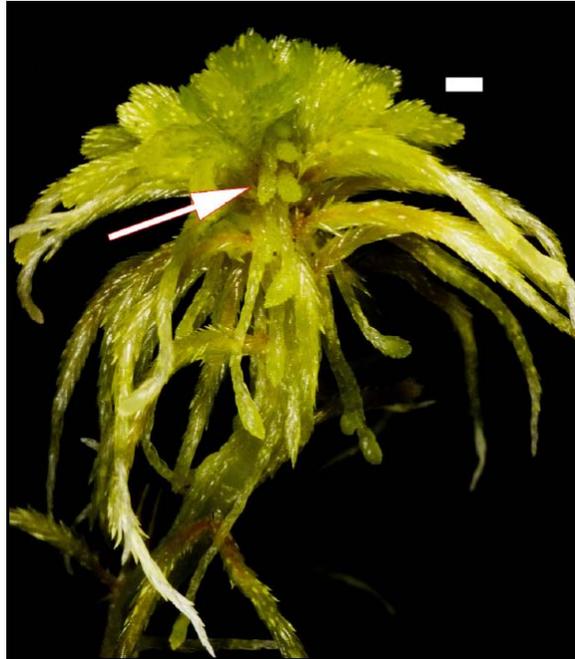


Sphagnum magellanicum (large red) plants mixed with those of *S. russowii* (small red) and *S. angustifolium* (larger green-yellow-brown)



smooth carpet

Sphagnum angustifolium (1 mm)



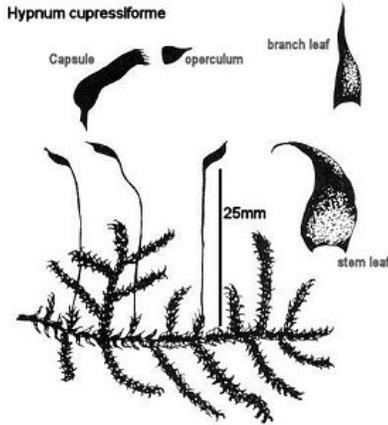
pendent branches in pairs

Sphagnum angustifolium (1 mm)

Photos by permission from: Janssens, Joannes A. (2007) *Noteworthy Mosses & Liverworts of Minnesota: field keys and habitat descriptions of common bryophytes*. Minneapolis, Minnesota.

Brown Mosses – Pleurocarps

e.g. *Calliergon cordifolium*, *Hypnum lindbergii*

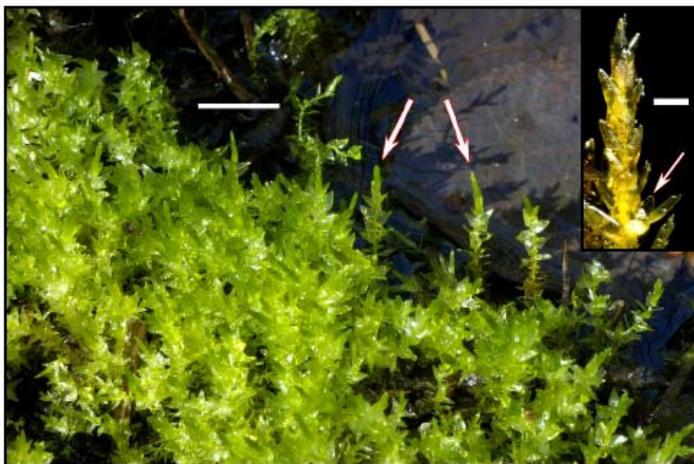


Field Tips: The use of the term “brown mosses” in the field guides is unfortunate because it spans taxa that are not closely related. To the taxonomist most brown mosses are pleurocarpous mosses (examples to left) of wetlands and peatlands. In the field, one notices that pleurocarpous mosses have main stems lying roughly parallel to the ground, profuse branching often interweaving with adjacent stems, and have sporophores that arise from short lateral shoots. Two widespread pool pleurocarps are *Calliergon cordifolium* and *Hypnum lindbergii* (below).

Notes:



dendroid (tree-like) branching



pointed branch tips with enrolled, rounded-obtuse leaves (inset)

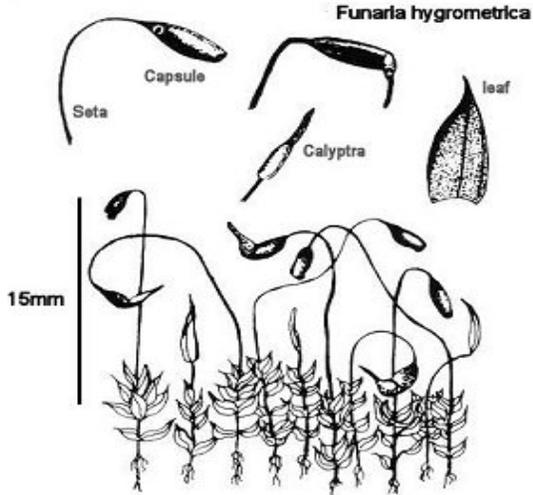


curved-to-falcate-secund leaves

Photos by permission from: Janssens, Joannes A. (2007) *Noteworthy Mosses & Liverworts of Minnesota: field keys and habitat descriptions of common bryophytes*. Minneapolis, Minnesota.

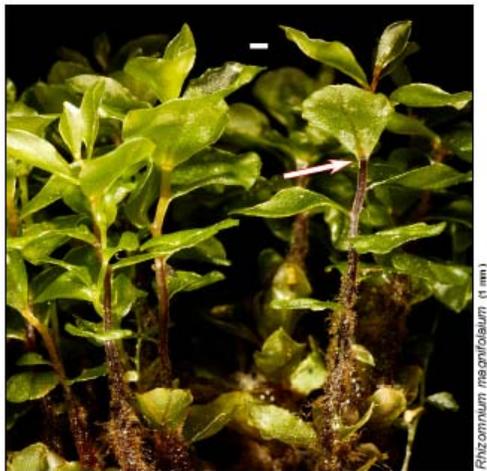
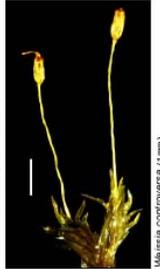
Brown Mosses – Acrocarps

e.g. *Plagiomnium*, *Rhizomnium*



Field Tips: the use of the term “brown mosses” in the field guides to refer to some acrocarpous mosses (left) is unfortunate because most taxonomists would not call these brown mosses. Acrocarps are mosses with upright stems that are not much branched (if so near the ground and branches strongly ascending), and the sporophores arise from the tips of the upright branches. *Plagiomnium ellipticum* and *Rhizomnium magnifolium* are common pool acrocarps (below).

Notes:



Photos by permission from: Janssens, Joannes A. (2007) *Noteworthy Mosses & Liverworts of Minnesota: field keys and habitat descriptions of common bryophytes*. Minneapolis, Minnesota.

Feather Mosses

e.g. *Pleurozium*, *Ptilium*, *Hylocomium*, *Thuidium*



Thuidium delicatulum (1 mm)



Ptilium crista-castrensis (1 mm)

annual segment bi (tri)-pinnately (left) versus uni-pinnately branched (right)

Field Tips: Feather mosses comprise a diverse group of pleurocarpous mosses. They occur in thick carpets that are usually easily removed from the substrate. They are common in poor habitats, whether very wet (WF, FP and AP Systems) or very dry (FD System). Their characteristic feature is to have pinnate branching, which can be singly or multiply pinnate (left). Mostly, this results in the individual stems having branches all in the same plane. By far, *Pleurozium schreberi*, is the most widespread and common feathermoss. Other common feathermosses are: *Ptilium crista-castrensis*, *Hylocomium splendens*, and *Thuidium delicatulum* (below).

Notes:



Pleurozium schreberi (1 mm)



John C. Almendinger, MNDNR



Thuidium delicatulum (1 mm)



Hylocomium splendens (1 mm)

Photos by permission from: Janssens, Joannes A. (2007) *Noteworthy Mosses & Liverworts of Minnesota: field keys and habitat descriptions of common bryophytes*. Minneapolis, Minnesota.

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