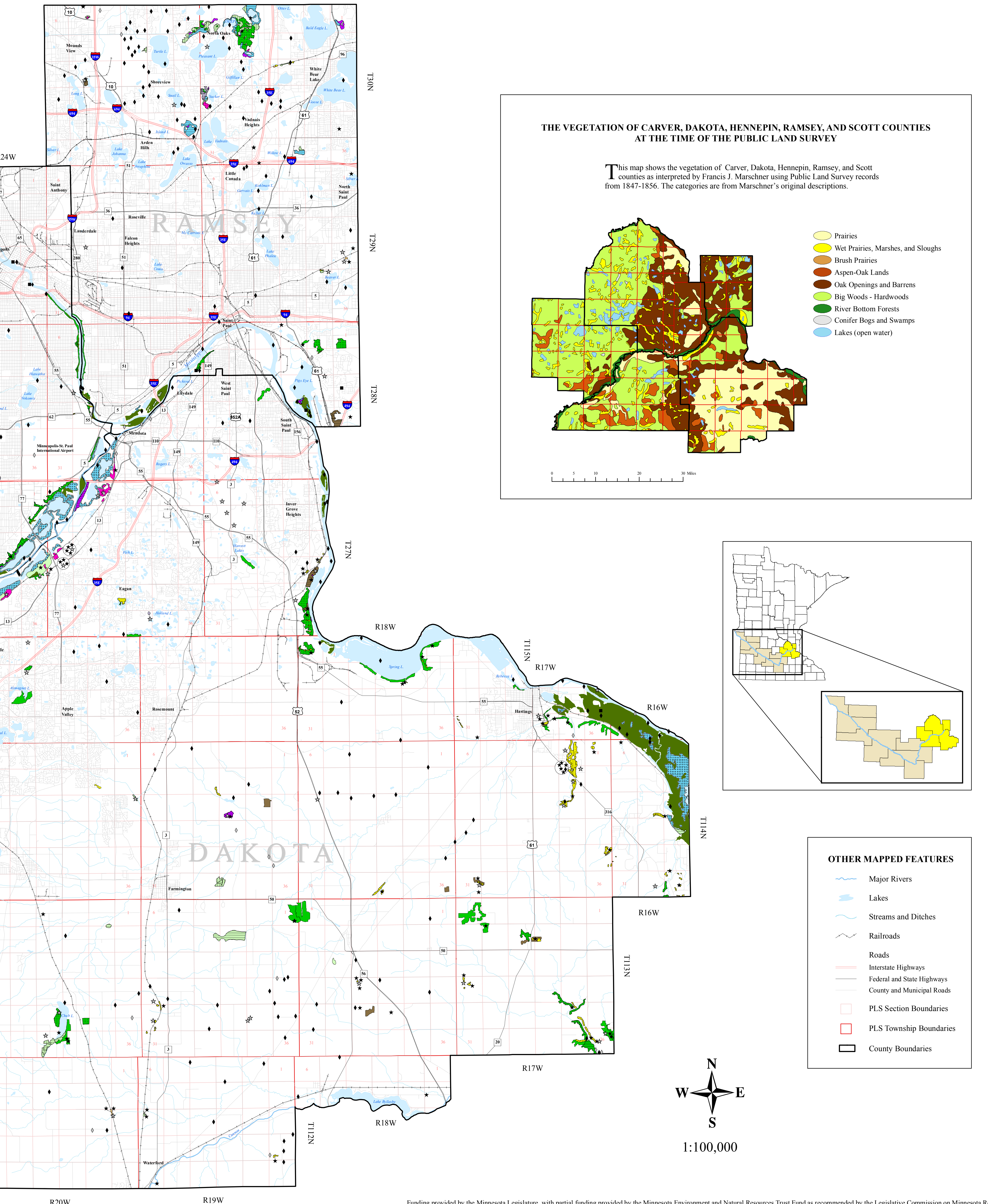


# NATIVE PLANT COMMUNITIES AND RARE SPECIES OF CARVER, DAKOTA, HENNEPIN, RAMSEY, AND SCOTT COUNTIES

by the  
Minnesota County Biological Survey



THE VEGETATION OF CARVER, DAKOTA, HENNEPIN, RAMSEY, AND SCOTT COUNTIES  
AT THE TIME OF THE PUBLIC LAND SURVEY

This map shows the vegetation of Carver, Dakota, Hennepin, Ramsey, and Scott counties as interpreted by Frances J. Marschner using Public Land Survey records from 1847-1856. The categories are from Marschner's original descriptions.

- Prairies
- Wet Prairies, Marshes, and Sloughs
- Wet Bottoms
- Open-Oak Lands
- Oak Openings and Barrens
- Big Woods - Hardwoods
- River Bottom Forests
- Conifer Bogs and Swamps
- Lakes (open water)

- Major Rivers
- Lakes
- Streams and Ditches
- Railroads
- Roads
- Interstate Highways
- County and Municipal Roads
- PLS Section Boundaries
- PLS Township Boundaries
- County Boundaries

1:100,000

## NATIVE PLANT COMMUNITIES

Native plant communities are groups of native plants that interact with each other and with their environment in ways not greatly altered by modern human activity or by introduced organisms. These groups of native species form recognizable units, such as oak forest, prairie, or marsh, that tend to repeat over space and time. The classification and description of native plant communities depicted on this map are based on the *Field Guide to Native Plant Communities* (MNDNR 2005). This hierarchical classification system is based on the following criteria: life form, vegetation composition, soil, and natural disturbance regimes to categorize plant communities first into system groups, followed by systems, classes, types, and subtypes. Descriptions given for the classes, types, and subtypes on this map are typical of the area mapped. Most native plant communities are mapped and described at the type level; where less detailed data were available, communities are mapped and described at the class level. Common and scientific names of plants found in the Minnesota DNR's Vascular Plants of Minnesota checklist (Sept. 25, 2002 version), available on the Minnesota DNR website ([www.dnr.state.mn.us](http://www.dnr.state.mn.us)).

The Minnesota County Biological Survey located areas of native plant communities in the counties bordering the Minnesota River between 1987 and 2000 using aerial photo interpretation followed by field surveys of selected sites. White areas on the map represent land where modern human activities such as farming, overgrazing, wetland drainage, recent logging, and residential and commercial development have destroyed or greatly altered the natural vegetation. Some areas depicted as native plant communities may have been destroyed since they were mapped. For information on the years individual communities were surveyed and additional descriptions of survey methods, please see the companion report for this map entitled *Native Plant Communities and Rare Species of the Minnesota River Valley*.

### FIRE-DEPENDENT FOREST/WOODLAND SYSTEM

#### FDs27 Southern Dry -Mesic Pine-Oak Woodland

##### FDs27b White Pine - Oak Woodland (Sand)

Dryness, woodlands on steep slopes on sandy outwash deposits. Fires were common historically. Prairie interrupted canopy 25-70% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### FDs37 Southern Dry -Mesic Oak (Maple) Woodland

##### FDs37a Oak - (Red Maple) Woodland

Dryness, woodlands on relatively level to gently sloping sites, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

##### FDs37b Pin Oak - Bur Oak Woodland

Dryness, woodlands on well-drained soils, formed in sandy outwash deposits or occasionally on sandy or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### MESIC HARDWOOD FOREST SYSTEM

#### MHs37 Southern Dry -Mesic Oak Forest

##### MHs37a Red Oak - White Oak Forest

Dryness, forests on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

##### MHs37b Red Oak - Sugar Maple Forest

Dryness, forests on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### MHs38 Southern Mesic Oak - Basswood Forest

##### MHs38a White Pine - Oak - Sugar Maple Forest

Mesic forests on wind-deposited silt or residual over bedrock, typically on steep north-facing slopes. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

##### MHs38b Red Oak - Sugar Maple - Basswood - (Bitternut Hickory) Forest

Mesic forests on hummocky silt or residual over bedrock, typically on steep north-facing slopes. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### MHs39 Southern Mesic Maple-Basswood Forest

Rich mesic hardwood forests on heavy soils derived from calcareous till or on wind-deposited silt or residual over bedrock. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

##### MHs39a Sugar Maple - Basswood - (Bitternut Hickory) Forest

Mesic forest mostly on north-facing slopes on heavy soils derived from calcareous till or on wind-deposited silt or residual over bedrock. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

##### MHs39b Sugar Maple Forest (Big Woods)

Mesic forests on gently sloping sites with heavy soils derived from calcareous till or on wind-deposited silt or residual over bedrock. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### MHs49 Southern Wet -Mesic Hardwood Forest

##### MHs49a Elm - Basswood - Black Ash - (Hackberry) Forest

Wet mesic forests on clay alluvial soils or level ground with soil derived from sandstone or river valley and occasionally on lake terraces. These sites are not related to postglacial sandstone flooding but have a high water table or other conditions that cause moisture retention in the soil. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### FLOODPLAIN FOREST SYSTEM

#### FFs68 Southern Floodplain Forest

##### FFs68a Silver Maple - (Virginia Creeper) Floodplain Forest

Dry prairie on alluvial soils, often derived from sandstone or river valley and occasionally on lake terraces. These sites are not related to postglacial sandstone flooding but have a high water table or other conditions that cause moisture retention in the soil. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### WET FOREST SYSTEM

#### WFs55 Northern Wet Ash Swamp

##### WFs55b Black Ash - Yellow Birch - Red Maple - Basswood Swamp (Eastcentral)

Wet forest on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### WFs64 Northern Very Wet Ash Swamp

##### WFs64b Black Ash - Yellow Birch - Red Maple - Alder Swamp (Eastcentral)

Very wet forest on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### WFs55 Southern Wet Aspen Forest

##### WFs55a Lowland Aspen Forest

Wet to very wet woodlands on poorly drained, shallow depressions on mineral or organic soil. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### WFs57 Southern Wet Sedge Swamp

##### WFs57a Black Ash - (Red Maple) Sedge Swamp

Wet hardwood forests on mucky or peaty soils in areas of groundwater seepage. Usually present in low-lying areas, often on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### FORESTED RICH PEATLAND SYSTEM

#### FPs73 Northern Rich Alder Swamp

##### FPs73a Alder - (Maple - Lousestrife) Swamp

Open peatlands on deep, well-drained soils, often on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### FPs63 Southern Rich Conifer Swamp

##### FPs63a Tamarack Swamp (Southern)

Forested swamps on shallow to deep peat in basins or depressions and outwash plains. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### CLIFF/TALUS SYSTEM

#### CTs12 Southern Dry Cliff

##### CTs12a Dry Sandstone Cliff (Southern)

Small, steeply sloping outcrops composed of limestone, dolomite, and small bedrock outcrops. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### ROCK OUTCROP SYSTEM

#### ROs12 Southern Bedrock Outcrop

##### ROs12a Crystalline Bedrock Outcrop (Prairie)

Open, level-to-slightly sloping outcrops of bedrock, often on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### UPLAND PRAIRIE SYSTEM

#### UPs13 Southern Dry Prairie

##### UPs13a Dry Barrens Prairie (Southern)

Dry prairie on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

##### UPs13b Dry Sand - Gravel Oak Savanna (Southern)

Dry savanna on coarse-textured, usually gravelly soils formed in sandstone or river valley and occasionally on lake terraces. These sites are not related to postglacial sandstone flooding but have a high water table or other conditions that cause moisture retention in the soil. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### UPs13c Dry Hill Prairie (Southern)

Dry hill prairie on well-drained soils formed in glacial till on slopes or hillsides on outwash terraces and steep slopes on glacial outwash deposits. These sites are not related to postglacial sandstone flooding but have a high water table or other conditions that cause moisture retention in the soil. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### FLOODPLAIN FOREST SYSTEM

#### FFs68 Southern Floodplain Forest

##### FFs68a Silver Maple - (Virginia Creeper) Floodplain Forest

Dry prairie on alluvial soils, often derived from sandstone or river valley and occasionally on lake terraces. These sites are not related to postglacial sandstone flooding but have a high water table or other conditions that cause moisture retention in the soil. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### UPLAND PRAIRIE SYSTEM (continued)

#### UPs14 Southern Dry Savanna

##### UPs14a Dry Barrens Oak Savanna (Southern)

##### UPs14b Dry Barrens Oak Savanna (Southern) Oak Subtype

Dry savanna on coarse-textured, usually gravelly soils formed in sandstone or river valley and occasionally on lake terraces. These sites are not related to postglacial sandstone flooding but have a high water table or other conditions that cause moisture retention in the soil. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

##### UPs14b Dry Sand - Gravel Oak Savanna (Southern)

Dry savanna on coarse-textured, usually gravelly soils formed in sandstone or river valley and occasionally on lake terraces. These sites are not related to postglacial sandstone flooding but have a high water table or other conditions that cause moisture retention in the soil. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

##### UPs14c Dry Hill Oak Savanna (Southern)

Dry dryness, savanna on well-drained soils formed in glacial till on slopes and hillsides on outwash terraces and steep slopes on glacial outwash deposits. These sites are not related to postglacial sandstone flooding but have a high water table or other conditions that cause moisture retention in the soil. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### UPs23 Southern Mesic Prairie

##### UPs23a Mesic Prairie (Southern)

Dryness to wet mesic prairie on level to moderately rolling or glacial till on slopes and hillsides on outwash terraces and steep slopes on glacial outwash deposits. These sites are not related to postglacial sandstone flooding but have a high water table or other conditions that cause moisture retention in the soil. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### UPs24 Southern Mesic Savanna

##### UPs24a Mesic Oak Savanna (Southern)

Dryness to wet mesic prairie on level to moderately rolling or glacial till on slopes and hillsides on outwash terraces and steep slopes on glacial outwash deposits. These sites are not related to postglacial sandstone flooding but have a high water table or other conditions that cause moisture retention in the soil. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### OPEN RICH PEATLAND SYSTEM

#### OPs92 Northern Rich Fen (Basin)

##### OPs92a Graminoid Rich Fen (Basin)

Open peatlands on deep, well-drained soils, often on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

##### OPs92b Graminoid Rich Fen (Basin)

Open peatlands on deep, well-drained soils, often on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### OPs92 Graminoid - Sphagnum Rich Fen (Basin)

Open peatlands on deep, well-drained soils, often on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### OPp93 Prairie Extremely Rich Fen

##### OPp93a Calcareous Fen (Southern)

Open peatlands on deep, well-drained soils, often on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### WET MEADOW/CARR SYSTEM

#### WMs82 Wet Meadow/Carr

##### WMs82a Willow - Dependent Shrub Swamp

Open wetlands on mineral to peaty soils in basins or along streams. Trees are sometimes present, mostly in the form of shrubs. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

##### WMs82b Sedge Meadow

Open wetlands on mineral to peaty soils in basins or along streams. Trees are sometimes present, mostly in the form of shrubs. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### WMs83 Southern Sedge Meadow/Carr

##### WMs83a Sedge Meadow/Carr

Open wetlands on peaty or mucky soils, sometimes saturated by spring water, often on sandy or gravelly outwash deposits, on deep silty outwash deposits or gravelly glacial till. Often on south-facing slopes. Historically, fires were common. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### MARSH SYSTEM

#### MRs83 Northern Mixed Cattail Marsh

Open emergent marshes in shallow wetland basins or along lake shores and river valleys where standing water is present most of the year. Dominated by cattails but with a significant component of other emergent plants, including blue lotus, spatterdock, and arrowweed. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### MRs83a Cattail - Sedge Marsh (Northern)

Open emergent marshes in shallow wetland basins or along lake shores and river valleys where standing water is present most of the year. Dominated by cattails but with a significant component of other emergent plants, including blue lotus, spatterdock, and arrowweed. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### MRs83b Northern Bulrush-Spikerush Marsh

Open emergent marshes in shallow wetland basins or along lake shores and river valleys where standing water is present most of the year. Dominated by bulrush and spikerush but with a significant component of other emergent plants, including blue lotus, spatterdock, and arrowweed. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

#### MRs83c Bulrush Marsh (Northern)

Open emergent marshes along lake shores and river valleys where standing water is present during most of the year. Dominated by bulrush but with a significant component of other emergent plants, including blue lotus, spatterdock, and arrowweed. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### MARSH SYSTEM (continued)

#### MRs93b Spikerush - Bur Reed Marsh (Northern)

Open emergent marshes in shallow wetland basins and occasionally along lake shores and river valleys where standing water is present during most of the year. Dominated by spikerush and bur reed but with a significant component of other emergent plants, including blue lotus, spatterdock, and arrowweed. Canopy 10-100% cover dominated by white pine, with lower amounts of northern red oak, white oak, oak, and quaking aspen. Common subnursery species are white pine, oak, and quaking aspen, burr oak, and quaking aspen. In addition to these species, common plants include red maple, black cherry, and black locust. Common plants include red maple, black cherry, and black locust.

### WETLAND PRAIRIE SYSTEM

#### WP54 Southern Wet Prairie

##### WP54a Wet Sedge Prairie (Southern)

Wet prairie on wet, calcareous soils on clay or silt soils with high organic matter, groundwater seepage, and/or poor drainage. Located on level to slightly rolling terrain or the base of hills on rolling terrain or on valley floors in large river channels. Dominated