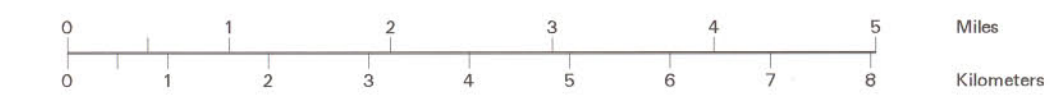


NATURAL COMMUNITIES AND RARE SPECIES ISANTI COUNTY, MINNESOTA

by
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Natural communities are functional units of the natural landscape, classified and described by considering vegetation, hydrology, landform, soils, and natural disturbance regimes. The natural community types and subtypes on this map are classified primarily by vegetation and major habitat features. Areas of natural vegetation were located by air photo interpretation and confirmed by field inventories conducted in 1989 and 1990. The natural community type and subtype descriptions given below describe vegetation and habitat characteristics present in Isanti County. Uncolored areas represent land where the natural communities have been seriously altered or destroyed by human activities such as farming, logging, draining, and development. Classification and inventory of natural communities is an ongoing effort of the Natural Heritage Program and the Minnesota County Biological Survey.

Scale = 1:75,000



DESCRIPTION OF MAP UNITS

UPLAND FORESTS

DECIDUOUS FOREST

- OF** Oak Forest - dry subtype - dry forests on outwash sand; canopy dominated by northern pin oak (*Quercus ellipsoides*), bur oak (*Quercus macrocarpa*), or white oak (*Quercus alba*); quaking aspen (*Populus tremuloides*) common at wetland margins; subcanopy either absent or composed of red maple (*Acer rubrum*).
- OMF** Oak Forest - mesic subtype - mesic forests on glacial till; canopy dominated by red oak (*Quercus rubra*), basswood (*Tilia americana*), bur oak, white oak, and northern pin oak; ironwood (*Ostrya virginiana*) in subcanopy.
- OF** Oak Forest - subtype not determined; either dry or mesic.
- MBF** Maple-Basswood Forest - mesic forests on glacial till; canopy dominated by sugar maple (*Acer saccharum*), basswood, red oak, and green ash (*Fraxinus pennsylvanica*).
- OHF** Lowland Hardwood Forest - wet-mesic forests on mineral soil above normal flood levels; canopy dominated by black ash (*Fraxinus nigra*), green ash, basswood, or bur oak; ground layer dominated by upland forest herbs such as lady fern (*Adiantum angustatum*), wild sarsaparilla (*Aralia nudicaulis*), or bloodroot (*Sanguinaria canadensis*).

CONIFEROUS FOREST

- WPF** White Pine Forest - dry-mesic forests on outwash sand or glacial till; canopy dominated by white pine (*Pinus strobus*); subcanopy cover is sparse to patchy, composed of deciduous trees such as red oak, red maple, big-toothed aspen (*Populus grandidentata*), or ironwood.

MIXED CONIFEROUS - DECIDUOUS FOREST

- WPHF** White Pine - Hardwood Forest - dry to mesic forests on outwash sand or glacial till; canopy dominated by white pine and deciduous trees such as red oak, northern pin oak, basswood, sugar maple, or big-toothed aspen; understory composition is similar to that of adjacent deciduous forests.

WOODLAND / SAVANNA

DECIDUOUS WOODLAND

- OW** Oak Woodland-Brushland - dry to dry-mesic woodlands; patchy canopy dominated by bur oak or northern pin oak; pronounced shrub layer dominated by American hazelnut (*Corylus americana*), red raspberry (*Rubus strigosus*), or common blackberry (*Rubus allegheniensis*); scattered openings with prairie species.

DECIDUOUS SAVANNA

- OS** Dry Oak Savanna - sand-gravel subtype - dry to dry-mesic savannas on outwash sand; bur oaks or northern pin oaks scattered or in groves; ground layer dominated by plants typical of dry prairie such as little bluestem (*Schizachyrium scoparium*), porcupine grass (*Stipa spartea*), rough blazing-star (*Liatris aspera*), prairie violet (*Viola pedatifida*), and large-flowered beard-tongue (*Pentstemon grandiflorus*).

FORESTED WETLANDS

HARDWOOD SWAMP FOREST

- MHSF** Mixed Hardwood Swamp - wet forests on organic soil; canopy any combination of paper birch (*Betula papyrifera*), yellow birch (*Betula alleghaniensis*), red maple, quaking aspen, or black ash.
- BSF** Black Ash Swamp - wet forests on organic soil; canopy dominated by black ash with lesser amounts of paper birch, yellow birch, or red maple.

RARE SPECIES

Rare plants and animals are either protected under the provisions of the Federal or Minnesota Endangered Species Acts or are being considered for protection. Mapped locations are determined by ground inventory and historical records.

- ★ Plants
- † Animals

RARE SPECIES OF ISANTI COUNTIES

The following rare species have been found in Isanti County. A dagger (†) indicates that no recent observation (post-1970) of that species has been confirmed.

Plants

- | | |
|--|--|
| Ram's-head lady's-slipper †
Waterwillow
Walter's barnyard grass
Long-bearded hawkweed
American water-pennywort
Virginia water horehound
Slender water milfoil
Ginseng
Bog bluegrass
Halberd-leaved tooththumb
A species of pondweed
Lance-leaved violet | (<i>Cypripedium arietinum</i>)
(<i>Decodon verticillatus</i> var. <i>laevigatus</i>)
(<i>Echinochloa usteri</i>)
(<i>Hieracium longipilum</i>)
(<i>Hydrocotyle americana</i>)
(<i>Lycopodium virginicum</i>)
(<i>Myriophyllum tenellum</i>)
(<i>Panax quinquefolium</i>)
(<i>Poa pallidula</i>)
(<i>Potamogeton arifolium</i> var. <i>pubescens</i>)
(<i>Potamogeton bicupulatus</i>)
(<i>Viola lanceolata</i>) |
|--|--|

Animals

- | | |
|--|---|
| Birds
Red-shouldered hawk
Sandhill crane
Bald eagle
Louisiana waterthrush | (<i>Buteo lineatus</i>)
(<i>Grus canadensis</i>)
(<i>Haliaeetus leucophaea</i>)
(<i>Scturus motacilla</i>) |
| Mammals
none | |
| Reptiles and Amphibians
Blanding's turtle
Eastern hogsnake
Bullsnake (gopher snake) | (<i>Emydoidea blandingii</i>)
(<i>Heterodon platyrhinos</i>)
(<i>Pituophis melanoleucus</i>) |
| Butterflies
Bog copper | (<i>Euphydryas editha michiganensis</i>) |

CONIFER SWAMP FOREST

- TSW** Tamarack Swamp - minerotrophic subtype - wet forests on organic soil; canopy dominated by tamarack (*Larix laricina*) with red maple, paper birch, or black ash; common shrubs are speckled alder (*Alnus incana* ssp. *rigosa*), winterberry (*Ilex verticillata*), and poison sumac (*Rhus typhina*).
- TSW** Tamarack Swamp - sphagnum subtype - wet forests on organic soil; canopy dominated by tamarack; shrub layer dominated by leatherleaf (*Chamaedaphne calyculata*) and Labrador tea (*Leontium groenlandicum*) with a hummocky mat of sphagnum mosses (*Sphagnum* spp.) below.
- TS** Tamarack Swamp - subtype not determined; either minerotrophic or sphagnum.
- BSW** Black Spruce Swamp - wet forests on organic soil; canopy dominated by black spruce (*Picea mariana*) and tamarack; shrub layer dominated by leatherleaf and Labrador tea.
- WCSW** White Cedar Swamp - wet forests on organic soil; canopy dominated by northern white cedar (*Thuja occidentalis*); shrub layer and ground layer composition varies but often contains a mixture of species typical of both subtypes of Tamarack Swamp.

FLOODPLAIN FOREST

- FF** Floodplain Forest - forests on seasonally flooded river bottoms; canopy dominated by silver maple (*Acer saccharinum*) with bur oak and green ash.

SHRUB WETLANDS

SHRUB SWAMP

- ASW** Alder Swamp - wet shrub community on organic soil; dominated by speckled alder; lake sedge (*Carex lasiocarpa*) is often common below.
- WSW** Willow Swamp - wet shrub community on mineral or organic soil; dominated by willows (*Salix gracilis*, *S. bebbiana*, and *S. discolor*) and often with red-osier dogwood (*Cornus stolonifera*).

OPEN WETLANDS

WET MEADOW / FEN

- WM** Wet Meadow - open wetland on mineral or organic soil in shallow basins or at lake or stream margins; dominated by tussock sedge (*Carex strica*), Hayden's sedge (*Carex haydenii*), lake sedge, or blue-joint (*Calamagrostis canadensis*); commonly with joe-pye weed (*Eupatorium maculatum*), meadow-sweet (*Spiraea alba*), and slender willow (*Salix gracilis*).
- RF** Rich Fen - open wetland on organic soil or on floating mat at lake margins; dominated by wire-grass (*Carex lasiocarpa*) or tussock sedge; with marsh fern (*Thelypteris palustris*), three-way sedge (*Dulichium arundinaceum*), rushes (*Juncus* spp.), marsh cinquefoil (*Potentilla palustris*), and little or no sphagnum moss; influenced by water that is more mineral-rich than in poor fens.
- PF** Poor Fen - shallow postlands with more or less continuous layer of sphagnum mosses; dominant vascular plants are wire-grass and leatherleaf; commonly with small cranberry (*Vaccinium oxycoccos*).

EMERGENT MARSH

- CM** Cattail Marsh - open wetland of floating or rooted vegetation mats in shallow basins or at lake margins; dominated by broad-leaved cattail (*Typha latifolia*).
- MM** Mixed Emergent Marsh - open wetland typically composed of vegetation rooted in mineral substrate in shallow basins or at lake or stream margins; dominant species are often broad-leaved arrowhead (*Sagittaria latifolia*) or bulrushes (*Scirpus* spp.).

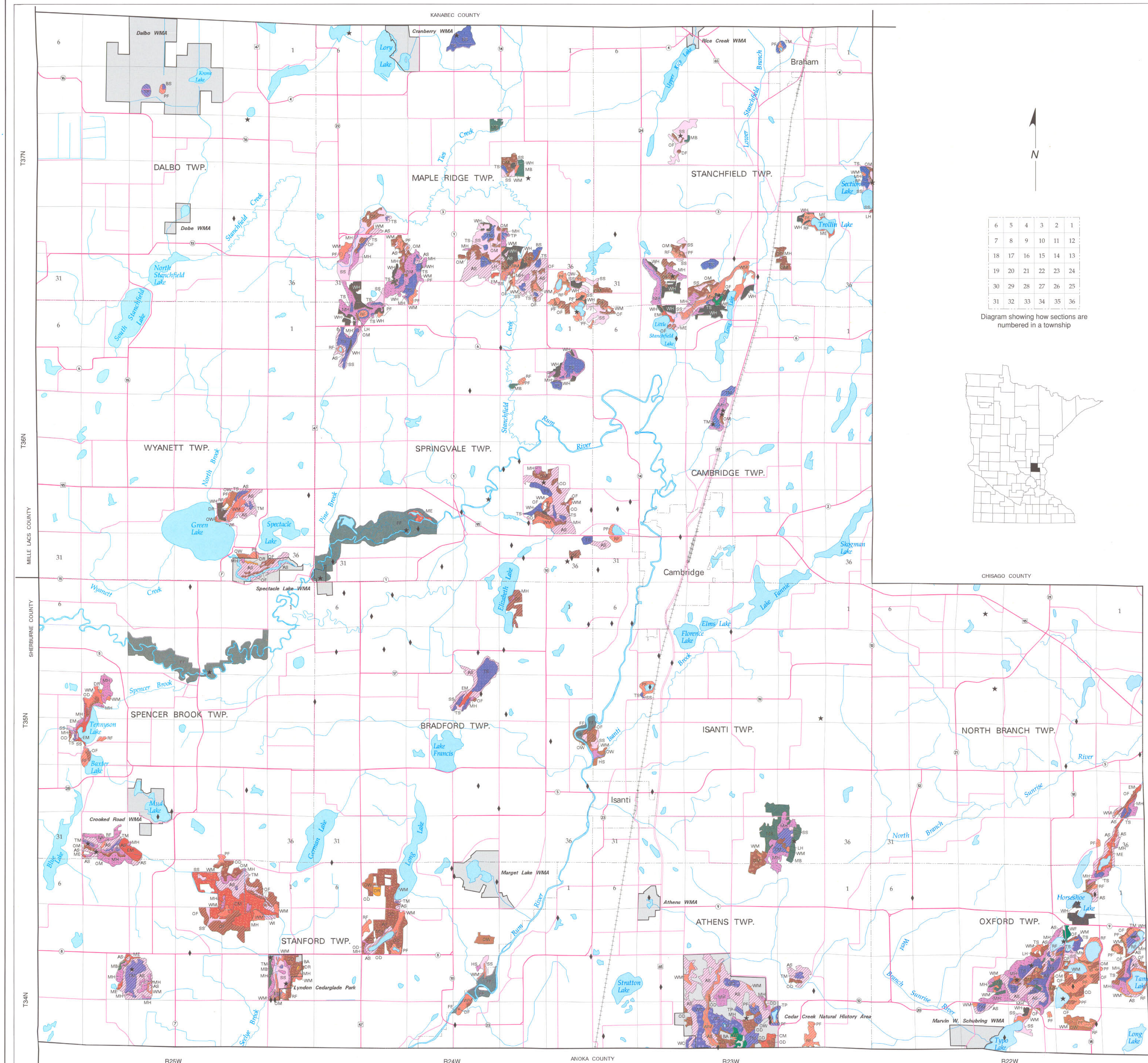
MISCELLANEOUS FEATURES*

- Minor Civil Divisions
- Managed Area Boundaries
- Managed Areas
- Primary Roads
- Secondary Roads
- Other Roads
- ++++ Railroads
- Streams
- Lakes and Rivers

WMA - State Wildlife Management Area

FOOTNOTES

- Natural communities were interpreted from 1:65,000 color infrared photography taken in May, 1980 and May, 1982 (National Aeronautics and Space Administration).
- Data are available from the Minnesota Natural Heritage Information System, Department of Natural Resources, St. Paul, Minnesota. Phone (612) 296-3344.
- Wovcha, D.S., B.C. Delaney, and G.E. Nordquist. In press. Minnesota's St. Croix River Valley and Anoka Sandplain: a guide to native habitats. University of Minnesota Press, Minneapolis, Minnesota.
- Minnesota Natural Heritage Program. 1993. Minnesota's native vegetation: a key to natural communities. Version 1.5. Minnesota Department of Natural Resources, St. Paul, Minnesota. 111 pp.
- Federal and state legislation concerning endangered species is detailed in Coffin, B. and L. Plummer, eds. 1988. Minnesota's endangered flora and fauna. University of Minnesota Press, Minneapolis, Minnesota. 473 pp.
- Civil division, transportation, and water features data were obtained from the Department of Natural Resources, St. Paul, Minnesota. Managed area boundaries were obtained from the Bureau of Engineering and other sources at the Department of Natural Resources. Natural community boundaries and certain miscellaneous features were digitized from 1:24,000 U.S. Geological Survey topographic base maps. Land ownership within managed areas may not be clear where natural community map units are shown. Every effort was made to obtain current versions of these data, however, errors may exist on this map.



THE ORIGINAL VEGETATION ISANTI COUNTY

The original vegetation of Isanti County is shown here as interpreted by Frances J. Marschner¹ from Public Land Survey Records with slight modifications of Marschner's map unit descriptions as appropriate for east-central Minnesota. Current natural community names² are given in parentheses as well as highly specialized natural communities that were not described by Marschner or by the early land surveyors.

DESCRIPTION OF MAP UNITS

HARDWOOD FORESTS

- OF** Big Woods - Bur oak, white oak, red oak, northern pin oak, elm, basswood, ash, maple, hornbeam, aspen, birch (Maple-Basswood Forest, Oak Forest - mesic subtype).
- RF** River Bottom Forest - Elm, ash, cottonwood, boxelder, silver maple, willow, aspen, hackberry (Floodplain Forest).

PINERIES

- MHP** Mixed Hardwood and Pine - maple, white pine, basswood, oaks, hornbeam, ash, elm, aspen, and birch (White Pine-Hardwood Forest).
- ABF** Aspen-Birch (Conifer) - will eventually become conifer (White Pine-Hardwood Forest, White Pine Forest).

BRUSHLAND

- OW** Brush Prairie - Grass and brush of oak and aspen (Oak Woodland-Brushland, Dry Oak Savanna).

FOOTNOTES

- Marschner, F.J. 1974. The original vegetation of Minnesota (map scale 1:500,000). USDA Forest Service, North Central Forest Experiment Station, St. Paul, Minnesota (redraft of the original 1930 edition).
- Minnesota Natural Heritage Program. 1993. Minnesota's native vegetation: a key to natural communities. Version 1.5. Minnesota Department of Natural Resources, St. Paul, Minnesota. 111 pp.

OAK OPENINGS AND BARRENS

- OS** Oak Openings and Barrens - Scattered trees and groves of oaks of scrubby form with some brush and thickets (Dry Oak Savanna; also includes many areas that have succeeded to Oak Woodland-Brushland or Oak Forest).

ASPEN-OAK LAND

- AO** Aspen-Oak Land - Aspen, generally dense, but small in most places, with scattered oaks and a few elms, ash, and basswood (Oak Forest, early successional stage; Aspen Forest).

GRASSLAND

- WPM** Wet Prairie, Marshes, and Sloughs - Marsh-grasses, flags, rushes, wild rice, with willow and alder-brush in places (Alder Swamp, Willow Swamp, Rich Fen, Wet Meadow, Cattail Marsh).

BOGS AND SWAMPS

- TSW** Conifer Bogs and Swamps - Tamarack (Tamarack Swamp, Black Spruce Swamp, Rich Fen, Poor Fen).

