

User's Guide to Native Plant Community Class Fact Sheets

The native plant community (NPC) class fact sheets provide information on distribution, vegetation structure and composition, landscape setting and soils, natural history and disturbance regimes, and similar NPC classes. In some cases, the fact sheets contain tables with frequency and cover of the most common species in the class. The NPC class fact sheets also have short descriptions of the lowest-level units of the classification, the NPC types and subtypes.

Native Plant Community Class Names & Codes

The names of the NPC classes reflect the variation in climate, ecological processes, and habitat conditions that contribute to patterns of vegetation in Minnesota. The NPC class codes are based on abbreviations of ecological system and floristic region names. The class name and code are followed by a brief description of the community class, abstracted from more detailed information elsewhere on the fact sheet. This description provides a sketch or overview of the community.

Vegetation Structure & Composition

This category provides information about the layers of vegetation in the community, relative cover by plant life-form groups (such as trees, shrubs, and graminoids), and some of the dominant, characteristic, or distinguishing species in the community. The tables below have definitions of the categories and terms used in describing plant cover and species frequencies.

Categories for plant-layer cover.

category	% cover
continuous	= 75-100%
interrupted	= 50-75%
patchy	= 25-50%
sparse	= 5-25%
rare	= <5%

Definitions of terms used in describing plant species frequencies.

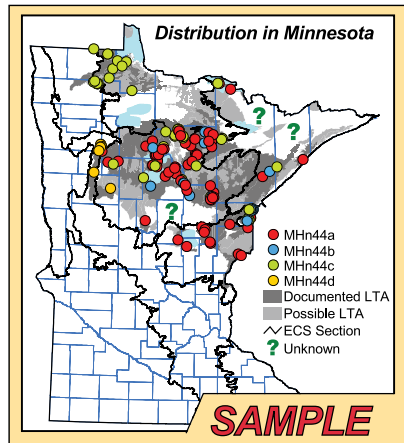
term	frequency in samples
usually, typically, mostly	= >75%
commonly, frequently	= 50-75%
occasionally, sometimes	= 25-50%
rarely	= < 25%

Often, the information on vegetation structure and composition is summarized from the vegetation plot data used in developing the plant community classification. In these instances, the number of plots that were analyzed and summarized is listed at the beginning of this category. In other cases, the information on structure and composition is based on summaries of plant species lists and field survey records.

Distribution Map

The distribution maps show the general range of each NPC class in Minnesota and also indicate where the class has been surveyed or sampled. The information on each distribution map varies with the level of analysis or understanding of the class. For communities where extensive analyses of data were done, the distribution maps show:

- ▶ Locations of vegetation plots, displayed by NPC type, from which descriptive information and species data were obtained.
- ▶ The ecological classification system (ECS) land type associations in which the vegetation plots occur (shaded dark gray).



► Similar ECS land type associations in which the class is likely to occur (shaded light gray).

► A question mark (?) indicates a region where conditions appear suitable for the community but where there has not been enough field survey work to determine whether it is present.

For communities without extensive analysis of plot data, the maps do not show locations of vegetation sample plots, although in some cases they do show locations of sites where the community has been documented and from which descriptive information was obtained (displayed as “survey locations”). The potential range of these communities is displayed in gray shading using ECS land type associations as a base.

Landscape Setting & Soils

This information comes from notes recorded during vegetation plot sampling, from interpretation of geologic and soils maps and reports, and in some cases from soil pits associated with vegetation sample plots. Usually the information covers the most typical landscape setting and soil conditions for the class and may not describe some of the minor or infrequent settings in which the community occurs. The information is segmented by landform and each landform description is followed by a list of the [Ecological Classification System](#) subsections or sections for which the conditions apply.

Natural History

This section describes some of the major ecological processes or features that shape the vegetation in the class, including flooding, natural fire regimes, windstorm regimes, rates of nutrient cycling, levels of nutrient availability, degree of shading, and erosion and sedimentation cycles. For wooded communities, much of the information on fire and windstorm regimes and historical growth stages was derived from analyses of bearing-tree records collected during the Public Land Surveys of the late 1800s and early 1900s.

Similar Native Plant Community Classes

This category alerts the user to the other classes that are most similar to the class in question and contrasts important distinguishing features and species. The most similar classes were chosen on the basis of (1) ordinations of averaged vegetation plot data, (2) cluster analyses of averaged vegetation plot data, and (3) field observations made by DNR ecologists. Each similar NPC class comparison contains a short text description of features that help to differentiate the two classes. In cases where vegetation plot data are adequate to allow a meaningful comparison of differences in species frequencies between the two classes, the text description is followed by two comparative tables, each with eight indicator species that help to differentiate one class from the other. The species in these tables were selected from species in the vegetation plot data that had high frequency in one class relative to the other. Species are listed in each table in order of decreasing relative frequency.

Native Plant Community Types in Class

Many of the NPC classes in the classification are divided into NPC types (and in some cases, subtypes) by considering variation in dominant canopy trees, environmental factors, or other features. Each of the recognized types or subtypes is described here, with information on its distribution and how to distinguish it from other types or subtypes in the class. The locations of vegetation plots or survey sites used in describing the NPC types are plotted on the distribution map presented in the fact sheet. (Note: When only one type is recognized in a class, the type and class are the same, and all of the information presented for the class applies to the type. In these instances, the type was created to provide a place-holder at the type level of the classification, and the type was

given a name different from the class in the event that other types are recognized in the class in the future—for example, following collection of additional vegetation data in parts of the state that have not been well surveyed.) When NPC types and subtypes were defined and described using analysis of plot data, the number of plots used is listed at the end of the type or subtype description.

Species Frequency and Cover Tables

Species frequency and cover tables are provided for NPC classes for which there are a sufficient number of vegetation sample plots to generate summary data. Each table has a listing of the 60 to 65 species most frequently present in the plot data for the class. Species are arranged by life-form groups (such as forbs, grasses and sedges, and trees) and are listed by decreasing frequency within each group. For wooded communities, tree species are listed in subtables and are divided into either two or three height classes. For tables with two height classes, species are divided into understory (0–16 feet [0–5 meters]) and canopy (> 16 feet [> 5 meters]) layers. For tables with three height classes, species are divided into shrub (0–6 feet [0–2 meters]), subcanopy (6–33 feet [2–10 meters]), and canopy (> 33 feet [> 10 meters]) layers. (By definition, the shrub layer may include small seedlings in addition to saplings up to 6 feet tall.)

cover class	rank
>50%	●●●●
25-50%	●●●●
10-25%	●●●
5-10%	●●
<5%	●

To provide an indication of the abundance of each species in the class, each is ranked on a five-category scale of increasing cover. This ranking was derived from the cover-abundance values recorded in the vegetation plot data available for the class. For convenience, the ranks are equated to cover-class intervals as shown in the accompanying table.

Notes:

- ▶ Measures of height, distance, and area on the class fact sheets are given in both English and metric units. English and metric equivalents are approximate because most original measurements were imprecise.
- ▶ For wooded communities, ages derived in analyses of historical growth stages and disturbance regimes are generally rounded to the nearest five years.
- ▶ Common names of vascular plants are used throughout the factsheet text. Scientific names are included with common names in tables. Scientific names are also included with common names at the first mention of a species in the text, with two exceptions. Trees are listed by common name only and rushes and sedges are always listed by both common and scientific name.
- ▶ Names of Ecological Classification System sections are abbreviated on the fact-sheets. The full names are:
 - LAP – Lake Agassiz Aspen Parklands
 - MIM – Minnesota and Northeast Iowa Morainal
 - MOP – Northern Minnesota and Ontario Peatlands
 - MDL – Northern Minnesota Drift and Lake Plains
 - CGP – North-Central Glaciated Plains
 - NSU – Northern Superior Uplands
 - PPL – Paleozoic Plateau
 - RRV – Red River Valley
 - SSU – Southern Superior Uplands
 - WSU – Western Superior Uplands