Natural Heritage Information System

The Natural Heritage Information System (NHIS) provides information on Minnesota's rare plants, animals, native plant communities, and other rare features. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. Its purpose is to foster better understanding and conservation of these features.

Biotics (formerly the Rare Features Database)

The most commonly-used component of the system is Biotics. It began as a compilation of historical records from museum collections and published information. This has been supplemented with data from years of field work on Minnesota's rare features. Since 1986, our knowledge of Minnesota's rare features has increased substantially with the progress of the Minnesota County Biological Survey. **Biotics comprises locational records of the following features:**

Rare plants. Rare plants tracked are all species that are listed as Federally endangered, threatened or as candidates for Federal listing; all species that are State listed as endangered, threatened or special concern. Several rare species are also tracked which currently have no legal status but need further monitoring to determine their status.

Rare animals. All animal species that are listed as Federally endangered or threatened (except the gray wolf) are tracked, as well as all birds, small mammals, reptiles, amphibians, mussels, and butterflies that are listed as State endangered, threatened or special concern.

Native plant communities. Native plant communities (sometimes referred to as natural communities)are groups of native plants that interact with each other and with their environment in ways not greatly altered by modern human activity over space and time. They are classified and described by considering vegetation, hydrology, landforms, soils, and natural disturbance regimes. Although most native plant communities have no legal protection in Minnesota, the Natural Heritage and Nongame Research Program and the Minnesota Biological Survey have evaluated and ranked community types according to their relative rarity and endangerment throughout their range. Locations of high quality examples are tracked by Biotics.

Geologic features. Noteworthy examples of geologic features throughout Minnesota are tracked if they are unique or rare, extraordinarily well preserved, widely documented, highly representative of a certain period of geologic history, or very useful in regional geologic correlation.

Animal aggregations. Certain types of animal aggregations, such as nesting colonies of waterbirds (herons, egrets, grebes, gulls and terns), bat hibernacula, prairie chicken booming grounds, and winter bald eagle roosts are tracked regardless of the legal status of the species that comprise them. The tendency to aggregate makes these species vulnerable because a single catastrophic event could result in the loss of many individuals.

Uses for the data

As the only repository for statewide locational information on rare natural features, Biotics can be useful to many agencies and individuals. **The data are commonly used for:**

Land conservation programs. To identify those areas most deserving protection by DNR programs such as the Scientific and Natural Areas Program, Reinvest in Minnesota, and Native Prairie Bank Programs, as well as by private conservation organizations such as The Nature Conservancy.

Environmental review. For review of specific project-related impacts through the state environmental review process. Examples include commercial and residential developments, transportation projects, utility construction, landfills, mining, and flood control projects.

Planning: To notify private and public land use planners and developers of locations of rare species or biologically sensitive areas early in the planning process.

Management: To provide data to government agencies and other land management organizations so that management decisions can be made with consideration for rare features.

Research: To provide baseline information on rare features to support population monitoring and other ecological research.

Education: To promote public awareness and appreciation of Minnesota's rare features.

Limits of the data

Because our information is not based on a comprehensive inventory, there are rare or otherwise significant natural features in the state that are not represented in the database. A county-by-county survey of rare natural features is now underway, and has been completed for some counties. Our information about natural communities is, therefore, quite thorough for those counties. However, because survey work for rare plants and animals is less exhaustive, and because there has not been an on-site survey of all areas of each county, ecologically significant features may exist for which we have no records.

Submitting Data

Only certain records are suitable for inclusion in Biotics. Most importantly, the observation must be of a natural (non-captive) occurrence that is made at a location having habitat that functionally supports the species. For example, an observation of a plant in a garden or a Bald Eagle flying over a developed area would not be appropriate for inclusion.

In addition, the record may not be suitable for inclusion in Biotics if any of the following is true:
—There is no detailed information on the observation location.
—It is a bird observation that is outside the breeding season.
—There is uncertainty as to the identification of the species. For certain species, a photograph or specimen is required to confirm identification, in which case an **Endangered Species Permit** may be required.

Observations with the above issues may still be entered into our Observation database, but please be aware that the record may not be entered in Biotics.

If you have records of observations of rare species which you think warrant inclusion in the Biotics database, you may submit them by downloading the relevant spreadsheet linked below, entering your data, and sending it via email it to the Natural Heritage Information System data manager at **karen.cieminski@state.mn.us**. Please note that most fields in these spreadsheets are not required. Forward any questions to the Natural Heritage Information System data manager at the above address.

Rare Plant Observations
Rare Amphibian and Reptile Observations
Rare Bird Observations
Rare Mammal Observations
Rare Insect and Spider Observations
Rare Mussel and Fish Observations

Data Security

Information from Biotics can be provided for review of land-use plans, impacts of specific development projects, research projects, and for other legitimate uses. The publication of exact locational information, however, may threaten the continued existence of some rare species. For example, some endangered wildflowers, such as orchids, have very attractive blooms that can lead to exploitation by collectors. Some rare animal species, such as the bald eagle, are sensitive to disturbance by humans, and may desert a breeding area that is approached too closely during certain portions of the breeding season. For this reason, program staff must carefully screen all requests, and may ask that the level of detail in publication of locational information be modified, or that interpretation of data be reviewed by program staff. **Copyright and Acknowledgment Statement** PDF

Data Requests

How to Obtain NHIS Data/New Fee Schedule PDF (31kb)

NHIS Data Request Form PDF (116mb)

License Agreement for Rare Features Data Application PDF (160kb)