

# **Establishing State Natural Area Criteria for Establishment**

## **CRITERIA FOR RANKING SITES AND SELECTION OF NEW STATE NATURAL AREAS**

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Sites considered for selection as a State Natural Area are evaluated ranked in a systematic fashion. Geologic and archaeological sites utilize expert knowledge from professionals in their respective fields. Only a subset of sites identified and ranked by the Natural Heritage Inventory (NHI) is considered for selection as a State Natural Area.

### **Ranking System**

State Natural Areas are ranked according to a system developed by the NHI. Each site is evaluated for landscape characteristics, natural community site values and species viability. The three evaluated components are each assessed for quality, condition, and (viability and defensibility). Quality compares the site with others considering such factors as size, maturity, naturalness, and any unique or special biological features. Condition considers negative impacts caused by human or natural disturbances. Viability and defensibility assess the long-term prospects for the continued existence of the site

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Consideration of any site as a State Natural Area must meet the level of importance described in state statute 23.27 or 23.092. These importance values can be grouped into five categories of consideration.

- High quality, rare and unusual natural communities 23.27 (2) (a, f, & g).
- Endangered, threatened, and uncommon species habitat 23.27 (2) (b) and 23.092.
- Ecological reference areas or benchmarks 23.27 (2) (e, f, & g).
- Highly significant geologic or archaeological sites 23.27 (2) (h).
- Sites determined to have exceptional qualities for education or research 23.27 (2) (i).

### **Selection Criteria for High Quality Natural Communities**

State statute 23.27 (2) (a, f, and g) refers to the importance of high quality natural communities, the uniqueness of an individual site and the scientific and educational values associated with these unusual characteristics. To qualify as a high quality natural community SNA, the site must meet the one or both of the following criteria

1. The site would contain a natural community ranked as globally rare (G1, G2, G3) by NHI
2. The site would contain an "A" or "B" rank natural community ranked as rare in the state (S1, or S2) by NHI.

### **Selection Criteria for Critical Species Sites**

State statutes 23.27 (2) (b) and 23.092 instructs the Department to purchase lands to protect habitat for endangered, threatened and uncommon species. The NHI database is used to determine the biological ranking from a global and statewide perspective. These ranks are enumerated in the NHI working list. To qualify as a critical species habitat SNA, the site must meet either, No. 1 or 2, plus No. 3 of the following criteria.

1. Sites with globally rare species (G1, G2, or G3) or federally-listed species habitat.
2. Sites contain habitat with "A" or "B" quality ranks for state-listed species.
3. The site should possess the likelihood that acquisition or designation, along with appropriate management, would adequately protect the species. (for example, Fassett's locoweed may be adequately protected by a natural areas purchase, while the wide-ranging timber wolf would not)

## **Selection Criteria for Ecological Reference Areas or Benchmarks State Natural Areas Evaluation and Establishment Process**

Ecological Reference Areas are places on the landscape managed primarily for their ecological values. Management considerations for production of forest products, wildlife habitat for game species, recreational activities, and other natural resource objectives are secondary, though some may be compatible with benchmark management. Ecological Reference Areas provide a framework for improving our understanding of ecological systems and changes occurring within them, as well as for evaluating the consequences of management actions and the impacts, past and present, of humans on the landscape. They can also provide an historical ecological context to bridge the past with the present. The ecological reference areas for some natural community types are generally older, later successional stages still subjected to some of the natural processes with which they developed and requiring little or no active management. Other types require active management that reintroduces or mimics a natural process now absent from the landscape. They serve a valuable role in the Department's Decision Model for Ecosystem Management (*Wisconsin's Biodiversity as a Management Issue*, WDNR, 1995).

The process for evaluating sites for potential establishment as SNAs in the ecological reference category is different from that for the other four categories. The others generally occur sporadically in patchy patterns across the landscape and are considered for establishment on a case-by-case basis as they are identified. In contrast, reference areas represent common natural community and site types, and therefore potential SNAs can be assessed in a systematic fashion.

### **Process**

1. The opportunities for ecological reference areas utilize the regional ecological assessment to determine, which natural communities are significant or representative of each ecological Subsection (see attachment). In this example, a DNR multi-disciplinary panel of experts determined the levels of significance found in the table using qualitative methods. Another tool may be helpful in quantitatively determining the frequency of forested communities in Subsections. The "Analysis of the 1996 Wisconsin Forest Statistics By Habitat Type", USDA Technical Bulletin NC-207, tables 12 – 16, can be helpful in identifying commonly occurring habitat types that correlate with representative natural communities.
2. After the Subsection significance of natural communities is determined, then the State Natural Areas database is searched for designated sites that may fulfill the role as a benchmark in the subsection.
3. Define needs and make determinations concerning representation, repetition, and size.
4. Based on the results of No. 3, either:
  - a. If a determination is made that an adequate number of ecological reference areas are in place to capture the variability of the natural community within the Subsection, then additional reference areas are not needed. If the in-place ecological reference areas occur within the property being planned, then these ecological reference areas could be considered for inclusion in the master plan and be available for use as adaptive ecological checks for management on the property.
  - b. If a determination is made that an adequate number of ecological reference areas are not in place to capture the variability of the natural community within the Subsection, then the planning evaluations should consider opportunities to establish sites that would contribute to the representation of ecological checks, and integrate proposed ecological reference areas for State Natural Area designation into the planning process (see MC 1750.1).
5. Inventory and assessment could identify opportunities and alternatives.
6. In the case of multiple opportunities, supporting materials including habitat type information, age, structure, existing condition, populations of rare species, and range of variability, and a ranking process should be presented for consideration during the master plan process.

During the master plan process, a benchmark may have a specific management plan developed. The master plan process plan would involve bringing Department personnel for affected resources together to discuss the requirements of a benchmark. Ecological objectives would determine the focus of management, as well as, the existing structural and compositional characteristics of the site with timber or wildlife production as secondary objectives. Following approval of the master plan, a detailed implementation plan would be developed to guide budgeting and work planning.

#### **Selection Criteria for Geological and Archaeological Sites**

Nominations for these two categories are received for outside sources. Geological site priorities are evaluated by working with the US Geological and Natural History Survey and geology experts throughout the state. Archaeological sites are similarly evaluated by working with the State Archaeologists office and archaeology experts throughout the state. In both cases the top sites are referred to the SNA program for consideration.

#### **Selection Criteria for Educational and Research Sites**

These sites are offered by nomination from researchers, educators, and naturalists throughout the state, including Department educators and naturalists. If a nominated site also has an "A" or "B" ranking as a natural community or critical species site the site would be considered as an educational or research site.

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