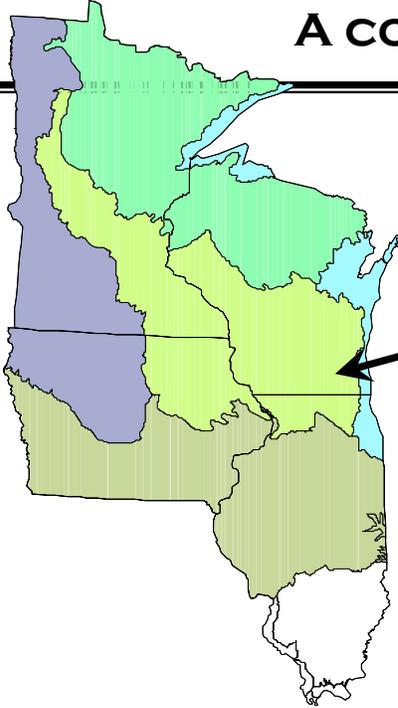




photo: Thomas Meyer

THE PRAIRIE-FOREST BORDER ECOREGION: A CONSERVATION PLAN



Prairie-Forest
Border



Prairie-Forest Border Ecoregion: A Conservation Plan

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I: EXECUTIVE SUMMARY

The Prairie-Forest Border ecoregion is the transition zone, or “meeting place” between the tallgrass prairies and the northern forests. Much of the region was covered by successive waves of glaciers, and is composed of rolling hills and extensive flatlands formed by moraines, drumlin fields, pitted outwash, and glacial lakes. Approximately one-third of the ecoregion was unglaciated by the most recent wave of glaciers, and here the land is dissected by old and current waterways. Fire occurred regularly throughout most of the ecoregion, acting in concert with climate to create a shifting mosaic of prairie and forest, an ever-changing matrix of oak savanna, forest, and prairie.

Many different plant communities occur within the ecoregion, including globally significant oak savannas, prairies, and alfic talus slopes. Total acreage of oak savannas today is less than 1/100th of 1% of the pre-settlement extent, and prairies now cover less than 1/10th of 1% of their historic range in the ecoregion. Sixty-three plant and animal species occur within the ecoregion that are globally rare or federally listed. Thirteen plant communities, ten animal and six plant species are endemic to the ecoregion, found only in this part of the world. These endemics include several species of pleistocene-era land snails and the dwarf trout lily.

Led by The Nature Conservancy, many conservation partners came together in a two-year ecoregional planning process to identify important Ecologically Significant Areas and restoration areas that will ensure the long-term survival of all viable native species and ecological communities. Conservation targets for the Prairie-Forest Border include all native natural communities, globally rare species and other species for whom experts feel the Prairie-Forest Border is an important part of their range. The expectation is that by protecting the best examples of all natural communities, we will conserve most of the species of the Prairie-Forest Border by providing adequate habitat for them, without requiring focused efforts for each species. We believe the coarse-filter approach is the most efficient method of capturing the full spectrum of biodiversity in the ecoregion. There were 84 rare species identified as conservation targets, and 107 plant community types. In addition, 24 aquatic community types, or ecological systems, were identified as conservation targets. Conservation goals were set for these targets based on global rank, historic patch size and proportion of historic range occurring in the ecoregion. These goals set the number and distribution of target occurrences within the ecoregion.

Using available information about target occurrences, current status and resource needs of the conservation targets, as well as current conservation activity within the ecoregion, a set of ecologically significant areas was identified, places at which The Nature Conservancy and partners will work to preserve the species and communities of the ecoregion. Given the fragmented nature of the ecosystems within the Prairie-Forest Border, and the overall loss of habitat to urbanization and agriculture, the goals for many of the plant communities and target species have not been met in currently intact landscapes, making restoration vital to the creation of a network of viable habitats.

One hundred and sixty-six conservation areas, called Ecologically Significant Areas, have been selected for conservation of the biodiversity of the Prairie-Forest Border ecoregion. Many of these areas are large, landscape-scale sites which encompass terrestrial, aquatic and important migratory bird area site components, as well as rare species occurrences. Within many of these areas are concentrations of conservation targets, and many areas encompass current conservation projects. Conservation action will work to maintain the ecological integrity of the landscape context of the areas, as well as focusing on abating the threats to the targets found at the Ecologically Significant Areas. Conservation areas were chosen which will maximize conservation by protecting the highest-quality occurrences of ecoregional targets, and which will protect multiple targets within an area.

Land development for residential or commercial uses, incompatible agricultural practices, exotic species and fire exclusion were identified as the primary threats facing conservation targets throughout the ecoregion. Several ecoregion-wide strategies have been identified to abate these threats, including traditional protection actions as well as more innovative outreach and partnership efforts. Many of these strategies will have conservation impacts beyond the Prairie-Forest Border ecoregion, and should be coordinated among adjoining ecoregions. Another key threat to the conservation of biodiversity in the Prairie-Forest Border is the small size of conservation areas and a lack of connectivity among them. The need for connectivity among Ecologically Significant Areas, establishing a network of protected areas for large-ranging mammals, migratory birds and aquatic organisms is an issue to be addressed in future revisions of the ecoregional plan.

II: ACKNOWLEDGEMENTS

This conservation plan for the Prairie-Forest Border ecoregion is the result of two years of hard work by many individuals. The Core Team of planners consisted of Conservancy and Heritage staff from each of the four states:

Illinois	Lisa Haderlein, Director of Conservation Operations, The Nature Conservancy Tim Tear, Director of Conservation Science, The Nature Conservancy
Iowa	Keith Fletcher, Landscape Conservation Project Manager, The Nature Conservancy John Pearson, IA Department of Natural Resources Gerry Selby, Director of Science and Stewardship, The Nature Conservancy
Minnesota	Hannah Dunevitz, Regional Plant Ecologist, MN Department of Natural Resources Garth Fuller, Land Steward, The Nature Conservancy
Wisconsin	Karen Bassler, Conservation Coordinator, The Nature Conservancy Eric Epstein, Ecologist, WI Department of Natural Resources Deirdre Gruendler, Conservation Planner, The Nature Conservancy Paul West, Stewardship Ecologist, The Nature Conservancy

From the beginning, Wayne Ostlie of the Midwest Resource Office and later of Weather Creek Conservation Consultants provided invaluable assistance in both the planning process and assessment of targets. In addition, Mary Lammert and Tom Fitzhugh of the Freshwater Initiative of The Nature Conservancy worked with Shelly Miller of the Conservancy on the aquatic assessment for the ecoregion. Many others provided invaluable assistance in assessing targets, identifying ecologically significant areas and in many other ways. These partners are listed in Appendix A.

III: CONTEXT OF THE ECOREGION

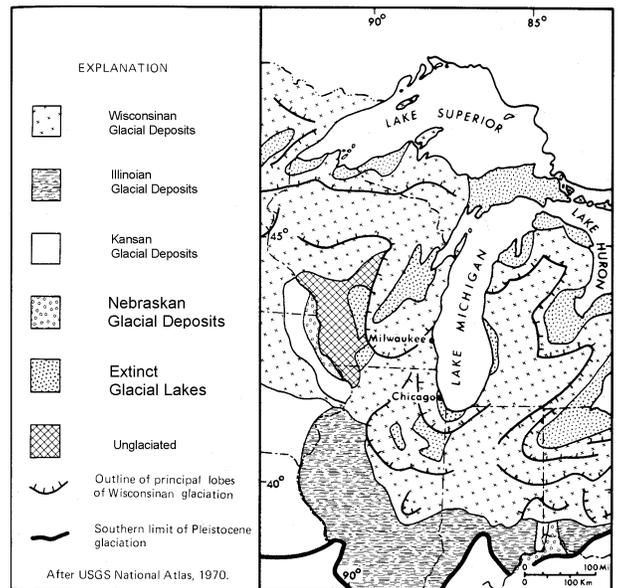
As the name implies, the Prairie-Forest Border ecoregion (PFB) is a large transition zone between the former tallgrass prairies and the northern forests. As a transition zone, the PFB serves as a large-scale ecotone. The general vegetation pattern of this ecoregion is thus very different from many other ecoregions—rather than extensive examples of one or two matrix communities, such as northern hardwoods to the north or tallgrass prairies to the south, the matrix of the PFB is an aggregate of many large patch communities of forests, savannas, and grasslands. There is a constant tension among these community types. This tension is the result of the interaction among northern, continental and moist warm Gulf of Mexico weather patterns, in addition to regular episodes of fire, geologic history and landform patterns.

Planning in the PFB was aided by plans already completed in the Northern Tallgrass Prairie (NTGP) to the west, Central Tallgrass Prairie (CTGP) to the south, and Great Lakes (GL) to the east (Map 1). Planning in the Superior Mixed Forest (SMF) to the north is currently being conducted and is scheduled to be

completed in mid 2001. Many aquatic sites within the CTGP, GL, and preliminarily selected rivers for the SMF extend into the PFB. An aquatic assessment was not conducted in the NTGP. Whenever feasible, and where aquatic systems were viable, we extended the river sites selected in the other plans into the PFB. Many of the river sites are large systems that can potentially serve as corridors between ecoregions.

IV: DESCRIPTION OF THE ECOREGION

The Prairie-Forest Border ecoregion is the transition zone between the tallgrass prairies and the northern forests. The Prairie-Forest Border landscape has been shaped by the glaciers which terminated in the ecoregion during the two most recent glaciations, the Illinoian and Wisconsinan. Nearly two-thirds of the ecoregion was covered with glaciers during these periods, while the remaining one-third escaped these most recent glaciations. The glaciated portion of the ecoregion is generally composed of rolling hills formed by ground and end moraine, drumlin fields, pitted outwash, outwash plains and glacial lake plains. The unglaciated, or driftless zone, is marked by steep, wooded, river and stream valleys carved by glacial runoff, dissecting high bluff tops with poor soils. The border between glaciated and unglaciated regions also represents a transition of climatic patterns from temperate southern influences to more arctic patterns.



from Geology of Wisconsin and Upper Michigan,
Paull & Paull, 1977

Over the past few thousand years, fire occurred regularly throughout most of the ecoregion, creating a mosaic of prairie, oak woodlands, forests and savannas. Prior to European settlement of the area, Native Americans set frequent fires in the prairies, preventing their succession to more wooded savannas or forests. This combination of glacial history, climatic interactions, human actions and ecological processes resulted in a “matrix” of this ecoregion that was a mosaic of prairie, savanna and forest systems; the ecoregion was not dominated by a few matrix communities, as were the Central Tallgrass Prairie to the south or the Superior Mixed Forest to the north. The ecoregion spans Illinois, Iowa, Wisconsin, and Minnesota, encompassing the upper reaches of the Mississippi River (Map 2).

There are 119 plant community associations occurring within the ecoregion, of which 107 were identified as conservation targets, including globally significant ones such as oak savannas, prairies, fens, and algific talus slopes. Within the ecoregion’s 16 Ecological Drainage Units, 24 aquatic systems have been identified as conservation targets. Of the plant and animals species of the ecoregion, 84 have been identified as conservation targets to guide Ecologically Significant Area selection efforts. Of these species targets, 63 are globally imperiled (ranked G1-G3 or are federally listed species – Appendix B). Nine animals and seven plant species are endemic to the ecoregion, including several species of snails and the dwarf trout lily. Historically, the ecoregion was home to wolf, black bear, bobcat, and fisher, all of which are now present in greatly reduced numbers and restricted to the Central Sands and Driftless Area. The effect of the loss of these species can only be estimated, but at the very least has resulted in increased populations of herbivores and an altered nutrient cycle for the ecoregion.

Other large fauna once present in the ecoregion are also now missing, including bison and elk. However, archeological data show that these species were never very prominent and were occasionally entirely absent from the ecoregion. During pre-Columbian times (8,000 BP to 500 BP), when prairie and savanna became established as dominant ecosystems in the PFB, bison were completely absent or very rare. The

archeological evidence suggests only occasional animals at best in the western portion of the region. During this time elk were present throughout the region, but in very low numbers. For every 10 to 300 white-tailed deer on the land there appears to have been only one elk, and deer were likely far less abundant than they are today (Schorger, 1954). The cause for this lack of big game was probably human hunting pressure.

Starting sometime in the mid to late 1500's the situation changed in the PFB region. Elk and deer increased in abundance and bison began moving eastward. The most likely cause was a massive decline in the human population. By 1600 bison, elk, and deer reached maximum numbers which lasted at most 100 years. During the 1700's these species were in major decline as native American numbers increased in the region and the first Europeans began to arrive. By 1800 elk, deer and bison were for the most part gone from the landscape. But even during their peak in the 1600's their numbers were likely not high enough to have a major, widespread effect on the vegetation of the PFB (Isenberg, 2000).

Ecoregional Sections

The ecoregion and its sections and subsections were originally defined by Bailey for the United States Forest Service (Bailey, 1994). The Prairie-Forest Border is divided into three sections (Map 3):

- ❖ Southwestern Great Lakes Morainal (222K)
- ❖ North Central U.S. Driftless and Escarpment (222L)
- ❖ Minnesota & Northeast Iowa Morainal~Oak Savanna (222M)

The Southwestern Great Lakes Morainal section is the easternmost section, covering the southeastern quarter of Wisconsin and extending into northern Illinois. The landform is characterized by ground and end moraines that were vegetated by oak savanna. Extensive wetlands and oak barrens occur in glacial lake plain; sugar maple-basswood forest occurs locally where there are natural fire breaks created by rivers or rugged, kettle-moraine topography. Extensive prairies occurred in flat outwash plains, but have largely been converted to agriculture. Lakes and associated wetlands are common, particularly in the pitted outwash region. Because of the long growing season, fertile soils, and relatively flat topography, 90% of this section has been converted to agriculture or development.

The North Central U.S. Driftless and Escarpment is the region where the four states meet. It was this area which was free from glaciers during the most recent glacial period; the land is dissected by old and current waterways. Although fire was regular in the section, it was not uniform across the landscape because of rivers and steep topography. Oak woodland and savanna dominated this section. Sugar maple-basswood forest is locally abundant within the oak matrix on north and east facing-hillsides, and is the dominant vegetation in areas that are bounded by rivers, such as the Kickapoo Valley. Algific talus slopes, a rare community type restricted to this section, occur on steep bluffs near the Mississippi. Bluff prairies are an important and unique component of south and west facing bluffs in this region. Lakes and herbaceous wetlands are nearly absent from this section. The steep topography and low fertility soils have generally limited agriculture and development within this section to the valleys and broad ridge tops with deep loess soils. Over 50% of the section remains in native vegetation.

The Minnesota & Northeast Iowa Morainal~Oak Savanna section is located to the west of the Driftless Area. It is primarily in Minnesota, but does extend into Iowa and a very small portion of west-central Wisconsin. The land is characterized by ground and end moraines that are dominated by oak woodlands and savannas. Extensive sugar maple-basswood areas forests were present in the Hardwood Hills and Big Woods areas, where the landscape dissected by waterways and steep slopes forms natural fire breaks. Lakes are common throughout the section, as are diverse types of wetlands. Over 90% of this section has

been converted to agriculture or development. The most intact remaining natural areas are generally in areas with steep topography or very droughty soils.

Human Context

People have been shaping the landscape of the PFB since the glaciers retreated from the region. Most of the vegetation in the Driftless Area and in the glaciated region east of the Mississippi would have been sugar maple-basswood forest if fire had not occurred regularly, both as a result of Native Americans burning a large portion of the landscape nearly annually, and to a lesser degree from lightning strikes.

Our earliest extensive account of the PFB landscape is from the General Land Office surveyor's notes beginning in the 1830s. At this time, the landscape was likely much more forested than it was prior to European arrival in the area during the 1600's, when the voyageurs and missionaries made their way along the Great Lakes into the Midwest. Native American populations greatly declined during the subsequent centuries, as a result of the introduction of European diseases and fighting with these European newcomers, and with their decline came a reduction in the frequency of the fires which shaped the plant communities of the region.

Much of the landscape of the PFB was rapidly settled by Europeans in the early-mid 1800s, who broke the prairie sod for agriculture and harvested trees for buildings and fuel. More marginally productive dry prairies were grazed; the wetter ones were used for hay production. Many of the early settlers continued to burn woodlots to maintain higher amounts of forage for cattle. This practice continued into the early 1900s, maintaining many of the oak-dominated forests.

Currently, the ecoregion is populated by the descendants of those early settlers: 94 – 99% of the population of the ecoregion is Caucasian (U.S. Census Bureau – 1990 Census results). There are six major urban centers influencing demographics in the ecoregion (Map 4) , and several counties within the ecoregion are overwhelmingly urbanized. Overall, the population is fairly evenly split between urban and rural residences. Farming was once a primary use of much of the land, but that way of life has been declining for many years. Now, rural residents are more likely to commute to work in nearby towns or cities.

An analysis of surveys (Sources of Data) of the conservation attitudes of residents in three areas of the ecoregion showed that a majority of respondents in all three areas felt that limiting development and providing wildlife habitat/open spaces was important. However, they do not want to see their areas being promoted for tourism and are not strongly opposed to further development, in part for the economic benefit they think will result. The focus of their environmentalism is on water quality issues, rather than habitat or natural areas conservation.

V: ECOREGION-WIDE THREATS

Threats are current or potential activities that interfere with the maintenance of ecological processes which sustain species and natural communities. These threats are made up of stresses, which are processes or events that have direct deleterious impacts on species and communities, and sources of those stresses. For instance, a stress may be altered hydrology within a watershed and the source of that stress may be road building. A stress may have multiple sources, and a single source may result in multiple stresses.

The planning process for the Prairie-Forest Border identified threats that impact multiple Ecologically Significant Areas within the ecoregion, and developed preliminary conservation strategies which will work on a large scale to mitigate those threats throughout the ecoregion. These strategies are enumerated in the Implementation/Next Steps section of this report. Many of these strategies will have implications beyond the PFB, serving to abate threats in several ecoregions.

The most prevalent threats to ecoregional biodiversity were identified by the Core Team and Steering Committee with input from government relations and planning staff from several of the Conservancy Chapters. This list is not comprehensive of all threats affecting biodiversity of the ecoregion, but instead is focused on those threats which affect multiple areas or a significant portion of the ecoregion.

Threats in order of greatest impact on ecoregional biodiversity:

- 1. unplanned residential and commercial development**
- 2. incompatible agricultural management/incompatible forestry practices**
- 3. exotic species/overabundance of certain native species**
- 4. fire exclusion**
- 5. lack of contiguity among protected areas/ insufficient size and buffering of protected areas**
- 6. altered hydrological regimes**

1) Residential and commercial development is the prime factor in the loss of available habitat for species and plant communities. This is particularly the case in the southeast portion of the ecoregion, around the urban centers of Milwaukee and Chicago, as well as the seven-county region around the Twin Cities in Minnesota. Conversion of rural areas to subdivisions and business parks also fragments existing habitats, eliminating the large landscapes required by many wide-ranging species of the ecoregion.

2) Environmentally incompatible agricultural management results in both degraded water quality and loss of habitat for grassland birds. Pesticide runoff from fields into streams with inadequate buffers and into surface water degrades both aquatic and wetland habitats. Conversion of pastures and prairies to row crop agriculture destroys grassland landscapes required by many bird species for nesting habitat.

Incompatible forestry practices such as planting conifer stands in barrens communities, high-grading and clearcut logging have resulted in alteration of the species composition and community structure of forests within the ecoregion. Planting of trees in former grassland communities results in loss of habitat for grassland-nesting bird species, as well as for many invertebrates, and alters the species composition of the plant community.

3) Exotic species are a threat throughout the ecoregion, and include reed canary grass, garlic mustard, zebra mussel, buckthorn, purple loosestrife and honeysuckle. Invasive exotics can overwhelm a natural area, reducing the diversity of species found there. At the same time, an overabundance of native white-tailed deer has also degraded many forest habitats, altering the species composition and community structure of those habitats through intensive foraging on seedling trees and herbaceous plants.

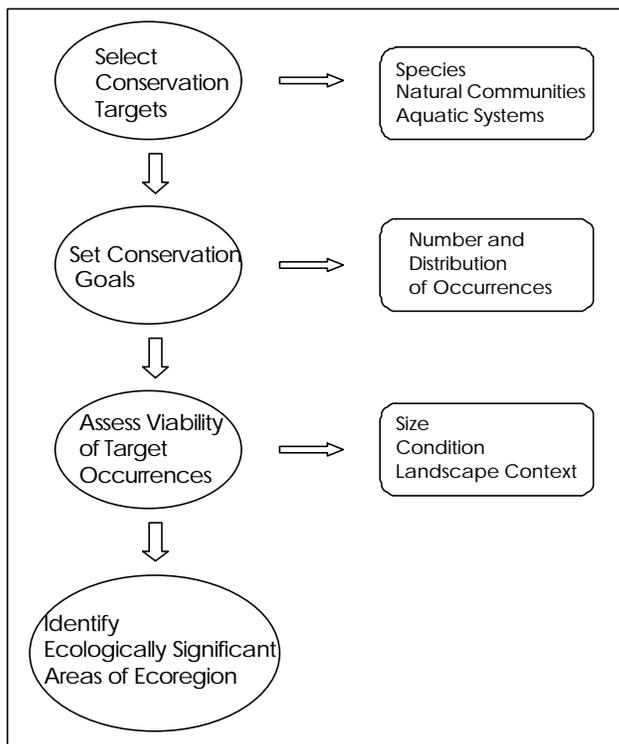
4) Fire exclusion alters habitats, through promotion of fire-intolerant species and a reduction in those species requiring fire in order to germinate. In some ecosystems, a lack of fire reduces the vigor of native species, making the areas more vulnerable to invasions by exotics, which can quickly come to dominate the system. In some cases, the fuel load can build up to excessive levels in unburned areas. This increased fuel load results in more intense and severe burns than would naturally occur, causing greater damage to the ecosystem.

5) Lack of sufficient habitat is a threat common to many of the conservation targets of the ecoregion. This is due in large part to the small size and isolation of protected habitat, as well as the absence of adequate buffering of protected areas with compatible uses. Improper restoration which alters existing habitat by propagating inappropriate species also contributes to this lack of habitat. In addition, restoration as a management tool is underutilized on many public lands, creating a missed opportunity for expanding potential habitat for species and plant communities, and thus enhancing their viability.

6) River dams have multiple impacts on aquatic and riparian species and systems. Dams restrict species movement within a stream, effectively reducing available habitat for some species. Alterations to the hydrology of a stream can change floodplain community composition. In addition, a change in the range of variability of water levels and flow rates can also change fish habitats within a stream.

In addition to these direct threats to the conservation targets of the PFB, the lack of connectivity among the Ecologically Significant Areas of the ecoregion is a key threat to overall biodiversity. The small scale of most intact terrestrial landscapes and the discontinuity among these areas will require extensive restoration of natural areas in order to achieve the conservation goals set for ecoregional species and community targets.

VI: PLANNING PROCESS



Planning for the Prairie Forest Border Ecoregion was led by a core team of staff from the four state Conservancy Chapters and Heritage Programs. The process was overseen by a Steering Committee of Directors of each state Chapter and Heritage Program. A number of regional biological experts provided input to the planning process during experts workshops and other meetings, and in one-on-one interviews with core team members. A full list of participants is available in Appendix A, and data sources are listed in the Sources of Data section of the report.

The core team began meeting in late Summer, 1998 to begin assessment of the biodiversity of the ecoregion. Several smaller working groups were formed to address the Communications, Fundraising and Partner needs for both the planning process and the implementation of protection at the portfolio of Ecologically Significant Areas selected. A Communications Plan was drafted, outlining internal and external communications needs and strategies. A list of potential and current conservation partners was drawn up, and contacts within those organizations identified.

Phase I: Target Selection and Goal Setting

The first step in the planning process is the selection of conservation targets for the ecoregion. Target selection was based on the criteria outlined in The Nature Conservancy's Designing a Geography of Hope; that is, all viable natural communities native to the ecoregion, and all viable rare (Heritage Ranks G1 – G3, Appendix B) species in the ecoregion. In addition to these criteria, the Core Team also included other species for which conservation in the Prairie Forest Border has been identified as critical to their survival.

TARGETS

Selection of conservation targets for the Prairie-Forest Border ecoregion used a Coarse Filter-Fine Filter approach. Coarse filter targets were plant community types, which encompass species for which population and health status is unknown, and aquatic ecological systems, which capture aquatic biodiversity in the absence of detailed inventories of aquatic species. Fine filter targets were those rare species for which population size, distribution and health are fairly well known. Thus, there were three classes of targets selected for the Prairie-Forest Border: plant communities, aquatic systems and species.

Plant community Targets

In order to assess the plant communities of the ecoregion, different classification systems for the community types were correlated with The Nature Conservancy’s Natural Vegetation Classification System (Grossman, et al., 1998) to generate a single, mutually agreeable list of community names throughout the ecoregion. Thus, it was possible to compare community occurrences throughout the ecoregion based on a common understanding of the composition of those communities. All viable native plant communities of the ecoregion were included as conservation targets. The inclusion of all plant communities serves as a coarse filter, capturing not only the community types, but also common (G4-G5) species within those communities whose location and status may be unknown. Plant communities were defined using Heritage and Conservancy community definitions, refined by regional experts, providing descriptions of each, as well as their distribution pattern and patch type. The 107 plant communities included as conservation targets are listed in Table 1, and their distribution patterns are described below:

Community Patch Types
Small Patch: < 50 acres
Large Patch: 50 to 2000 acres
Matrix: >1000 to 2000 acres

Community Distribution Patterns
Endemic: found only in ecoregion
Limited: found in 1 – 3 ecoregions
Widespread: found in many ecoregions
Peripheral: on edge of primary range
Disjunct: not contiguous with primary range

Aquatic Targets

In order to capture aquatic targets in the Prairie-Forest Border, an aquatic classification framework (Appendix C), based on regional biological and environmental information, was used to delineate Ecological Drainage Units (EDUs – Map 5). EDUs stratify the ecoregion into hydrologic units that reflect both physiographic influence and species distribution patterns. These units can be quickly assessed for the types and distributions of the aquatic communities that occur within them. These communities are identified using expert opinion and/or finer-scale classification units called *macrohabitats*. Macrohabitats are lakes or segments of river that have been defined using the environmental variables most responsible for determining the composition and distribution of biological communities, and are used as indicators of biodiversity potential, in the absence of intensive inventories of the aquatic ecosystems which would identify occurrences of specific aquatic species.

Classification of River System Types
● size
● hydrologic regime
● gradient
● major basin
● influence of wetland and lakes
● position in stream network

Macrohabitat classification of the PFB identified 231 of these fine-scale aquatic units, too many to assess individually. Experts were asked to identify the highest quality aquatic systems within the ecoregion, based on biodiversity hotspots and intactness of those systems. These high-quality systems were overlaid on a map of macrohabitats to determine which macrohabitats were captured within these systems. Macrohabitats not captured were addressed individually, in order to ensure that all macrohabitat types were represented in conservation areas of the ecoregion. Together, the high quality aquatic systems and individual macrohabitats represent aquatic targets for the ecoregion. In the 16 EDUs of the Prairie-Forest Border, 24 different aquatic ecological systems were identified. However, this classification did not address lakes in Minnesota, Wisconsin or the Fox River Valley of Illinois, a gap to be addressed in the next iteration of this plan. The aquatic system targets are listed in Table 2.

Species Targets

Species targets included all viable G1 – G3 ranked species in the ecoregion. See Appendix B for a listing and definition of G-Ranks. In addition to these species, the list of conservation targets for the ecoregion also included other species which met certain criteria identified by regional biological experts. These criteria included:

- A G3G4 species that the PFB is a critical part of its range or the species was very abundant in the ecoregion in the past and has severely declined.
- A G4 or G5 species that is declining throughout its range and the PFB is the center of its range, or it is currently stable here. An example of this category is the sedge wren.
- A G4 or G5 species that is secure in only a small portion of its range, but is declining everywhere else and this ecoregion is critical.
- Bird species that have a global Partners In Flight score greater than 20.
- Species that are not currently G ranked, but experts of these taxa assume that they will be ranked G1-G3. Many invertebrates fall into this category.

However, it must be noted that the species selected for inclusion as conservation targets do not represent the full range of biodiversity historically found in the Prairie-Forest Border ecoregion. Several top predators, including bobcat, wolf and marten, are no longer present in the ecoregion. The absence of these species reduces overall biodiversity, and also alters the species composition of the ecoregion, and results in greatly increased populations of herbivores and other meso fauna. In all, 84 species were included as conservation targets. These species are listed in Table 3.

Because distribution, relative abundance, and habitat requirements for many avian species are comparatively well known, many bird species in the PFB were more closely analyzed in the course of planning work for the Great Lakes Ecoregion. A listing of Important Bird Breeding or Migratory Areas (IBAs) in the PFB was generated as part of this larger assessment of avian needs and resources of the Midwest region (Appendix D). These IBAs were identified using data from the Conservancy's Wings of the Americas program, the American Bird Conservancy, National Audubon Society and Partners in Flight, in addition to data from field ornithologists and current literature. This process focused on avian species that have a global Partners in Flight score of 20 or more, or a Conservancy rank of G1-G4. Important Bird Area information informed the portfolio selection process for the ecoregion.

GOALS

Conservation goals were set for each target in the ecoregion to determine the number and geographic distribution of target occurrences needed to ensure the long-term viability of the target within the Prairie-Forest Border. These goals were established based on current knowledge of the genetic diversity and minimum viable populations for the targets. In addition, species recovery plans and habitat conservation plans were used in determining conservation goals for several rare species.

Plant community Goals

When the Core Team began the planning process and set plant community goals, what was considered a "site" or "occurrence" was often quite smaller in area than the boundary which was ultimately drawn to delineate an Ecologically Significant Area. Thus, many such areas encompass several examples of small patch, endemic communities, such as pine relicts. These communities will appear as a single occurrence within the Ecologically Significant Area. Therefore, the initial goals for these communities have been adjusted to reflect the change in scale of conservation areas, and to more accurately assess whether adequate occurrences of these communities have been selected within Ecologically Significant Areas.

PLANT COMMUNITY GOALS

	Matrix	Large Patch	Small Patch
Restricted/ endemic	10 occurrences/one occurrence per subsection in which target occurs	18-25 occurrences/ one occurrence per subsection in which target occurs	10-25 occurrences/ one occurrence per subsection in which target occurs
Limited	10 occurrences/ one occurrence per subsection in which target occurs	10-18 occurrences/ one occurrence per subsection in which target occurs	10-15 occurrences/ one occurrence per subsection in which target occurs
Widespread	N/A	5-10 occurrences/ one occurrence per subsection in which target occurs	7-12 occurrences/ one occurrence per subsection in which target occurs
Peripheral	N/A	0-5 occurrences	0-5 occurrences

These conservation goals were based on historic patch size and range. Plant community occurrences are geographically distributed by having at least one viable occurrence per subsection in which the community occurs. Ideally, all occurrences selected will be within functioning landscapes. In addition to the goals stated above, all viable occurrences of G1 and G2 natural communities were included in the portfolio.

Matrix communities

There are two matrix communities represented in the Prairie-Forest Border: north-central bur oak openings (G1), which are a type of oak savanna, and central mesic tallgrass prairie (G2). There are no high quality examples of either of these communities that are large enough to qualify as an intact, viable occurrence. Therefore, all occurrences of these communities will require restoration efforts.

Large patch communities

The goals set for large patch communities within the Prairie-Forest Border are higher than those set by most other plans. These higher goals were chosen because the former “matrix” of this ecoregion was a mosaic of many large and small patch communities; it was not dominated by a few matrix communities, like the Central Tallgrass Prairie to the south or the Superior Mixed Forest to the north. This patchiness is particularly apparent in the Driftless Area, where many of our best examples of large patch communities are aggregates of many 30-100 acre patches.

Aquatic Systems Goals

All aquatic ecological systems share a common goal of at least one occurrence of each system type in each Ecological Drainage Unit (EDU) of the ecoregion (Map 5). Because large rivers tend to be unique within their EDU, there were multiple river sites within each EDU. These river sites were delineated to encompass the watershed of the river, and therefore included multiple smaller aquatic ecological systems. This resulted in these smaller systems being represented several times within each EDU.

Species Goals

Conservation goals for the species targets of the ecoregion were taken from Designing a Geography of Hope, and were based on rangewide distribution:

SPECIES CONSERVATION GOALS

Endemic	Limited	Widespread	Peripheral
at least 10-12 populations across the range of environmental conditions in which it occurs	at least 10 populations across the range of environmental conditions in which it occurs	at least 5 – 10 populations across the range of environmental conditions in which it occurs	1 – 5 populations across the range of environmental conditions in which it occurs

For some conservation targets, the conservation goal was higher than these range-based goals. For example, for many of the land snail species, genetic diversity is higher between watersheds than within a watershed, so Ecologically Significant Areas selected for conservation of these species were stratified on watersheds, rather than just on subsections. Similarly, the largest populations of the prairie fame-flower (*Talinum rugospermum*) are found in sandy areas, but the species is also found in small glade openings on rhyolite. For this species, additional occurrences were selected to represent the less common community types where it is also present.

Phase II: Target Assessment

Natural communities

The viability of the highest quality natural communities was assessed using general ranking specifications developed by The Nature Conservancy and Natural Heritage Program (see Appendix B for definitions of ranks). These rankings were based on three components: size, condition, and landscape context. Experts assigned each component a rank of A – D. The various components were weighted depending on the patch type (matrix, large patch, small patch) that the community historically formed.

Aquatic systems

The viability of aquatic systems was determined using expert opinion and a watershed assessment using a Geographic Information System (GIS). The GIS was used to calculate: (a) the number of road crossings; (b) number of dams; (c) number of species targets present; and (d) the proportion of the watershed that was in natural vegetation, agriculture, and urban use. For example, rivers with some or many dams were considered of lower viability than ones without dams. In addition to the assessment of the individual systems, proximity to high quality systems was considered. For example, a system was given higher priority if it was adjacent to high quality system downstream than a system that was connected to a lower quality system. Where there were only degraded examples of a system type within a drainage unit, the best example was selected as a restoration landscape. The actual assessment was not automated--the results from the GIS assessment were compiled into a report (Appendix E) and the examples of each system type were visually compared. After systems were provisionally selected as important conservation areas, experts were asked to review the list and maps of those areas.

Plants

Viability of target plant species was determined using the species-specific ranking systems developed by the Natural Heritage Programs (Appendix B). The Core Team hired a botanist to update these records and to assign ranks to those records in the Biological Conservation Database that had not already been assigned ranks. Priority areas designated in Federal Recovery Plans for a few of the plant species -- Leedy roseroot (*Sedum integrifolium ssp leedyi*) and Iowa golden-saxifrage (*Chrysosplenium iowense*)-- were incorporated into the planning process.

Animals

The animal targets were assessed largely based on expert opinion. Ranking criteria have not been developed for most animal targets within this ecoregion. The bird targets were assessed by experts to determine the approximate number of breeding pairs for each species within each Important Bird Area (IBA). IBA planning had previously been completed for Wisconsin during the Great Lakes ecoregional planning process (Appendix D). A similar, independent effort was completed by the Illinois Department of Natural Resources. These two efforts were included in this planning effort. Following the methodology of the Great Lakes IBA work, a bird species was only identified as a target at a portfolio area if the number

of breeding pairs was estimated to be over 50. IBA planning has not been completed in Iowa or Minnesota; as a result, bird targets were not assessed for these two states.

For most non-bird animal targets, expert opinion was used to determine the best locations. Reports and recovery plans have been developed for the Karner blue butterfly (*Lycaeides melissa samuelis*) and many of the land snail species; this information was incorporated into this plan (Sources of Data).

Phase III: Selection of Conservation Areas

The design phase is the process of assembling data on the conservation target occurrences, in order to identify and prioritize the set of Ecologically Significant Areas (ESAs) which will most effectively conserve the biodiversity of the ecoregion. Using existing species and community data and existing conservation site boundaries, all occurrences of conservation targets in the PFB were mapped. The resulting map served as an initial set of conservation areas within the ecoregion. Additionally, untilled landscapes in the PFB were identified using satellite imagery (Map 6). These landscapes were analyzed in Rapid Ecological Assessments (REAs) using field inventory and expert interviews. All other data on the conservation targets were gathered into an Access database, collating information from the Biological Conservation Database, REAs, expert interviews and other available databases and research.

Once the target occurrences were mapped, and all available data on the targets gathered, the highest quality occurrences for each target were identified. From each of these high quality occurrences, approximate Ecologically Significant Area (ESA) boundaries were drawn. These boundaries were drawn to encompass multiple targets within a single ESA wherever possible, in order to maximize conservation efficiency, while meeting the needs of the targets themselves and while stratifying occurrences across the ecoregion. The resulting list of Ecologically Significant Areas was examined by the Core Team and expert advisors, to determine if all identified areas should be included in the final ecoregional plan, and if additional areas should be added.

Restoration Areas

In many cases, there were not sufficient occurrences of intact targets to meet conservation goals for the target; for these targets, potential restoration sites were selected in addition to areas with intact habitat. Areas were selected as restoration sites based on several criteria:

Prairie Restoration Areas

- ❖ Concentrations of prairie remnants, grassland birds, and Conservation Reserve Program enrollments or pastures
- ❖ Large (10,000 – 50,000 acres) or medium (1000 – 5000 acres) landscapes
- ❖ Proximity to other priority conservation areas

Oak Opening and Woodland Restoration Areas

- ❖ Extensive areas (> 10,000 acres) of former savanna currently degraded by fire exclusion and/or grazing pressures
- ❖ Proximity to other priority conservation areas

Aquatic Systems

Where aquatic ecological systems were included within an Ecologically Significant Area, the watershed of the river or stream was delineated as the area boundary, except in the cases of major rivers. For the Chippewa, Minnesota, Mississippi, and Wisconsin Rivers, the mainstem was included in the Ecologically Significant Area boundary, but not the entire watershed. Where aquatic system watersheds extended beyond the PFB ecoregional boundary, the ESA boundary was delineated to extend beyond the Prairie-Forest Border Ecoregion.

Results of Selection Process:

The process of selecting target occurrences and delineating boundaries resulted in the identification of 166 Ecologically Significant Areas (ESAs) (Map 7). These Ecologically Significant Areas form a network of connected or potentially connected conservation areas. Within many of these Ecologically Significant Areas are more finely described sites at which conservation work is ongoing by one or more conservation partners. Table 4 lists all Ecologically Significant Areas in the PFB.

Data about each Ecologically Significant Area, including current conservation projects within them, organizations or agencies active within them, and conservation target occurrences, were developed by core team members and other staff at Conservancy and Heritage programs. A description of each Ecologically Significant Area and a summary of ecoregional conservation targets captured within each ESA is found in Table 5.

Ecologically Significant Area Categories

The Ecologically Significant Areas selected within the Prairie-Forest Border were sorted into three categories, based on size and targets present within the ESA (Map 8). These categories were based on similar definitions used by the Central Tallgrass Prairie Ecoregional Plan, and are as follows:

- ✓ **Functional Site** – selected for one or more small-patch or large-patch plant communities, or an aquatic ecological system target. Rare species targets may or may not also be present.
- ✓ **Functional Landscape** – selected for both coarse-scale plant community and aquatic ecological system targets. These areas may also include rare species targets. Many of the targets represented at these types of areas are viable, but some degree of restoration activity will be required at most of these areas.
- ✓ **Restoration Landscape** – selected for both coarse-scale plant community and aquatic ecological system targets. These areas are generally degraded, so conservation strategies will be primarily focused on restoration activities, such as reconstruction of grasslands, mitigating the effects of water level management and connectivity issues from dams, restoring flood plains and increasing connectivity among habitat types. Restoration Landscape areas were included because there were not sufficient intact occurrences of these plant communities and ecological systems to meet conservation goals.

Of the 166 Ecologically Significant Areas, 114 are Functional Sites, 29 are Functional Landscapes and 23 are Restoration Landscapes.

Prioritization

The final step in selection process is to prioritize action on the set of ESAs, based on the identification of threats, and to develop strategies to abate those threats. First, the preliminary list of ESAs was assessed to determine whether the conservation goals were met for the species and community targets. In most cases, conservation target goals could not be met through conservation of existing natural areas, and will require restoration of habitat. Several Ecologically Significant Area categories were developed, which included restoration landscape sites, in order to address this need. Ecologically Significant Area boundaries were examined to determine where linkages among areas could be made, in order to promote networks of conservation areas, thus increasing habitat for multiple species and allowing for natural processes and disturbance regimes to occur.

Each Ecologically Significant Area in the PFB was assessed for the feasibility of conservation work and the threats facing the targets at the Ecologically Significant Area. This informed the development of ecoregion-

wide conservation strategies for protection, stewardship, communications and government relations. Many of these strategies will have impacts beyond this ecoregion, and should be shared and coordinated with other ecoregional implementation teams.

Phase IV: Implementation

The final phase of the planning process is to set in place processes and actions for the implementation of conservation activities within the Ecologically Significant Areas. The Conservancy's role at each Ecologically Significant Area was determined and will be further refined during Site Conservation Planning at those Ecologically Significant Areas where the Conservancy will take the lead on conservation action. Descriptions of each Ecologically Significant Area were drawn up by the core team members. A lead agency was identified for each ESA, as well as other potential and existing conservation. Key contacts for each of these partners were identified wherever possible. Current conservation areas and activities within each Ecologically Significant Area were noted.

Multi-site conservation strategies were developed to abate the ecoregion-wide threats identified; these strategies included continuation of activities outlined in the original communications and outreach plan for the ecoregion. In addition, a process was designed for periodic review of the portfolio and criteria established for modification of the portfolio, to allow for inclusion of new target and Ecologically Significant Area data in future iterations of the plan.

Each state Chapter will have responsibility for implementing conservation action at the Ecologically Significant Areas within their state, through the development of Site Conservation Plans or by working with conservation partners on specific strategies for conservation of the targets at those areas. However, an implementation team has been established to oversee multi-state strategies and to review the plan as new data is gathered.

Lessons Learned:

During the planning process, the team identified several ideas for facilitating future plans or reiterations of plans:

- ✓ In fragmented ecoregions such as the PFB, target occurrence data should be used to justify rather than derive Ecologically Significant Areas.
- ✓ There was little value in assessing threats at individual ESAs; no clear trends emerged. This is better done during Site Conservation Planning.
- ✓ If the same experts will be used to conduct aquatic target assessments in several ecoregions, it is beneficial to conduct all of the assessments simultaneously. Many aquatic ESAs cross ecoregional boundaries.
- ✓ At the site selection phase, it is more efficient to propose ESAs for the experts to react to, rather than have the experts spend time identifying areas already known.

VII: GOALS ASSESSMENT

An analysis of conservation targets occurring within the 166 ESAs made apparent the need for extensive restoration work within the ecoregion in order to meet the conservation goals for all targets. A goals assessment was conducted based on the original PFB goals; a similar assessment was done based on the Geography of Hope (GOH) 2 * 10 Rule.

The **2*10 Rule** standardizes goals across all ecoregions, in order to be able to compare and track how well ecoregional plans met their conservation goals. The Rule states that there be at least 2 occurrences of a conservation target conserved in each ecoregional section, with at least 10 occurrences throughout the range of the target. This Rule is probably adequate for most conservation targets within the PFB. If there are several examples of small patch communities within each Ecologically Significant Area, this Rule is sufficient for that type of plant community. It is also probably sufficient for large patch communities, because the PFB is an aggregate of many “small sized” large patch communities, rather than a single matrix community with embedded patch communities. The 2 * 10 Rule means it is easier to track conservation goals for plant communities because many small patch communities have not been well inventoried, and all occurrences are not known. However, stratification by section is not relevant for peripheral conservation targets; the PFB plan did not meet the 2 * 10 Rule goals for peripheral targets because the internal PFB goals did not set stratification goals for these targets.

Goals for plant community targets were adjusted to account for the increase in size of Ecologically Significant Areas which resulted in multiple occurrences of these targets being subsumed within a single conservation area. A full list of the conservation targets for the PFB with an assessment of whether conservation goals for those targets have been met is found in Table 6. For a graphical depiction of goals met, please see Table 7 for PFB goals and Table 8 for GOH goals. Below are assessments of both PFB and GOH goals for conservation targets by target type and distribution.

Table VII-1: Overview of PFB Goals Met by Target Type

Conservation Target Taxon	Number of Targets	Number of PFB Goals Met	% PFB Goals Met	PFB Goals Met w/ Restoration
Aquatic System	24	8	33%	67%
Bird	16	10	62%	
Fish	7	2	29%	
Mammal	1	1	100%	
Herptile	2	0	0%	
Invertebrate	36	19	53%	
Plant	23	11	48%	52%
Plant Community	107	67*	63%*	50%

Table VII-2: Overview of GOH Goals Met by Target Type

Conservation Target Taxon	Number of GOH Goals Met	% GOH Goals Met	GOH Goals Met w/Restoration
Aquatic System	4	17%	50%
Bird	0	0%	
Fish	2	29%	
Mammal	0	0%	
Herptile	0	0%	
Invertebrate	21	58%	
Plant	10	44%	44%
Plant Community	86*	80%*	70%

* this number includes communities for which it was assumed that the goal was met, but which were not assessed because they are so common; eg. shrub meadows, water lily wetlands.

Table VII-3: Plant Community Goals Assessment by Distribution and Patch Type

Plant Community Distribution	Patch Type	Number of Conservation Targets	PFB Goals Met	GOH Goals Met (2 * 10 Rule)	Comments
ENDEMIC:	Matrix	1	0%	0%	goal met w/restoration
	Large Patch	2	50%	50%	
	Small Patch	10	50%	40%	
LIMITED:	Matrix	1	0%	0%	goal met w/restoration
	Large Patch	8	25%	63%	
	Small Patch	12	33%	75%	
WIDESPREAD:	Large Patch	25	52%	80%	
	Small Patch	21	38%	76%	
PERIPHERAL:	Large Patch	8	50%	50%	
	Small Patch	18	61%	44%	
DISJUNCT:	Small Patch	1	0%	100%	

Matrix: Only fragments (< .01%) of the former extent of tallgrass prairies and oak openings remain. In order to meet the goals for these communities, large-scale restoration opportunities were identified within the ecoregion. Additional restoration areas need to be identified in Iowa and Minnesota in order to represent the diversity of ecological settings in which these communities historically occurred.

Small Patch: The ESAs for the ecoregion may better capture small patch communities than is represented in Table VII-3. Data for many small patch communities are limited and it was difficult to rapidly assess what constituted a single occurrence; that is, how close occurrences must be to be considered a single occurrence.

The planning process could have identified more sites to meet the goals for peripheral communities, such as white cedar swamps, but our ESA selection process was focused on embedding peripheral targets within areas selected for endemic, limited, and widespread targets.

Table VII-4: Species Goals Assessment by Distribution and Taxonomic Group

Species Distribution	Taxonomic Group	Conservation Targets #	PFB Goals Met	GOH Goals Met (2 * 10 Rule)
ENDEMIC:	Invertebrate	10	80%	90%
	Plant	6	33%	33%
LIMITED:	Fish	5	20%	20%
	Herptile	1	0%	0%
	Invertebrate	14	21%	29%
	Plant	9	22%	44%
WIDESPREAD:	Bird	6	33%	0%
	Fish	2	50%	50%
	Herptile	1	0%	0%
PERIPHERAL:	Bird	9	89%	0%
	Mammal	1	100%	0%
	Invertebrate	6	100%	100%
	Plant	5	100%	40%

Bird: Bird targets were not assessed for Iowa and Minnesota because Partners in Flight planning had not addressed this information gap at the time of this report writing. As a result, goals were met largely only for peripheral bird targets, because the PFB plan goals did not have a stratification requirement for peripheral targets.

Fish: The PFB plan did not meet goals for most fish targets. This is because many fish species targets have been decimated from the majority of their former range. Other species, such as the gilt darter (*Percina evides*), have a restricted range within the ecoregion, occurring primarily in transition rivers between the PFB and the SMF ecoregions, and the goals for these species were possibly set too high, given this restricted range. Some of the difficulty in meeting fish species conservation goals derives from the movement patterns of fish. For example, it was difficult in some cases to distinguish individual populations of lake sturgeon (*Acipenser fulvescens*).

Herptile: Both timber (*Crotalus horridus*) and eastern massasauga (*Sistrurus catenatus*) rattlesnakes have been extirpated from the majority of their range as a result of past population control policies. The PFB plan includes all of the high quality populations that remain, but additional restoration areas need to be identified for the long-term viability of these species.

Invertebrate: The goals met for invertebrates may be a function of completed inventory work. For example, goals were met for most of the groups where more inventory work has been completed (eg., dragonflies, butterflies, land snails, leaf hoppers and mussels), but were not met for species which have had less inventory work (eg., land and aquatic beetles). In some cases, however, goals were not met because the habitat quality has been greatly degraded. Examples of targets in this latter group include big river mussels such as the Higgins eye (*Lampsilis higginsii*). Some of the endemic invertebrates may have such a narrow distribution that goals were set too high to be met. Distribution is unknown for some of these endemic species.

Mammal: The only mammal target for the ecoregion was the social myotis (*Myotis sodalis*), or Indiana bat. The plan identified the single known occurrence of this peripheral species in the ecoregion.

Plant: The plan did not meet goals for endemic plants such as Leedy roseroot (*Sedum integrifolium ssp leedyi*) and Fassett's locoweed (*Oxytropis campestris var chartacea*), which have very specialized habitat requirements. The plan did capture the best occurrences of these species. Future assessments should be made if additional restoration populations need to be established. Other endemic species, such as dwarf trout lily (*Erythronium propullans*), occur in many locations, but their habitat is very degraded and long-term viability is questionable under current conditions. For the limited, widespread and peripheral species, goals met were a reflection of the habitat in which the targets occur. Goals were generally not met for plants that occur primarily in prairies, likely because so little prairie habitat remains. However, goals were generally met for forest and wetland species.

VIII: INFORMATION MANAGEMENT

Tabular Data

The Midwest Resource Office of TNC compiled plant community and rare species location data from the four states' Natural Heritage Programs' Biological Conservation Databases (BCD). These data were exported into Microsoft Access for easier data management. Additional occurrence records were added to this database from expert information on best-quality occurrences not found in the BCD. Information on conservation targets gathered during the planning process was compiled in this database. Information on ESAs chosen for the ecoregional portfolio was gathered by the Core Team and compiled in a second Access database, linked to this original list of conservation target occurrences.

An additional Access database was created to track all individuals involved in the planning process. This database was expanded to include all identified potential conservation partners, and is used to distribute the Prairie-Forest Border newsletter, and other materials regarding the ecoregion and the final plan.

Spatial Data

Point locations for all known species and plant community target occurrences from the Natural Heritage Inventories were reprojected into a custom projection, designated PFB-TM. This data was managed in GIS using ArcView, augmented by additional data from several sources, listed in the Sources of Data section of this report. All acquired data were reprojected in PFB-TM.

For most of the ecoregion, ESAs were hand-delineated onto 1:100,000 topographic maps at planning meetings. However, ESA boundaries for Minnesota were obtained from the MN County Biological Survey. The MN areas depict current extent of natural communities, excluding restoration potential, which is included in sites delineated in the other three states. Priority areas within MN that were in close proximity were collapsed into single ESAs. For all states, aquatic sites were generally delineated to include all of the major tributaries. This approach was not taken for major river systems like the Mississippi, Chippewa, Wisconsin, St. Croix, and Minnesota Rivers. In these cases, only the mainstem of the river was delineated.

This report, and all accompanying data will be archived at the Midwest Resource Office of The Nature Conservancy, with a copy housed at the Conservation Planning Office in Boise, Idaho. A working database will be kept at the Wisconsin Chapter office.

IX: INFORMATION GAPS

Several issues relevant to the conservation of biodiversity in the Prairie-Forest Border ecoregion were not addressed in sufficient detail to include in this iteration. Further analysis or data gathering may be required before they can be included in this report. These issues include:

- Inclusion of lake aquatic sites in Minnesota
- Inclusion of lake aquatic sites in Wisconsin
- Inclusion of lake aquatic sites in Fox River Valley, IL
- Expert review of provisional aquatic sites in IA

- Inventory work on specific natural communities and species:

Illinois:

- ✓ Chinquapin oak bluff woodland (CEGL002144)
- ✓ Bur oak bottomland woodland (CEGL002140)
- ✓ Bur oak – swamp white oak mixed bottomland forest (CEGL002098)

Iowa:

- ✓ Alkaline dry bluff (CEGL002291)
- ✓ Black oak/ lupine barrens (CEGL002379)
- ✓ Skunk cabbage meadow (CEGL002385)
- ✓ Midwest ephemeral pond (CEGL002430)
- ✓ Mixed emergent deep marsh (CEGL002229)
- ✓ Midwest cattail deep marsh (CEGL002233)
- ✓ Tussock sedge meadow (CEGL002258)
- ✓ Silver maple – elm – cottonwood forest (CEGL002586)
- ✓ Chinquapin oak bluff woodland (CEGL002144)
- ✓ Bur oak – swamp white oak mixed bottomland forest (CEGL002098)

Wisconsin:

Communities and Species:

- ✓ Bur oak bottomland woodland (CEGL002140)
- ✓ Bur oak – swamp white oak mixed bottomland forest (CEGL002098)
- ✓ Red oak – sugar maple forest (CEGL002461) in 222Le
- ✓ Chinquapin oak bluff woodland (CEGL002144)
- ✓ Oak woodlands (CEGL002142) – identification of remnants and prioritizing restoration
- ✓ Midwest ephemeral pond (CEGL002430)
- ✓ Forked aster (*Aster furcatus*) (PDAST0T170) in 222Kc
- ✓ Cliff cudweed (*Gnaphalium obtusifolium var saxicola*) (PDAST440G3)
- ✓ Eastern massasauga (*Sistrurus catenatus*) (ARADE03010) 222Kd

Specific Areas:

- ✓ 222Kb: Central Wisconsin Moraines and Outwash
- ✓ 222Kc: Lake Winnebago Clay Plain
- ✓ 222Kd: South Central Wisconsin Prairie and Savannah

Minnesota:

Specific Areas:

- ✓ 222Ma: Alexandria Moraine-Hardwood Hills

Ecoregion-wide Information Gaps:

- Identification of appropriate grassland restoration areas (located for greatest impact on nitrates/hypoxia problem in Gulf of Mexico)
- Important Bird Area analysis for Iowa and Minnesota
- Assessment of total amount of land needed in semi-wild state in order to adequately conserve biodiversity of ecoregion
- Aggregation of plant associations into ecological systems/complexes for next iteration of planning process
- Inclusion of wide-ranging mammals as conservation targets
~ accommodation of range expansion of sharp-tailed grouse, greater prairie chicken, wolf, fisher, black bear and bobcat in ESA delineation

X: IMPLEMENTATION/NEXT STEPS

Identifying conservation targets, conservation goals and Ecologically Significant Areas only lays the groundwork for conservation action in the ecoregion. The planning team early on identified key conservation organizations and agencies, many of whom are already active in working to protect ecoregional conservation targets. Disseminating the results of the ecoregional planning process, developing shared strategies and actions to abate threats to the biodiversity of the ecoregion and measuring the success of conservation efforts at the portfolio of Ecologically Significant Areas will be the work of the four Conservancy chapters, working with partners within their states and collaborating across state borders on multi-site conservation strategies. An implementation team will be formed, with representatives from each state, to monitor progress toward the goals set in this plan and to maximize efficiency, avoiding duplication of efforts and coordinating conservation strategies at the ecoregional or broader levels.

Communications Plan

Early in the planning process, the core team saw a need for developing a comprehensive plan for communicating about the Prairie-Forest Border ecoregion, the ecoregional planning process and the results of that process. To this end, a Communications Working Group was formed, which developed a Communications Plan for education and outreach both internally within The Nature Conservancy and Heritage Programs, and externally with conservation partners and other stakeholders. The Communications Plan identified several communications tools to be developed, including a planning newsletter, PowerPoint presentation, and an ecoregional fact sheet and map. Part of the communications strategy is the dissemination of this completed Ecoregional Conservation Plan to all active conservation partners within the Prairie-Forest Border, either on a CD-ROM or as a hard copy. A contact person for each state has been identified to respond to requests for information regarding the ecoregional plan:

Wisconsin: Paul West, TNC-Wisconsin, 633 W. Main St. Madison, WI 53703 (608) 251-8140
pwest@tnc.org

Illinois: Shannon Horn, TNC-Illinois, 301 SW Adams Suite 1007 Peoria, IL 61602 (309) 673-6689
shorn@tnc.org

Iowa: Dave DeGues, TNC-Iowa, 108 Third St. Suite 300, Des Moines, IA 50309 (515) 244-5044
ddegeus@tnc.org

Minnesota: Garth Fuller, TNC-Minnesota, Cannon Valley Office, 328 Central Ave N, Faribault, MN 55021 (507) 332-0525 gfuller@tnc.org

Ecoregional Conservation Strategies

The Core Team and Steering Committee developed possible conservation strategies to address ecoregional threats. These strategies are those which may be implemented at a broad level, not focusing on a particular instance of the threat or on an individual Ecologically Significant Area. Conservation strategies listed in this report will be enacted on a state-wide, ecoregion-wide or multi-ecoregional scale, and their implementation will abate threats at many of the portfolio areas simultaneously. Hence there is a need for some level of coordination among state chapters to ensure that these strategies are implemented in ways which most efficiently effect conservation at multiple portfolio areas.

- ❖ To mitigate the threat from **unplanned residential and commercial development**
 - Advocate for state-wide or regional funding for land acquisition and tax incentive programs for landowners who take appropriate steps to conserve their property
 - Pursue multi-state funding opportunities for conservation work
 - Collaborate with local governments and conservation groups to develop sound land use plans
- ❖ To mitigate the threat from **incompatible agricultural management**
 - Advocate for funding for EQIP, WHIP, CRP, CREP programs
 - Find Federal funds for Natural Heritage programs to use in advising management/conservation programs
- ❖ To mitigate the threat from **exotic species**:
 - Pursue funding and emphasize exotic control as a management tool on public and private lands
 - Research biological control of garlic mustard
 - Develop a communications strategy for sharing successful control methods
 - Partner with state DOT's on right-of-way management
- ❖ To mitigate the threat from **fire exclusion**:
 - Outreach on fire methodology/training for partners
 - Increase the use of prescribed burns on public and private lands
 - Public education on need for prescribed burns

- ❖ To mitigate the threat from **improper restoration** and to increase habitat available through increased use of restoration techniques:
 - Advocate and find funding for improved restoration and management of public lands
 - Develop a template for restoration to use in education and outreach
 - Educate local land managers and public official about the need for restoration and about appropriate restoration techniques
 - Identify restoration success as models for other groups
 - Establish native seed farms for use in restoration

- ❖ To mitigate the threat from **water management practices**:
 - Build a relationship with the Army Corps of Engineers
 - Work with USFWS on management of Refuges along Mississippi River
 - Outreach on impact of dams to aquatic resources
 - Share results of ecoregional planning with state fisheries staff

Revisions to Portfolio

In order that the Prairie-Forest Border ecoregional plan be a living and responsive document, there must be some strategy in place for alteration of the portfolio of Ecologically Significant Areas in light of new data about the ecoregion and its conservation targets. The Core Team based their revision strategy on that of the Central Tallgrass Prairie ecoregional plan. The Central Tallgrass Prairie planning team recommended two means of updating the conservation design between the completion of the initial plan, and the start of the next ecoregional planning exercise: (1) Creation of an Implementation Team to review recommended changes on an on-going basis; and (2) Periodic meetings of the PFB Core Planning Team to review the interim changes and to consider other changes.

From time to time, situations will arise when it will be desirable to make changes to the original suite of sites selected: G-ranks will change, inventory will change the ranking of sites, or other new information becomes available. If changes are made on an on-going basis, and that information is well documented, it will be that much easier to update the plan in the next round of ecoregional planning.

An Implementation Team composed of representatives from each of the four state Conservancy Chapter offices will be formed to oversee the revision process, facilitated by the Wisconsin Chapter. The Wisconsin Chapter will maintain a working database of ecoregional results, targets, ecologically significant areas and goals, and will facilitate review and assessment of the conservation target goals. The Implementation Team will also monitor progress toward goals and will facilitate discussion on proposed revisions to the plan. The Team will utilize the agreed upon rationale for reviewing and approving changes to the sites selected (rationale found in Appendix E). Conference call meetings of the Team will be called as needed by the Team Leader. As the Team makes decisions, these will be tracked and documented by the data manager. Also, the Divisional Director will be notified of any changes.

Every 18 months, the Core Team will meet to review the changes made by the Implementation Team, and to consider portfolio modifications based on changing G-ranks or S-ranks, inventory results, additions to the target lists, or to rectify deficiencies in the original design (e.g. gaps in secondary target conservation). These changes will be tracked and documented, and the Divisional Director will be notified of the changes.

Within five years of completing this plan, it is recommended that a second iteration be undertaken to integrate all new information in a comprehensive manner. The above mentioned on-going maintenance should simplify this task. It is expected that new information about the species and communities of the ecoregion as well as advances in conservation science and planning will be integrated into the Conservation Design at that time. The data gaps identified in this document will be addressed and that information included in the next iteration of the PFB Plan.

GLOSSARY OF TERMS

action sites—The subset of sites from the full portfolio of ecoregional conservation sites where the Conservancy is committed to achieving conservation over the next ten years. Criteria considered during the “action site” selection process are: complementarity, diversity of targets and health of those targets, threats, feasibility, and leverage.

alliance—A coarse level of biological community organization in the US National Vegetation Classification, defined as a group of plant associations sharing one or more diagnostic species (dominant, differential, indicator, or character), which, as a rule, are found in the uppermost strata of the vegetation. Aquatic alliances correspond spatially to macrohabitats.

assembly—A step in the Conservancy’s ecoregional planning process wherein “sites” or areas of biodiversity significance are selected for inclusion in the portfolio of sites. Computer algorithms (such as SITES) and spreadsheets are available to speed this process.

association—The finest level of biological community organization in the US National Vegetation Classification, defined as a plant community with a definite floristic composition, uniform habitat conditions, and uniform physiognomy. With the exception of a few associations that are restricted to specific and unusual environmental conditions, associations generally repeat across the landscape. They also occur at variable spatial scales depending on the steepness of environmental gradients and the patterns of distribution.

aquatic ecological system—Dynamic spatial assemblages of ecological communities that 1) occur together in an aquatic landscape with similar geomorphological patterns; 2) are tied together by similar ecological processes (e.g., hydrologic and nutrient regimes, access to floodplains and other lateral environments) or environmental gradients (e.g., temperature, chemical and habitat volume); and 3) form a robust, cohesive and distinguishable unit on a hydrography map.

biological diversity—The variety of living organisms considered at all levels of organization including the genetic, species, and higher taxonomic levels. Biological diversity also includes the variety of habitats, ecosystems, and natural processes occurring therein.

biodiversity hotspot—Typically, a geographic location under a high degree of threat and characterized by unusually high species richness and large numbers of endemic species.

bioreserve—A landscape, large in size with naturally functioning ecological processes and containing outstanding examples of ecosystems (ecological systems), communities, and species which are endangered or inadequately protected.

coarse filter-fine filter approach—A working hypothesis that assumes that conservation of multiple, viable examples of all coarse-filter targets (communities and ecological systems) will also conserve the majority of species (fine-filter targets). The term coarse filter refers to targets at the community or system level of biological organization whereas coarse-scale refers to spatial scale of, for example, terrestrial targets that roughly cover 20,000–1,000,000 acres.

coarse-scale approach—Ecological systems or matrix communities are spatially large terrestrial targets referred to as coarse-scale. The coarse-scale approach is the first step in the portfolio assembly process where all coarse-scale targets are represented or “captured” in the ecoregion (including those that are feasibly restorable).

community—Terrestrial or plant communities of definite floristic composition, uniform habitat conditions, and uniform physiognomy. Terrestrial communities are defined by the finest level of classification, the “plant association” level of the National Vegetation Classification. Like ecological systems, terrestrial communities are characterized by both a biotic and abiotic component. Even though they are classified based upon dominant vegetation, we use them as inclusive conservation units that include all component species (plant and animal) and the ecological processes that support them.

complementarity—The principle of selecting action sites that complement or are “most different” from sites that are already conserved. We can define sites that are already conserved as those with targets that have high biodiversity health (as measured by size, condition, and landscape context) and low threat rankings.

completeness—In portfolio assembly, the attempt to capture all targets within functional sites.

connectivity—Conservation sites or reserves have permeable boundaries and thus are subject to inflows and outflows from the surrounding landscapes. Connectivity in the selection and design of nature reserves relates to the ability of species to move across the landscape to meet basic habitat requirements. Natural connecting features within the ecoregion may include river channels, riparian corridors, ridge-lines, or migratory pathways.

conservation focus—Those targets that are being protected and the scale at which they are protected (local scale species and small patch communities; intermediate scale species and large patch communities; coarse scale species and matrix communities; and regional scale species).

conservation goal—In ecoregional planning, the number and spatial distribution of on-the-ground occurrences of targeted species, communities, and ecological systems that are needed to adequately conserve the target in an ecoregion.

conservation status—Refers to the category assigned to a conservation target such as threatened, endangered, imperiled, vulnerable, and so on.

conservation target (see target)

conservation value—A criterion in the action site selection process that is based upon the number, diversity (scale, aquatic/terrestrial), and health of conservation targets.

corridor—A route that allows movement of individuals or taxa from one region or place to another. In ecoregional planning, it is important to establish corridors among sites for conservation targets that require such areas for dispersal and movement

decline/declining—For conservation targets, the historical or recent decline through all of part or its range. Declining species exhibit significant, long-term declines in habitat/and or numbers, are subject to a high degree of threat, or may have unique habitat or behavioral requirements that expose them to great risk.

disjunct—Disjunct species have populations that are geographically isolated from that of other populations.

distribution pattern—The overall pattern of occurrence for a particular conservation target. In ecoregional conservation projects, often referred to as the relative proportion of the target's natural range occurring within a given ecoregion (i.e.; endemic, widespread, limited, disjunct, peripheral).

driver—A conservation target for which an Ecologically Significant Area was selected, and which must be conserved within that ESA to meet the conservation goal for the target.

ecological backdrop—Large areas of intact natural vegetation that occur in portions of an ecoregion but outside of conservation sites and are recognized as having critical importance in connectivity, ecological context, and function of natural processes. Ecological backdrops are differentiated from conservation sites by the anticipated lower level of on-the-ground conservation and strategies that may focus on large scale policy issues, such as multi-site threat abatement.

ecological communities (see community)

ecological complex—In some ecoregional planning efforts, such as the Northern Great Plains Steppe Ecoregional Plan, ecological systems are referred to as ecological complexes.

ecological drainage units (EDU)—Aggregates of watersheds that share ecological and biological characteristics. Ecological drainage units contain sets of aquatic systems with similar patterns of hydrologic regime, gradient, drainage density, & species distribution. Used to spatially stratify ecoregions according to environmental variables that determine regional patterns of aquatic biodiversity and ecological system characteristics.

ecological integrity—The probability of an ecological community or ecological system to persist at a given site is partially a function of its integrity. The ecological integrity or viability of a community is governed primarily by three factors: demography of component species populations; internal processes and structures among these components; and intactness of landscape-level processes which sustain the community or system.

ecological system (see terrestrial ecological systems or aquatic ecological system).

ecologically significant areas—Although the term conservation site is often used to describe areas chosen through the process of ecoregional planning, in actuality these are **ecologically significant areas** and different from sites as defined in site conservation planning. Although ecoregional plans may delineate rough or preliminary site boundaries or use other systematic units such as watersheds or hexagons as site selection units, the boundaries and the target occurrences contained within these areas are first approximations that will be dealt with in more specificity and accuracy in the site conservation planning process.

ecoregion—A relatively large area of land and water that contains geographically distinct assemblages of terrestrial communities. These communities (1) share a large majority of their species, dynamics, and environmental conditions, and (2) function together effectively as a conservation unit at global and continental scales. Ecoregions were defined by Robert Bailey as major ecosystems resulting from large-scale predictable patterns of solar radiation and moisture, which in turn affect the kinds of local ecosystems and animals and plant found within.

edge effect—The influence of a habitat edge on interior conditions of a habitat or on species that use interior habitat. Greater amounts of edge habitat can often lead to deleterious effects on “interior” target species.

efficiency—In portfolio design, a principle in which occurrences of coarse-scale ecological systems that contain multiple targets at other scales are given priority. This is accomplished

through identification of functional sites and landscapes. In more academic literature, efficiency refers to conserving the greatest amount of biological diversity in the least amount of land area.

element—A term originating from the methodology of the Natural Heritage Network that refers to species, communities, and other entities (e.g., migratory bird stopovers) of biodiversity that serve as both conservation targets and as units for organizing and tracking information.

element occurrence (EO)—A term originating from methodology of the Natural Heritage Network that refers to a unit of land or water on which a population of a species or example of an ecological community occurs. For communities, these EOs represent a defined area that contains a characteristic species composition and structure.

endangered species—A species that is federally listed or proposed for listing as Endangered by the U.S. Fish and Wildlife Service under the Endangered Species Act.

endemic—Species that are restricted to an ecoregion (or a small geographic area within an ecoregion), depend entirely on a single area for survival, and are therefore often more vulnerable.

exotic—A species which was introduced to a region accidentally or purposefully by human action.

feasibility—A principle used in ecoregional planning to select Action Sites by evaluating the staff capacity of TNC and partners to abate threats, the probability of success, and the financial costs of implementation.

fine filter—To ensure that the coarse-fine filter strategy adequately captures all viable, native species and ecological communities, ecoregional planning teams also target species that cannot be reliably conserved through the coarse-filter approach and may require individual attention through the fine filter approach. Wide-ranging, very rare, extremely localized, narrowly endemic, or keystone species are all likely to need fine-filter strategies.

focal species—Focal species have spatial, compositional and functional requirements that may encompass those of other species in the region and may help address the functionality of ecological systems. Focal species may not always be captured in the portfolio through the coarse filter. In the Conservancy's ecoregional planning efforts wide-ranging and keystone are examples of focal species.

fragmentation—Process by which habitats are increasingly subdivided into smaller units, resulting in their increased insularity as well as losses of total habitat area. Fragmentation may be caused by humans (such as development of a road) or by natural processes (such as a tornado).

functional landscape— A portfolio site selected for both coarse-scale terrestrial and aquatic targets. The conservation targets are intended to represent many other ecological systems, communities, and species (i.e., "all" biodiversity).

functional site – A portfolio site selected for one or more small-patch or large-patch terrestrial communities, or an aquatic system target; species targets may or may not be present.

functionality—In portfolio assembly, a principle where we ensure all sites in a portfolio are functional or feasibly restorable to a functional condition. Functional sites maintain the size,

condition, and landscape context within the natural range of variability of the respective conservation targets.

GAP (National Gap Analysis Program)—Gap analysis is a scientific method for identifying the degree to which native animal species and terrestrial communities are represented in our present-day mix of conservation lands. Those species and communities not adequately represented in the existing network of conservation lands constitute conservation “gaps.” The purpose of the Gap Analysis Program (GAP) is to provide broad geographic information on the status of stable, non-vulnerable species and their habitats in order to provide land managers, planners, scientists, and policy makers with the information they need to make better-informed decisions.

GIS (Geographic Information System)—A computerized system of organizing and analyzing any spatial array of data and information.

global rank—A numeric assessment of a biological element’s relative imperilment and conservation status across its range of distribution ranging from G1 (critically imperiled) to G5 (secure). Assigned by the Natural Heritage Network, global ranks for species and communities are determined primarily by the number of occurrences or total area of coverage (communities only), modified by other factors such as condition, historic trend in distribution or condition, vulnerability, and threats.

habitat—The place or type of site where species and species assemblages are typically found and/ or successfully reproducing. In addition, marine communities and systems are referred to as habitats. They are named according to the features that provide the underlying structural basis for the community.

Heritage—A term used loosely to describe the Network of Natural Heritage Programs and Conservation Data Centers or to describe the standardized methodologies used by these programs.

imperiled species—Species which have a global rank of G1-G2 by Natural Heritage Programs/ Conservation Data Centers. Regularly reviewed and updated by experts, these ranks take into account number of occurrences, quality and condition of occurrences, population size, range of distribution, threats and protection status.

imperilment—A term from Natural Heritage methodology referring to the degree to which an element of biodiversity (e.g., species or community) is considered at risk of extinction or elimination. Three factors can be considered part of the term: 1) evidence of current or historic decline; 2) threat, or likelihood, that human action will result in future decline; and 3) rarity.

indicator species—A species used as a gauge for the condition of a particular habitat, community, or ecosystem. A characteristic or surrogate species for a community or ecosystem.

indigenous—A species that is naturally occurring in a given area and elsewhere.

irreplaceable—The single most outstanding example of a target species, community, or system, or a population that is critical to a species remaining extant and not going extinct.

integration—A portfolio assembly principle where sites that contain high-quality occurrences of both aquatic and terrestrial targets are given priority for conservation action.

keystone species—A species whose impacts on its community or ecosystem are much greater than would be expected from its abundance.

landscape—A heterogeneous land area composed of a cluster of interacting ecosystems that are repeated in similar form throughout.

large patch—Communities that form large areas of interrupted cover. Individual occurrences of this community patch type typically range in size from 50 to 2,000 hectares. Large patch communities are associated with environmental conditions that are more specific than those of matrix communities, and that are less common or less extensive in the landscape. Like matrix communities, large-patch communities are also influenced by large-scale processes, but these tend to be modified by specific site features that influence the community.

leverage—Used in ecoregional planning to select Action Sites by evaluating if conservation at a site will influence conservation elsewhere, if the site provides an opportunity to test a strategy, or if staff or a mechanism exists to help export conservation experience from one site to others.

linear communities—Communities that occur as linear strips are often, but not always, ecotonal between terrestrial and aquatic systems. Examples include coastal beach strands, bedrock lakeshores, and narrow riparian communities. Similar to small patch communities, linear communities occur in very specific ecological settings, and the aggregate of all linear communities covers, or historically covered, only a small percentage of the natural vegetation of a ecoregion. They also tend to support a specific and restricted set of associated flora and fauna. Linear communities differ from small patch communities in that both local-scale processes and large-scale processes strongly influence community structure and function.

macrohabitats—Macrohabitats are the finest-scale biophysical aquatic classification unit used as conservation targets. Examples are lakes and stream/river segments that are delineated, mapped, and classified according to the environmental factors that determine the types and distributions of aquatic species assemblages.

matrix communities—Communities that form extensive and contiguous cover may be categorized as matrix (or matrix-forming) community types. Matrix communities occur on the most extensive landforms and typically have wide ecological tolerances. They may be characterized by a complex mosaic of successional stages resulting from characteristic disturbance processes. Individual occurrences of the matrix type typically range in size from 2000 to 500,000 hectares. In most ecoregions, the aggregate of all matrix communities covers, or historically covered, as much as 75-80% of the natural vegetation of the ecoregion. Matrix community types are often influenced by large-scale processes (e.g. climate patterns, fire) and are important habitat for wide-ranging or large area-dependent fauna, such as large herbivores or birds.

metadata—Metadata documents the content, source, reliability, and other characteristics of data. Metadata are particularly important in the iterative ecoregional planning process because this documentation will expedite the review of existing tabular and geospatial data sets when an ecoregional plan is revisited and will minimize the likelihood of “lost” data.

metapopulation—A network of semi-isolated populations with some level of regular or intermittent migration and gene flow among them, in which individual populations may go extinct but can then be recolonized from other source populations

mosaic—An interconnected patchwork of distinct vegetation types.

native—Those species and communities that were not introduced accidentally or purposefully by people but that are found naturally in an area. Native communities are those characterized by native species and maintained by natural processes. Native includes both endemic and indigenous species.

network of preserves—An integrated set of functional sites and landscapes designed to conserve regional species. Portfolios of sites in regions of the country that still support wide-ranging species like the grizzly bear should be based upon functional networks of sites.

occurrence—Spatially referenced examples of species, communities, or ecological systems. May be equivalent to Heritage Element Occurrences, or may be more loosely defined locations delineated through 1) the definition and mapping of other spatial data or 2) the identification of areas by experts.

partnership—Collaborative relationship with a diverse array of public and private organizations, agencies, and individuals that work with TNC to conserve biodiversity.

patch community—Communities nested within matrix communities and maintained primarily by specific environmental features rather than disturbance processes.

phase 1 site—The eight to ten “no-regret” conservation sites selected for each ecoregion prior to the completion of an ecoregional plan. This exercise was conducted in 1997 by TNC staff and completed in March 1998 to begin the process of thinking and working within ecoregional boundaries. All Capital Campaign sites should be Phase I sites. Phase I sites may or may not be included in the list of TNC Action Sites, once the full ecoregional portfolio is assembled.

plant community—Community types of definite floristic composition, uniform habitat conditions, and uniform physiognomy. These communities are defined by the finest level of classification, the “plant association” level of the National Vegetation Classification.

portfolio of sites—In ecoregional plans, these are the suite of conservation sites within an ecoregion that would collectively conserve the native species and communities of the ecoregion.

population viability analysis (PVA)—A collection of quantitative tools and methods for predicting the likely future status (e.g., likelihood of extinction or persistence) of a population or collection of populations of conservation concern.

rangewide—Referring to the entire distribution of a species, community, or ecological system.

rapid ecological assessment (REA)—Technique for using remote sensing information combined with on-the-ground selected biological surveys to relatively quickly assess the presence and quality of conservation targets, especially at the community and ecosystem level.

representation—A principle of reserve selection and design referring to the capture the full spectrum of biological and environmental variation within a network of reserves or conservation sites, including all genotypes, species, communities, ecosystems, habitats, and landscapes.

representativeness—Captures multiple examples of all conservation targets across the diversity of environmental gradients appropriate to the ecoregion (e.g., ecoregional section or subsection, ecological land unit (ELU), or some other physical gradient).

restoration driver—A conservation target for which an Ecologically Significant Area was selected, but which is degraded or absent from the ESA and for which habitat must be restored in order to meet conservation goals for the target.

restoration landscape – A portfolio site selected for both coarse-scale terrestrial community and aquatic ecological system targets, but where the site is degraded, so conservation strategies are focused on restoration actions.

section—Areas of similar physiography within an ecoregional province; a hierarchical level with the U.S. Forest Service ECOMAP framework for mapping and classifying ecosystems at multiple geographic scales.

shifting mosaic—An interconnected patchwork of distinct vegetation types that may shift across the land surface as a result of dynamic ecosystem processes, such as periodic wildfire or flooding.

site (or conservation site)—Areas that are defined by the presence of conservation targets, are the focus of conservation action, and are the locus for measuring conservation success. Ecoregional planning identifies and selects conservation targets and locates occurrences of these targets. Based on geographic proximity, these target occurrences are grouped together into sites.

small patch—Communities that form small, discrete areas of vegetation cover. Individual occurrences of this community type typically range in size from 1 to 50 hectares. Small patch communities occur in very specific ecological settings, such as on specialized landform types or in unusual microhabitats. The specialized conditions of small patch communities, however, are often dependent on the maintenance of ecological processes in the surrounding matrix and large patch communities. In many ecoregions, small patch communities contain a disproportionately large percentage of the total flora, and also support a specific and restricted set of associated fauna (e.g. invertebrates or herptofauna) dependent on specialized conditions.

source (of stress)—An extraneous factor, either human (i.e. activities, policies, land uses) or biological (e.g. non-native species), that infringes upon a conservation target in a way that results in stress.

spatial pattern—Within an ecoregion, natural terrestrial communities may be categorized into four functional groups on the basis of their current or historical patterns of occurrence, as correlated with the distribution and extent of landscape features and ecological processes. These groups are identified as matrix communities, large-patch communities, small-patch communities, and linear communities.

sponsor—The person who is ultimately accountable for the completion of the ecoregional plan. Usually a state director or individual of equal standing and power.

stakeholder—In a particular project or area, someone who: a) would benefit if TNC achieved its project goals, b) would be hurt, or believe they could be hurt by TNC's goals, c) could shape public opinion about TNC's project even if it might not directly affect them, and d) has the authority to make decisions affecting TNC's goals.

stratification—A hierarchical division of an ecoregion into nested, progressively smaller geographic units. Spatial stratification is used to represent each conservation target across its range of variation (in internal composition and landscape setting) within the ecoregion, to ensure long-term viability of the type by buffering against degradation in one portion of its range, and to allow for possible geographic variation.

stress—Something which impairs or degrades the size, condition, or landscape context of a conservation target, resulting in reduced viability.

surrogate—In conservation planning, surrogates are generally referred to as any conservation target being used to capture or represent targets or elements of biological diversity (both known and unknown) that occur at finer scales of spatial resolution or finer levels of biological organization. For example, communities and ecological systems are often labeled as surrogate measures of biodiversity which are intended to represent the many species that occur within these types of targets.

target—Also called conservation target. An element of biodiversity selected as a focus for conservation planning or action. The three principle types of targets in Nature Conservancy planning projects are species, ecological communities, and aquatic ecological systems.

threat—The combined concept of ecological stresses to a target and the sources of that stress to the target.

threatened species—Species federally listed or proposed for listing as Threatened by the U.S. Fish and Wildlife Service under the Endangered Species Act.

umbrella species—Typically wide-ranging species that require large blocks of relatively natural or unaltered habitat to maintain viable populations. Protection of the habitats of these species may protect the habitat and populations of many other more restricted or less wide ranging species.

urgency—A qualitative measure referring to the immediacy of severe threats—taking into account how severe the threat is and how likely it is to destroy or seriously degrade the targets.

viable/viability—The ability of a species to persist for many generations or an ecological community or system to persist over some time period. An assessment of viability will often focus on the minimum area and number of occurrences necessary for persistence. However, conservation goals should not be restricted to the minimum but rather should extend to the size, distribution, and number of occurrences necessary for a community to support its full complement of native species.

vulnerable—Vulnerable species are usually abundant, may or may not be declining, but some aspect of their life history makes them especially vulnerable (e.g., migratory concentration or rare/endemic habitat). For example, sandhill cranes are a vulnerable species because a large percentage of the entire population aggregates during migration along a portion of the Platte River in Nebraska.

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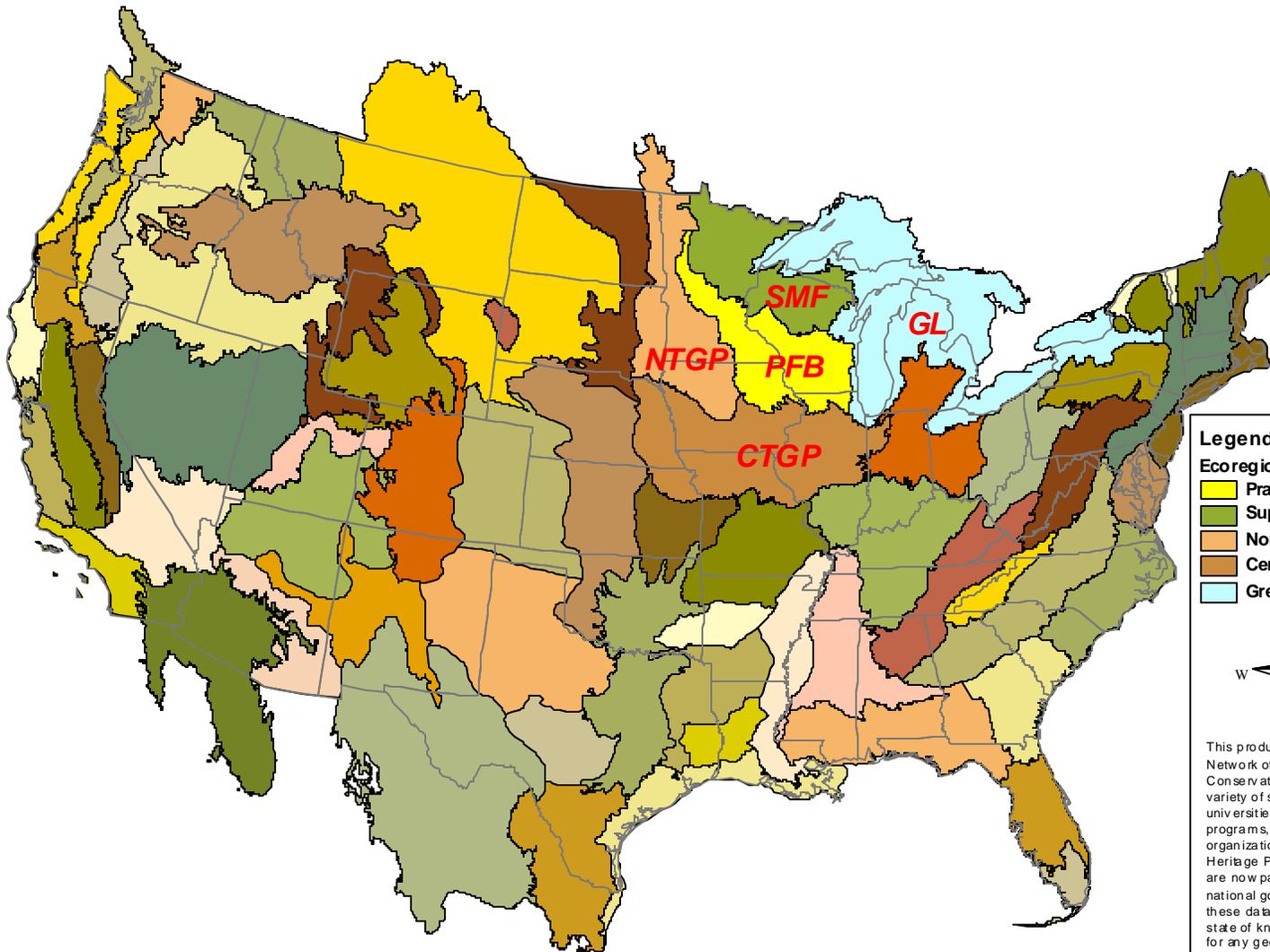
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Map 1: Context of Prairie - Forest Border Ecoregion



Legend

Ecoregions

-  Prairie - Forest Border (PFB)
-  Superior Mixed Forest (SMF)
-  Northern Tallgrass Prairie (NTGP)
-  Central Tallgrass Prairie (CTGP)
-  Great Lakes (GL)



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100 0 100 200 300 400 500 Miles



Map 2: Prairie - Forest Border Ecoregion



Legend

Ecoregions

- Prairie-Forest Border
- Great Lakes
- Superior Mixed Forest
- Northern Tallgrass Prairie
- Central Tallgrass Prairie

State Boundaries

This product uses data provided by members of the Network of Natural Heritage Programs and Conservation Data Centres. It was compiled from a variety of sources including state surveys, universities, systematic collections, non-game programs, county inventories, government organizations, and individual biologists. Most Heritage Programs and Conservation Data Centres are now part of their respective state, provincial, or national governments. Additions and changes to these data are constant. This map depicts the state of knowledge at the date listed. Lack of data for any geographic area does not mean that significant biological features are not present. Neither the members of the Network nor TNC are responsible for inaccuracies in the data and do not necessarily endorse interpretations derived from the data.

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Map 3: Sections of the Prairie - Forest Border



Legend

- Prairie - Forest Border Sections**
- Minnesota and Northeast Iowa Morainal-Oak Savannah
 - North Central U.S. Driftless and Escarpment
 - Southwestern Great Lakes Morainal
 - State Boundaries

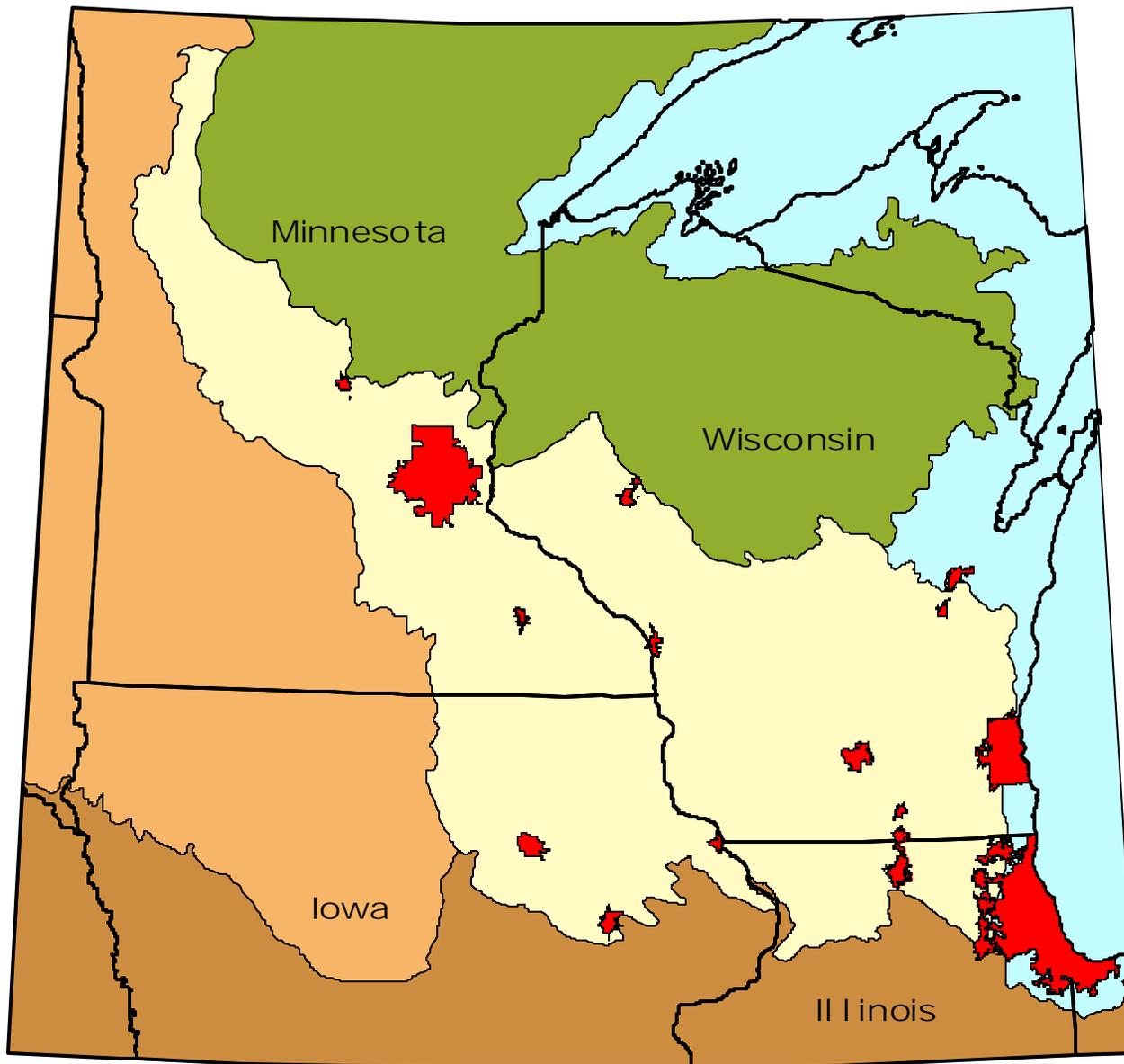


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Map 4: Urban Areas Within the Prairie - Forest Border



Legend

Urban Areas Within PFB

Ecoregions

Prairie-Forest Border

Great Lakes

Superior Mixed Forest

Northern Tallgrass Prairie

Central Tallgrass Prairie

State Boundaries



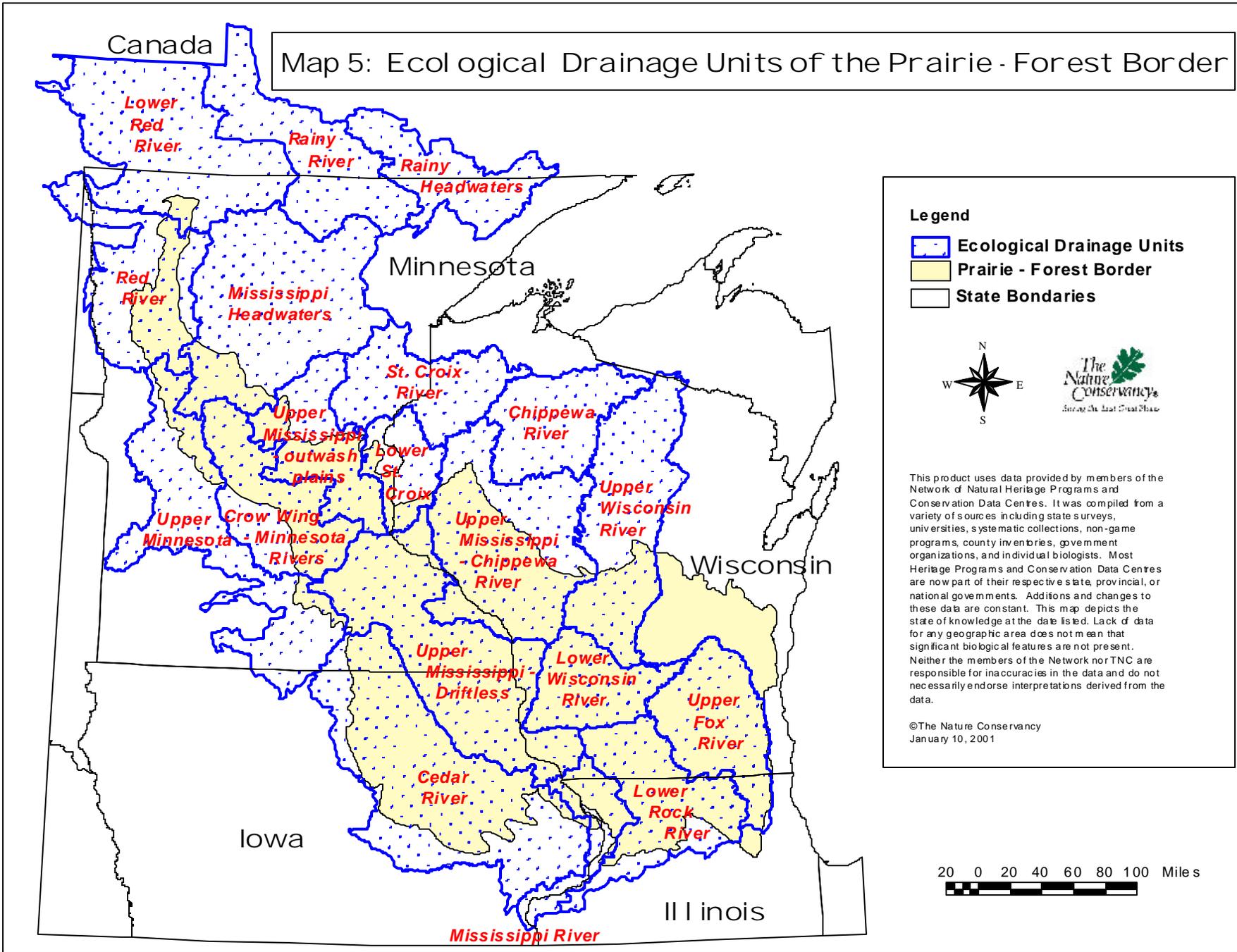
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20 0 20 40 60 80 100 Miles



Map 5: Ecological Drainage Units of the Prairie - Forest Border



Legend

-  Ecological Drainage Units
-  Prairie - Forest Border
-  State Boundaries

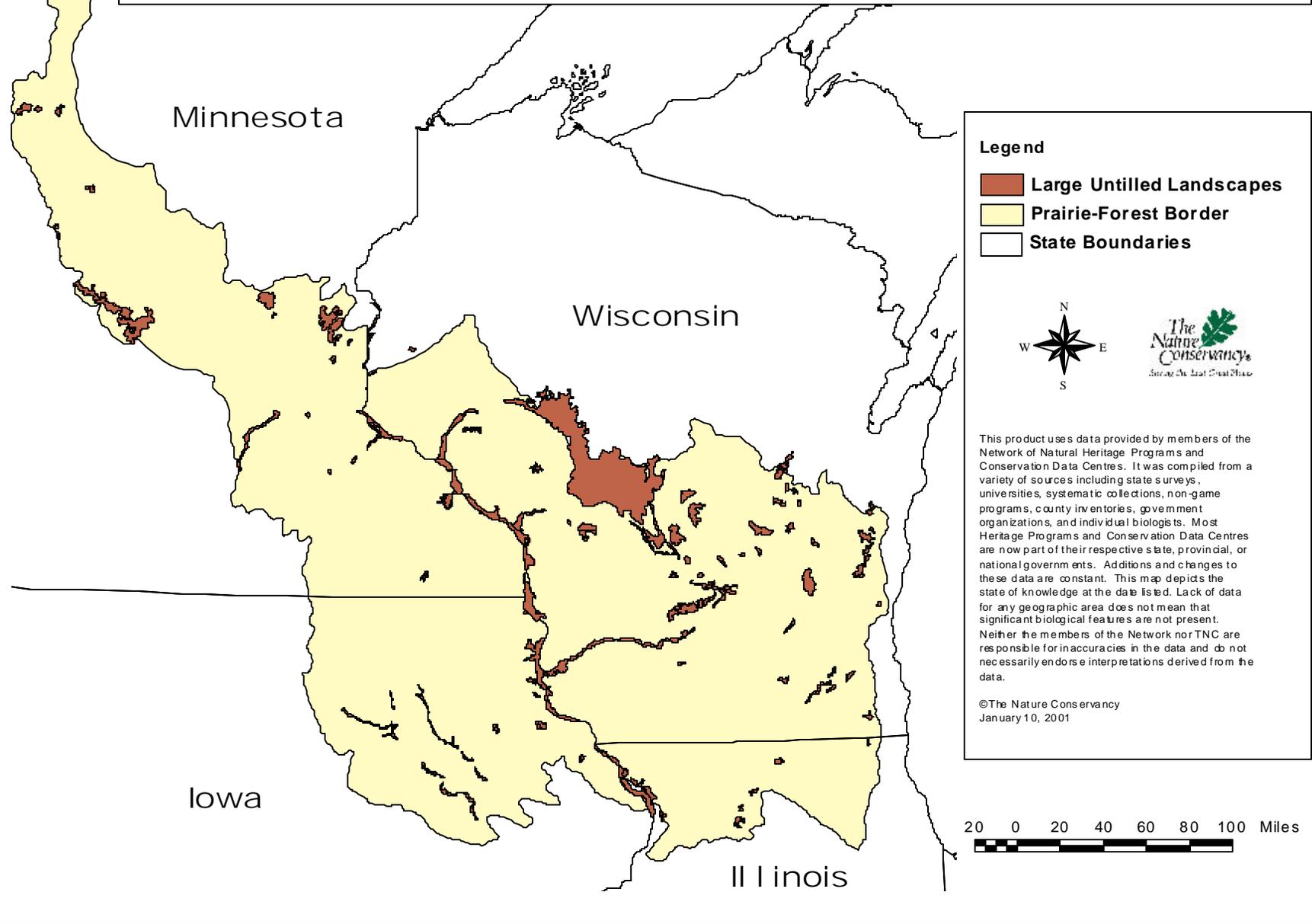


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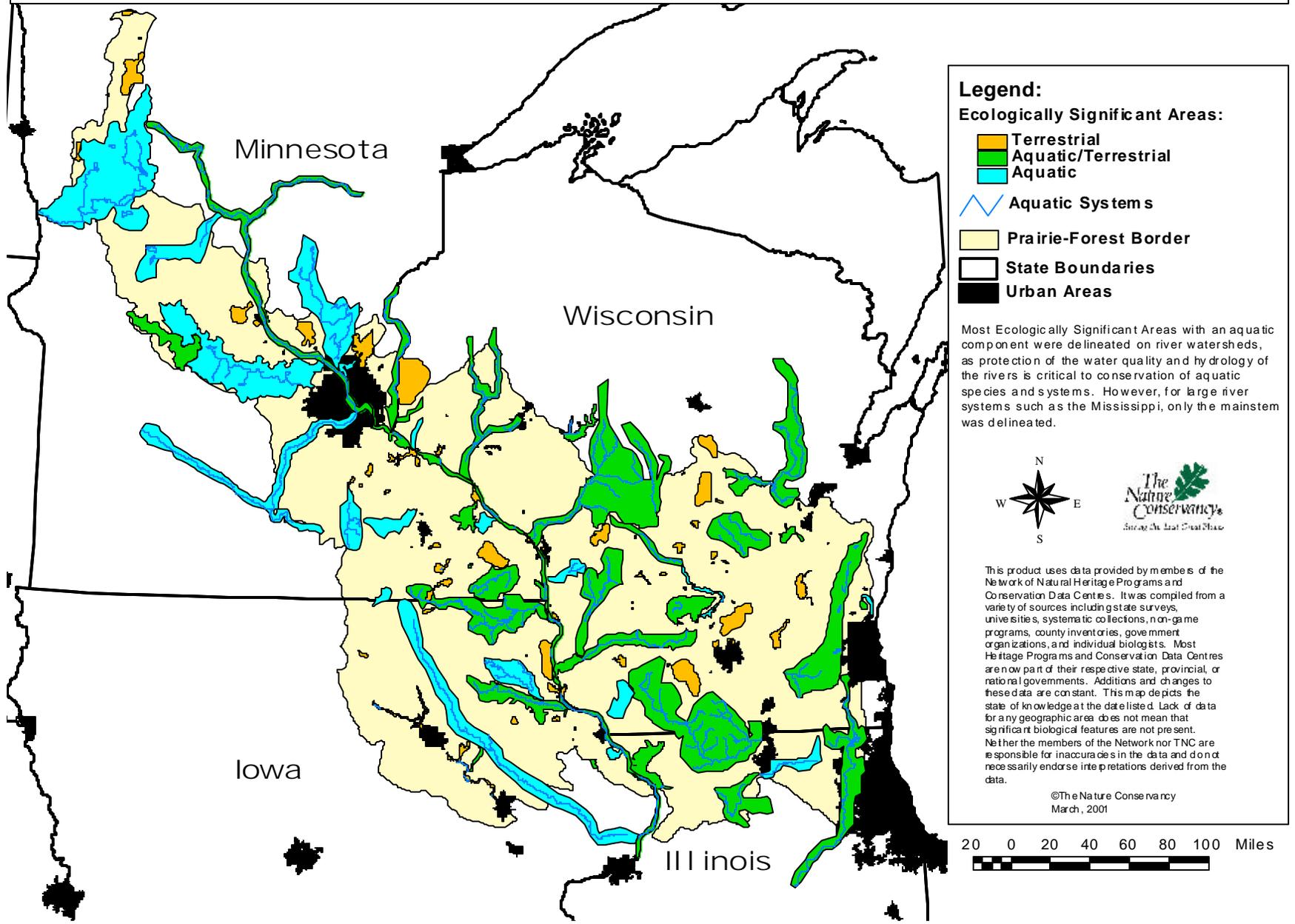
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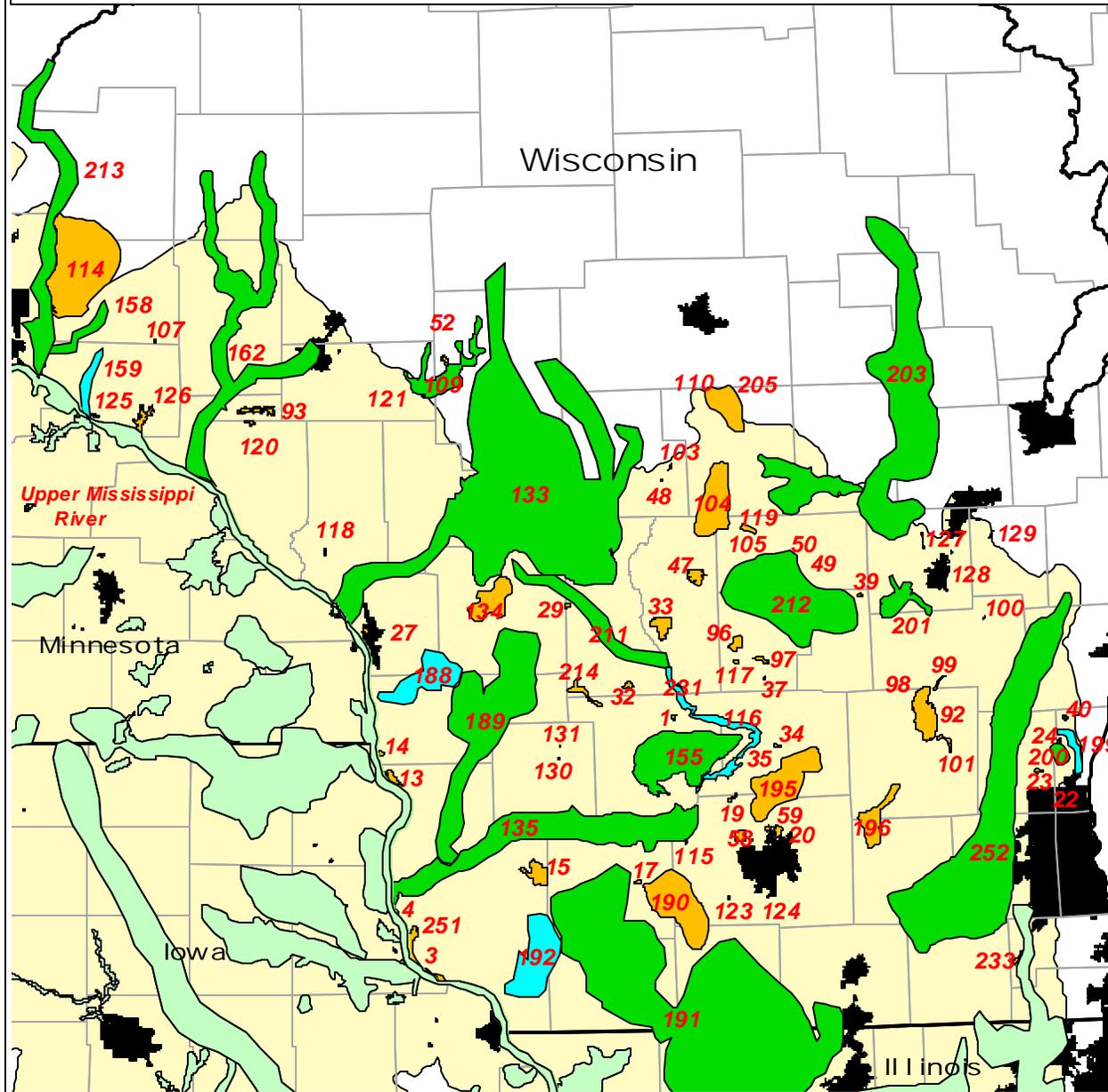
Map 6: Large Untilled Landscapes of the Prairie-Forest Border



Map 7: Ecologically Significant Areas of the Prairie-Forest Border Ecoregion



Map 7b: Ecologically Significant Areas of the Prairie-Forest Border : WI



Legend

Ecologically Significant Areas:

- Terrestrial
- Aquatic/Terrestrial
- Aquatic
- Other States

- Prairie-Forest Border
- State Boundaries
- Urban Areas

Site Names

- | | |
|------------------------------------|--|
| 1 - Mirror Lake | 115 - Black Earth Prairie |
| 3 - Eagle Valley | 116 - Middle Wisconsin River |
| 4 - Gasner Hollow | 117 - Summerton Bog |
| 13 - Rush Creek | 118 - Tamarack Creek Bog |
| 14 - Battle Bluff Prairie | 119 - Weymouth Lake |
| 5 - Snow Bottom | 120 - Big Swamp |
| 7 - Ridgeway Fine Relict | 121 - Pea Creek Meadow |
| 9 - Hawk Hill | 123 - Olson Oak Woods |
| 20 - Cherokee Marsh | 124 - Lake Barney |
| 22 - Germantown Swamp | 125 - Trenton Bluff |
| 23 - Jackson Marsh | 126 - Morgan Coubee Prairie |
| 24 - Riveredge | 127 - Oshosh-Lassen Trail |
| 27 - French Island Prairie | 128 - Lake Winnebago-Aelum Point |
| 37 - Long Bluff Mill Bluff | 129 - High Cliff State Park |
| 38 - Bass Hollow | 130 - Pine River Cliffs |
| 39 - Quincy Bluff | 131 - Hub City Bog |
| 31 - Rocky Run | 133 - Black River-Meadow Valley-Bear Bluff |
| 5 - Lib Cross Island-Baraboo River | 134 - Fort McCoy |
| 37 - Ennis Lake-Muir Park | 135 - Lower Wisconsin River |
| 39 - Berlin Fen | 155 - Baraboo Bluffs |
| 40 - Huron Lake | 158 - Knicknack River |
| 47 - Coburn Wetlands | 159 - Timble River |
| 48 - Edwards Island | 162 - Lower Chippewa & Red Cedar Rivers |
| 49 - Lunn Creek | 188 - Coon Creek |
| 51 - Bass Lake Fen | 189 - Kickapoo River |
| 52 - Blue Swamp | 190 - Military Ridge Prairie |
| 53 - St. Peter's Prairie | 191 - Pecatonica and Sugar Rivers |
| 59 - Westport Drumlins | 192 - Little Platte River |
| 92 - Horizon Marsh | 195 - Arlington Prairie |
| 98 - Lima Bluff | 196 - Faville Grove |
| 99 - Oxford Block | 199 - Milwaukee River mainstem |
| 99 - Page Creek Marsh | 200 - Cedarburg Bog |
| 99 - Duer Farm | 203 - Wolf Embarras/Cystal/Waupaca Rivers |
| 99 - Breakneck Ledge | 235 - Dewey/Loran Wetlands |
| 10 - Ledge Bar | 211 - Lemmonville River |
| 103 - Big Island | 212 - Mecan/White River |
| 104 - Buena Vista Marsh | 213 - Lower St. Croix River |
| 105 - Rainfield Lakes | 214 - Baraboo River Cliffs |
| 107 - Eau Claire River Cliff | 215 - Dells of the WI River |
| 109 - Upper Eau Claire River | 233 - Cherry Lake |
| 110 - Dewey Marsh | 251 - Onondaga Creek/Glen Haven |
| 114 - Star Prairie | 252 - Kettle Moirae |

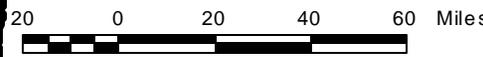
(Site #2 is intentionally absent)

Most Ecologically Significant Areas with an aquatic component were delineated on river watersheds, as protection of the water quality and hydrology of the rivers is critical to conservation of aquatic species and systems. However, for large river systems such as the Mississippi, only the mainstem was delineated.

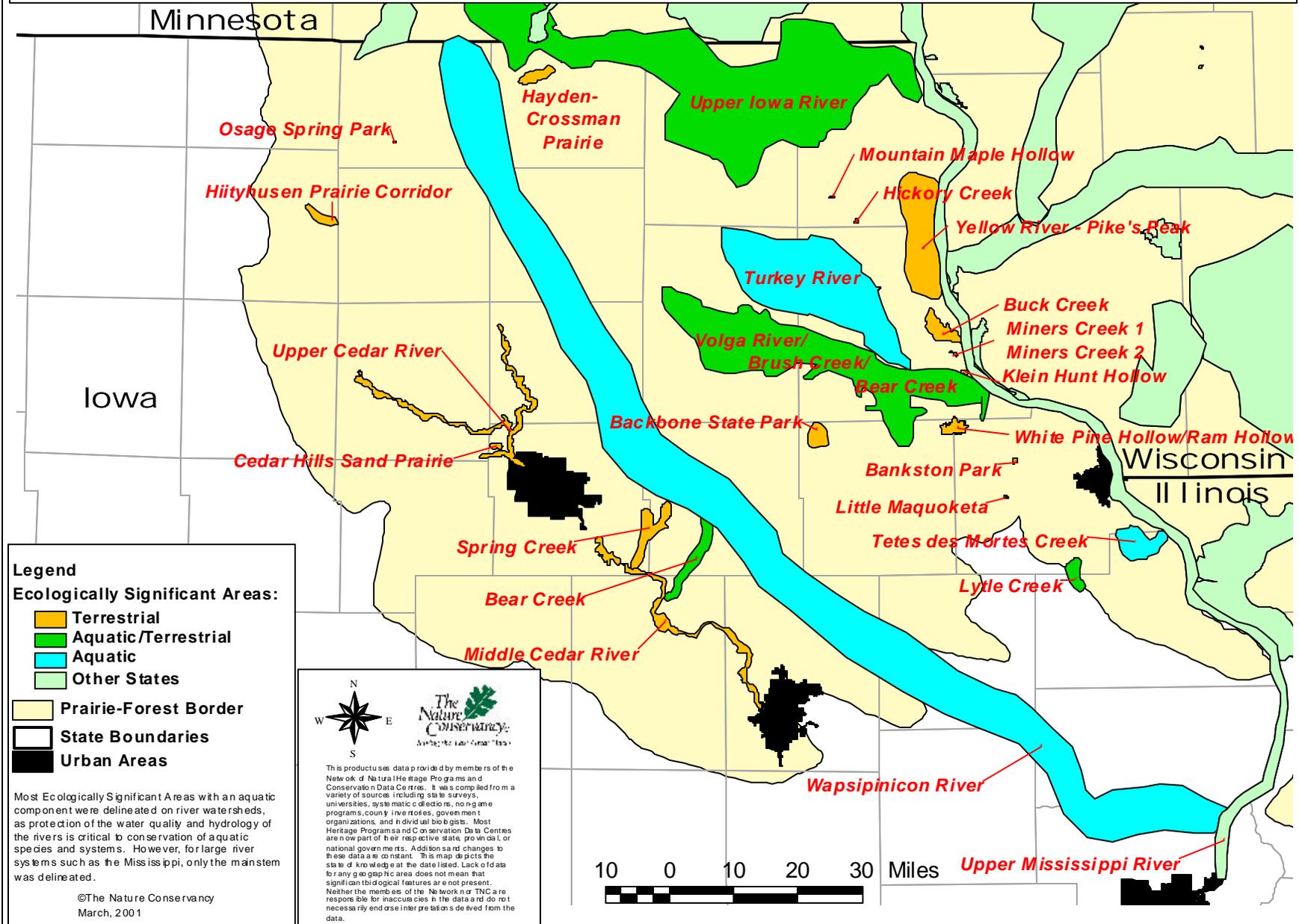
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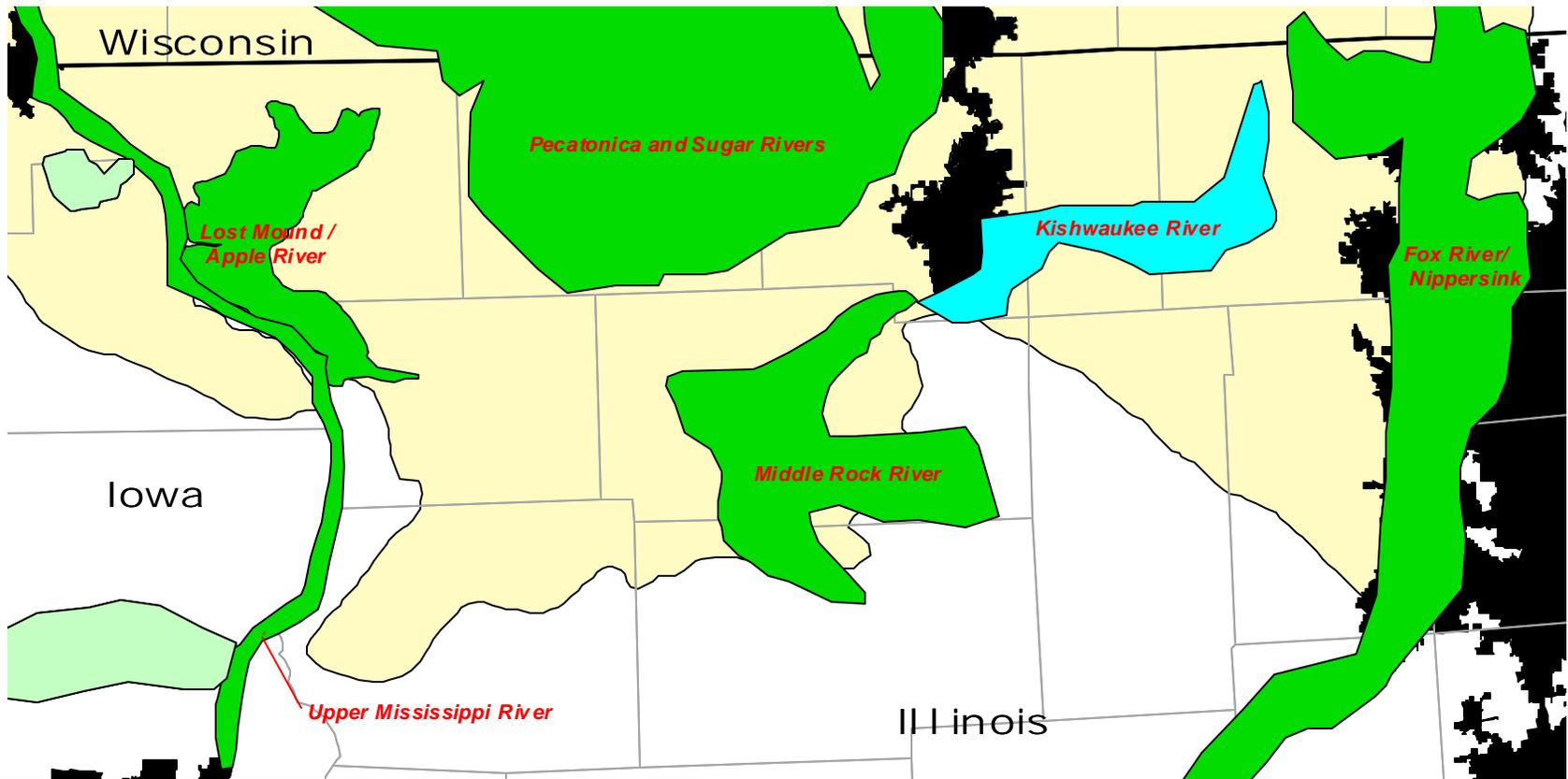
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Map 7c: Ecologically Significant Areas of the Prairie-Forest Border: Iowa



Map 7d: Ecologically Significant Areas of the Prairie-Forest Border: Illinois



Legend
Ecologically Significant Areas:

- Terrestrial
- Aquatic/Terrestrial
- Aquatic
- Other States
- Prairie-Forest Border
- State Boundaries
- Urban Areas

Most Ecologically Significant Areas with an aquatic component were delineated on river watersheds, as protection of the water quality and hydrology of the rivers is critical to conservation of aquatic species and systems. However, for large river systems such as the Mississippi, only the mainstem was delineated.

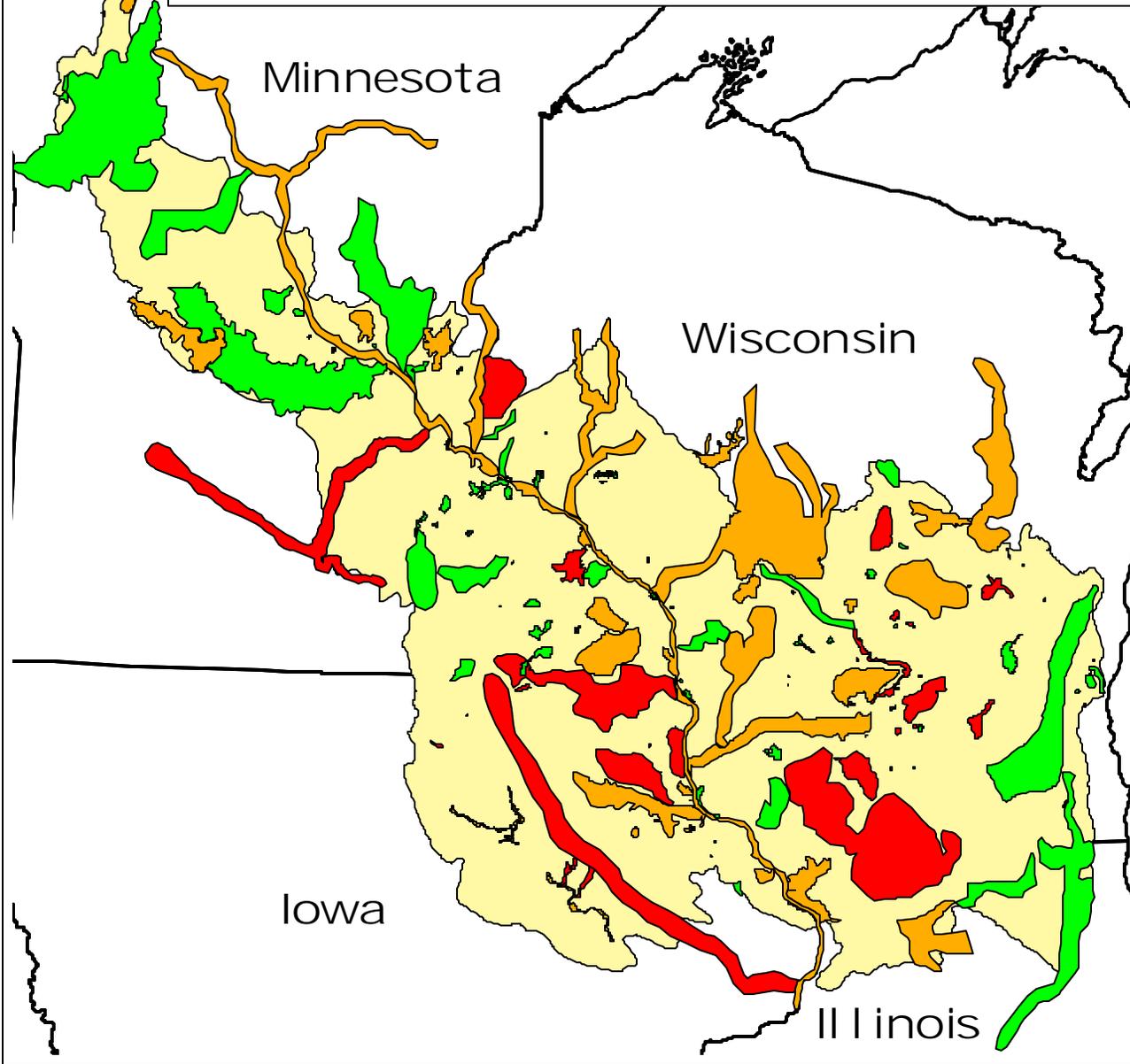


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Map 8: Ecological ly Significant Areas of the PFB By Category



Legend

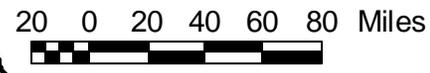
- Ecologically Significant Areas**
- Functional Sites
 - Functional Landscapes
 - Restoration Landscapes
 - Prairie-Forest Border
 - State Boundaries

Most Ecologically Significant Areas with an aquatic component were delineated on river watersheds, as protection of the water quality and hydrology of the rivers is critical to conservation of aquatic species and systems. However, for large river systems such as the Mississippi, only the mainstem was delineated.



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COMMUNITY TARGETS

Community Name	Global Rank	Distribution	Patch Type	Conservation Goal
Algific Talus Slope *	G2	E	SP	18. At least one per subsection.
Ash - Elm - Mixed Lowland Hardwood Forest	G4?	L	SP	18. At least one per subsection.
Aspen - Birch - Red Maple Forest	G5	P	LP	1-5
Aspen / American Hazel Forest	G5	L	SP	No sites selected specifically for this target.
Beech - Maple - Northern Hardwoods Forest	G4G5	P	LP	5
Black Ash - Mixed Hardwood Swamp	G4	W	SP	7. At least one per subsection.
Black Oak - White Oak - Hickory Forest	G4?	W	LP	10. At least one per subsection.
Black Oak / Lupine Barrens	G3	L	LP	18. At least one per subsection.
Black Oak Forest	G4?	L	SP	10. At least one per subsection.
Black Spruce / Labrador Tea Poor Swamp	G5Q	P	SP	1-5
Black Spruce Bog	G5	P	SP	1-5
Bog Birch - Willow Prairie Fen	G3	L	SP	18. At least one per subsection.
Bog Birch-Leatherleaf Poor Fen	G4G5	W	SP	7. At least one per subsection.
Boreal cliff	G?	E?	SP	1
Bulrush - Cattail - Burreed Shallow Marsh	G4G5	W	SP	10. At least one per subsection.
Bur Oak - Northern Pin Oak Woodland	G4Q	P	SP	3
Bur Oak - Swamp White Oak Mixed Bottomland Forest	G1G2	P	LP	5
Bur Oak Bottomland Woodland	G1	L	SP	18. At least one per subsection.

Global Rank:

G1 - Critically imperiled globally due to extreme rarity

G2 - Imperiled globally due to rarity

G3 - Either very rare and local throughout range or found locally in a restricted range

G4 - Apparently globally secure, may be rare in parts of range, esp. at periphery

Distribution:

D - Disjunct from primary range

E - Endemic to ecoregion

L - Limited

P - Peripheral in ecoregion

W - Widespread

Patch Type:

LP - Large patch

MX - Matrix

SP - Small patch

* This community is considered a Sensitive Element by the Natural Heritage Inventory Programs and occurrence location information can only be released by the NHI.

Community Name	Global Rank	Distribution	Patch Type	Conservation Goal
Central Cordgrass Wet Prairie	G3?	W	SP	12. At least one per subsection.
Central Cordgrass Wet Sand Prairie	G3?	P	SP	1-5
Central Green Ash - Elm - Hackberry Forest	G?Q	W	LP	?
Central Mesic Tallgrass Prairie	G2	L	MX	10. At least one per subsection.
Central poor fen	GU	L	LP	10. At least one per subsection.
Central Tamarack - Red Maple Rich Swamp	G2G3	W	SP	1-5
Central Tamarack Poor Swamp	G4?	W	SP	10. At least one per subsection.
Central Wet-mesic Tallgrass Prairie	G2G3	L	LP	18. At least one per subsection.
Chinquapin Oak Bluff Woodland	G?	E	SP	10. At least one per subsection.
Cinquefoil - Sedge Prairie Fen	G3G4	W	SP	7. At least one per subsection.
Cottonwood - Black Willow Forest	G3G4	W	LP	lumped with floodplain forest group
Dogwood - Mixed Willow Shrub Meadow	G3G4	L	SP	No sites selected specifically for this target.
Dogwood - Pussy Willow Swamp	G5	W	SP	7. At least one per subsection.
Dogwood - Willow - Blueberry Swamp	G4?	P	SP	1-5
Driftless White Pine - Northern Hardwoods Forest	G2?	E	SP	18. At least one per subsection.
Forested seep	GU	L?	SP	10. At least one per subsection.
Freshwater Bulrush Marsh	G4G5	W	SP	7. At least one per subsection.
Granite/Metamorphic Rock Outcrop Sparse Vegetation	G5	P	SP	3
Hemlock-Sugar Maple Relict Forest	G2Q	E	SP	20. At least one per subsection.
Inland Coastal Plain Marsh	G2?	D	SP	7

Global Rank:

G1 - Critically imperiled globally due to extreme rarity
G2 - Imperiled globally due to rarity
G3 - Either very rare and local throughout range or found locally in a restricted range
G4 - Apparently globally secure, may be rare in parts of range, esp. at periphery

Distribution:

D - Disjunct from primary range
E - Endemic to ecoregion
L - Limited
P - Peripheral in ecoregion
W - Widespread

Patch Type:

LP - Large patch
MX - Matrix
SP - Small patch

Community Name	Global Rank	Distribution	Patch Type	Conservation Goal
Jack Pine - Northern Pin Oak Forest	G4G5	W	LP	7. At least one per subsection.
Jack Pine / Prairie Forbs Barrens	G2	L	LP	10. At least one per subsection.
Lake Sedge Wet Meadow	G4G5	W	SP	12. At least one per subsection.
Leatherleaf Bog	G5	P	SP	3
Leatherleaf Kettle Bog	G3G4	L	SP	10. At least one per subsection.
Limestone - Dolomite Talus	G5	W	SP	7. At least one per subsection.
Little Bluestem - Porcupine Grass Dry-mesic Hill Prairie	G?	E	LP	18. At least one per subsection.
Little Bluestem Bedrock Bluff Prairie	G3	E	LP	18. At least one per subsection.
Moderate Cliff	G3?	E	SP	18. At least one per subsection.
Maple-Ash-Elm Swamp Forest	G4?	W	LP	10
Midwest Calcareous Floating Mat	G?	L	SP	12. At least one per subsection.
Midwest Cattail Deep Marsh	G5	W	LP	5. At least one per subsection.
Midwest Dry Gravel Prairie	G2	P	SP	10. At least one per subsection.
Midwest Dry Limestone - Dolomite Prairie	G2	P	SP	1-5
Midwest Dry Limestone/Dolostone Cliff	G5	W	LP	10. At least one per subsection.
Midwest Dry Sand Prairie	G2G3	W	LP	10. At least one per subsection.
Midwest Dry-mesic Gravel Prairie	G2	L	SP	5. At least one per subsection.
Midwest Dry-mesic Prairie	G2G3	W	LP	10. At least one per subsection.
Midwest Dry-mesic Sand Prairie	G3	W	LP	7. At least one per subsection.
Midwest Ephemeral Pond	G?Q	W	SP	12. At least one per subsection.

Global Rank:

G1 - Critically imperiled globally due to extreme rarity
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G3 - Either very rare and local throughout range or found locally in a restricted range
G4 - Apparently globally secure, may be rare in parts of range, esp. at periphery

Distribution:

D - Disjunct from primary range
E - Endemic to ecoregion
L - Limited
P - Peripheral in ecoregion
W - Widespread

Patch Type:

LP - Large patch
MX - Matrix
SP - Small patch

Community Name	Global Rank	Distribution	Patch Type	Conservation Goal
Midwest Glacial Drift Hill Prairie	G2Q	P	SP	5
Midwest Mixed Emergent Deep Marsh	G5	W	LP	10. At least one per subsection.
Midwest Moist Limestone/Dolostone Cliff	G5	W	LP	10. At least one per subsection.
Midwest Pondweed Submerged Aquatic Wetland	G5Q	W	SP	7. At least one per subsection.
Midwest Sandstone Dry Cliff	G?Q	W	SP	7. At least one per subsection.
Midwest Sedimentary Dripping Cliff	G?Q	W	SP	10. At least one per subsection.
Midwestern Oak Woodland - Quartzite Glade	G2?	E	SP	15. At least one per subsection.
Midwestern White Oak - Red Oak Forest	G4?	W	LP	10. At least one per subsection.
North-central Bur Oak Openings	G1	E	MX	10. At least one per subsection.
North-central Maple - Basswood Forest	G4?	W	LP	7. At least one per subsection.
Northern (Great Lakes) Flatwoods	G2	P	SP	1-5
Northern Bur Oak Openings	G2	P	LP	1-5
Northern Buttonbush Swamp	G4	P	SP	No sites selected specifically for this target.
Northern Cordgrass Wet Prairie	G3?	P	LP	5
Northern Dry-mesic Oak Woodland	G3G4	L	LP	18. At least one per subsection.
Northern Little Bluestem Gravel Prairie	G2G3	P	SP	1-5
Northern Mesic Tallgrass Prairie	G2G3	P	LP	1-5
Northern Oak Barrens	G2	L	LP	1-5
Northern Pin Oak Forest	G4?	L	LP	18. At least one per subsection.
Northern Poor Fen	G3G4	W	SP	7. At least one per subsection.

Global Rank:

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G2 - Imperiled globally due to rarity
G3 - Either very rare and local throughout range or found locally in a restricted range
G4 - Apparently globally secure, may be rare in parts of range, esp. at periphery

Distribution:

D - Disjunct from primary range
E - Endemic to ecoregion
L - Limited
P - Peripheral in ecoregion
W - Widespread

Patch Type:

LP - Large patch
MX - Matrix
SP - Small patch

Community Name	Global Rank	Distribution	Patch Type	Conservation Goal
Northern Sandstone Talus	G4G5	E	SP	1-5
Northern Sedge Wet Meadow	G4G5	P	SP	3
Northern Tallgrass Calcareous Fen	G2	P	SP	1-5
Northern Tamarack Rich Swamp	G4	W	LP	10. At least one per subsection.
Northwestern Great Plains Bur Oak Woodland	G2G4	L	LP	1-5. Limited range but peripheral to PFB
Prairie Transition Rich Fen	G3?	L	SP	10. At least one per subsection.
Quartzite - Granite Rock Outcrop	G3?	P	SP	3
Red Maple - Ash - Birch Swamp Forest	G4	W	LP	1-5 occurrences
Red Oak - Sugar Maple Forest	G?	W	LP	10. At least one per subsection.
Red Oak Forest	G?	W	LP	No sites selected specifically for this target.
Red Pine / Blueberry Dry Forest	G3	P	LP	5.
River Bulrush Marsh	G?	W	SP	7. At least one per subsection.
Sandstone Moist Cliff	G4G5	W	LP	10. At least one per subsection.
Silver Maple - Elm - (Cottonwood) Forest	G4?	W	LP	10
Skunk Cabbage Seepage Meadow	G4?	W	SP	7. At least one per subsection.
Speckled Alder Swamp	G5?	W	SP	7. At least one per subsection.
Spruce - Fir - Aspen Forest	G5	P	LP	1-5
Tussock Sedge Fen	G2G3	E	SP	?
Tussock Sedge Wet Meadow	G4?	W	LP	10. At least one per subsection.
Water Lily Aquatic Wetland	G4G5	W	SP	7. At least one per subsection.

Global Rank:

G1 - Critically imperiled globally due to extreme rarity
G2 - Imperiled globally due to rarity
G3 - Either very rare and local throughout range or found locally in a restricted range
G4 - Apparently globally secure, may be rare in parts of range, esp. at periphery

Distribution:

D - Disjunct from primary range
E - Endemic to ecoregion
L - Limited
P - Peripheral in ecoregion
W - Widespread

Patch Type:

LP - Large patch
MX - Matrix
SP - Small patch

Community Name	Global Rank	Distribution	Patch Type	Conservation Goal
White Cedar - (Mixed Conifer) / Alder Swamp	G4	P	SP	3.
White Cedar Cliff Woodland	G2Q	W	SP	7. At least one per subsection.
White Cedar Seepage Swamp	G3G4	P	SP	3.
White Pine - (Red Pine) Driftless Bluff Forest	G2G3	E	SP	25. At least one per subsection.
White Pine - Red Maple Swamp	G3G4	L	SP	10. At least one per subsection.
White Pine - Red Oak Forest	G3	W	LP	5. At least one per subsection.
White Pine - White Oak Forest	G3	W	LP	10. At least one per subsection.
White Pine / Blueberry Dry-mesic Forest	G2G3	W	LP	5. At least one per subsection.
Wild rice marsh	G?	W	LP	1-5. Periperal to PFB

Global Rank:

G1 - Critically imperiled globally due to extreme rarity
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G3 - Either very rare and local throughout range or found locally in a restricted range
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Distribution:

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L - Limited
P - Peripheral in ecoregion
W - Widespread

Patch Type:

LP - Large patch
MX - Matrix
SP - Small patch

aquatic targets

Conservation Goal : For all aquatic systems identified as ecoregional targets, the conservation goal is one occurrence in each Ecological Drainage Unit of the ecoregion.

System Type

ground water-mixed / river / large river / med-high relief /
 ground water-mixed / stream / large river / low relief /
 ground water-mixed / stream / large river / low relief / surface storage
 ground water-mixed / stream / large river / med-high relief /
 ground water-mixed / stream / river / low relief /
 ground water-mixed / stream / river / low relief / surface storage
 surface / river / lake / low relief /
 surface / river / lake / low relief /
 surface / river / large river / low relief / surface storage
 surface / river / river / low relief / surface storage
 surface / stream / lake / low relief / surface storage
 surface / stream / large river / low relief /
 surface / stream / large river / low relief /
 surface / stream / large river / low relief / surface storage
 surface / stream / river / low relief / surface storage
 surface mixed / river / large river / low relief /
 surface mixed / river / large river / low relief / surface storage
 surface mixed / river / large river / med-high relief / surface storage
 surface mixed / river / river / low relief /
 surface mixed / stream / lake / low relief / surface storage
 surface mixed / stream / large river / low relief /
 surface mixed / stream / large river / low relief / surface storage
 surface mixed / stream / river / low relief /
 surface mixed / stream / river / low relief / surface storage

SPECIES TARGETS - by taxon

	<i>Scientific Name</i>	Common Name	Global Rank	Distribution
Birds	<i>Ammodramus henslowii</i>	Henslow's Sparrow	G4	W
	<i>Asio flammeus</i>	short-eared owl	G5	breeding P; winter W
	<i>Bartramia longicauda</i>	upland sandpiper	G5	W
	<i>Cistothorus platensis</i>	sedge wren	G5	W
	<i>Coturnicops noveboracensis</i>	yellow rail	G4	P
	<i>Dendroica cerulea</i>	Cerulean Warbler	G4	P
	<i>Dolichonyx oryzivorus</i>	bobolink	G5	W
	<i>Empidonax virescens</i>	Acadian Flycatcher	G5	P
	<i>Helmitheros vermivorus</i>	worm-eating warbler	G5	P
	<i>Melanerpes erythrocephalus</i>	red headed woodpecker	G5	W
	<i>Oporornis formosus</i>	Kentucky warbler	G5	P
	<i>Protonotaria citrea</i>	prothonotary warbler	G5	P
	<i>Seiurus motacilla</i>	Louisiana Waterthrush	G5	P
	<i>Spiza americana</i>	dickcissel	G4	W
	<i>Vireo bellii</i>	Bell's Vireo	G5	P
	<i>Wilsonia citrina</i>	hooded warbler	G5	P
Fish	<i>Acipenser fulvescens</i>	lake sturgeon	G3	L
	<i>Crystallaria asprella</i>	crystal darter	G3	W
	<i>Etheostoma clarum</i>	Western sand darter	G3	W
	<i>Moxostoma carinatum</i>	river redhorse	G4	L
	<i>Moxostoma valenciennesi</i>	greater redhorse	G3	L
	<i>Notropis anogenus</i>	pugnose shiner	G3	L
	<i>Percina evides</i>	gilt darter	G4	L
Herptile	<i>Crotalus horridus</i> *	timber rattlesnake	G5	W

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<i>Scientific Name</i>	<i>Common Name</i>	<i>Global Rank</i>	<i>Distribution</i>
<i>Sistrurus catenatus</i> *	eastern massasauga	G3G4	L
Invert.			
<i>Acanthametropus pecatonica</i>	Pecatonica river mayfly	G1G2	E
<i>Aflexia rubranura</i>	red tailed prairie leafhopper	G1G2	L
<i>Attenuipyga vanduzeei</i>	a prairie leafhopper	G?	L
<i>Catinella gelida</i>	frigid ambersnail	G2	E
<i>Cicindela patruela huberi</i>	a tiger beetle	G3T2	E
<i>Cumberlandia monodonta</i>	spectaclecase	G2G3	W
<i>Destria crocea</i>	a leafhopper	G?	L?
<i>Discus macclintocki</i>	pleistocene disc	G1	E
<i>Hesperia dacotae</i>	Dakota skipper	G2G3	P
<i>Hygrotus sylvanus</i>	Sylvan Hygrotus diving beetle	G1	E
<i>Lampsilis higginsii</i>	Higgins eye	G1	L
<i>Lycaeides melissa samuelis</i>	Karner blue	G5T2	L
<i>Neurocordulia molesta</i>	smoky shadowdragon	G3	P
<i>Novisuccinea n.sp. Minnesota A</i>	Minnesota pleistocene Succineid	G1G2	E
<i>Novisuccinea n.sp. Minnesota B</i>	Iowa pleistocene Succineid	G2	E
<i>Oarisma powesheik</i> *	Powesheik skipperling	G2G3	P
<i>Ophiogomphus sp 1 nr aspersus</i>	barrens snaketail	G?	L
<i>Ophiogomphus susbehcha</i>	St. Croix snaketail	G1G2	L
<i>Papaipema beeriana</i>	blazing star stem borer	G3	L
<i>Plethobasus cyphyus</i>	sheepnose	G3	P
<i>Pleurobema sintoxia</i>	round pigtoe	G4	W
<i>Polyamia dilata</i>	a prairie leafhopper	G?	L
<i>Simpsoniaias ambigua</i>	salamander mussel	G3	P
<i>Somatochlora incurvata</i>	incurvate emerald	G3	W
<i>Speyeria idalia</i> *	regal fritillary	G3	P
<i>Stenelmis douglasensis</i>	Douglas stenelmis riffle	G1G3	

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<i>Scientific Name</i>	<i>Common Name</i>	<i>Global Rank</i>	<i>Distribution</i>
<i>Stenelmis knobeli</i>	Knoble's riffle beetle	G1G3	
<i>Stygobromus putealis</i>	Wisconsin well amphipod	G1?	E
<i>Vertigo brierensis</i>	Briarton pleistocene vertigo		
<i>Vertigo hubrichti hubrichti</i>	Hubricht's vertigo	G2T2	E
<i>Vertigo hubrichti variabilis</i>	Hubricht's vertigo	G2T2	E
<i>Vertigo iowaensis</i>	Iowa pleistocene vertigo	G2	L
<i>Vertigo meramecensis</i>	bluff vertigo	G2	L
<i>Williamsonia fletcheri</i>	ebony bog hunter	G3G4	L
<i>Williamsonia lintneri</i>	ringed bog hunter	G2	L
Mammal			
<i>Myotis sodalis</i>	Indiana Or Social Myotis	G2	P
Plant			
<i>Aconitum noveboracense</i> *	northern wild monkshood	G3	D
<i>Agalinis auriculata</i>	earleaf foxglove	G3	P
<i>Agalinis skinneriana</i>	pale false foxglove	G3	L
<i>Aster furcatus</i>	forked aster	G3	L
<i>Besseyia bullii</i>	kitten tails	G3	L
<i>Botrychium campestre</i>	prairie dunewort	G3	W
<i>Botrychium mormo</i>	little goblin moonwort	G3	P
<i>Callirhoe triangulata</i>	clustered poppy-mallow	G3?	E
<i>Chrysosplenium iowense</i>	Iowa golden-saxifrage	G3	E
<i>Cirsium hillii</i>	Hill's thistle	G3	L
<i>Cypripedium arietinum</i> *	Ram's-head lady's-slipper	G3	P
<i>Erythronium propullans</i>	Dwarf trout lily	G1	E
<i>Gnaphalium obtusifolium var saxicola</i>	cliff cudweed	G5T1T	E
<i>Lespedeza leptostachya</i>	prairie bush-clover	G2	L
<i>Napaea dioica</i>	glade mallow	G3	L
<i>Oxytropis campestris var chartacea</i> *	Fassett's locoweed	G5T1	L

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<i>Scientific Name</i>	<i>Common Name</i>	<i>Global Rank</i>	<i>Distribution</i>
<i>Platanthera leucophaea</i> *	Eastern prairie white-fringed orchid	G2	L
<i>Platanthera praeclara</i>	Western prairie fringed orchid	G2	P
<i>Poa paludigena</i>	bog bluegrass	G3	W
<i>Scirpus hallii</i>	Hall's bulrush	G2	P
<i>Sedum integrifolium ssp leedyi</i>	Leedy roseroot	G5T1	E
<i>Solidago sciaphila</i>	shadowy goldenrod	G4?	E
<i>Talinum rugospermum</i>	prairie fame-flower	G3?	L

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Ecologically Significant Areas of the Prairie-Forest Border

SITE NAME	Site Category	State	Site ID
Arlington Prairie	Restoration Landscape	WI	195
Avon Hills	Functional Site	MN	150
Backbone State Park	Functional Landscape	IA	86
Bankston Park	Functional Site	IA	236
Baraboo Hills	Functional Landscape	WI	155
Baraboo River Cliffs	Functional Site	WI	214
Bass Hollow	Functional Site	WI	32
Bass Lake Fen	Functional Site	WI	50
Battle Bluff Prairie	Functional Site	WI	14
Bear Creek - IA	Restoration Landscape	IA	112
Beaver Creek	Functional Site	MN	172
Berlin Fen	Functional Site	WI	39
Big Island	Functional Site	WI	103
Big Swamp	Functional Site	WI	120
Black Earth Prairie	Functional Site	WI	115
Black River-Meadow Valley-Bear Bluff	Functional Landscape	WI	133
Blue Swamp	Functional Site	WI	52
Bluff Spring Fen	Functional Site	IL	255
Breakneck Ledge	Functional Site	WI	99
Buck Creek	Functional Landscape	IA	87
Buena Vista Marsh	Restoration Landscape	WI	104
Cedar Creek-Carlos Avery	Functional Landscape	MN	226
Cedar Hills Sand Prairie	Functional Landscape	IA	84
Cedarburg Bog	Functional Site	WI	200
Cherokee Marsh	Functional Site	WI	20
Cherry Lake	Functional Site	WI	233

SITE NAME	Site Category	State	Site ID
Chester Hills Prairies	Functional Site	MN	154
Colburn Wetlands	Functional Site	WI	47
Coon Creek	Functional Site	WI	188
Coon River	Functional Site	MN	185
Corrie's Swamp	Functional Site	MN	140
Dells of the WI River	Functional Site	WI	231
Dennison Prairies	Functional Site	MN	149
Dewey Marsh	Functional Site	WI	110
Dewey/Jordan Wetlands	Functional Site	WI	205
Duck Slough	Functional Site	MN	71
Duer Farm	Functional Site	WI	98
Eagle Valley	Functional Site	WI	3
Eau Galle River Cliff	Functional Site	WI	107
Edwards Island	Functional Site	WI	48
Elk River Dunes	Functional Site	MN	183
Ennis Lake-Muir Park	Functional Site	WI	37
Faville Grove	Restoration Landscape	WI	196
Forestville - Mystery Cave	Functional Site	MN	171
Fort McCoy	Functional Landscape	WI	134
Fox/Nippersink Rivers	Functional Site	IL/WI	228
French Island Prairie	Functional Site	WI	27
Gasner Hollow	Functional Site	WI	4
Germantown Swamp	Functional Site	WI	22
Glacial Lakes	Functional Landscape	MN	94
Great River Bluffs State Park	Functional Site	MN	61
Hagen WPA	Functional Site	MN	65
Hawk Hill	Functional Site	WI	19
Hay Creek	Functional Site	MN	148

SITE NAME	Site Category	State	Site ID
Hayden-Crossman Prairie	Restoration Landscape	IA	227
Hegre Prairie	Functional Site	MN	69
Hickory Creek	Functional Site	IA	240
High Cliff State Park	Functional Site	WI	129
Hitzhusen Prairie Corridor	Restoration Landscape	IA	79
Hopke's Prairie	Functional Site	MN	66
Horicon Marsh	Functional Site	WI	92
Horicon/Mayville Ledge	Functional Site	WI	101
Hub City Bog	Functional Site	WI	131
Huiras Lake	Functional Site	WI	40
Jackson Marsh	Functional Site	WI	23
Kettle Moraine	Functional Landscape	WI	252
Kickapoo River	Functional Landscape	WI	189
Kinnickinnic River	Functional Site	WI	158
Kishwaukee River	Functional Site	IL	208
Klein Hunt Hollow	Functional Site	IA	237
Lake Barney	Functional Site	WI	124
Lake Maria State Park	Functional Site	MN	76
Lake Winnebago-Asylum Point	Functional Site	WI	128
Ledge Bar	Functional Site	WI	100
Lemonweir River	Functional Site	WI	211
Lib Cross Island-Baraboo River	Functional Site	WI	35
Lima Bluff	Functional Site	WI	93
Little Maquoketa	Functional Site	IA	244
Little Platte River	Functional Site	WI	192
Long Bluff-Mill Bluff	Functional Site	WI	29
Long Prairie River	Functional Site	MN	163
Lost Mound / Apple River	Functional Landscape	IL	234

SITE NAME	Site Category	Stat	Site ID
Lower Cannon River	Functional Site	MN	147
Lower Chippewa & Red Cedar Rivers	Functional Landscape	WI	162
Lower St. Croix River	Functional Landscape	WI/MN	213
Lower Wisconsin River	Functional Landscape	WI	135
Lunch Creek	Functional Site	WI	49
Lytle Creek	Functional Site	IA	89
Mecan/White River	Functional Landscape	WI	212
Middle Cedar River	Functional Landscape	IA	90
Middle Rock River	Functional Landscape	IL	209
Middle Wisconsin River	Restoration Landscape	WI	116
Military Ridge Prairie	Restoration Landscape	WI	190
Milwaukee River mainstem	Functional Site	WI	199
Miners Creek 1	Functional Site	IA	238
Miners Creek 2	Functional Site	IA	239
Minnesota River	Restoration Landscape	MN	156
Mirror Lake	Functional Site	WI	1
Morgan Coulee Prairie	Functional Site	WI	126
Mountain Maple Hollow	Functional Site	IA	243
Nelson Fen WMA	Functional Site	MN	68
Nerstrand Woods	Functional Site	MN	137
North Fork Crow River	Functional Site	MN	164
North Fork Zumbro River	Functional Site	MN	217
Olson Oak Woods	Functional Site	WI	123
Oronoco Prairie	Functional Site	MN	220
Osage Spring Park	Functional Site	IA	242
Oshkosh-Larsen Trail	Functional Site	WI	127
Otter Creek	Functional Site	MN	178
Otter Tail	Functional Site	MN	250

SITE NAME	Site Category	State	Site ID
Oxford Block	Restoration Landscape	WI	96
Page Creek Marsh	Restoration Landscape	WI	97
Partridge Creek	Functional Site	MN	169
Pea Creek Meadow	Functional Site	WI	121
Pecatonica and Sugar Rivers	Restoration Landscape	WI/IL	191
Pig's Eye SNA	Functional Site	MN	72
Pine Bend Bluffs	Functional Site	MN	232
Pine River Cliffs	Functional Site	WI	130
Plainfield Lakes	Functional Site	WI	105
Quincy Bluff	Functional Landscape	WI	33
Ridgeway Pine Relict	Functional Site	WI	17
Riveredge	Functional Site	WI	24
Rock Dell Fen	Functional Site	MN	222
Rocky Run	Functional Site	WI	34
Rollag Hills	Functional Site	MN	152
Rollingstone River	Functional Site	MN	235
Root River	Functional Site	MN	218
Root River - Rushford	Functional Landscape	MN	179
Rum River	Functional Site	MN	165
Rush Creek	Functional Site	WI	13
Rush Lake	Restoration Landscape	WI	201
S. Branch Middle Fork Zumbro	Functional Site	MN	168
Savage Fen	Functional Site	MN	64
Sherburne Refuge-Sand Dunes SF	Functional Landscape	MN	181
Snow Bottom	Functional Site	WI	15
South Fork Root River	Functional Landscape	MN	174
Spring Creek	Restoration Landscape	IA	113
Spring Valley - Middle Root River	Functional Site	MN	170

SITE NAME	Site Category	State	Site ID
St. Cloud Area Outcrop	Functional Site	MN	151
St. Peter's Prairie	Restoration Landscape	WI	58
Star Prairie	Restoration Landscape	WI	114
Straight and Turtle Rivers	Functional Site	MN	167
Summerton Bog	Functional Site	WI	117
Tamarack Creek Bog	Functional Site	WI	118
Taylor's Woods	Functional Site	MN	184
Tetes des Mortes Creek	Functional Landscape	IA	194
Trenton Bluff	Functional Site	WI	125
Trimbelle River	Functional Site	WI	159
Turkey River	Restoration Landscape	IA	176
Upper Cannon River	Functional Site	MN	146
Upper Cedar River	Functional Landscape	IA	91
Upper Eau Claire River	Functional Landscape	WI	109
Upper Iowa River	Restoration Landscape	IA/MN	175
Upper Mississippi River	Functional Landscape	MN/WI/IA/IL	221
Volga River/Brush Creek/Bear Creek	Restoration Landscape	IA	177
Wapsipinicon River	Restoration Landscape	IA	229
Waubun Prairie Complex	Functional Site	MN	74
Weaver Dunes - Finger Lakes	Functional Landscape	MN	186
Westport Drumlins	Restoration Landscape	WI	59
White Earth Hardwood Forest	Functional Landscape	MN	153
White Pine Hollow/Ram Hollow	Functional Landscape	IA	88
Whitewater River	Restoration Landscape	MN	143
Wolf/Embarrass/Crystal/Waupaca Rivers	Functional Landscape	WI	203
Yellow River - Pike's Peak	Restoration Landscape	IA	230

Targets Captured at Ecologically Significant Areas

Table 5

This product uses data provided by members of the Network of Natural Heritage Programs. It was compiled from a variety of sources including state surveys, universities, systematic collections, non-game programs, county inventories, and individual biologists. Most Heritage Programs are part of their respective state governments. Additions and changes to these data are ongoing. Neither the members of the Network nor TNC are responsible for inaccuracies in the data and do not necessarily endorse interpretations derived from the data.

IA

Backbone State Park

Site Category: Functional Landscape

Site Type: Terrestrial

Subsection:

Acres: 6216.439

Square Miles: 9.713

Site Description:

Backbone State Park features algalic talus slopes (G2/S1) in the context of large blocks of forest. There are about seven slopes and rare species found on them include *Aconitum noveboracense* (G3/S2), and *Vertigo meramecensis* (G1/S1). A variety of woodland communities are present and the site is an important area for neotropical migrant birds.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002308	Limestone - Dolomite Talus		G5

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20190	bluff vertigo	<i>Vertigo meramecensis</i>	G2
CEGL002202	Northern Mesic Tallgrass Prairie		G2G3
CEGL002308	Limestone - Dolomite Talus		G5

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Bankston Park

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 388.534

Square Miles: 0.607

Site Description:

The middle branch of the Little Maquoketa Rivers cuts through the northwest corner of this site. Steep, wooded hillsides occupy a band running from the southwest to the northeast corners, and wooded uplands dominate the southeastern half of the site. The woods are dominated by oak, maple, and basswood. Two algific talus slopes (G2/S1) occur on the north-facing hillside. Cold air exiting through the slopes creates a cool, equable microclimate essential for the rare elements inhabiting them. Rare elements include two landsnail species (Vertigo hubrichti – G1/S2, and Discus macclintocki – G1/S1), and a G2G3/S3 plant species (Chrysopenium iowense). Limestone cliffs also occur within the site.

Primary Conservation Targets:

Target Type

Invertebrate

Invertebrate

Plant

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Bear Creek

Site Category: Restoration Landscape

Site Type: Aquatic/Terrestrial

Subsection:

Acres: 15007.912

Square Miles: 23.45

Site Description:

This site was selected based on the aquatic systems represented. Aquatic species recorded from this site include Etheostoma spectabile (G5/S2), Etheostoma zonale (G5/S3), Lampetra appendix (G4/S3), Lythrurus umbratilis (G5/S4), Moxostoma duquesnei (G5/S2), Notropis nubilus (G5/S3), and Noturus exilis (G5/S3). Some sand prairie elements are found within the site. As with other aquatic sites, more information is needed to assess the quality of this site.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IIDO012200	barrens snaketail	<i>Ophiogomphus sp 1 nr aspersus</i>	G?
IMGAS20190	bluff vertigo	<i>Vertigo meramecensis</i>	G2
IMGAS54060	pleistocene disc	<i>Discus macclintocki</i>	G1

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Buck Creek

Site Category: Functional Landscape

Site Type: Terrestrial

Subsection:

Acres: 9284.233

Square Miles: 14.507

Site Description:

This site was selected based on the aquatic systems represented. Aquatic species recorded from this site include *Etheostoma spectabile* (G5/S2), *Etheostoma zonale* (G5/S3), *Lampetra appendix* (G4/S3), *Lythrurus umbratilis* (G5/S4), *Moxostoma duquesnei* (G5/S2), *Notropis nubilus* (G5/S3), and *Noturus exilis* (G5/S3). Some sand prairie elements are found within the site. As with other aquatic sites, more information is needed to assess the quality of this site. Buck Creek contains several algific talus slope (G2/S1) complexes, which harbor several listed or candidate boreal disjunct or relict species. The 27+ slopes at this site contain perhaps the greatest assemblage of high-ranking elements in the Midwest. These elements include *Aconitum noveboracense* (G3/S2), *Chrysosplenium iowense* (G2G3/S3), *Vertigo brierensis* (G1/S1), *Vertigo hubrichti* (G2/S2), *Vertigo iowaensis* (G2/S2), *Vertigo meramecensis* (G1/S1), and *Discus macclintocki* (G1/S1). The site also features some extensive woodland tracts. The creek itself is a state cold water trout stream that empties into the Mississippi River at an important recreation backwater area – Bussey Lake.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20370	Briarton pleistocene vertigo	<i>Vertigo brierensis</i>	
IMGAS20381	Hubricht's vertigo	<i>Vertigo hubrichti hubrichti</i>	G2T2
IMGAS20382	Hubricht's vertigo	<i>Vertigo hubrichti variabilis</i>	G2T2
IMGAS20430	Iowa pleistocene vertigo	<i>Vertigo iowaensis</i>	G2
IMGAS54060	pleistocene disc	<i>Discus macclintocki</i>	G1
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002308	Limestone - Dolomite Talus		G5
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
PDRAN01070	northern wild monkshood	<i>Aconitum noveboracense</i>	G3
PDSAX07030	Iowa golden-saxifrage	<i>Chrysosplenium iowense</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20430	Iowa pleistocene vertigo	<i>Vertigo iowaensis</i>	G2
IMGAS54060	pleistocene disc	<i>Discus macclintocki</i>	G1

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Hayden-Crossman Prairie

Site Category: Restoration Landscape

Site Type: Terrestrial

Subsection:

Acres: 5688.312

Square Miles: 8.888

Site Description:

The Hayden-Crossman Prairie complex includes two of the best examples of blacksoil prairie in Iowa. While the two prairies are similar in quality, they vary considerably in size. At 240 acres, Hayden Prairie is the largest remaining example of blacksoil prairie in the state. This fact speaks to the critically imperiled status of Iowa's prairie heritage. Hayden is owned by the DNR and has been designated as both a State Preserve and a National Natural Landmark. At 10 acres, Crossman Prairie's size is more typical of prairie remnant prairies in the state. Crossman is owned by the Conservancy and is also a designated State Preserve. Both sites have populations of *Platanthera praeclara* (G2/S2) and *Cypripedium candidum* (G4/S3). Hayden Prairie also has populations of *Lespedeza leptostachya* (G2/S3) and *Oarisma poweshiek* (G2/S3). The prairies are separated by about five miles, but there are significant prairie remnants in the roadsides between them.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PMORC1Y0S	Western prairie fringed orchid	<i>Platanthera praeclara</i>	G2

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNSB13040	short-eared owl	<i>Asio flammeus</i>	G5
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
CEGL002027	Northern Cordgrass Wet Prairie		G3?
CEGL002202	Northern Mesic Tallgrass Prairie		G2G3
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2
PMORC1Y0S0	Western prairie fringed orchid	<i>Platanthera praeclara</i>	G2

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Hickory Creek

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 213.727

Square Miles: 0.334

Site Description:

Hickory Creek contains three algific talus slope (G2/S1) and includes populations of *Aconitum noveboracense* (G3/S2), *Vertigo hubrichti* (G2/S2), and *Vertigo iowaensis* (G2/S2). The creek flows into the Yellow River.

Primary Conservation Targets:

Target Type

Invertebrate

Invertebrate

Invertebrate

Plant

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Hitzhusen Prairie Corridor

Site Category: Restoration Landscape

Site Type: Terrestrial

Subsection:

Acres: 4412.492

Square Miles: 6.895

Site Description:

Hitzhusen Prairie is a 40-acre prairie remnant occurring on a limestone hillside. It is a relatively diverse site and its 40-acre size is significant for this part of the state. Scattered prairie remnants do occur in the surrounding area and along the portion of the Winnebago River designated as the Hitzhusen Prairie Complex, but further field investigation is needed to determine whether the complex should be included as a site.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Kline Hunt Hollow

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 316.422

Square Miles: 0.494

Site Description:

Kline Hunt Hollow includes three algific slopes (G2/S1) situated on north-facing hillsides. During the summer months, air is drawn through feeder sinkholes on the uplands immediately above the slopes, through cracks in the subsurface limestone and exited through the talus zone. This draft melts ice formed within the cave during winter months, creating a cool, equable microclimate essential for the relictual elements found on them. Little canopy cover occurs over the slope, although a lush forb layer dominated by bulbet fern and pale touch-me-not exists. Surrounding hillsides are dominated by forests composed principally of oak, maple and basswood. The site protects the landsnail species (*Vertigo hubrichti* – G2/S2), and rare plant species include *Chrysopsis iowense* (G2G3/S3) and *Aconitum noveboracense* (G3/S2). There is the possibility of timber rattlesnakes on the hillsides.

Primary Conservation Targets:

Target Type

Plant

Plant

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Little Maquoketa

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 141.53

Square Miles: 0.221

Site Description:

Little Maquoketa possesses occurrences of 2 algific talus slopes (G2/S1). Rare species at the site include two state-threatened plant species (*Rosa acicularis* – G5/S2 and *Viola renifolia* – G5/S2), and one land snail (*Discus macclintocki* – G1/S1). Both algific talus slopes occur on steep north-facing hillsides along the Little Maquoketa River, and are located within the context of pastureland. Uplands behind the slopes are currently farmed (Little Maquoketa 2) or are in woodland (Little Maquoketa 1).

Primary Conservation Targets:

Target Type

Invertebrate

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Lytle Creek

Site Category: Functional Site
Site Type: Aquatic/Terrestrial
Subsection:
Acres: 5983.328
Square Miles: 9.349

Site Description:

This site is part of an extensive complex of 17 algific talus slopes (G2/S1) that straddle the boundary between the Central Tallgrass Prairie (8 slopes) and the Prairie Forest Border ecoregions (9 slopes) along Lytle Creek. The slopes occupy north, east and west-facing hillsides, and are sparsely wooded, birch and white pine being the diagnostic species. Many of the slopes are over-steepened and are cliff-like, dropping abruptly into Lytle Creek. This slope complex supports a diverse assemblage of rare species including fifteen populations of *Aconitum noveboracense* (G3/S2), three populations of *Vertigo hubrichti* (G2/S2), and single populations of *Chrysopenium iowense* (G3/S2) and *Discus macclintocki* – G1/S1. The slopes occur within the context of steep forested slopes and ravines, agricultural uplands, and valley floors, which are either grazed or farmed.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20381	Hubricht's vertigo	<i>Vertigo hubrichti hubrichti</i>	G2T2
IMGAS54060	pleistocene disc	<i>Discus macclintocki</i>	G1
PDRAN01070	northern wild monkshood	<i>Aconitum noveboracense</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Middle Cedar River

Site Category: Functional Landscape
Site Type: Terrestrial
Subsection:
Acres: 25323.693
Square Miles: 39.569

Site Description:

The Middle Cedar River contains a mixture of riparian and upland forest, sand prairie, savanna, fen, sedge meadow and marsh communities. Rare elements include *Ambystoma laterale* (G5/S2), *Notophthalmus viridescens* (G5/S2), and *Besseyia bullii* (G3/S3). Additional aquatic species found in the river include *Esox americanus* (G5/S3), *Etheostoma asprigene* (G4G5/S3), *Etheostoma exile* (G5/S4), *Moxostoma duquesnei* (G5/S2), *Notropis texanus* (G5/S2), and *Umbra limi* (G5/S3).

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

GELCODE: Unique reference code for each species or natural community.
 For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Miners Creek 1

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	104.099
Square Miles:	0.163

Site Description:

Two separate algific talus slopes occur on this split site (Miners Creek 1 and Miners Creek 2). Both occur on north-facing hillsides above Miners Creek. These slopes are noticeable by their sparseness of canopy (dominated by birch) and the presence of cold air flowing from them. A lush growth of bulbet fern, pale touch-me-not and mosses generally dominate the ground layer. Hillsides adjacent to the slopes are wooded and are dominated by oaks, maple and basswood. Sinkholes, which feed air to the slopes, are found on the hillsides near the upland areas. There is a small cliff below Miners Creek 2. Uplands were in agricultural fields, but are now CRP acres. The site includes a dense population of *Aconitum noveboracense* (G3/S2), and two landsnails (*Vertigo hubrichti* - G2/S2, and *Catinella gelida* - G2/S1).

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Plant

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Miners Creek 2

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 120.306

Square Miles: 0.188

Site Description:

Two separate algific talus slopes occur on this split site (Miners Creek 1 and Miners Creek 2). Both occur on north-facing hillsides above Miners Creek. These slopes are noticeable by their sparseness of canopy (dominated by birch) and the presence of cold air flowing from them. A lush growth of bulbet fern, pale touch-me-not and mosses generally dominate the ground layer. Hillsides adjacent to the slopes are wooded and are dominated by oaks, maple and basswood. Sinkholes, which feed air to the slopes, are found on the hillsides near the upland areas. There is a small cliff below Miners Creek 2. Uplands were in agricultural fields, but are now CRP acres. The site includes a dense population of *Aconitum noveboracense* (G3/S2), and two landsnails (*Vertigo hubrichti* - G2/S2, and *Catinella gelida* - G2/S1).

Primary Conservation Targets:

Target Type

Invertebrate

Invertebrate

Invertebrate

Plant

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Mountain Maple Hollow

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	110.567
Square Miles:	0.173

Site Description:

This site includes an immense algific talus slope (G2/S1) located on a north-facing hillside overlooking the Yellow River. Cold air, flowing from fissures in the bedrock, provides a cool, equable microclimate essential for the survival of the relictual elements found on them. The canopy cover over the slope is generally sparse, but dominated by birch and balsam fir. Adjacent woodlands are dominated by oak and maple. Limestone cliffs occur on portions of the site. Uplands above the slope are dominated by agricultural fields. Rare elements at the site include several land snail species (Vertigo hubrichti – G2/S2, Vertigo occulta – HYB/S2, Discus marmorensis – G1G3/SU), and several plant species (Aconitum noveboracense – (G3/S2, Chrysosplenium iowense – G2G3/S3, Poa paludigena – G3/S2).

Primary Conservation Targets:

Target Type

- Invertebrate
- Invertebrate
- Invertebrate
- Plant

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Osage Spring Park

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	135.089
Square Miles:	0.211

Site Description:

Osage Spring Park occurs along the upper part of the Cedar River. It contains a moderate cliff with a population of Novisuccinea sp. B (G2/S1).

Primary Conservation Targets:

Target Type

- Invertebrate

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Tetes des Mortes Creek

Site Category: Functional Landscape

Site Type: Aquatic

Subsection:

Acres: 18387.333

Square Miles: 28.731

Site Description:

This site was selected based on the aquatic systems represented. No elements for this site are in the Heritage database, so further consultation with experts will be needed to assess its importance.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary Restoration	
11210	Tetes Des Morts	<i>surface / stream / large river / low relief /</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMBIV21100	Higgins eye	<i>Lampsilis higginsii</i>	G1

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Turkey River

Site Category:	Restoration Landscape
Site Type:	Aquatic
Subsection:	
Acres:	183072.404
Square Miles:	286.055

Site Description:

Elkader 1 is part of the Turkey River landscape site. It contains one algific talus slope (G2/S1) overlooking the Turkey River. It has a good population of *Aconitum noveboracense* (G3/S2). Two more slopes are just outside of the site boundary. Fern Ridge is part of the Turkey River landscape site. This site contains a complex of seven algific talus slopes (G2/S1) along Dry Mill Creek at the point where it flows into Roberts Creek. Uplands in the southern portion are mostly forested, but in the northern portion are mostly agricultural fields. The site supports populations of *Discus macclintocki* (G1/S1), *Vertigo hubrichti* (G1/S2), and *Vertigo iowaensis* (G2/S2). Howard Creek is part of the Turkey River landscape site. This site includes three algific talus slopes (G2/S1), occurring on north-facing and west-facing hillsides. The slopes possess little canopy, principally birch. Wooded hillsides adjacent to the slopes are dominated by oaks, maple, and basswood. Uplands above the slopes were in agricultural fields, but are now CRP. The floodplains are heavily grazed. The site supports populations of *Aconitum noveboracense* (G3/S2), *Discus catskillensis* (G3G5/S1), *Discus macclintocki* (G1/S1), and *Vertigo hubrichti* (G1/S2). St. Olaf is part of the Turkey River landscape site. It contains one algific talus slope (G2/S1) overlooking the Roberts Creek with a good population of *Aconitum noveboracense* (G3/S2).

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20430	Iowa pleistocene vertigo	<i>Vertigo iowaensis</i>	G2
IMGAS54060	pleistocene disc	<i>Discus macclintocki</i>	G1
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002308	Limestone - Dolomite Talus		G5
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
PDRAN01070	northern wild monkshood	<i>Aconitum noveboracense</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
22210	Turkey River	<i>surface mixed / river / large river / low relief / surface storage</i>	No	Yes

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
CEGL002308	Limestone - Dolomite Talus		G5
CEGL002318	Midwest Dry Sand Prairie		G2G3
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Upper Cedar River

Site Category: Functional Landscape

Site Type: Terrestrial

Subsection:

Acres: 28268.057

Square Miles: 44.17

Site Description:

The Upper Cedar River contains a mixture of riparian and upland forest, sand prairie, savanna, fen, sedge meadow and marsh communities. Rare elements include *Clemmys insculpta* (G4/S1), and *Besseyia bullii* (G3/S3). Additional aquatic species found in the river include *Ammocrypta clarae* (G3/S2), *Erimystax punctatus* (G4/S3), *Etheostoma zonale* (G5/S3), *labidesthes sicculus* (G5/S4), *Lampetra appendix* (G4/S3), *Notropis heterolepis* (G5/S2), *Notropis texanus* (G5/S2), *Notropis topeka* (G2/S1), and *Umbra limi* (G5/S3).

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5
CEGL002233	Midwest Cattail Deep Marsh		G5
CEGL002291	Midwest Dry Limestone/Dolostone Cliff		G5
CEGL002318	Midwest Dry Sand Prairie		G2G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002027	Northern Cordgrass Wet Prairie		G3?
CEGL002202	Northern Mesic Tallgrass Prairie		G2G3
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Upper Iowa River

Site Category: Restoration Landscape
Site Type: Aquatic/Terrestrial
Subsection:
Acres: 479618.995
Square Miles: 749.417

Site Description:

Waterloo Algific Talus Slopes includes portions of Waterloo Creek and Bear Creek that feed into the Upper Iowa River, and is included in the Upper Iowa River landscape site. It includes concentrations of algific talus slopes (G2/S1) with species such as *Aconitum noveboracense* (G3/S2), *Discus marmorensis* (G1G3/SU), *Vertigo hubrichti* (G1/S2), *Vertigo iowaensis* (G2/S2), and *Vertigo meramecensis* – G1/S1. It also includes some hill prairies and forested areas.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20381	Hubricht's vertigo	<i>Vertigo hubrichti hubrichti</i>	G2T2
IMGAS20382	Hubricht's vertigo	<i>Vertigo hubrichti variabilis</i>	G2T2
IMGAS20430	Iowa pleistocene vertigo	<i>Vertigo iowaensis</i>	G2
IMGAS66120	frigid ambersnail	<i>Catinella gelida</i>	G2
IMGAS68270	Minnesota pleistocene Succineid	<i>Novisuccinea n.sp. Minnesota A</i>	G1G2
IMGAS68280	Iowa pleistocene Succineid	<i>Novisuccinea n.sp. Minnesota B</i>	G2
CEGL002224	Central Cordgrass Wet Prairie		G3?
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002308	Limestone - Dolomite Talus		G5
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
CEGL002492	Black Oak / Lupine Barrens		G3
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDSAX07030	Iowa golden-saxifrage	<i>Chrysosplenium iowense</i>	G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002020	North-central Bur Oak Openings		G1
CEGL002203	Central Mesic Tallgrass Prairie		G2

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary Restoration
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GELCODE: Unique reference code for each species or natural community.
 For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

22210 Upper Iowa River *surface mixed / river / large river / low relief / surface storage* Yes No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
IMGAS20190	bluff vertigo	<i>Vertigo meramecensis</i>	G2
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002078	Black Oak Forest		G4?
CEGL002224	Central Cordgrass Wet Prairie		G3?
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002308	Limestone - Dolomite Talus		G5
CEGL002385	Skunk Cabbage Seepage Meadow		G4?
CEGL002480	White Pine - Red Oak Forest		G3
CEGL002481	White Pine - White Oak Forest		G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDRAN01070	northern wild monkshood	<i>Aconitum noveboracense</i>	G3
PDSAX07030	Iowa golden-saxifrage	<i>Chrysosplenium iowense</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Volga River/Brush Creek/Bear Creek

Site Category:	Restoration Landscape
Site Type:	Aquatic/Terrestrial
Subsection:	
Acres:	231236.286
Square Miles:	361.313

Site Description:

There are several sites contained within the Volga River/Brush Creek/Bear Creek restoration landscape. Bixby State Park includes a complex of seven algific talus slopes (G2/S1). The slopes contain populations of three landsnail species (Vertigo meramecensis – G1/S1, Vertigo hubrichti – G1/S2, and Discus macclintocki – G1/S1), and two plant species (Chrysopenium iowense – G2G3/S3 and Aconitum noveboracense – G3/S2). Cold air flowing from underground ice filled caves provides the cool, equable microclimate essential for the relictual elements found on them. Much of this site is already protected as a state preserve by the Iowa DNR. The two algific talus slopes (G2/S1) at Bluebell Hollow contain populations of Chrysopenium iowense (G2G3/S3), Vertigo meramecensis (G1/S1), Vertigo hubrichti (G1/S2), and Discus macclintocki (G1/S1). Bear Creek/Brush Creek includes more than ten algific talus slopes (G2/S1) along Bear Creek and Brush Creek near the point where they join. The slopes contain populations of three landsnail species (Vertigo meramecensis – G1/S1, Discus macclintocki – G1/S1, and Discus catskillensis – G3G5/S1), and, and a G2G3/S3 plant species (Chrysopenium iowense). The algific slopes have a sparse canopy, dominated by birch and Canada yew, and are located on otherwise heavily wooded hillsides. Surrounding hillsides are dominated by forests composed principally of oak, maple and basswood. Some prairie openings are also found at the site. A small trout stream bisects the site. Uplands are generally agricultural fields that are currently CRP acres. Volga River Complex contains one algific talus slope (G2/S1), riparian and upland forest, prairie openings, etc. It provides habitat for neotropical song birds, herps, rare woodland wildflowers, and aquatic species. Clayton Pine Creek contains a series of cold air slopes along Pine Creek. Sampson ice cave is located northwest of the main cold air slope. There are a few open vents and a thick soil cover on most of the slopes, which are surrounded by pastureland. This is a very diverse site with a large population of the federally threatened Aconitum noveboracense (G3/S2). It also has populations of the landsnails Vertigo bollesiana (G1/SU) and Vertigo hubrichti (G2/S2). Cow Branch contains three algific talus slopes (G2/S1) and includes populations of Aconitum noveboracense (G3/S2), Chrysopenium iowense (G2G3/S3), Vertigo hubrichti (G2/S2), Vertigo meramecensis (G1/S1), and Discus macclintocki (G1/S1). By expanding the site to the west, an additional four slopes could be included. Hewett Creek contains two algific talus slopes (G2/S1) and includes populations of Vertigo hubrichti (G2/S2), and Discus macclintocki (G1/S1). Mossy Glen includes one algific talus slope (G2/S1) with populations of Vertigo hubrichti (G2/S2) and Vertigo iowaensis (G2/S2). The slopes occur in the context of high quality upland woods. Much of this site is protected as a State Preserve by the Iowa DNR.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20190	bluff vertigo	<i>Vertigo meramecensis</i>	G2
IMGAS20382	Hubricht's vertigo	<i>Vertigo hubrichti variabilis</i>	G2T2
IMGAS20430	Iowa pleistocene vertigo	<i>Vertigo iowaensis</i>	G2
IMGAS54060	pleistocene disc	<i>Discus macclintocki</i>	G1
IMGAS66120	frigid ambersnail	<i>Catinella gelida</i>	G2
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002308	Limestone - Dolomite Talus		G5
PDRAN01070	northern wild monkshood	<i>Aconitum noveboracense</i>	G3

GELCODE: Unique reference code for each species or natural community. For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

PDSAX07030 Iowa golden-saxifrage

Chrysosplenium iowense

G3

Restoration Conservation Targets:

GELCODE Common Name

Scientific Name

Global Rank

CEGL002027 Northern Cordgrass Wet Prairie

G3?

Aquatic Targets:

GELCODE Common Name

Scientific Name

Primary Restoration

22210 Volga River

surface mixed / river / large river / low relief / surface storage

No Yes

Other Conservation Targets:

GELCODE Common Name

Scientific Name

Global Rank

ABPBX03240 Cerulean Warbler

Dendroica cerulea

G4

ABPBX11010 Kentucky warbler

Oporornis formosus

G5

ABPBX16010 hooded warbler

Wilsonia citrina

G5

ABPBXA0030 Henslow's Sparrow

Ammodramus henslowii

G4

IMBIV21100 Higgins eye

Lampsilis higginsii

G1

IMBIV34030 sheepnose

Plethobasus cyphus

G3

IMGAS20190 bluff vertigo

Vertigo meramecensis

G2

CEGL002027 Northern Cordgrass Wet Prairie

G3?

CEGL002202 Northern Mesic Tallgrass Prairie

G2G3

CEGL002258 Tussock Sedge Wet Meadow

G4?

CEGL002308 Limestone - Dolomite Talus

G5

CEGL005139 Cinquefoil - Sedge Prairie Fen

G3G4

PDMAL0X010 glade mallow

Napaea dioica

G3

PDRAN01070 northern wild monkshood

Aconitum noveboracense

G3

PDSAX07030 Iowa golden-saxifrage

Chrysosplenium iowense

G3

PDSCR09030 kitten tails

Besseyia bullii

G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Wapsipinicon River

Site Category:	Restoration Landscape
Site Type:	Aquatic
Subsection:	
Acres:	809515.726
Square Miles:	1264.889

Site Description:

The Wapsipinicon River is included as a broadly defined scale aquatic system, and a more narrowly defined aquatic/terrestrial system. Aquatic species present in the corridor include *Anodontoides ferussacianus* (G5/S2), *Etheostoma zonale* (G5/S3), *Lasmigona compressa* (G5/S2), *Strophitus undulatus* (G5/S2), *Umbra limi* (G5/S2), and *Venustaconcha ellipsiformis* (G3G4/S2). Communities include riparian and upland forest, prairie, fens, etc.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002098	Bur Oak - Swamp White Oak Mixed Bottomland Forest		G1G2Q
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002027	Northern Cordgrass Wet Prairie		G3?
CEGL002233	Midwest Cattail Deep Marsh		G5

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
22210	Wapsipinicon River	<i>surface mixed / river / large river / low relief / surface storage</i>	No	Yes

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABNSB13040	short-eared owl	<i>Asio flammeus</i>	G5
CEGL002027	Northern Cordgrass Wet Prairie		G3?
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002233	Midwest Cattail Deep Marsh		G5
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002258	Tussock Sedge Wet Meadow		G4?

GELCODE: Unique reference code for each species or natural community.
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CEGL002318	Midwest Dry Sand Prairie		G2G3
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
PMORC1Y0S0	Western prairie fringed orchid	<i>Platanthera praeclara</i>	G2

White Pine Hollow/Ram Hollow

Site Category:	Functional Landscape
Site Type:	Terrestrial
Subsection:	
Acres:	4585.294
Square Miles:	7.165

Site Description:

White Pine Hollow/Ram Hollow features a concentration of algific talus slopes (G2/S1) in the context of large blocks of high quality forest. The forest includes large stands of mature white pines. There are about fourteen slopes and rare species include *Aconitum noveboracense* (G3/S2), *Chrysosplenium iowense* (G2G3/S3), *Catinella gelida* (G2/S1), *Discus macclintocki* (G1/S1), *Discus marmorensis* (G1G3/SU), *Vertigo hubrichti* (G1/S2), and *Vertigo meramecensis* (G1/S1). Woodland communities include eastern dry forest, eastern dry-mesic forest, eastern mesic forest and white pine grove. The site also has *Myotis sodalis* (G2/S1), and is an important area for neotropical migrant birds.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
AMACC01100	Indiana Or Social Myotis	<i>Myotis sodalis</i>	G2
IMGAS20190	bluff vertigo	<i>Vertigo meramecensis</i>	G2
IMGAS20381	Hubricht's vertigo	<i>Vertigo hubrichti hubrichti</i>	G2T2
IMGAS20382	Hubricht's vertigo	<i>Vertigo hubrichti variabilis</i>	G2T2
IMGAS54060	pleistocene disc	<i>Discus macclintocki</i>	G1
IMGAS66120	frigid ambersnail	<i>Catinella gelida</i>	G2
CEGL002308	Limestone - Dolomite Talus		G5

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PDRAN01070	northern wild monkshood	<i>Aconitum noveboracense</i>	G3
PMPOA4Z1W0	bog bluegrass	<i>Poa paludigena</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Yellow River - Pike's Peak

Site Category:	Restoration Landscape
Site Type:	Terrestrial
Subsection:	
Acres:	65135.185
Square Miles:	101.775

Site Description:

Effigy Mounds features large unbroken tracts of riparian and upland forest with inclusions of hill prairies and an algific talus slope. Rare elements on the algific talus slope (G2/S1) include *Vertigo meramecensis* (G2/S1). Birds using the area include *Accipiter cooperii* (G5/S3B,SZN), *Buteo lineatus* (G5/S2B,SZN), *Wilsonia citrina* (G5/S1B,S2N), and *Haliaeetus leucocephalus* (G4/S2B,S3N). The prairie openings have several populations of *Dodecatheon amethystinum* (G4/S2). The river appears to have good representation of aquatic species, but needs further investigation and consultation with experts to assess its quality. Pike's Peak features large unbroken tracts of riparian and upland forest with inclusions of hill prairies and two algific talus slopes (G2/S1). Birds using the area include *Accipiter cooperii* (G5/S3B,SZN), *Buteo lineatus* (G5/S2B,SZN), and *Helmitheros vermivorus* (G5/S2B,S2N). The prairie openings have populations of *Dodecatheon amethystinum* (G4/S2). The river appears to have good representation of aquatic species, but needs further investigation and consultation with experts to assess its quality. Sny Magill features large unbroken tracts of riparian and upland forest. Very few elements are listed in the Heritage database for this site, and further investigation and consultation with experts is needed to assess the quality of the terrestrial and aquatic communities. Yellow River State Forest features large unbroken tracts of riparian and upland forest with inclusions of hill prairies and several algific talus slopes. There are about ten algific talus slopes (G2/S1) with populations of *Aconitum noveboracense* (G3/S2), *Catinella gelida* (G2/S1), and *Vertigo hubrichti* (G2/S2). Birds using the area include *Accipiter cooperii* (G5/S3B,SZN), *Buteo lineatus* (G5/S2B,SZN), *Buteo platypterus* (G5/S3B,SZN), and *Wilsonia citrina* (G5/S1B,S2N). The prairie openings have populations of *Dodecatheon amethystinum* (G4/S2). The river appears to have good representation of aquatic species, but needs further investigation and consultation with experts to assess its quality.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20381	Hubricht's vertigo	<i>Vertigo hubrichti hubrichti</i>	G2T2
IMGAS66120	frigid ambersnail	<i>Catinella gelida</i>	G2
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002308	Limestone - Dolomite Talus		G5
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX16010	hooded warbler	<i>Wilsonia citrina</i>	G5
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002308	Limestone - Dolomite Talus		G5

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For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

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Bluff Spring Fen

Site Category: Functional Site**Site Type:** Terrestrial**Subsection:** 222Kf**Acres:** 150**Square Miles:** 2.984**Site Description:**

Bluff Spring Fen is an Illinois Nature Preserve located adjacent to Poplar Creek, a tributary of the Fox River. This 90-acre site contains many unique natural features and diverse plant communities, including dry gravel prairie, mesic black soil prairie, bur oak savanna, fens, seeps, sedge meadow, and marsh which support a variety of state-listed and ecoregionally significant species.

Primary Conservation Targets:**Target Type**

Community

Restoration Conservation Targets:**Target Type**

Community

Aquatic Targets:**Other Conservation Targets:****Target Type**

Community

Community

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

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Fox/Nippersink Rivers

Site Category: Functional Site
Site Type: Aquatic/Terrestrial
Subsection: 222Kf
Acres: 538418.723
Square Miles: 841.293

Site Description:

The Fox River, the third largest tributary of the Illinois River, rises in the northern part of Waukesha County, Wisconsin, enters Illinois in the northwestern corner of Lake County, and flows 115 miles southward to empty into the Illinois River at Ottawa. Between the Illinois-Wisconsin state line and Algonquin, Illinois, the slope of the river is flat, and the main channel of the Fox is ill-defined as it passes through a series of lakes and marshes. From Algonquin to Aurora the narrow valley is sharply defined by bluffs, and the floodplain is either narrow or absent entirely. Below Aurora the floodplain broadens as the river begins a rapid descent to the low plain the lies on the outer boarder of the Marseilles moraine. This basin supports a large diversity of aquatic species and habitats including glacial landforms, natural lakes, and wetlands. A variety of wetland types, such as marshes, sedge meadows, fens, and bogs, support unique and sometimes rare flora and fauna. Ninety percent (119 acres) of Illinois' graminoid fens, one hundred percent of the low shrub bogs (29 acres) and forested bogs (99 acres), and all 3,352 acres of the state's undegraded natural lakes are found along the Fox River. This includes the Volo Bog Complex which contains diverse natural communities, including calcareous floating mats, forested bog, graminoid bog, marsh, sedge meadow, tall shrub bog and wet-mesic prairie. The Volo Bog Nature Preserve encompasses 161 acres and was designated as a National Natural Landmark in 1974. Volo Bog is the only site in the Illinois Nature Preserve system which contains all the stages of classic bog succession. Pistakee Bog Nature Preserve (228 acres) is also located within the Volo Bog complex and contains a diversity of native habitats including forested bog, sedge meadow, marsh, and calcareous floating mat communities. In addition to Volo Bog and Pistakee Bog, the Fox River site includes at least 48 nature preserves, over 100 natural areas, and numerous county conservation areas, forest preserves, and hiking and biking trails. The Fox River watershed's land cover is one of contrast ranging from 89-94% agricultural land in DeKalb, Kendall and LaSalle counties to less than 25% of Lake County in agriculture. Urban expansion from the Chicago region continues to put severe pressure on the natural resources in this region.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
AFCJB28080	pugnose shiner	<i>Notropis anogenus</i>	G3
AFCJC10040	river redhorse	<i>Moxostoma carinatum</i>	G4
IIHOM08010	red tailed prairie leafhopper	<i>Aflexia rubranura</i>	G1G2
CEGL002026	Bulrush - Cattail - Burreed Shallow Marsh		G4G5
CEGL002233	Midwest Cattail Deep Marsh		G5
CEGL002282	Midwest Pondweed Submerged Aquatic Wetland		G5Q
CEGL002292	Midwest Moist Limestone/Dolostone Cliff		G5
CEGL005092	Leatherleaf Kettle Bog		G3G4
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
CEGL005185	Midwest Calcareous Floating Mat		G?

GELCODE: Unique reference code for each species or natural community.
 For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002233	Midwest Cattail Deep Marsh		G5
CEGL005037	Northern (Great Lakes) Flatwoods		G2
PDAST0T170	forked aster	<i>Aster furcatus</i>	G3

Aquatic Targets:**Other Conservation Targets:**

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
AFCJB28080	pugnose shiner	<i>Notropis anogenus</i>	G3
AFCJC10040	river redhorse	<i>Moxostoma carinatum</i>	G4
AFCJC10170	greater redhorse	<i>Moxostoma valenciennesi</i>	G3
CEGL002020	North-central Bur Oak Openings		G1
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002098	Bur Oak - Swamp White Oak Mixed Bottomland Forest		G1G2Q
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002224	Central Cordgrass Wet Prairie		G3?
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002233	Midwest Cattail Deep Marsh		G5
CEGL002256	Lake Sedge Wet Meadow		G4G5
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL002265	Northern Poor Fen		G3G4
CEGL002386	Water Lily Aquatic Wetland		G4G5
CEGL002462	Red Oak Forest		G?
CEGL002471	Northern Tamarack Rich Swamp		G4
CEGL002472	Central Tamarack Poor Swamp		G4?
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
CEGL005038	Maple-Ash-Elm Swamp Forest		G4?
CEGL005092	Leatherleaf Kettle Bog		G3G4
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
CEGL005176	Midwest Dry-mesic Gravel Prairie		G2
CEGL005185	Midwest Calcareous Floating Mat		G?
CEGL005232	Central Tamarack - Red Maple Rich Swamp		G2G3
PDAST0T170	forked aster	<i>Aster furcatus</i>	G3
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2
PDSCR01130	earleaf foxglove	<i>Agalinis auriculata</i>	G3
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3
PMORC1Y0F0	Eastern prairie white-fringed orchid	<i>Platanthera leucophaea</i>	G2

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Kishwaukee River

Site Category: Functional Site

Site Type: Aquatic

Subsection: 222Kh

Acres: 118104.29

Square Miles: 184.541

Site Description:

Originating near Woodstock in McHenry County, Illinois, the Kishwaukee River's north branch is a medium-sized stream that flows west direction with an average width of 50 feet. The substrate in the upper reaches is gravel but changes to sand and silt as it proceeds downstream. Three areas (15 miles total) of the Kishwaukee River are recognized as Biologically Significant Streams because they support a high level of fish and mussel diversity. Its river valley is situated on low undulating land; steeper topography occurs in the northern parts of Boone and Winnebago counties. Although originally savanna with many sloughs and marshes, the majority of the land is devoted to agriculture with cropland accounting for two-thirds of the surface area. Just 22 acres of high quality prairie, 30 acres of high quality wetlands and 39,430 acres of forest remain in the Kishwaukee River area. The Kishwaukee is a significant biological stream with on-going riparian protection, but agricultural practices continue to threaten this system.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL005176	Midwest Dry-mesic Gravel Prairie		G2

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
11210	South Branch Kishwaukee	<i>surface / stream / large river / low relief /</i>	Yes	No
12210	Kishwaukee mainstem	<i>surface / river / lake / low relief /</i>	Yes	No
21210	Kishwaukee, northern branch	<i>surface mixed / stream / large river / low relief /</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PDAST0T170	forked aster	<i>Aster furcatus</i>	G3
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Lost Mound / Apple River

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection: 222Lc

Acres: 129274.7

Square Miles: 201.995

Site Description:

This site occupies the Driftless Area, a physiographically unique part of Illinois that escaped Pleistocene glaciation. The area is characterized by rolling hills and a dissected pattern of wooded ridges and includes such prominent features as canyons, ravines, bluffs, and palisades. Throughout the region the highest hills rise from 1,100 to 1,200 feet high; and nowhere else in Illinois is the bedrock elevation so high, nor is the bedrock so close to the surface. Several stream segments, including the Apple River, Carroll Creek, and the Mississippi River, are recognized as Biologically Significant Streams because they support threatened or endangered species or have high fish and mussel diversity. The predominant land cover throughout the site is grassland and roughly one-fifth of the area is forested. Some of the flora and fauna are distinctive and unique, including several plant species which are preglacial and interglacial relicts. Significant natural features include sand prairie, sand dune and blowout, cliff, hill prairie, and seep springs. Federal lands at the site include the Upper Mississippi Wildlife and Fish Refuge and the Lost Mound -- Savanna Army Depot.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX08010	worm-eating warbler	<i>Helmitheros vermivorus</i>	G5
ABPBX16010	hooded warbler	<i>Wilsonia citrina</i>	G5
IMGAS54060	pleistocene disc	<i>Discus macclintocki</i>	G1
CEGL002026	Bulrush - Cattail - Burreed Shallow Marsh		G4G5
CEGL002144	Chinquapin Oak Bluff Woodland		G?
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002256	Lake Sedge Wet Meadow		G4G5
CEGL002292	Midwest Moist Limestone/Dolostone Cliff		G5
CEGL002318	Midwest Dry Sand Prairie		G2G3
CEGL002492	Black Oak / Lupine Barrens		G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDMAL0A080	clustered poppy-mallow	<i>Callirhoe triangulata</i>	G3?

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002210	Midwest Dry-mesic Sand Prairie		G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary Restoration	
32220	Apple River	<i>gw-mixed / river / large river / med-high relief /</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
PDAST0T170	forked aster	<i>Aster furcatus</i>	G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Middle Rock River

Site Category:	Functional Landscape
Site Type:	Aquatic/Terrestrial
Subsection:	222Kh
Acres:	223655.125
Square Miles:	349.467

Site Description:

Mainstem in this reach is not particularly important, but there are many tributaries with unique features or high quality. Urgency may be greater if Rockford encroaches. The ecological core of this area is the Rock River corridor from Rockford to Dixon, Illinois. The Rock River and its tributaries support a wide diversity of fishes, and the middle Rock River is especially rich in aquatic communities. Significant features include upland and floodplain forest, seeps, springs, prairie, aquatic systems, sandstone cliffs, gorges and bedrock outcroppings. St. Peter Sandstone, a formation of marine rock, lies beneath most of Illinois but is exposed at the surface in very few places including upland areas of Ogle, northwest Lee, and southern Winnebago counties. Some of the habitats support relict boreal plants which are more normally found farther north in Wisconsin and Minnesota, and in the Appalachian Mountains. Principal land cover in the area is cropland and pasture; forest cover is concentrated along the river. There are significant state land holdings including four state parks (Castle Rock, Franklin Creek, White Pines Forest, and Lowden Memorial) and one state forest (Lowden-Miller). In addition, the Conservancy owns and manages the Nachusa Grasslands. Lowden-Miller Forest (2,311 acres) and the Nachusa Grasslands (1,583 acres) are the largest natural areas in the region

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNYFO4040	red headed woodpecker	<i>Melanerpes erythrocephalus</i>	G5
ABPBX11010	Kentucky warbler	<i>Oporornis formosus</i>	G5
ABPBX16010	hooded warbler	<i>Wilsonia citrina</i>	G5
ABPBXA0101	bobolink	<i>Dolichonyx oryzivorus</i>	G5
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002111	Driftless White Pine - Northern Hardwoods Forest		G2?
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL002292	Midwest Moist Limestone/Dolostone Cliff		G5
CEGL002385	Skunk Cabbage Seepage Meadow		G4?
CEGL002481	White Pine - White Oak Forest		G3
CEGL005176	Midwest Dry-mesic Gravel Prairie		G2
CEGL005185	Midwest Calcareous Floating Mat		G?
CEGL005202	Northern Sandstone Talus		G4G5
PDAST0T170	forked aster	<i>Aster furcatus</i>	G3

GELCODE: Unique reference code for each species or natural community. For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002020	North-central Bur Oak Openings		G1
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002203	Central Mesic Tallgrass Prairie		G2

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL005183	Midwest Glacial Drift Hill Prairie		G2Q
PDAST0T170	forked aster	<i>Aster furcatus</i>	G3
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

MN

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Avon Hills

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Ma

Acres: 44294.988

Square Miles: 69.212

Site Description:

Rolling topography on Superior Lobe deposits with loamy soils and frequent depressions. Site includes excellent examples of upland and lowland forest communities typical of this landscape, including a large, diverse tamarack swamp complex and old growth maple basswood and mesic oak forest. Provides important habitat for cerulean warblers and other forest interior birds.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002187	Dogwood - Mixed Willow Shrub Meadow		G3G4
CEGL002256	Lake Sedge Wet Meadow		G4G5
CEGL002265	Northern Poor Fen		G3G4
CEGL002383	Prairie Transition Rich Fen		G3?
CEGL002471	Northern Tamarack Rich Swamp		G4
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
AFCJB28080	pugnose shiner	<i>Notropis anogenus</i>	G3
CEGL002062	North-central Maple - Basswood Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Beaver Creek

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Lf

Acres: 8526.101

Square Miles: 13.322

Site Description:

Landscape is eroded till plain on the Rochester Plateau. One of the few sites in the ecoregion that contains high quality mesic prairie, wet prairie and mesic oak savannah communities, together with numerous state listed rare plant species. Opportunity for restoration of additional savanna and prairie.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
IMGAS20382	Hubricht's vertigo	<i>Vertigo hubrichti variabilis</i>	G2T2
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
PDSAX07030	Iowa golden-saxifrage	<i>Chrysosplenium iowense</i>	G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002020	North-central Bur Oak Openings		G1
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002203	Central Mesic Tallgrass Prairie		G2

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Cedar Creek-Carlos Avery

Site Category: Functional Landscape

Site Type: Terrestrial

Subsection: 222Mc

Acres: 72510.383

Square Miles: 113.299

Site Description:

The largest and best quality expanse of untilled landscape and diverse natural communities on the Anoka Sandplain. There are excellent examples of most communities typical of this landscape, including several areas that exhibit the whole continuum of upland prairie and savanna, upland forest, and swamp, fen, marsh, and open water communities. Includes extensive public land in several different ownerships, including a Scientific and Natural Area, Wildlife Management Areas, and a Natural History Area owned by the University of Minnesota. This site includes 20 natural communities with ecoregion-wide significance and provides important habitat for the ram's-head lady's-slipper (*Cypripedium arietinum*).

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002027	Northern Cordgrass Wet Prairie		G3?
CEGL002071	Red Maple - Ash - Birch Swamp Forest		G4
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002077	Northern Pin Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002160	Northern Oak Barrens		G2
CEGL002186	Dogwood - Pussy Willow Swamp		G5
CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5
CEGL002233	Midwest Cattail Deep Marsh		G5
CEGL002256	Lake Sedge Wet Meadow		G4G5
CEGL002265	Northern Poor Fen		G3G4
CEGL002381	Speckled Alder Swamp		G5?
CEGL002383	Prairie Transition Rich Fen		G3?
CEGL002443	Red Pine / Blueberry Dry Forest		G3
CEGL002444	White Pine / Blueberry Dry-mesic Forest		G2G3
CEGL002456	White Cedar - (Mixed Conifer) / Alder Swamp		G4

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002461	Red Oak - Sugar Maple Forest		G?
CEGL002471	Northern Tamarack Rich Swamp		G4
CEGL002472	Central Tamarack Poor Swamp		G4?
CEGL002480	White Pine - Red Oak Forest		G3
CEGL002488	Bur Oak - Northern Pin Oak Woodland		G4Q
CEGL002494	Bog Birch-Leatherleaf Poor Fen		G4G5
PMORC0Q020	Ram's-head lady's-slipper	<i>Cypripedium arietinum</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002071	Red Maple - Ash - Birch Swamp Forest		G4
CEGL002077	Northern Pin Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002160	Northern Oak Barrens		G2
CEGL002186	Dogwood - Pussy Willow Swamp		G5
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5
CEGL002256	Lake Sedge Wet Meadow		G4G5
CEGL002265	Northern Poor Fen		G3G4
CEGL002381	Speckled Alder Swamp		G5?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002383	Prairie Transition Rich Fen	G3?
CEGL002444	White Pine / Blueberry Dry-mesic Forest	G2G3
CEGL002471	Northern Tamarack Rich Swamp	G4
CEGL002472	Central Tamarack Poor Swamp	G4?

Chester Hills Prairies

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Ma

Acres: 6656.279

Square Miles: 10.401

Site Description:

This site occurs at the very northern tip of the Prairie Forest Border. It consists of a six to eight mile long system of Lake Agassiz beach ridges supporting sand-gravel prairies on uplands and complexes of seepage wetland communities below. Most of the prairies are grazed, but contain high species diversity, especially on steep slopes that haven't been grazed as heavily. Wetland communities include black ash-mixed hardwood swamp, tamarack swamp, shrub swamp, prairie transition rich fen, and calcareous fen, all with distinctive seepage areas throughout.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002189	Bog Birch - Willow Prairie Fen		G3
CEGL002383	Prairie Transition Rich Fen		G3?
CEGL002472	Central Tamarack Poor Swamp		G4?
CEGL002499	Northern Little Bluestem Gravel Prairie		G2G3
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
CEGL002499	Northern Little Bluestem Gravel Prairie		G2G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Coon River

Site Category: Functional Site

Site Type: Aquatic

Subsection:

Acres: 19576.075

Square Miles: 30.588

Site Description:

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002160	Northern Oak Barrens		G2

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Corrie's Swamp

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	222Md
Acres:	1359.834
Square Miles:	2.125

Site Description:

Large wetland complex within a NE/SW trending glacial meltwater channel in the Anoka Sand Plain Geomorphic Region, now filled with outwash. Soils are minerotrophic sedge peats mapped as Seeleyville and Riffle Muck. Vegetation is a mosaic of conifer swamp, shrub swamp, wet meadow, and high quality maple-basswood forests. Site includes adjacent complex of degraded upland mesic forest and lowland swamps.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002071	Red Maple - Ash - Birch Swamp Forest		G4
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002381	Speckled Alder Swamp		G5?
CEGL002383	Prairie Transition Rich Fen		G3?
CEGL002471	Northern Tamarack Rich Swamp		G4
CEGL002472	Central Tamarack Poor Swamp		G4?

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002189	Bog Birch - Willow Prairie Fen		G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Dennison Prairies

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	9479.876
Square Miles:	14.813

Site Description:

Prairies occupying slopes of several mesa landforms within the Cannon Valley Outwash Geomorphic Region. Prairie Creek and its tributaries wind through the site. Flat tops and valleys are farmed, but slopes support a continuum of dry bedrock bluff prairie to gravel prairie to mesic prairie. Important rare species habitat, including prairie bush clover (*Lespedeza leptostachya*) and prairie voles (*Microtus ochrogaster*). Cultivated areas with potential for restoration. Small areas of oak and floodplain forest also in the site.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002287	Sandstone Moist Cliff		G4G5
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002203	Central Mesic Tallgrass Prairie		G2

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

GELCODE: Unique reference code for each species or natural community.
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Elk River Dunes

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 768.361

Square Miles: 1.201

Site Description:

Rolling dune formation on the Anoka Sandplain notable due to its geographic location and areal extent. A high quality dry oak savanna occurs at the site, one of only two in the Region. Notable rare species are creeping juniper and the Uncas skipper.

Primary Conservation Targets:

Target Type

Community

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Forestville - Mystery Cave

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Lf

Acres: 13946.662

Square Miles: 21.792

Site Description:

The narrow valleys and adjacent bluffs of this site are covered by a nearly contiguous canopy of deciduous forests of all age classes with significant areas in the main park dominated by old growth stands of maple-basswood, lowland hardwood, mesic red oak and dry-mesic oak forests. Scattered stands of white pine are on thin soils over several bench terraces cut into the bedrock cliffs at different elevations. Many remnants of wetland communities are present including spring-fed oxbow sloughs dominated by wild rice, seepage meadows, and black ash swamps. Bluff prairies are only found in small remnants on upper slopes and narrow ridge crests. The site supports more cold-producing habitats of moderate cliffs and algific talus slopes, which support disjunct populations of northern plants, than is found at any other site in Minnesota. Many of the natural communities are of exceptional quality and harbor a number of rare plants. The site includes Simpson Maderate.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20381	Hubricht's vertigo	<i>Vertigo hubrichti hubrichti</i>	G2T2
IMGAS20382	Hubricht's vertigo	<i>Vertigo hubrichti variabilis</i>	G2T2
IMGAS68270	Minnesota pleistocene Succineid	<i>Novisuccinea n.sp. Minnesota A</i>	G1G2
IMGAS68280	Iowa pleistocene Succineid	<i>Novisuccinea n.sp. Minnesota B</i>	G2
CEGL002014	Central Green Ash - Elm - Hackberry Forest		G?Q
CEGL002111	Driftless White Pine - Northern Hardwoods Forest		G2?
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002293	Moderate Cliff		G3?
CEGL002480	White Pine - Red Oak Forest		G3
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDSAX07030	Iowa golden-saxifrage	<i>Chrysosplenium iowense</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

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IMGAS20381	Hubricht's vertigo	<i>Vertigo hubrichti hubrichti</i>	G2T2
IMGAS20382	Hubricht's vertigo	<i>Vertigo hubrichti variabilis</i>	G2T2
IMGAS68270	Minnesota pleistocene Succineid	<i>Novisuccinea n.sp. Minnesota A</i>	G1G2
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002078	Black Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002111	Driftless White Pine - Northern Hardwoods Forest		G2?
CEGL002224	Central Cordgrass Wet Prairie		G3?
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002293	Moderate Cliff		G3?
CEGL002385	Skunk Cabbage Seepage Meadow		G4?
CEGL002480	White Pine - Red Oak Forest		G3
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDSAX07030	Iowa golden-saxifrage	<i>Chrysosplenium iowense</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Glacial Lakes

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection: 222Ma

Acres: 197998.593

Square Miles: 309.378

Site Description:

Extensive large landscape site on the Alexandria Moraine. Dominant upland vegetation consists of dry to mesic prairie on rolling topography, with scattered areas of oak savanna, oak forest, and maple basswood forest. Lowlands include wet prairies, fens, marshes, and lakes. Best occurrences of midwest dry-mesic prairie and cinquefoil-sedge prairie fen in the Alexandria Moraine-Hardwood Hills subsection. One of the best opportunities for protection and restoration of a large prairie landscape in the ecoregion.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IILEP65140	Dakota skipper	<i>Hesperia dacotae</i>	G2G3
CEGL002027	Northern Cordgrass Wet Prairie		G3?
CEGL002077	Northern Pin Oak Forest		G4?
CEGL002214	Midwest Dry-mesic Prairie		G2G3
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002203	Central Mesic Tallgrass Prairie		G2

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
IILEP65140	Dakota skipper	<i>Hesperia dacotae</i>	G2G3
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002160	Northern Oak Barrens		G2
CEGL002214	Midwest Dry-mesic Prairie		G2G3
CEGL002215	Midwest Dry Gravel Prairie		G2

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

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GELCODE: Unique reference code for each species or natural community.
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Great River Bluffs State Park

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Lc

Acres: 2251.76

Square Miles: 3.518

Site Description:

Bluffs along a 4-mile stretch of the Mississippi River, bounded by Dakota Creek on the south & Miller Valley on the west. The site encompasses the full range of bluffland natural communities, important Henslow's sparrow populations, Bell's vireos, one of only two native white cedar stands in southeast Minnesota, numerous rare snake populations, and many state-listed rare plant populations. Site drivers include dry oak forest and shadowy goldenrod (*Solidago sciaphila*). Also includes numerous listed plant and animal species, including one of the few Henslow's sparrow breeding sites in the ecoregion.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002077	Northern Pin Oak Forest		G4?
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002291	Midwest Dry Limestone/Dolostone Cliff		G5
CEGL002292	Midwest Moist Limestone/Dolostone Cliff		G5
CEGL002451	White Cedar Cliff Woodland		G2Q
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBW01110	Bell's Vireo	<i>Vireo bellii</i>	G5
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002078	Black Oak Forest		G4?
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Hagen WPA

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Ma

Acres: 307.697

Square Miles: 0.481

Site Description:

Forested site in the Red River Lobe Geomorphic Region with much internal topographic variation. Communities range from regenerating maple-basswood to boreal hardwood conifer and lowland hardwoods. Site driver is the Spruce-Fir-Aspen forest.

Primary Conservation Targets:

Target Type

Community

Plant

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

Community

Community

Community

Plant

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Hay Creek

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Lc

Acres: 5962.733

Square Miles: 9.317

Site Description:

Steep bluffs along Hay Creek in a landscape typical of the Blufflands. Notable in part for the large expanses of oak forest and oak woodland, much of it diverse and in good condition. There are also numerous bedrock bluff prairies, some large and high quality, that support populations of rare snakes and the rare plants *Besseyia bullii* and *Lesquerella ludoviciana*. The latter species occurs nowhere else in Minnesota outside of the Hay Creek/Red Wing area.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
AFCQC01010	crystal darter	<i>Crystallaria asprella</i>	G3
CEGL002045	Midwest Sandstone Dry Cliff		G?Q
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
IMBIV21100	Higgins eye	<i>Lampsilis higginsii</i>	G1
IMBIV34030	sheepnose	<i>Plethobasus cyphus</i>	G3
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Hegre Prairie

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Mb

Acres: 4.867

Square Miles: 0.008

Site Description:

Strip of mesic to wet blacksoil prairie along railroad right-of-way in Old Pre-Wisconsin Drift. Prairie is small, but with good species richness and native dominance.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

Hopke's Prairie

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Ma

Acres: 3.714

Square Miles: 0.006

Site Description:

Small, unbroken mesic prairie remnant in the Red River Lobe Geomorphic Region with upwards of 35 native prairie species. Despite its tiny size, its quality is excellent. Notably, the site hasn't been grazed since the 1960s and was burned in spring 1994.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Lake Maria State Park

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Mb

Acres: 1132.927

Square Miles: 1.77

Site Description:

Rolling terrain on stagnation moraine near the northern edge of the Big Woods Subsection. The site includes large areas of maple-basswood and oak forest, including some high quality communities. Numerous wetland basins include emergent marsh, wet meadow, shrub swamp, and rich fen communities. This site provides important habitat for Cerulean warblers and red-shouldered hawks.

Primary Conservation Targets:

Target Type

Community

Community

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Bird

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Long Prairie River

Site Category:	Functional Site
Site Type:	Aquatic
Subsection:	
Acres:	284609.709
Square Miles:	444.71

Site Description:

Long Prairie River is a warmwater stream draining mainly agricultural lands. Gradient is 1.59 feet/mile. Topography upstream of Clotho is flat with agriculture dominating. Creeks flowing into the Long Prairie River in this section drain lowland areas. From Clotho to Long Prairie, rolling hills dominate the watershed and agricultural land use is heavy. Most tributaries to this section of the river have been straightened and ditched. Downstream from Long Prairie to the confluence with the Crow Wing River, the topography is moderately rolling hills.

Land ownership is mostly private except for the municipalities of Long Prairie, Browerville, and Motley. The upper reaches flow mainly through row crop fields but are well buffered by cattail stands in the riparian zone. The lower reaches flow mainly through northern hardwood forests, some of which are used as pasture.

The fish community is diverse with 31 species documented in the last two population assessments (1992 and 1996). Shannon Diversity Values and Modified Hill Evenness Indices were similar in 1992 and 1996.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002467	Aspen - Birch - Red Maple Forest		G5

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Lower Cannon River

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	222Lf
Acres:	21862.62
Square Miles:	34.161

Site Description:

Bluffs, slopes, and floodplain around Lower Cannon River to its confluence with the Mississippi. The site is significant for its size, its diverse floodplain and its expanse of native plant communities. The combination of communities represents nearly the full range of Paleozoic Plateau habitats, ranging from upper bluffs to outwash terraces to floodplain and aquatic habitats. The area provides important habitat for rare birds, specifically red-shouldered hawks, cerulean warblers, peregrine falcons, bald eagles, and Acadian flycatchers. There is also important habitat for wood turtles, Blanding's turtles, rattlesnakes, and paddlefish.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002225	Freshwater Bulrush Marsh		G4G5
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3
PMLIL0U0D0	Dwarf trout lily	<i>Erythronium propullans</i>	G1

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
IMBIV35070	round pigtoe	<i>Pleurobema sintoxia</i>	G4
CEGL002018	Cottonwood - Black Willow Forest		G3G4
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002492	Black Oak / Lupine Barrens		G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDSCR09030	kitten tails	<i>Besseya bullii</i>	G3
PMLILOU0D0	Dwarf trout lily	<i>Erythronium propullans</i>	G1

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Minnesota River

Site Category: Functional Site

Site Type: Aquatic

Subsection:

Acres: 561187.601

Square Miles: 876.87

Site Description:

LeSueur River is 109 miles in length and flows into the Blue Earth River to Minnesota River to Mississippi River. Land adjacent to the stream is 99% private ownership. Riparian vegetation includes mixed hardwoods, cropland and pasture. Gradient is 4.5 ft/mi. The most serious problem concerning the LeSueur River is sediment and erosion. Erosion sites are the result of trees collapsing into the river and causing logjams, which result in more erosion.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002221	River Bulrush Marsh		G?
CEGL002224	Central Cordgrass Wet Prairie		G3?
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
11211	LeSueur River	<i>surface / stream / large river / low relief / surface storage</i>	No	Yes
12211	Minnesota	<i>surface / river / large river / low relief / surface storage</i>	No	Yes

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBW01110	Bell's Vireo	<i>Vireo bellii</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
IMBIV21100	Higgins eye	<i>Lampsilis higginsii</i>	G1

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002018	Cottonwood - Black Willow Forest		G3G4
CEGL002048	Midwest Sedimentary Dripping Cliff		G?Q
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002158	Northern Bur Oak Openings		G2
CEGL002160	Northern Oak Barrens		G2
CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002214	Midwest Dry-mesic Prairie		G2G3
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002224	Central Cordgrass Wet Prairie		G3?
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5
CEGL002298	Quartzite - Granite Rock Outcrop		G3?
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Nerstrand Woods

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	222Me
Acres:	1387.489
Square Miles:	2.168

Site Description:

The largest and best quality maple-basswood forest in the Big Woods Moraine subsection. Includes important populations of dwarf trout lily and provides forest interior habitat for Acadian flycatchers and other forest interior birds. Maple basswood forest restoration ongoing in disturbed areas. Potential for additional restoration to expand site and connect to other Big Woods areas.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PMLIL0U0D0	Dwarf trout lily	<i>Erythronium propullans</i>	G1

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
PMLIL0U0D0	Dwarf trout lily	<i>Erythronium propullans</i>	G1

GELCODE: Unique reference code for each species or natural community. For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

North Fork Crow River

Site Category:	Functional Site
Site Type:	Aquatic
Subsection:	
Acres:	875449.493
Square Miles:	1367.912

Site Description:

The watershed of the North Fork of the Crow River encompasses 1,250 square miles. Most of the river runs less than six feet deep with interspersed pools. Runs are common and substrate is silt, sand and gravel. This is a relatively low gradient stream (overall gradient 2.0 feet per mile). Fluctuating flows and water levels limit different aspects of the fishery. Mean monthly flows on the North Fork of the Crow River at Rockford for the years 1909-1974 ranged from 55.3 - 4,564 CFS.

Agriculture is a major land use and has impacts including: nutrient loading, erosion, sedimentation, pesticide runoff, flashiness due to ditching, channelization and wetland drainage.

Dams were formerly located at Hanover and Berning Mill. Both low head dam were removed in 1985 and 1988, respectively. Fish can navigate freely upstream from the Mississippi River.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary Restoration	
11211	N. Fork Crow River	<i>surface / stream / large river / low relief / surface storage</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
AFCJB28080	pugnose shiner	<i>Notropis anogenus</i>	G3
IILEP65140	Dakota skipper	<i>Hesperia dacotae</i>	G2G3
CEGL002027	Northern Cordgrass Wet Prairie		G3?
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002160	Northern Oak Barrens		G2
CEGL002214	Midwest Dry-mesic Prairie		G2G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002265	Northern Poor Fen		G3G4
CEGL002471	Northern Tamarack Rich Swamp		G4
CEGL002472	Central Tamarack Poor Swamp		G4?
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PPOPH010N0	little goblin moonwort	<i>Botrychium mormo</i>	G3

North Fork Zumbro River

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 1478.191

Square Miles: 2.31

Site Description:

Important diverse deciduous forest communities along the North Fork of the Zumbro River and Spring Creek in the Paleozoic Plateau. Mature maple-basswood forest grades to terraces with lowland hardwood forest and to floodplain forest along the river and creek. The site includes populations of the dwarf trout lily and glade mallow, and supports an upland colonial heron nest site.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
PMLIL0U0D0	Dwarf trout lily	<i>Erythronium propullans</i>	G1

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Oronoco Prairie

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	222Lf
Acres:	337.968
Square Miles:	0.528

Site Description:

Several low, excessively-drained hills in the Blufflands with dry prairie remnants. Soils are colluvial loam over limestone and a small amount of gravelly outwash deposits. Several bluff prairie remnants are in very good condition with high species diversity and several rare plants. The vegetation of hilltops and steep side slopes in most of the site is dry, bedrock bluff prairie in excellent condition. There is also a small patch of rare, intact dry, gravel prairie. Important rare species habitat, including prairie bush clover (*Lespedeza leptostachya*).

Primary Conservation Targets:

Target Type

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

Plant

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Otter Tail

Site Category:	Functional Site
Site Type:	Aquatic
Subsection:	
Acres:	1310217.858
Square Miles:	2047.249

Site Description:

The Otter Tail River is part of the Red River of the North watershed and drains 1,922 square miles. It begins near the northern edge of Becker County and flows for 190 mi. to its confluence with the Red River of the North at Breckenridge. The first 113 mi. of river pass through an area of glacial moraine and outwash plains containing numerous lakes and depressions. West of Fergus Falls in the lower reaches of the river, the watershed is a flat lowland plain with fertile soils derived from lake clays and silts from the bottom of glacial Lake Agassiz.

The river passes through 18 lakes and 21 dams. The overall gradient of the river is 2.9 ft/mi (not excluding dams) with a total drop of 550 ft from its source at Elbow Lake to where it joins the Bois de Sioux River to form the Red River of the North. The natural river channel varies in width from 20-120 ft.

The two main tributaries to the Otter Tail River are the Pelican and Toad Rivers. In addition to these, there are 43 other tributaries. Flow fluctuations in the Otter Tail are not as extreme as other rivers in the state. It is naturally regulated by the many lakes it flows through and artificially maintained by over 20 dams, many of which are located at lake outlets.

The Otter Tail River begins as a clear stream at its source and increases in turbidity, total solids and fertility towards the north. During the summer, variations in water transparency are frequently exhibited downstream of the lakes in the upper portion of the watershed. At Fergus Falls the river receives municipal sewage, power plant cooling water and wastes from a flock of approximately 2000 Canada geese. At Breckenridge, the municipal waterworks intermittently discharges water treatment wastes which violates water quality standards for turbidity. The river is classified by the Minnesota Pollution Control Agency (MPCA) as a 1C, 2B, 3B intrastate stream. This indicates suitability for the propagation of cool and warmwater fish, aquatic recreation of all kinds and use for public water supply with treatment. The river generally conforms to this classification; however, fecal coliform counts and turbidity levels sometimes exceed the standards of 200 organisms/100 ml and 25 FTU, respectively. These violations generally occur at times of high runoff.

The MPCA prepared a water quality report (1969) on the Otter Tail River upstream of Fergus Falls. Their findings indicate that water quality in the Otter Tail and major tributaries was very good. On several occasions low oxygen readings were noted downstream of lake and marsh areas due to natural conditions. Water quality is routinely monitored at Breckenridge by the MPCA.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
11211	Otter Tail River	<i>surface / stream / large river / low relief / surface storage</i>	No	Yes

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
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AFCJB28080 pugnose shiner

Notropis anogenus

G3

CEGL002062 North-central Maple - Basswood Forest

G4?

Partridge Creek

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Lf

Acres: 8501.887

Square Miles: 13.284

Site Description:

A large area of high quality forest and a diverse concentration of rare species in the Partridge Creek valley and the adjacent North Branch of the Root River valley. The site is in the blufflands Geomorphic Region, a highly dissected portion of the Paleozoic Plateau. The forest canopy is, generally, unfragmented and continuous; communities include lowland hardwoods, maple-basswood (one old growth stand), white pine-hardwoods, and mesic oak forests. There is habitat for a number of rare species: the Acadian flycatcher, bald eagles, goldenseal (*Hydrastis canadensis*), James' sedge (*Carex jamesii*), and spreading sedge (*Carex laxiculmis*).

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS68270	Minnesota pleistocene Succineid	<i>Novisuccinea n.sp. Minnesota A</i>	G1G2
IMGAS68280	Iowa pleistocene Succineid	<i>Novisuccinea n.sp. Minnesota B</i>	G2
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002293	Moderate Cliff		G3?
CEGL002461	Red Oak - Sugar Maple Forest		G?
CEGL002481	White Pine - White Oak Forest		G3
PDCRA0A0H	Leedy roseroot	<i>Sedum integrifolium ssp leedyi</i>	G5T1

Restoration Conservation Targets:
Aquatic Targets:
Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS68270	Minnesota pleistocene Succineid	<i>Novisuccinea n.sp. Minnesota A</i>	G1G2
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002293	Moderate Cliff		G3?
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3

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Pine Bend Bluffs

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	222Md
Acres:	1484.417
Square Miles:	2.319

Site Description:

Uplands and bluffs above the Mississippi River on steeply sloping outwash dissected by deep ravines. Sandy soils on steep N and NE-facing slopes support dry oak forest, grades to white pine-hardwood forest in parts, and to black ash seepage swamps at base of slope. Steep S-facing slopes are dry sand-gravel prairie with populations of James' polania. Important site for other rare species, including creeping juniper and tubercled rein-orchid.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002160	Northern Oak Barrens		G2
CEGL002203	Central Mesic Tallgrass Prairie		G2
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002480	White Pine - Red Oak Forest		G3
CEGL002488	Bur Oak - Northern Pin Oak Woodland		G4Q
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community. For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Rolling Hills

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	222Ma
Acres:	12975.037
Square Miles:	20.274

Site Description:

Cluster of dry, sandy/loamy prairie patches in a matrix of dry-mesic oak forest/woodland on steeply rolling terrain at interface of Alexandria stagnation moraine and Detroit Lakes pitted outwash in Red River Lobe Geomorphic Region. Site is notable for its extent of dry prairie, some of which are very rich and diverse. The site also includes a large area of mesic and dry/mesic maple-basswood forest, kettle lakes, ponds, and depressional wetlands.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002215	Midwest Dry Gravel Prairie		G2
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PPOPH010W0	prairie dunewort	<i>Botrychium campestre</i>	G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002202	Northern Mesic Tallgrass Prairie		G2G3

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002077	Northern Pin Oak Forest		G4?
CEGL002215	Midwest Dry Gravel Prairie		G2
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3

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This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Rollingstone River

Site Category:	Functional Site
Site Type:	Aquatic
Subsection:	
Acres:	39033.636
Square Miles:	60.991

Site Description:

The streams listed below are relatively high gradient streams in their headwaters and typically start from spring flow. The middle and lower portions of each stream generally flows through predominantly agricultural (pasture and row crop) land. Most of the streams have relatively small minor watersheds, however, can produce rapid runoff from storm events and frequent flash flooding in these streams is common. All of these streams are considered tributaries to the Mississippi River. The Rollingstone watershed is located near the city of Winona and urban sprawl is occurring in the area at a rapid rate.

Bear Creek 5.4
 Garvin Brook 10.4
 Peterson Creek 0.6
 Rollingstone Creek 13.6
 Rupprecht Creek 4.9
 Speltz Creek 3.9
 Stockton Valley Creek 7.0

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
AFCQC01010	crystal darter	<i>Crystallaria asprella</i>	G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
AFCJC10040	river redhorse	<i>Moxostoma carinatum</i>	G4
AFCQC01010	crystal darter	<i>Crystallaria asprella</i>	G3
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?

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This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Root River

Site Category:	Functional Site
Site Type:	Aquatic/Terrestrial
Subsection:	
Acres:	1589.002
Square Miles:	2.483

Site Description:

Narrow bluffs and floodplain adjacent to the Root River just north of Lanesboro. This scenic blufflands site was selected primarily because of a population of the rare plant glade mallow (*Napeaa dioica*) and a small area of lowland hardwood forest, a rare community in the Blufflands, along the river. The site also includes good examples of oak forest and maple-basswood forest on slopes above the floodplain.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002480	White Pine - Red Oak Forest		G3
PDMAL0X010	glade mallow	<i>Napeaa dioica</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
31110	Root River, South Fork	<i>gw-mixed / stream / river / low relief /</i>	No	Yes

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDMAL0X010	glade mallow	<i>Napeaa dioica</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Root River - Rushford

Site Category:	Functional Landscape
Site Type:	Terrestrial
Subsection:	222Lc
Acres:	71916.786
Square Miles:	112.372

Site Description:

This Blufflands site includes a number of important discontinuous sites along the main segment of the Root River and several tributary streams in the vicinity of the city of Rushford. Most sites contain important areas of black oak barrens and dry sand prairie on old outwash terraces. Good quality occurrences of these communities are very rare in the Blufflands. These sandy areas provide important habitat for many state listed plant and animal species. Bluffs above the terraces include several large areas of good quality oak forest as well as many diverse bedrock bluff prairies on drier slopes and a few maple-basswood forests on mesic slopes. The combination of sand barrens and prairie, bluff prairie, and forest communities provide significant habitat for a number of rare snake species. There are several areas of good quality floodplain forest and lowland hardwood forest communities along the Root River and tributary streams that provide habitat for Cerulean warblers and other forest birds. This portion of the Root River also includes some aquatic target fish species, including the crystal darter and the river redhorse. Included within the area is Pine-Hemingway Creek, a concentration of diverse, rare features in the Blufflands Geomorphic Region. The topography is characterized by steep bluffs, loess-covered uplands, and floodplain/river valley lowlands. Pine-Hemingway Creek contains a diverse combination of cold air slopes, caves, forested lowlands, and uplands with mature forest. Rare species include the variable Pleistocene vertigo snail, the eastern pipistrelle, and woodland voles. Rare plants include goldenseal (*Hydrastis canadensis*), false mermaid (*Floerkea proserpinacoides*), Short's aster (*Aster shortii*), and nodding wild onion (*Allium cernuum*).

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002078	Black Oak Forest		G4?
CEGL002111	Driftless White Pine - Northern Hardwoods Forest		G2?
CEGL002160	Northern Oak Barrens		G2
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002293	Moderate Cliff		G3?
CEGL002481	White Pine - White Oak Forest		G3
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4

GELCODE: Unique reference code for each species or natural community. For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002078	Black Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002111	Driftless White Pine - Northern Hardwoods Forest		G2?
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002480	White Pine - Red Oak Forest		G3
CEGL002481	White Pine - White Oak Forest		G3
CEGL002492	Black Oak / Lupine Barrens		G3
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Rum River

Site Category:	Functional Site
Site Type:	Aquatic
Subsection:	
Acres:	546079.035
Square Miles:	853.262

Site Description:

The Rum River originates in Mille Lacs Lake and flows south 148 miles to its outlet in the Mississippi River. The Rum River watershed encompasses an area of 1,552 square miles. The northern one-third of the watershed is primarily forested, while the dominant land use within the lower two-thirds of the watershed is agricultural. Land ownership throughout the watershed is mainly private.

The northern portion of the watershed is an undulating glacial till plain which is traversed by several morainal ridges, and the southern portion of the watershed consists of hills that rise above a glacial outwash plain known as the Anoka Sand Plain. Red-brown drift (mostly sandy till) covers the northern portion of the watershed, while gray drift composed mostly of silty till covers the southern portion of the watershed. These soils are generally light colored loamy sands to lanky loams, acid, drouthy, and of moderate to low productivity

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002233	Midwest Cattail Deep Marsh		G5
CEGL002381	Speckled Alder Swamp		G5?
CEGL002494	Bog Birch-Leatherleaf Poor Fen		G4G5
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
PMPOA4Z1W	bog bluegrass	<i>Poa paludigena</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary Restoration	
12211	Rum River	<i>surface / river / large river / low relief / surface storage</i>	No	Yes

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002071	Red Maple - Ash - Birch Swamp Forest		G4
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002077	Northern Pin Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002105	Black Ash - Mixed Hardwood Swamp	G4
CEGL002160	Northern Oak Barrens	G2
CEGL002186	Dogwood - Pussy Willow Swamp	G5
CEGL002187	Dogwood - Mixed Willow Shrub Meadow	G3G4
CEGL002229	Midwest Mixed Emergent Deep Marsh	G5
CEGL002233	Midwest Cattail Deep Marsh	G5
CEGL002256	Lake Sedge Wet Meadow	G4G5
CEGL002265	Northern Poor Fen	G3G4
CEGL002381	Speckled Alder Swamp	G5?
CEGL002383	Prairie Transition Rich Fen	G3?
CEGL002456	White Cedar - (Mixed Conifer) / Alder Swamp	G4
CEGL002471	Northern Tamarack Rich Swamp	G4
CEGL002494	Bog Birch-Leatherleaf Poor Fen	G4G5

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

S. Branch Middle Fork Zumbro

Site Category: Functional Site

Site Type: Aquatic

Subsection:

Acres: 114173.961

Square Miles: 178.4

Site Description:

Topography varies from flat farmland to gently or moderately rolling terrain. Much of the stream corridor and a portion of the hillsides are wooded. The majority of land use is agricultural consisting of row crops, pasture, and hay fields. Soils of the upper stream valley include peat and muck, silty clay loam and lilt loam; poorly to moderately well drained, mixed alluvial soil; and scattered, rough, broken, rocky land. The lower stream valley consists primarily of silt loams; silty, clay loams; and scattered loamy sand.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002203	Central Mesic Tallgrass Prairie		G2
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Savage Fen

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Mb

Acres: 6.071

Square Miles: 0.009

Site Description:

Large seepage wetland complex on peat deposit at foot of S side of Minnesota River valley. Notable for including large occurrences of calcareous seepage fen with numerous occurrences of rare plant species. Includes maple-basswood forest (Big Woods Moraine) and wet prairie communities. Site provides important habitat for the small white lady's slipper orchid (*Cypripedium candidum*), the gopher snake, and the plains pocket mouse.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

Community

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Sherburne Refuge-Sand Dunes SF

Site Category:	Functional Landscape
Site Type:	Terrestrial
Subsection:	222Mc
Acres:	46941.079
Square Miles:	73.347

Site Description:

Rolling topography along the St. Francis River which is notable for being a large site and for containing a continuum of sand prairie, sand savanna, and wetland communities. Provides habitat for rare species.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IICOL02231	a tiger beetle	<i>Cicindela patruela huberi</i>	G3T2
CEGL002160	Northern Oak Barrens		G2
CEGL002383	Prairie Transition Rich Fen		G3?
CEGL002472	Central Tamarack Poor Swamp		G4?
CEGL002488	Bur Oak - Northern Pin Oak Woodland		G4Q

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002027	Northern Cordgrass Wet Prairie		G3?
CEGL002077	Northern Pin Oak Forest		G4?
CEGL002160	Northern Oak Barrens		G2
CEGL002256	Lake Sedge Wet Meadow		G4G5

GELCODE: Unique reference code for each species or natural community. For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

South Fork Root River

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection:

Acres: 186553.119

Square Miles: 291.494

Site Description:

The South Fork Root River is 51 miles in length with an average discharge of 150 cfs. Portion of this river is classified as a designated trout stream. In the most recent survey(1985), the South Fork is divided into six reaches. Reaches 1 and 2 are dominated by steep, heavily wooded bluffs of 400 feet high. Land use includes tilled fields, pastures, and wood lots. Sixteen coldwater tributaries enter the river in the lower 31.63 miles. Habitat quality in reach 1 is poor. Few riffles were present and the streambed was composed of shifting sand and silt. Habitat in reach 2 is fair. Substrate consists of boulder, cobble and gravel due to higher water velocities. Many good pools suitable for smallmouth bass were present throughout the reach. In reaches 3-6 the watershed is rolling farmland on the uplands which abruptly changes to steep cliffs and wooded hills. Trout habitat in reach 3 is considered good.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002078	Black Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002287	Sandstone Moist Cliff		G4G5
PDSAX07030	Iowa golden-saxifrage	<i>Chrysosplenium iowense</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
AFCQC01010	crystal darter	<i>Crystallaria asprella</i>	G3
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002078	Black Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002111	Driftless White Pine - Northern Hardwoods Forest		G2?
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002203	Central Mesic Tallgrass Prairie		G2
CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002256	Lake Sedge Wet Meadow		G4G5
CEGL002287	Sandstone Moist Cliff		G4G5
CEGL002291	Midwest Dry Limestone/Dolostone Cliff		G5
CEGL002308	Limestone - Dolomite Talus		G5
CEGL002385	Skunk Cabbage Seepage Meadow		G4?
CEGL002480	White Pine - Red Oak Forest		G3
CEGL002490	Jack Pine / Prairie Forbs Barrens		G2
CEGL002492	Black Oak / Lupine Barrens		G3
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?
PMPOA4Z1W0	bog bluegrass	<i>Poa paludigena</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Spring Valley - Middle Root River

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	222Lf
Acres:	15455.856
Square Miles:	24.15

Site Description:

One of the best remaining examples of a forested bluffland valley. The site is highly dissected by a complex pattern of stream drainages and contains 3 major tributaries at their confluence with the Middle Branch of the Root River. The valleys of these creeks are deep, widely meandering limestone gorges and the upland plateau is pocked with sinkholes. Natural communities consist, in general, of lowland hardwood forest, maple-basswood forests, and mesic oak forests. Black ash swamp can be found in small, seepy, ravines. There are also small patches of northern hardwood-conifer forests. The site - with its algific talus slopes and moderate cliffs - is significant as a very large cold-producing watershed. It supports an interesting assemblage of rare plants, including Leedy's roseroot (*Sedum integrifolium* ssp. *leedyi*), Iowa golden saxifrage (*Chrysosplenium iowense*), and rock whitlow-grass (*Draba arabisans*). Rare animals include both the Minnesota and Iowa pleistocene ambersnail, the midwest pleistocene vertigo, and the eastern pipistrelle.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20381	Hubricht's vertigo	<i>Vertigo hubrichti hubrichti</i>	G2T2
IMGAS68270	Minnesota pleistocene Succineid	<i>Novisuccinea n.sp. Minnesota A</i>	G1G2
IMGAS68280	Iowa pleistocene Succineid	<i>Novisuccinea n.sp. Minnesota B</i>	G2
CEGL002014	Central Green Ash - Elm - Hackberry Forest		G?Q
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002287	Sandstone Moist Cliff		G4G5
CEGL002293	Moderate Cliff		G3?
PDCRA0A0H	Leedy roseroot	<i>Sedum integrifolium ssp leedyi</i>	G5T1
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
IMGAS20381	Hubricht's vertigo	<i>Vertigo hubrichti hubrichti</i>	G2T2
IMGAS68270	Minnesota pleistocene Succineid	<i>Novisuccinea n.sp. Minnesota A</i>	G1G2

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002078	Black Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002111	Driftless White Pine - Northern Hardwoods Forest		G2?
CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002293	Moderate Cliff		G3?
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDSAX07030	Iowa golden-saxifrage	<i>Chrysosplenium iowense</i>	G3

GELCODE: Unique reference code for each species or natural community.
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This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Straight and Turtle Rivers

Site Category: Functional Site

Site Type: Aquatic

Subsection: 222Mb

Acres: 162319.362

Square Miles: 253.628

Site Description:

The entire watershed is intensively used for agriculture. The upper watershed consists of flat to gently rolling farmland and the lower watershed is gently rolling farmland. Wooded areas are largely confined to stream corridors. The dominant land use is row crops followed by pasture with a smaller amount of wild hay fields. The upper watershed consists mainly of poorly to well drained, nearly level to gently rolling loamy soils. The lower watershed consists primarily of poorly to excessively drained, nearly level to gently rolling silt, clay, sand and silt loam's formed in alluvium. Uplands in the lower watershed consist primarily of nearly level to hilly, well drained to poorly drained loams and clay loams for in friable glacial till.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
PMLIL0U0D0	Dwarf trout lily	<i>Erythronium propullans</i>	G1

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMBIV35070	round pigtoe	<i>Pleurobema sintoxia</i>	G4
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002383	Prairie Transition Rich Fen		G3?
PMLIL0U0D0	Dwarf trout lily	<i>Erythronium propullans</i>	G1

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Taylor's Woods

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	222Mb
Acres:	451.184
Square Miles:	0.705

Site Description:

Mature, high quality forested communities in the Big Woods ecological subsection. Two old-growth, closed-canopy stands of maple-basswood forest occur on level to shallow slopes on loamy till. The age structure is good and the groundlayer is continuous and highly diverse. Forest stands are small, but are some of the best quality maple-basswood forests in the Big Woods.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

Community

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Upper Cannon River

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Me

Acres: 7248.57

Square Miles: 11.326

Site Description:

Bluffs and floodplain along a four mile stretch of the Cannon River that includes the Cannon River Wilderness Area County Park, the Cannon River Trout Lily SNA, and the Riverbend Nature Center. North to east facing slopes support mature maple-basswood forest. Drier steep slopes include oak forest, oak woodland, and some very small bedrock bluff prairies on isolated knolls. Sandy terraces include small but excellent occurrences of barrens oak savanna. Lowlands are notably diverse, including floodplain forest, wet meadow, black ash seepage swamps and calcareous fens. This is an important site for the rare plant species *Talinum rugospermum* and *Erythronium propullans*. This site is a relatively narrow corridor following the river, but does include some relatively large forested tracts above the steep slopes.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax vireescens</i>	G5
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002287	Sandstone Moist Cliff		G4G5
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
FOR_SEEP	Forested seep		GU
PMLIL0U0D0	Dwarf trout lily	<i>Erythronium propullans</i>	G1

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
CEGL002160	Northern Oak Barrens		G2
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
12210	Cannon River	<i>surface / river / lake / low relief /</i>	No	Yes

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
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GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002062 North-central Maple - Basswood Forest

G4?

PMLIL0U0D0 Dwarf trout lily

Erythronium propullans

G1

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Upper Mississippi River

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection: 222Md/Lc

Acres: 897401.368

Square Miles: 1402.212

Site Description:

The region's preeminent river corridor encompasses vast acreages of open water, emergent and submergent marsh, sedge meadow, wet prairie and floodplain forest. Sandy terraces adjoining the floodplain support oak barrens and sand prairie, and the steep dolomitic bluffs flanking the river contain a mosaic of hardwood forest and dry prairie. The river, and its associated natural communities and other habitats, provides critical breeding, feeding, and resting sites for numerous rare and representative terrestrial and aquatic species, and constitutes the region's most significant flyway for migratory birds. Floodplain forest to bluffs along the Vermillion River and the Mississippi River backwaters, including numerous lakes and sloughs. Floodplain forest/wetland complex, which is notable for its size, consists of silver maple floodplain forest and mixed hardwood floodplain forest interspersed with emergent marshes, shrub swamps, wet meadows, and open ponds. Terraces and steep slopes contain (often degraded) oak woodland with upland sand-loam prairie. Bluffs support mesic oak forest to maple-basswood forest with diverse groundlayer. Provides habitat for James' polania, paddlefish, and Cerulean warbler. Eagle nesting area. Dam operation, dredging projects, residential and industrial development, invasive species, and overlapping, sometimes conflicting, governmental jurisdictions are just a few of the key management issues.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNYFO4040	red headed woodpecker	<i>Melanerpes erythrocephalus</i>	G5
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX07010	prothonotary warbler	<i>Protonotaria citrea</i>	G5
AFCAA01020	lake sturgeon	<i>Acipenser fulvescens</i>	G3
AFCQC01010	crystal darter	<i>Crystallaria asprella</i>	G3
IIEPH14010	Pecatonica river mayfly	<i>Acanthametropus pecatonica</i>	G1G2
IODO31030	smoky shadowdragon	<i>Neurocordulia molesta</i>	G3
IMBIV08010	spectaclecase	<i>Cumberlandia monodonta</i>	G2G3
IMBIV21100	Higgins eye	<i>Lampsilis higginsii</i>	G1
IMBIV34030	sheepnose	<i>Plethobasus cyphus</i>	G3
IMBIV35070	round pigtoe	<i>Pleurobema sintoxia</i>	G4
IMGAS20190	bluff vertigo	<i>Vertigo meramecensis</i>	G2
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002225	Freshwater Bulrush Marsh		G4G5

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002287	Sandstone Moist Cliff	G4G5
CEGL002308	Limestone - Dolomite Talus	G5
CEGL002451	White Cedar Cliff Woodland	G2Q
CEGL002461	Red Oak - Sugar Maple Forest	G?
CEGL002481	White Pine - White Oak Forest	G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest	G4?

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBW01110	Bell's Vireo	<i>Vireo bellii</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX08010	worm-eating warbler	<i>Helmitheros vermivorus</i>	G5
ABPBX11010	Kentucky warbler	<i>Oporornis formosus</i>	G5
ABPBX16010	hooded warbler	<i>Wilsonia citrina</i>	G5
AFCAA01020	lake sturgeon	<i>Acipenser fulvescens</i>	G3
AFCJC10040	river redbreast	<i>Moxostoma carinatum</i>	G4
AFCJC10170	greater redbreast	<i>Moxostoma valenciennesi</i>	G3
AFCQC01010	crystal darter	<i>Crystallaria asprella</i>	G3
AFCQC04090	gilt darter	<i>Percina evides</i>	G4
IMBIV08010	spectaclecase	<i>Cumberlandia monodonta</i>	G2G3
IMBIV21100	Higgins eye	<i>Lampsilis higginsii</i>	G1
IMBIV34030	sheepnose	<i>Plethobasus cyphus</i>	G3
IMBIV35070	round pigtoe	<i>Pleurobema sintoxia</i>	G4
IMGAS20190	bluff vertigo	<i>Vertigo meramecensis</i>	G2

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002077	Northern Pin Oak Forest		G4?
CEGL002078	Black Oak Forest		G4?
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002160	Northern Oak Barrens		G2
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002256	Lake Sedge Wet Meadow		G4G5
CEGL002291	Midwest Dry Limestone/Dolostone Cliff		G5
CEGL002308	Limestone - Dolomite Talus		G5
CEGL002318	Midwest Dry Sand Prairie		G2G3
CEGL002461	Red Oak - Sugar Maple Forest		G?
CEGL002471	Northern Tamarack Rich Swamp		G4
CEGL002481	White Pine - White Oak Forest		G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Waubun Prairie Complex

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	222Ma
Acres:	711.153
Square Miles:	1.111

Site Description:

A large complex of rare wet prairies in the rolling glacial moraine of the Red River Lobe Geomorphic Region. Primary community type is calcareous seepage fen with a small patch of mesic prairie. The site provides habitat for small white lady's slipper orchid (*Cypripedium candidum*), linear-leaved sundew (*Drosera linearis*), English sundew (*Drosera anglica*), and sterile sedge (*Carex sterilis*).

Primary Conservation Targets:

Target Type

Community

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Weaver Dunes - Finger Lakes

Site Category:	Functional Landscape
Site Type:	Terrestrial
Subsection:	222Lc
Acres:	15079.766
Square Miles:	23.563

Site Description:

This site possesses the biggest barrens prairie in Minnesota, the largest population in the world of Blanding's turtles, large wet meadow and rich fen communities, and one of the most ecologically significant stretches of Mississippi River floodplain in Minnesota. Barrens prairies on extensive dune formations provide important habitat for *Talinum rugospermum* as well as nine other state-listed rare species.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002098	Bur Oak - Swamp White Oak Mixed Bottomland Forest		G1G2Q
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL002318	Midwest Dry Sand Prairie		G2G3
CEGL002383	Prairie Transition Rich Fen		G3?
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBW01110	Bell's Vireo	<i>Vireo bellii</i>	G5
AFCJC10040	river redhorse	<i>Moxostoma carinatum</i>	G4
AFCQC01010	crystal darter	<i>Crystallaria asprella</i>	G3
CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002492	Black Oak / Lupine Barrens		G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

White Earth Hardwood Forest

Site Category:	Functional Landscape
Site Type:	Terrestrial
Subsection:	222Ma
Acres:	80139.44
Square Miles:	125.22

Site Description:

Largest continuous area of forested natural communities in the northern portion of the Prairie Forest Border Ecoregion. Terrain is rolling glacial moraine in the Red River Lobe Geomorphic Region. Communities include scattered high quality occurrences ranging from less than 10 to over 400 acres in size, within a matrix of more disturbed logged forestlands. Uplands include maple-basswood and oak forest, while wetlands include tamarack swamps and wet meadows. This site is crucial for the protection in the PFB of north-central maple-basswood forest and lake sedge wet meadow communities, both ranked A-quality in this site.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002256	Lake Sedge Wet Meadow		G4G5
CEGL002385	Skunk Cabbage Seepage Meadow		G4?
CEGL005232	Central Tamarack - Red Maple Rich Swamp		G2G3
PPOPH010N0	little goblin moonwort	<i>Botrychium mormo</i>	G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002256	Lake Sedge Wet Meadow		G4G5

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
PPOPH010N0	little goblin moonwort	<i>Botrychium mormo</i>	G3

GELCODE: Unique reference code for each species or natural community. For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Whitewater River

Site Category:	Restoration Landscape
Site Type:	Aquatic/Terrestrial
Subsection:	222Lc
Acres:	61860.572
Square Miles:	96.659

Site Description:

Highly significant site, with steep wooded bluffs, terraces, and bottomlands in the Whitewater River Valley. This very large site possesses the best continuum of bluffland natural communities in the ecoregion, as well as diverse aquatic stream communities. Forested uplands include old-growth maple-basswood, oak, white pine-hardwood, and northern hardwood-conifer forest communities. Extensive, diverse bluff prairies occupy many slopes and support numerous rare species. Lowlands include seepage swamps and lowland hardwood forests. N-facing slopes with maple-basswood forest. Algific talus slopes and moderate cliffs are present with rare snails. River valleys with Plainfield sand support barrens oak savanna, jack pine barrens, many rare plants, rare snakes, and the only occurrence in the state of Karner blue butterflies. Important site for *Napaea dioica*, *Talinum rugospermum*, and *Botrychium campestre*.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
AFCQC01010	crystal darter	<i>Crystallaria asprella</i>	G3
IMGAS20190	bluff vertigo	<i>Vertigo meramecensis</i>	G2
IMGAS20382	Hubricht's vertigo	<i>Vertigo hubrichti variabilis</i>	G2T2
CEGL002048	Midwest Sedimentary Dripping Cliff		G?Q
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002077	Northern Pin Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002256	Lake Sedge Wet Meadow		G4G5
CEGL002291	Midwest Dry Limestone/Dolostone Cliff		G5
CEGL002292	Midwest Moist Limestone/Dolostone Cliff		G5
CEGL002293	Moderate Cliff		G3?
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
CEGL002461	Red Oak - Sugar Maple Forest		G?
CEGL002480	White Pine - Red Oak Forest		G3
CEGL002481	White Pine - White Oak Forest		G3

GELCODE: Unique reference code for each species or natural community.
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CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDCRA0A0H	Leedy roseroot	<i>Sedum integrifolium ssp leedyi</i>	G5T1
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?
PPOPH010W0	prairie dunewort	<i>Botrychium campestre</i>	G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002203	Central Mesic Tallgrass Prairie		G2

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary Restoration	
21211	Whitewater River	<i>surface mixed / stream / large river / low relief / surface storag</i>	No	Yes

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
IMGAS20190	bluff vertigo	<i>Vertigo meramecensis</i>	G2
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002078	Black Oak Forest		G4?
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest		G4?
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002203	Central Mesic Tallgrass Prairie		G2

GELCODE: Unique reference code for each species or natural community.
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This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002291	Midwest Dry Limestone/Dolostone Cliff		G5
CEGL002293	Moderate Cliff		G3?
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
CEGL002385	Skunk Cabbage Seepage Meadow		G4?
CEGL002480	White Pine - Red Oak Forest		G3
CEGL002492	Black Oak / Lupine Barrens		G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?

WI

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Arlington Prairie

Site Category: Restoration Landscape

Site Type: Terrestrial

Subsection:

Acres: 89744.858

Square Miles: 140.229

Site Description:

Arlington Prairie includes many scattered high quality prairie remnants, including concentrations of high quality prairie remnants in northwestern Dane County. This landscape has been identified as a priority area for grassland birds and prairie remnants by the Wisconsin DNR. The landscape includes several public wildlife areas, including Grassy Lake, Mud Lake, Ostego Waterfowl Protection Areas, and Schoenberg Marsh; it also includes Audubon's Goose Pond Sanctuary.

The area consists of gently rolling landscape with deep, fertile silt loam soils. It is part of the former Empire Prairie, the largest prairie landscape extant at the arrival of European settlers. There is a need for extensive restoration to expand remnants and provide suitable habitat for the long-term survival of area sensitive grassland birds.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX65010	dickcissel	<i>Spiza americana</i>	G4
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
CEGL002214	Midwest Dry-mesic Prairie		G2G3
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002225	Freshwater Bulrush Marsh		G4G5

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBW01110	Bell's Vireo	<i>Vireo bellii</i>	G5
CEGL002203	Central Mesic Tallgrass Prairie		G2

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Baraboo Hills

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection:

Acres: 146908.244

Square Miles: 229.548

Site Description:

The rugged bedrock controlled topography of the Baraboo Hills is a dominant natural feature of Sauk and Columbia Counties. Extensive upland hardwood forests, Driftless Area conifer "relicts", open glades of quartzite and rhyolite, cliffs and talus slopes, spring seeps and high quality headwaters streams are among the natural communities that are especially well-represented here. Owing to the scale, types, and quality of the features present the associated biota is correspondingly rich, and includes many sensitive plants and animals that have declined or disappeared from other locations in southern Wisconsin. The Baraboo Hills are also selected as a regionally significant area for the prairie and savanna restoration opportunities in the eastern portion of the range and in the former Sauk Prairie. The area offers one of the few opportunities within the ecoregion to restore the full continuum of natural communities, from floodplain to grasslands, to forest. The Baraboo Hills has been and will continue to be a major focus of conservation efforts by The Nature Conservancy, the Wisconsin DNR, and many private individuals.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNYFO4040	red headed woodpecker	<i>Melanerpes erythrocephalus</i>	G5
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX08010	worm-eating warbler	<i>Helmitheros vermivorus</i>	G5
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
ABPBX11010	Kentucky warbler	<i>Oporornis formosus</i>	G5
ABPBX16010	hooded warbler	<i>Wilsonia citrina</i>	G5
ABPBXA0101	bobolink	<i>Dolichonyx oryzivorus</i>	G5
CEGL002048	Midwest Sedimentary Dripping Cliff		G?Q
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002287	Sandstone Moist Cliff		G4G5
CEGL002298	Quartzite - Granite Rock Outcrop		G3?
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
CEGL002597	Hemlock-Sugar Maple Relict Forest		G2Q
CEGL005276	Midwestern Oak Woodland - Quartzite Glade		G2?

GELCODE: Unique reference code for each species or natural community.
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This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

FOR_SEEP	Forested seep		GU
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?
PMPOA4Z1W	bog bluegrass	<i>Poa paludigena</i>	G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002020	North-central Bur Oak Openings		G1
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBW01110	Bell's Vireo	<i>Vireo bellii</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX08010	worm-eating warbler	<i>Helmitheros vermivorus</i>	G5
ABPBX11010	Kentucky warbler	<i>Oporornis formosus</i>	G5
ABPBX16010	hooded warbler	<i>Wilsonia citrina</i>	G5
ABPBX65010	dickcissel	<i>Spiza americana</i>	G4
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002298	Quartzite - Granite Rock Outcrop		G3?
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
CEGL002462	Red Oak Forest		G?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002597	Hemlock-Sugar Maple Relict Forest		G2Q
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?

Baraboo River Cliffs

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 5667.127

Square Miles: 8.855

Site Description:

For a distance of several miles in southwestern Juneau and northwestern Sauk counties, the Baraboo River has created a striking series of cliffs through the Driftless Area's Cambrian sandstone bedrock. The cliffs support "relict" stands of conifers composed of white and red pines, and hemlock. The understories of these northern communities contain species that are found only under highly specialized ecological conditions within the PFB ecoregion.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002045	Midwest Sandstone Dry Cliff		G?Q
CEGL002597	Hemlock-Sugar Maple Relict Forest		G2Q

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Bass Hollow

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	2434.891
Square Miles:	3.805

Site Description:

Bass Hollow is situated in the heart of rugged, unglaciated Driftless terrain in southcentral Juneau county, just to the northwest of the Baraboo Hills. The site contains excellent examples of both rare and representative natural communities, and is large enough to support populations of rare area-sensitive forest interior birds. Natural communities present include southern dry, dry-mesic, and mesic hardwood forests, hemlock relict, and moist cliff. Rare plants have been documented here, and the site also contains spring seepages that form the headwaters of several area streams.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002461	Red Oak - Sugar Maple Forest		G?

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Berlin Fen

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 251.352

Square Miles: 0.393

Site Description:

The major natural feature of this of this site in northeastern Green Lake County is a complex of floristically rich calcareous fens. These wetlands support several rare plants and are currently managed as State Natural Areas. Management concerns include long-term protection of the fen hydrology, and residential encroachment from nearby Berlin.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

Big Swamp

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 1348.243

Square Miles: 2.107

Site Description:

Big Swamp is a large wetland drained by Bear Creek in northern Buffalo County between Mondovi and Durand. The primary natural communities are tamarack swamp, hardwood swamp, and sedge meadow. Comprehensive biological inventory work has not yet been conducted here. Conservation limitations include hydrological disruption due to ditching, agricultural runoff, invasive species, and site isolation. Size and the rarity of conifer swamps in this part of the ecoregion are the primary reasons for considering this site, at least provisionally, as part of a conservation portfolio.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL005232	Central Tamarack - Red Maple Rich Swamp		G2G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Black Earth Prairie

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 114.487

Square Miles: 0.179

Site Description:

Black Earth Prairie is a dry-mesic prairie with pockets of other types ranging from dry to nearly mesic, located on a low knob and ridge. This remnant harbors a rich flora of more than 80 native prairie species. The grasses are big and little bluestems, indian grass, and northern dropseed; the forbs include such showy species as pasque flower, lead plant, shooting star, compass plant, blazing stars, purple prairie clover, coneflower, black-eyed susan, sunflowers, asters, and goldenrods. Of significance are populations of a rare aster hybrid, pomme-de-prairie, and white camas. A strip of alfalfa surrounds the prairie. The soils have been typed as silt loams of the Lindstrom and Fayette series.

Primary Conservation Targets:

Restoration Conservation Targets:

Target Type

Community

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Black River-Meadow Valley-Bear Bluff

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection:

Acres: 1171595.354

Square Miles: 1830.647

Site Description:

This portion of the PFB is unglaciated but features very different terrain than the stream-dissected Driftless Area to the south and west. The landscape is a vast sand plain, punctuated by Cambrian sandstone ridges, buttes, mesas, and pinnacles. Cliffs are common associates of these rock landforms. The uplands support extensive forests, with pines, oaks, and aspen among the most important trees. Wetlands are frequent, and are mostly of acid conifer swamp and meadow communities, typically over layers of sphagnum or sedge peat. A great number of rare or otherwise sensitive species have been documented here in recent years, including predators such as the timber wolf, fisher, and northern goshawk, as well as many invertebrates and plants. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR, specifically the Necedah NWR and Bear Bluff Wetlands. There is more public land – federal, state, and county - and a lower human population density in this part of the PFB than in any other part of the region.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBG10010	sedge wren	<i>Cistothorus platensis</i>	G5
ABPBXA0101	bobolink	<i>Dolichonyx oryzivorus</i>	G5
AFCJC10040	river redhorse	<i>Moxostoma carinatum</i>	G4
AFCQC04090	gilt darter	<i>Percina evides</i>	G4
IICOL02231	a tiger beetle	<i>Cicindela patruela huberi</i>	G3T2
IIEPH14010	Pecatonica river mayfly	<i>Acanthametropus pecatonica</i>	G1G2
IIHOM29010	a prairie leafhopper	<i>Polyamia dilata</i>	G?
IIODO12200	barrens snaketail	<i>Ophiogomphus sp 1 nr aspersus</i>	G?
IIODO31030	smoky shadowdragon	<i>Neurocordulia molesta</i>	G3
IIODO32130	incurvate emerald	<i>Somatochlora incurvata</i>	G3
IIODO34020	ringed bog hunter	<i>Williamsonia lintneri</i>	G2
CEGL002045	Midwest Sandstone Dry Cliff		G?Q
CEGL002048	Midwest Sedimentary Dripping Cliff		G?Q
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002077	Northern Pin Oak Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002078	Black Oak Forest		G4?
CEGL002186	Dogwood - Pussy Willow Swamp		G5
CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002287	Sandstone Moist Cliff		G4G5
CEGL002318	Midwest Dry Sand Prairie		G2G3
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
CEGL002385	Skunk Cabbage Seepage Meadow		G4?
CEGL002444	White Pine / Blueberry Dry-mesic Forest		G2G3
CEGL002454	Black Spruce / Labrador Tea Poor Swamp		G5Q
CEGL002471	Northern Tamarack Rich Swamp		G4
CEGL002472	Central Tamarack Poor Swamp		G4?
CEGL002478	Jack Pine - Northern Pin Oak Forest		G4G5
CEGL002481	White Pine - White Oak Forest		G3
CEGL002482	White Pine - Red Maple Swamp		G3G4
CEGL002490	Jack Pine / Prairie Forbs Barrens		G2
CEGL002492	Black Oak / Lupine Barrens		G3
CEGL002494	Bog Birch-Leatherleaf Poor Fen		G4G5
CEGL002498	Leatherleaf Bog		G5
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
CEGL002597	Hemlock-Sugar Maple Relict Forest		G2Q
CEGL005108	Inland Coastal Plain Marsh		G2?
CNTPOORFE	Central poor fen		GU
FOR_SEEP	Forested seep		GU
PDAST440G3	cliff cudweed	<i>Gnaphalium obtusifolium var saxicola</i>	G5T1T2
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?
PMPOA4Z1W	bog bluegrass	<i>Poa paludigena</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
11211	East Fork Black River	<i>surface / stream / large river / low relief / surface storage</i>	Yes	No
12211	Black River	<i>surface / river / large river / low relief / surface storage</i>	Yes	No
12211	Yellow River	<i>surface / river / large river / low relief / surface storage</i>	Yes	No
21211	Morrison Creek	<i>surface mixed / stream / large river / low relief / surface storag</i>	Yes	No
21211	Robinson Creek	<i>surface mixed / stream / large river / low relief / surface storag</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX07010	prothonotary warbler	<i>Protonotaria citrea</i>	G5
ABPBX65010	dickcissel	<i>Spiza americana</i>	G4
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
AFCJC10040	river redhorse	<i>Moxostoma carinatum</i>	G4
AFCQC04090	gilt darter	<i>Percina evides</i>	G4
IICOL02231	a tiger beetle	<i>Cicindela patruela huberi</i>	G3T2
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
IIODO32130	incurvate emerald	<i>Somatochlora incurvata</i>	G3
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002078	Black Oak Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002462	Red Oak Forest		G?
CEGL002482	White Pine - Red Maple Swamp		G3G4
CEGL002490	Jack Pine / Prairie Forbs Barrens		G2
CEGL002492	Black Oak / Lupine Barrens		G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
CNTPOORFE	Central poor fen		GU
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?
PMPOA4Z1W0	bog bluegrass	<i>Poa paludigena</i>	G3

Blue Swamp

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 980.827

Square Miles: 1.533

Site Description:

Excellent examples of central poor fen/northern sedge meadow, black spruce-tamarack swamp, and alder thicket comprise the headwaters area of several small tributaries of the biotically rich Eau Claire River system. The wetland communities support a diverse fauna, including at least one globally rare invertebrate.

Primary Conservation Targets:

Target Type

Community

Community

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Buena Vista Marsh

Site Category: Restoration Landscape

Site Type: Terrestrial

Subsection:

Acres: 66791.601

Square Miles: 104.364

Site Description:

Drained for agriculture early in the twentieth century, the level sandy terrain of central Wisconsin's Buena Vista "Marsh" is among the state's most important strongholds for grassland birds. Especially significant among these are prairie chicken, Henslow's sparrow, grasshopper sparrow, upland sandpiper, and short-eared owl. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR. The occurrence of rare invertebrates has been documented recently. Changing agricultural practices and residential developments are impacting the site's extensive grasslands.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Cedarburg Bog

Site Category: Functional Site
Site Type: Aquatic/Terrestrial
Subsection:
Acres: 9646.203
Square Miles: 15.072

Site Description:

Close to the extreme eastern periphery of the PFB ecoregion, Cedarburg Bog contains a diverse complement of native communities, including some with a decidedly “northern” flavor. Among the more noteworthy community types are a northern patterned rich fen, black spruce swamp, black ash swamp, a fine stand of maple-beech forest, and several undeveloped lakes. Many rare plants and animals occur here, some of them globally scarce. The rich biota reflects the diversity and quality of natural communities and habitat types available, as well as the site’s large size, and the degree to which it has been studied by staff and students affiliated with the University of Wisconsin-Milwaukee, one of the site’s principal landowners. Increased residential and recreational developments around Cedarburg Bog and the spread of invasive species are major threats to the site’s long-term viability.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002430	Midwest Ephemeral Pond		G?Q
CEGL002454	Black Spruce / Labrador Tea Poor Swamp		G5Q
CEGL002455	White Cedar Seepage Swamp		G3G4
CEGL002485	Black Spruce Bog		G5
CEGL002494	Bog Birch-Leatherleaf Poor Fen		G4G5
PDAST0T170	forked aster	<i>Aster furcatus</i>	G3
PMORC0Q020	Ram's-head lady's-slipper	<i>Cypripedium arietinum</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002454	Black Spruce / Labrador Tea Poor Swamp		G5Q
CEGL002471	Northern Tamarack Rich Swamp		G4
CEGL002494	Bog Birch-Leatherleaf Poor Fen		G4G5
CEGL005004	Beech - Maple - Northern Hardwoods Forest		G4G5
PMORC0Q020	Ram's-head lady's-slipper	<i>Cypripedium arietinum</i>	G3

GELCODE: Unique reference code for each species or natural community.
 For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Cherokee Marsh

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	2040.167
Square Miles:	3.188

Site Description:

Cherokee Marsh is a large wetland within the watershed of Lake Mendota. It is characterized by steep side slopes and broad flat marshes. The marshes contain a diversity of plant communities including fens, springs, relic tamaracks, several sedge meadows and low prairies. A great variety of songbirds nest or migrate through the area, including great horned owl, American bittern, great blue heron and sandhill crane. Several critical plant species are present at the site, including small yellow ladyslipper, white ladyslipper, and glade mallow. Cherokee Marsh is a critical spawning habitat for northern pike.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4

GELCODE: Unique reference code for each species or natural community.
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Cherry Lake

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 1275.502

Square Miles: 1.993

Site Description:

Cherry Lake encompasses several floristically rich, large, highly significant wetlands associated with the Fox River System in heavily developed central Racine County. Wetland communities represented here include good examples of calcareous fen, southern sedge meadow, emergent marsh, and tamarack swamp. Many rare plants and several rare birds occur here. Site threats include hydrologic manipulation, the spread of invasive species, and encroaching residential development

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

Colburn Wetlands

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 6978.981

Square Miles: 10.905

Site Description:

The Colburn Wetlands cover several thousand acres in eastern Adams County at the extreme eastern fringe of extinct Glacial Lake Wisconsin. The primary natural communities are sedge meadow and poor fen, tamarack and jack pine swamp, and shrub swamp. The rolling sandy uplands are forested with pine, oak, and aspen, but much of this land was formerly open barrens, as indicated by the presence of a rich sand prairie flora along roadsides and in canopy gaps. Though the Wisconsin DNR owns much of the northern half of the site, the privately owned southern half appears more intact and has higher conservation potential for natural communities and rare species. Relatively little systematic inventory has occurred here. Residential developments, continued fire suppression, and disruption of site hydrology are significant management issues.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002258	Tussock Sedge Wet Meadow		G4?
CNTPOORFE	Central poor fen		GU

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Coon Creek

Site Category: Functional Site

Site Type: Aquatic

Subsection:

Acres: 68342.185

Square Miles: 106.786

Site Description:

Exposures of Cambrian sandstone are prominent on the north slope of this forested ridge in western Wisconsin's Driftless Area. The moist cliffs provide habitat for a globally rare plant.

Primary Conservation Targets:

GELCODE	Common Name
PDRAN01070	northern wild monkshood

Scientific Name
<i>Aconitum noveboracense</i>

Global Rank
G3

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name
31211	Coon Creek

Scientific Name
<i>gw-mixed / stream / large river / low relief / surface storage</i>

Primary	Restoration
No	Yes

Other Conservation Targets:

GELCODE	Common Name
CEGL002062	North-central Maple - Basswood Forest

Scientific Name

Global Rank
G4?

Dewey/Jordan Wetlands

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 39262.762

Square Miles: 61.349

Site Description:

This wetland complex covers several thousand acres in northern Portage County 2 miles east of the Wisconsin River. The major natural communities are peatland types, including conifer swamps of black spruce and tamarack, open wetlands of bog, poor fen, and sedge meadow, and shrub swamps of alder, willow, and bog birch. The site hosts many "northern" animals of restricted distribution in the PFB ecoregion, but also supports some rare grassland species that find wet sites to their liking. The surrounding land supports a mixture of farms and woodlots.

Primary Conservation Targets:

GELCODE	Common Name
CEGL002472	Central Tamarack Poor Swamp
CNTPOORFE	Central poor fen

Scientific Name

Global Rank
G4?
GU

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community. For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Duer Farm

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 4.013

Square Miles: 0.006

Site Description:

A 148' deep well on the Duer Farm harbors the only known population of the endemic Wisconsin well amphipod (*Stygobromus putealis*).

Primary Conservation Targets:

Target Type

Invertebrate

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Eagle Valley

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	9331.107
Square Miles:	14.58

Site Description:

This area contains a rich diversity of natural communities and species. Natural communities range from Pleistocene relicts, to Mississippi River islands and sand bars, to hot, dry slopes, to shaded, frigid algific talus slopes. Eagle Valley comprises three distinct areas:

Eagle Valley Woods consists of unglaciated uplands overlooking the Mississippi River with prairies and forests intermixed on the slopes. Natural communities include southern dry/dry mesic forest, floodplain forest, and dry prairie. Rare birds include Bald eagle, Kentucky warbler and Cerulean warbler.

Chase Creek/Glen Haven algific talus slopes are a series of eight algific talus slopes along Chase Creek and its tributaries. These algific talus slopes contain rare plants and animals, including northern monkshood, and several species of rare land snails.

Dewey Heights/Roe Bluff Prairies contain the largest dry lime prairie in the area. The prairie, on a southwest-facing Mississippi River bluff, is dominated by big and little bluestem, side-oats grama, June grass and Indian grass. There is a diversity of native prairie forbs.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20381	Hubricht's vertigo	<i>Vertigo hubrichti hubrichti</i>	G2T2
IMGAS20382	Hubricht's vertigo	<i>Vertigo hubrichti variabilis</i>	G2T2
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
PDRAN01070	northern wild monkshood	<i>Aconitum noveboracense</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMBIV21100	Higgins eye	<i>Lampsilis higginsii</i>	G1
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDMAL0A080	clustered poppy-mallow	<i>Callirhoe triangulata</i>	G3?
PDRAN01070	northern wild monkshood	<i>Aconitum noveboracense</i>	G3

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Eau Galle River Cliff

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 125.096

Square Miles: 0.195

Site Description:

The Eau Galle River Cliffs occurs in southeastern St. Croix County, within a small local park. This 1/4-1/2 mile long exposure of sedimentary bedrock has a cool northeastern aspect and is noteworthy for its "boreal" flora. White spruce, white pine, balsam fir, mountain ash, mountain maple, red-berried elder and other plants associated with the north are prominent, though the sheer cliff walls prevented a detailed examination of the site. This was the sole location for white spruce and basam fir documented during the Scientific Areas inventories conducted in Pierce and St.Croix counties in the early 1980s by WDNR's-Bureau of Research.The site's major conservation limitation is the inundation of the lower cliff face by a downstream dam on the Eau Galle. In the future the cliff should be more closely examined, especially for unusual plants and rare snails. The surrounding landscape features a mixture of small deciduous woodlots, and active and fallow agricultural land.

Primary Conservation Targets:

Target Type

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

Edwards Isl and

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 47.106

Square Miles: 0.074

Site Description:

Edwards Island is within the Wisconsin River, within the limits of the cities of Wisconsin Rapids, Port Edwards, and Nekoosa. The island supports an old-growth forest composed of large white pine-red pine-white oak-red oak, a type characteristic of central Wisconsin, and not found in ecoregions farther north. Rare birds are among the forest's residents.

Primary Conservation Targets:

Target Type

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Ennis Lake-Muir Park

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 162.864

Square Miles: 0.254

Site Description:

Ennis Lake is a 30-acre spring-fed kettle lake, with clear water and a marl bottom. The surrounding plant communities include a rich fen, sedge meadow, open bog, northern wet forest dominated by tamarack, southern dry forest, oak opening and wet-mesic prairie. The fen and prairie include such species as New England aster, blazing star, grass of parnassus and prairie dock. Muir Park is a county park which receives intense day use.

Primary Conservation Targets:

Target Type

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Faville Grove

Site Category: Restoration Landscape

Site Type: Terrestrial

Subsection:

Acres: 29567.737

Square Miles: 46.2

Site Description:

Encompasses several State Natural Areas: Snapper, Faville, Bluejoint Fen. Madison Audubon, TNC, WI-DNR all are active in the area. UW-Madison Zoology department land (swamp), and Mud Lake SWA to north. Borders Crawfish River. Potential for large-scale restoration of lowland prairie. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR. The Crawfish River used to support significant mussel beds but is currently degraded.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Fort McCoy

Site Category:	Functional Landscape
Site Type:	Terrestrial
Subsection:	
Acres:	37151.164
Square Miles:	58.05

Site Description:

Administered and managed by the Department of Defense, 60,000 acre Fort McCoy contains some of the PFB ecoregion's finest stands of oak barrens, pine barrens, and sand prairie. Associated with these communities are significant populations of rare grassland birds, prairie plants, and invertebrates. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR. The Fort's large metapopulation of the federally endangered Karner Blue butterfly is particularly noteworthy. Larger patches of forest on the Fort support regionally significant populations of forest interior birds, including rare forest raptors. Several headwater streams originating within the Fort are highly significant for this ecoregion in that they have not been impacted by agriculture or urbanization.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IIHOM08010	red tailed prairie leafhopper	<i>Aflexia rubranura</i>	G1G2
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002078	Black Oak Forest		G4?
CEGL002318	Midwest Dry Sand Prairie		G2G3
CEGL002381	Speckled Alder Swamp		G5?
CEGL002482	White Pine - Red Maple Swamp		G3G4
CEGL002492	Black Oak / Lupine Barrens		G3
FOR_SEEP	Forested seep		GU
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?
PMPOA4Z1W	bog bluegrass	<i>Poa paludigena</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
IIHOM08010	red tailed prairie leafhopper	<i>Aflexia rubranura</i>	G1G2
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

PDPOR080G0 prairie fame-flower

Talinum rugospermum

G3?

PMPOA4Z1W0 bog bluegrass

Poa paludigena

G3

French Isl and Prairie

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 1144.604

Square Miles: 1.788

Site Description:

This level sandy terrace just above the floodplains of the Black and Mississippi Rivers is the site of the La Crosse Airport. The margins of the airport lands have been extensively "suburbanized". Notable features of the site include an extensive acreage of dry sand prairie, breeding populations of rare and declining grassland birds, and a large population of the Midwestern endemic, poppy mallow. The site has not been surveyed since the mid-1970s.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

Plant

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Germantown Swamp

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 412.225

Square Miles: 0.644

Site Description:

Located near the eastern edge of the PFB, this site contains a forested lowland of several hundred acres. The major natural communities are a black ash swamp and a white cedar swamp, both rare types in this ecoregion. This part of the PFB is now heavily urbanized, with subdivisions replacing agricultural lands and natural habitats.

Primary Conservation Targets:

Target Type

Community

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Hawk Hill I

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 1304.131

Square Miles: 2.038

Site Description:

Approximately 50 acres of good to excellent quality upland prairie straddle the west end of a high ridge of limestone bedrock. Extremely steep south-, west-, and north-facing slopes. Limestone outcrops near the top with morainal till and sand deposits along the base of the rocky and gravelly slopes. Flat ridge above the limestone outcrops is wooded with bur oak and shagbark hickory. Red cedar, woody growth, and exotic species are major threats. A small portion of the site has been kept open with the use of fire and cedar cutting.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IHHOM08010	red tailed prairie leafhopper	<i>Aflexia rubranura</i>	G1G2
IHHOM29010	a prairie leafhopper	<i>Polyamia dilata</i>	G?
CEGL002214	Midwest Dry-mesic Prairie		G2G3
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002258	Tussock Sedge Wet Meadow		G4?
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

High Cliff State Park

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 385.577

Square Miles: 0.602

Site Description:

Exposures of the Niagara Escarpment, a geological formation composed of dolomite-limestone, occur from southeastern Wisconsin north and east to Niagara Falls and beyond. High Cliff State Park, on the northeastern shore of Lake Winnebago, contains an ecologically sensitive stretch of the escarpment that supports populations of highly specialized, globally rare land snails. Overuse of the park's resources, the spread of invasive plant species, and residential development immediately outside of the park pose serious threats to these populations.

Primary Conservation Targets:

Target Type

Invertebrate

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Horicon Marsh

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	30908.689
Square Miles:	48.296

Site Description:

This huge wetland in north central Dodge County is a major stopover for hundreds of thousands of migratory birds, particularly waterfowl, wading birds, and shorebirds. The marsh is managed intensively to benefit these species by both the US Fish and Wildlife Service and the Wisconsin DNR. The vegetation is composed primarily of emergent marsh species, managed via water level manipulations using an extensive system of dikes and ditches. Although very little of Horicon Marsh is in a “natural” condition, it provides critical habitat for a large number of common and rare species, especially birds. The site also provides breeding habitat for many water dependent species, including ducks, rails, egrets, terns, and other marsh birds. A number of these are rare or declining in the region. Associated with this concentration of vast numbers of birds have been periodic outbreaks of disease. The site is drained by the Rock River, which has serious water quality problems owing to carp and runoff from the intensive utilized agricultural lands that virtually surround the marsh.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS20430	Iowa pleistocene vertigo	<i>Vertigo iowaensis</i>	G2
IMGAS66120	frigid ambersnail	<i>Catinella gelida</i>	G2
CEGL002233	Midwest Cattail Deep Marsh		G5

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS66120	frigid ambersnail	<i>Catinella gelida</i>	G2
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002203	Central Mesic Tallgrass Prairie		G2

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Horicon/Mayville Ledge

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 1983.388

Square Miles: 3.099

Site Description:

Mayville Ledge is one of the southern portions of the ecologically significant dolomite-limestone Niagara Escarpment. This bedrock feature spans an area stretching from southeastern Wisconsin north and east around the Great Lakes to New York state. This site includes extensive dry dolomite cliffs and a mature mesic sugar maple-beech forest of good quality. Ephemeral ponds occur within the forest above the escarpment. The site is located in northeastern Dodge County, two miles to the southeast of Horicon Marsh. Part of the site is managed as a State Natural Area.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMGAS66120	frigid ambersnail	<i>Catinella gelida</i>	G2
CEGL005004	Beech - Maple - Northern Hardwoods Forest		G4G5

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?

Hub City Bog

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 130.382

Square Miles: 0.204

Site Description:

This small site near the Pine River in northern Richland County contains a diverse complex of rare or otherwise noteworthy Driftless Area communities. These include Tamarack Swamp, Pine Relict, Alder Thicket, Dry Cliff and Wet Cliff. Rare plant species are present, including one that is endemic to southwestern Wisconsin. Additional protection is needed for the site, part of which is managed as a State Natural Area.

Primary Conservation Targets:

Target Type

Community

Community

Plant

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Huiras Lake

Site Category: Functional Site
Site Type: Aquatic/Terrestrial
Subsection:
Acres: 557.816
Square Miles: 0.872

Site Description:

The complex of natural communities and aquatic features occurring here include an undeveloped alkaline seepage lake fringed by tamarack and white cedar, an extensive swamp of black ash, red maple, American elm, and white cedar, and morainal uplands that support a mature mesic maple-beech forest with scattered white pine. Detailed taxa-oriented surveys have not yet been conducted.

Primary Conservation Targets:

Target Type

Community

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Jackson Marsh

Site Category: Functional Site
Site Type: Terrestrial
Subsection:
Acres: 1236.266
Square Miles: 1.932

Site Description:

Occupying a large depression created by a now extinct glacial lake, ill-named Jackson Marsh (it is mostly forested) constitutes the most extensive patch of natural vegetation remaining in southern Washington County. As it is very close to the eastern edge of the PFB ecoregion, and near an important climatic transition area (the "tension zone" of Wisconsin ecologist John Curtis), the site contains a large forested wetland, much of it dominated by two "northern" tree species, white cedar and black ash. This northern outlier supports some of the southernmost populations of northern plants and animals in our state. Other portions of the swamp are composed of hardwoods more characteristic of southern Wisconsin, such as red and silver maple, green ash, and American elm. Conservation challenges are many, with hydrologic alteration, poor water quality, invasive species, urbanization, logging, and excessive deer browse among the significant problems.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002455	White Cedar Seepage Swamp		G3G4

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL005038	Maple-Ash-Elm Swamp Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Kettle Moraine

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection:

Acres: 597661.418

Square Miles: 933.861

Site Description:

This section of rough interlobate glacial moraine supports extensive upland hardwood forests and is far less developed than the surrounding landscape. The northern portion was primarily wooded at the onset of European settlement in the mid-1800s. The mesic and dry-mesic forests provide suitable conditions for a nearly intact biota, with populations of many plants and animals now scarce or absent elsewhere in the PFB ecoregion still present here. Wetlands of tamarack swamp, hardwood swamp, sedge meadow, shrub-carr, and emergent marsh occupy the deeper glacial kettles. Residential development and the spread of invasive species are among the serious management challenges. In all of southeastern Wisconsin, only the southern kettle moraine landscape, dominated by a rough interlobate glacial moraine, has retained attributes that can still provide for the needs of a majority of the plants, animals, and communities native to the region. The southern Kettle Moraine contains a regionally high concentration of calcareous fens, remnant prairies, oak openings, and forest. It is one of a very small number of sites within the PFB ecoregion where restoration of some of the matrix and large patch communities such as oak opening, oak woodland, and prairie is feasible. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR. The larger forests of the south Kettle, in part created by tree planting and the suppression of wild fire in the prairie-savanna communities, is now the only site in the southeast (and one of few statewide) that supports significant populations of southern forest interior birds. Encroachment by residential development, overuse for recreational purposes, continued fire suppression, and the spread of invasive species are among the major threats to this ecosystem. The site includes the Mukwonago River watershed in southwestern Walworth County, a major repository of biological diversity in the PFB ecoregion. The river itself supports a rich assemblage of native fishes and invertebrates, unmatched in much of the ecoregion. Several of the lakes within the watershed are among the most ecologically significant in heavily developed southeastern Wisconsin. Associated with the waterbodies are many significant wetlands, including fine examples of calcareous fen, wet-mesic prairie, southern sedge meadow, tamarack swamp, and emergent marsh. The uplands support globally rare oak opening and oak woodland communities, and dry hardwood forest. Numerous rare plants and animals are present within this site. Major management issues include residential development, protection of site hydrology, and the spread of invasive species. The Mukwonago River watershed is a conservation priority for The Nature Conservancy, the Wisconsin DNR, and other groups and individuals.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNYFO4040	red headed woodpecker	<i>Melanerpes erythrocephalus</i>	G5
ABPAE33020	Acadian Flycatcher	<i>Empidonax vireescens</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX16010	hooded warbler	<i>Wilsonia citrina</i>	G5
AFCJB28080	pugnose shiner	<i>Notropis anogenus</i>	G3
AFCJC10170	greater redhorse	<i>Moxostoma valenciennesi</i>	G3
IIHOM08010	red tailed prairie leafhopper	<i>Aflexia rubranura</i>	G1G2
IILEYC0450	blazing star stem borer	<i>Papaipema beeriana</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002026	Bulrush - Cattail - Burreed Shallow Marsh		G4G5
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002186	Dogwood - Pussy Willow Swamp		G5
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002225	Freshwater Bulrush Marsh		G4G5
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5
CEGL002233	Midwest Cattail Deep Marsh		G5
CEGL002256	Lake Sedge Wet Meadow		G4G5
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL002318	Midwest Dry Sand Prairie		G2G3
CEGL002461	Red Oak - Sugar Maple Forest		G?
CEGL002471	Northern Tamarack Rich Swamp		G4
CEGL002472	Central Tamarack Poor Swamp		G4?
CEGL002485	Black Spruce Bog		G5
CEGL005004	Beech - Maple - Northern Hardwoods Forest		G4G5
CEGL005092	Leatherleaf Kettle Bog		G3G4
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
CEGL005176	Midwest Dry-mesic Gravel Prairie		G2
CEGL005185	Midwest Calcareous Floating Mat		G?
CEGL005232	Central Tamarack - Red Maple Rich Swamp		G2G3
PDAST0T170	forked aster	<i>Aster furcatus</i>	G3
PDSCR01130	earleaf foxglove	<i>Agalinis auriculata</i>	G3
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

GELCODE: Unique reference code for each species or natural community.
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This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002020	North-central Bur Oak Openings		G1
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002203	Central Mesic Tallgrass Prairie		G2
CEGL002215	Midwest Dry Gravel Prairie		G2

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
11211	Bark River	<i>surface / stream / large river / low relief / surface storage</i>	No	Yes
21111	Mukwonago River	<i>surface mixed / stream / river / low relief / surface storage</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
ABPBX11010	Kentucky warbler	<i>Oporornis formosus</i>	G5
ABPBX16010	hooded warbler	<i>Wilsonia citrina</i>	G5
AFCAA01020	lake sturgeon	<i>Acipenser fulvescens</i>	G3
AFCJB28080	pugnose shiner	<i>Notropis anogenus</i>	G3
IHHOM08010	red tailed prairie leafhopper	<i>Aflexia rubranura</i>	G1G2
IMBIV41010	salamander mussel	<i>Simpsonias ambigua</i>	G3
CEGL002020	North-central Bur Oak Openings		G1
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?

GELCODE: Unique reference code for each species or natural community.
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CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002203	Central Mesic Tallgrass Prairie		G2
CEGL002214	Midwest Dry-mesic Prairie		G2G3
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL002318	Midwest Dry Sand Prairie		G2G3
CEGL002456	White Cedar - (Mixed Conifer) / Alder Swamp		G4
CEGL002461	Red Oak - Sugar Maple Forest		G?
CEGL002462	Red Oak Forest		G?
CEGL002472	Central Tamarack Poor Swamp		G4?
CEGL002485	Black Spruce Bog		G5
CEGL002498	Leatherleaf Bog		G5
CEGL005004	Beech - Maple - Northern Hardwoods Forest		G4G5
CEGL005038	Maple-Ash-Elm Swamp Forest		G4?
CEGL005092	Leatherleaf Kettle Bog		G3G4
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
CEGL005232	Central Tamarack - Red Maple Rich Swamp		G2G3
PDAST0T170	forked aster	<i>Aster furcatus</i>	G3
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3
PMORC1Y0F0	Eastern prairie white-fringed orchid	<i>Platanthera leucophaea</i>	G2

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Kickapoo River

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection:

Acres: 307636.43

Square Miles: 480.69

Site Description:

The entrenched meanders of the Kickapoo River occupy the heart of the Driftless Area, a region of landforms, drainage patterns, and biota that differ markedly from those found in the glaciated terrain surrounding it. The rugged terrain found along the upper river supports extensive forests, which include significant stands of conifers such as white pine and hemlock. The forests support breeding populations of many area-sensitive forest interior species, and are especially rich in birds. Stretches of the upper river and its tributaries are flanked by Cambrian sandstone cliffs, which provide habitat for numerous rare plants and animals. Among these are globally rare “periglacial relicts”, including several rare land snails. Springs and seepages are frequent associates of the bedrock outcroppings. Wet meadow, marsh, and lowland hardwood forest occur in the floodplain of the Kickapoo River, creating a rich mosaic of natural communities. Over 25 rare species have been identified here, including the Wisconsin endemic, cliff cudweed (*Gnaphalium saxicola*). South of Vernon county, the land immediately adjacent to the river is less rugged, but there are significant patches of extensive mesic to dry-mesic hardwood forest and several excellent dry prairies. Both of these community types support rare species. Major public lands include the Kickapoo Reserve, Wildcat Mountain State Park, and the Kickapoo River State Wildlife Area. The Kickapoo joins the Wisconsin River near the town of Wauzeka, and creates an ecological linkage with the Lower Wisconsin River system.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IIHOM29010	a prairie leafhopper	<i>Polyamia dilata</i>	G?
CEGL002045	Midwest Sandstone Dry Cliff		G?Q
CEGL002048	Midwest Sedimentary Dripping Cliff		G?Q
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002098	Bur Oak - Swamp White Oak Mixed Bottomland Forest		G1G2Q
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002287	Sandstone Moist Cliff		G4G5
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
CEGL002461	Red Oak - Sugar Maple Forest		G?
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
CEGL002597	Hemlock-Sugar Maple Relict Forest		G2Q
FOR_SEEP	Forested seep		GU
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

PDAST440G3 cliff cudweed
 PDRAN01070 northern wild monkshood

Gnaphalium obtusifolium var saxicola
Aconitum noveboracense

G5T1T2
 G3

Restoration Conservation Targets:

GELCODE Common Name

Scientific Name

Global Rank

PDAST440G3 cliff cudweed

Gnaphalium obtusifolium var saxicola

G5T1T2

Aquatic Targets:

GELCODE Common Name

Scientific Name

Primary Restoration

22211 Kickapoo River

surface mixed / river / large river / low relief / surface storage

Yes No

Other Conservation Targets:

GELCODE Common Name

Scientific Name

Global Rank

ABNNF06010 upland sandpiper

Bartramia longicauda

G5

ABPAE33020 Acadian Flycatcher

Empidonax virescens

G5

ABPBW01110 Bell's Vireo

Vireo bellii

G5

ABPBX03240 Cerulean Warbler

Dendroica cerulea

G4

ABPBX08010 worm-eating warbler

Helmitheros vermivorus

G5

ABPBX10030 Louisiana Waterthrush

Seiurus motacilla

G5

ABPBX11010 Kentucky warbler

Oporornis formosus

G5

IIHOM08010 red tailed prairie leafhopper

Aflexia rubranura

G1G2

IILEPG5021 Karner blue

Lycaeides melissa samuelis

G5T2

CEGL002062 North-central Maple - Basswood Forest

G4?

CEGL002105 Black Ash - Mixed Hardwood Swamp

G4

CEGL002258 Tussock Sedge Wet Meadow

G4?

CEGL002287 Sandstone Moist Cliff

G4G5

CEGL002586 Silver Maple - Elm - (Cottonwood) Forest

G4?

PDAST2E1C0 Hill's thistle

Cirsium hillii

G3

GELCODE: Unique reference code for each species or natural community.
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This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDRAN01070	northern wild monkshood	<i>Aconitum noveboracense</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Kinnickinnic River

Site Category: Functional Site
Site Type: Aquatic/Terrestrial
Subsection:
Acres: 25789.838
Square Miles: 40.297

Site Description:

The Kinnickinnic drains the largely agricultural landscape of southwestern St. Croix-northwestern Pierce counties before flowing into the St. Croix River. Below the city of River Falls, the river runs through rough, deeply dissected terrain, and is bordered by dolomite and sandstone cliffs, extensive forests, and small prairies. Many springs feed this section of the river, and "weeping" alkaline cliffs are characteristic associated features. Rare plants occupy some of the cliffs and prairie remnants. Public ownership is limited to a state park at the river's mouth. Residential development, management of the dam at River Falls, heavy recreational pressure, and fire suppression are among the important management concerns.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002048	Midwest Sedimentary Dripping Cliff		G?Q
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002287	Sandstone Moist Cliff		G4G5
CEGL002291	Midwest Dry Limestone/Dolostone Cliff		G5
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
31211	Kinnickinnic River	<i>gw-mixed / stream / large river / low relief / surface storage</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002203	Central Mesic Tallgrass Prairie		G2
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

GELCODE: Unique reference code for each species or natural community.
 For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Lake Barney

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 221.244

Square Miles: 0.346

Site Description:

This site supports Wisconsin's sole documented population of the globally rare plant, Hall's Bulrush (*Scirpus hallii*). The population has apparently persisted at the site for at least 50 years, despite intensive row crop agriculture and heavy grazing.

Primary Conservation Targets:

Target Type

Plant

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Ledge Bar

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 137.883

Square Miles: 0.215

Site Description:

This forested stretch of the dolomitic Niagara Escarpment supports populations of several species of rare land snails. The site is set within an agricultural/residential landscape near the southwestern shore of Lake Winnebago.

Primary Conservation Targets:

Target Type

Invertebrate

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Lemonweir River

Site Category:	Functional Site
Site Type:	Aquatic/Terrestrial
Subsection:	
Acres:	84806.432
Square Miles:	132.512

Site Description:

This site occurs along the lower Lemonweir River in eastern Juneau county, from its junction with the Wisconsin River upstream for a distance of several miles. The most notable feature documented to date is an extensive floodplain forest of silver maple, river birch, and green ash. The more mature patches within this floodplain corridor support rare are-sensitive birds. Near the confluence with the Wisconsin, Cambrian sandstone cliffs are vegetated with xeric stands of pine and oak, providing habitat for an assemblage of northern plant species intermixed with prairie elements.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IMBIV41010	salamander mussel	<i>Simpsonaias ambigua</i>	G3
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
12211	Lemonweir River	<i>surface / river / large river / low relief / surface storage</i>	No	Yes

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
IMBIV41010	salamander mussel	<i>Simpsonaias ambigua</i>	G3
CEGL002203	Central Mesic Tallgrass Prairie		G2
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Lib Cross Isl and-Baraboo River

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 2323.288

Square Miles: 3.63

Site Description:

The junction of the Baraboo and Wisconsin Rivers lies amid a broad undeveloped floodplain extensively forested with mature stands of silver maple, green ash, river birch, and swamp white oak. The quality and scale of this site enable it to support populations of many rare and uncommon species, such as Cerulean and Prothonotary Warblers, and Red-shouldered Hawks. The site also contains significant patches of emergent marsh and upland forest communities. Linkage of this site with Pine Island State Wildlife Area and the Leopold Reserve, just to the north of the confluence of the Baraboo and Wisconsin, is feasible and highly desirable.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Lima Bluff

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 6124.872

Square Miles: 9.57

Site Description:

This steep-sided dolomite bluff runs east-west for a distance of several miles. Extensive dry prairies, some of which harbor populations of rare plants and animals, characterize the bluff's southern and western exposures. This portion of Pepin and neighboring Buffalo counties contain the "Old Drift" region's greatest concentration of dry bedrock bluff prairies. While most of these are quite small, averaging only a few acres each, their sheer number and generally good quality make the site a legitimate conservation priority. Some of the prairies are associated with good quality oak forest and woodland, and the restoration of oak savanna is an important consideration here. Management concerns include grazing, the spread of invasive species, and residential development.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Long Bluff-Mill Bluff

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 932.22

Square Miles: 1.457

Site Description:

This site features outstanding examples of Cambrian sandstone bedrock features associated with now-extinct Glacial Lake Wisconsin. Driftless buttes, mesas, and pinnacles rise several hundred feet above the level poorly drained lands around them. The vegetation includes undisturbed dry forest of mixed pine and oak, oak barrens, and scattered patches of wet meadow and prairie. The site is partially protected within Mill Bluff State Park, just to the east of Interstate 90-94.

Primary Conservation Targets:

Target Type

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Lower Chippewa & Red Cedar Rivers

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection:

Acres: 307362.627

Square Miles: 480.262

Site Description:

The Lower Chippewa River system drains rugged, old drift terrain in west central Wisconsin. Just above the confluence of the Chippewa with the Mississippi, the Chippewa's vast undeveloped floodplain contains over 10,000 acres of lowland hardwood forest laced with running sloughs and oxbow lakes. Rare or otherwise sensitive species such as Bald Eagle, Red-shouldered Hawk, Prothonotary Warbler, and Cerulean Warbler find sufficient habitat of good quality to support breeding populations. Steep bluffs bordering the floodplain are vegetated with extensive dry forests of oak occasionally broken by small prairies. Upstream the nature of the floodplain changes, as low sandy islands between the river's channel meanders support oak savanna and sand prairie remnants. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR. The aquatic life of the Lower Chippewa-Red Cedar system includes a significant diversity of fish, turtles, mussels, and insects. Major public ownerships that partially protect the site include the Upper Mississippi Wildlife and Fish Refuge (USF&WS), State Wildlife Areas, State Natural Areas, a state trail system, and county-owned lands. Management issues include accelerated residential development along the river corridors, operation of upstream dams, water quality, logging, and the spread of invasive species.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax vireescens</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX07010	prothonotary warbler	<i>Protonotaria citrea</i>	G5
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
ABPBX11010	Kentucky warbler	<i>Oporornis formosus</i>	G5
AFCOA01020	lake sturgeon	<i>Acipenser fulvescens</i>	G3
AFCJC10040	river redhorse	<i>Moxostoma carinatum</i>	G4
AFCJC10170	greater redhorse	<i>Moxostoma valenciennesi</i>	G3
AFCQC01010	crystal darter	<i>Crystallaria asprella</i>	G3
IIEPH14010	Pecatonica river mayfly	<i>Acanthametropus pecatonica</i>	G1G2
IIDO31030	smoky shadowdragon	<i>Neurocordulia molesta</i>	G3
IMBIV08010	spectaclecase	<i>Cumberlandia monodonta</i>	G2G3
IMBIV35070	round pigtoe	<i>Pleurobema sintoxia</i>	G4
IMBIV41010	salamander mussel	<i>Simpsonaias ambigua</i>	G3
CEGL002098	Bur Oak - Swamp White Oak Mixed Bottomland Forest		G1G2Q
CEGL002140	Bur Oak Bottomland Woodland		G1

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL002451	White Cedar Cliff Woodland		G2Q
CEGL002490	Jack Pine / Prairie Forbs Barrens		G2
CEGL002492	Black Oak / Lupine Barrens		G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
FOR_SEEP	Forested seep		GU
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002020	North-central Bur Oak Openings		G1
CEGL002492	Black Oak / Lupine Barrens		G3

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
12211	Chippewa River	<i>surface / river / large river / low relief / surface storage</i>	Yes	No
21111	Hay River	<i>surface mixed / stream / river / low relief / surface storage</i>	Yes	No
22211	Red Cedar River	<i>surface mixed / river / large river / low relief / surface storage</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX11010	Kentucky warbler	<i>Oporornis formosus</i>	G5
ABPBX16010	hooded warbler	<i>Wilsonia citrina</i>	G5
AFCAA01020	lake sturgeon	<i>Acipenser fulvescens</i>	G3
AFCJC10040	river redhorse	<i>Moxostoma carinatum</i>	G4
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
IIDODO12090	pygmy snaketail	<i>Ophiogomphus howei</i>	

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Lower St. Croix River

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection: 222Md

Acres: 175890.815

Square Miles: 274.834

Site Description:

This stretch of the St. Croix, from the dam at St. Croix Falls-Taylor Falls down to the confluence with the Mississippi River, is of great biological significance owing to the high diversity of rare species and communities found there. The natural communities flanking the river include excellent occurrences of emergent marsh, wet prairie, floodplain forest, bedrock glade, oak barrens, pine barrens, dry prairie, ephemeral pond, spring seep, and dry-mesic oak-pine forest. Valley Creek is a short (6 km long), first-order stream flowing in a limestone valley and emptying in the St. Croix River, Minnesota. Its base is about 0.15 m³/s, average stream width is 4 m, and the bottom substrate varies from sand to rubble. The stream flows through private land, and is not fished. Though partially protected by the St. Croix-Namekagon National Scenic Riverway and a number of state and local government ownerships, the integrity of the lower river is highly threatened by residential development, heavy recreational use, the spread of invasive species, and operation of an upstream dam

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
AFCAA01020	lake sturgeon	<i>Acipenser fulvescens</i>	G3
AFCJC10040	river redhorse	<i>Moxostoma carinatum</i>	G4
AFCQC01010	crystal darter	<i>Crystallaria asprella</i>	G3
AFCQC04090	gilt darter	<i>Percina evides</i>	G4
IODO12180	St. Croix snaketail	<i>Ophiogomphus susbehcha</i>	G1G2
IODO31030	smoky shadowdragon	<i>Neurocordulia molesta</i>	G3
IMBIV08010	spectaclecase	<i>Cumberlandia monodonta</i>	G2G3
IMBIV35070	round pigtoe	<i>Pleurobema sintoxia</i>	G4
IMBIV41010	salamander mussel	<i>Simpsonias ambigua</i>	G3
CEGL002026	Bulrush - Cattail - Burreed Shallow Marsh		G4G5
CEGL002027	Northern Cordgrass Wet Prairie		G3?
CEGL002048	Midwest Sedimentary Dripping Cliff		G?Q
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL002187	Dogwood - Mixed Willow Shrub Meadow		G3G4
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002287	Sandstone Moist Cliff		G4G5
CEGL002291	Midwest Dry Limestone/Dolostone Cliff		G5
CEGL002298	Quartzite - Granite Rock Outcrop		G3?
CEGL002383	Prairie Transition Rich Fen		G3?
CEGL002472	Central Tamarack Poor Swamp		G4?
CEGL002480	White Pine - Red Oak Forest		G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3
PMPOA4Z1W	bog bluegrass	<i>Poa paludigena</i>	G3

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary Restoration	
21211	Apple River	<i>surface mixed / stream / large river / low relief / surface storag</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX07010	prothonotary warbler	<i>Protonotaria citrea</i>	G5
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
ABPBX16010	hooded warbler	<i>Wilsonia citrina</i>	G5
AFCAA01020	lake sturgeon	<i>Acipenser fulvescens</i>	G3
AFCJC10040	river redhorse	<i>Moxostoma carinatum</i>	G4
AFCQC04090	gilt darter	<i>Percina evides</i>	G4
IMBIV08010	spectaclecase	<i>Cumberlandia monodonta</i>	G2G3
IMBIV21100	Higgins eye	<i>Lampsilis higginsii</i>	G1
IMBIV35070	round pigtoe	<i>Pleurobema sintoxia</i>	G4
IMBIV41010	salamander mussel	<i>Simpsonaias ambigua</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002077	Northern Pin Oak Forest		G4?
CEGL002160	Northern Oak Barrens		G2
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002381	Speckled Alder Swamp		G5?
CEGL002383	Prairie Transition Rich Fen		G3?
CEGL002385	Skunk Cabbage Seepage Meadow		G4?
CEGL002480	White Pine - Red Oak Forest		G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3
PMPOA4Z1W0	bog bluegrass	<i>Poa paludigena</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Lower Wisconsin River

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection:

Acres: 281339.804

Square Miles: 439.601

Site Description:

For almost 100 miles, the Wisconsin River flows unimpeded by dams through Wisconsin's Driftless Area from Sauk City to its junction with the Mississippi River. The river represents an aquatic system of the highest ecological significance, as it supports numerous rare species of fish, mussels, and insects. The diversity of natural communities adjoining the river is exceptional, including prairies of many types, oak barrens, pine barrens, emergent and submergent marshes, floodplain forest, and upland hardwood forests. Several of these communities are represented by occurrences that are among the largest and most viable of their respective types. Plant and animal life is correspondingly rich, and this landscape must be regarded as critical habitat for many rare or otherwise sensitive species. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNYFO4040	red headed woodpecker	<i>Melanerpes erythrocephalus</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX07010	prothonotary warbler	<i>Protonotaria citrea</i>	G5
ABPBX11010	Kentucky warbler	<i>Oporornis formosus</i>	G5
AFCJC10170	greater redhorse	<i>Moxostoma valenciennesi</i>	G3
AFCQC01010	crystal darter	<i>Crystallaria asprella</i>	G3
IIEPH14010	Pecatonica river mayfly	<i>Acanthametropus pecatonica</i>	G1G2
IIHOM08010	red tailed prairie leafhopper	<i>Aflexia rubranura</i>	G1G2
IIHOM26010	a prairie leafhopper	<i>Attenuipyga vanduzeei</i>	G?
IIHOM29010	a prairie leafhopper	<i>Polyamia dilata</i>	G?
IODO31030	smoky shadowdragon	<i>Neurocordulia molesta</i>	G3
IMBIV21100	Higgins eye	<i>Lampsilis higginsii</i>	G1
IMBIV34030	sheepnose	<i>Plethobasus cyphus</i>	G3
IMBIV35070	round pigtoe	<i>Pleurobema sintoxia</i>	G4
IMBIV41010	salamander mussel	<i>Simpsonaias ambigua</i>	G3
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002027	Northern Cordgrass Wet Prairie		G3?
CEGL002045	Midwest Sandstone Dry Cliff		G?Q
CEGL002048	Midwest Sedimentary Dripping Cliff		G?Q

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002098	Bur Oak - Swamp White Oak Mixed Bottomland Forest		G1G2Q
CEGL002140	Bur Oak Bottomland Woodland		G1
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002144	Chinquapin Oak Bluff Woodland		G?
CEGL002214	Midwest Dry-mesic Prairie		G2G3
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL002287	Sandstone Moist Cliff		G4G5
CEGL002318	Midwest Dry Sand Prairie		G2G3
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
CEGL002480	White Pine - Red Oak Forest		G3
CEGL002490	Jack Pine / Prairie Forbs Barrens		G2
CEGL002492	Black Oak / Lupine Barrens		G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
CEGL005178	Central Cordgrass Wet Sand Prairie		G3?
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDMAL0A080	clustered poppy-mallow	<i>Callirhoe triangulata</i>	G3?
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?
PDSCR010T0	pale false foxglove	<i>Agalinis skinneriana</i>	G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002203	Central Mesic Tallgrass Prairie		G2

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002210	Midwest Dry-mesic Sand Prairie		G3
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary Restoration	
11110	Mill Creek	<i>surface / stream / large river / low relief /</i>	Yes	No
12211	Wisconsin River	<i>surface / river / large river / low relief / surface storage</i>	Yes	No
31220	Blue River	<i>gw-mixed / stream / large river / med-high relief /</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBW01110	Bell's Vireo	<i>Vireo bellii</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX08010	worm-eating warbler	<i>Helmitheros vermivorus</i>	G5
ABPBX11010	Kentucky warbler	<i>Oporornis formosus</i>	G5
ABPBX16010	hooded warbler	<i>Wilsonia citrina</i>	G5
IICOL5F040	Knoble's riffle beetle	<i>Stenelmis knobeli</i>	G1G3
IIHOM29010	a prairie leafhopper	<i>Polyamia dilata</i>	G?
IMBIV41010	salamander mussel	<i>Simpsonaias ambigua</i>	G3
CEGL002020	North-central Bur Oak Openings		G1
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002462	Red Oak Forest		G?
CEGL002492	Black Oak / Lupine Barrens		G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2
PDMAL0A080	clustered poppy-mallow	<i>Callirhoe triangulata</i>	G3?
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?
PDRAN01070	northern wild monkshood	<i>Aconitum noveboracense</i>	G3
PDSCR010T0	pale false foxglove	<i>Agalinis skinneriana</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Mecan/White River

Site Category: Functional Landscape
Site Type: Aquatic/Terrestrial
Subsection:
Acres: 262258.948
Square Miles: 409.786

Site Description:

This site highlights the White River and its tributary, the Mecan, in northwestern Green Lake County. The Mecan and Upper White are spring-fed and support an especially important coldwater biota. Downstream the White flows through a huge high quality wetland complex of sedge meadow, wet prairie, marsh, and tamarack swamp. These wetlands provide habitat for many rare or otherwise sensitive plants and animals. Upland features of note include oak barrens, oak forest, and rhyolite glades. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR. There is substantial public ownership within this site, mostly of wetlands and streambanks. Significant management concerns issues include hydrologic alteration, residential development, and the spread of invasive species.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBG10010	sedge wren	<i>Cistothorus platensis</i>	G5
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
AFCJC10170	greater redhorse	<i>Moxostoma valenciennesi</i>	G3
IICOL38060	Sylvan Hygrotus diving beetle	<i>Hygrotus sylvanus</i>	G1
IIHOM08010	red tailed prairie leafhopper	<i>Aflexia rubranura</i>	G1G2
IILEYC0450	blazing star stem borer	<i>Papaipema beeriana</i>	G3
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002224	Central Cordgrass Wet Prairie		G3?
CEGL002225	Freshwater Bulrush Marsh		G4G5
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL002265	Northern Poor Fen		G3G4
CEGL002472	Central Tamarack Poor Swamp		G4?
CEGL002492	Black Oak / Lupine Barrens		G3
CEGL002505	Granite/Metamorphic Rock Outcrop Sparse Vegetation		G5
CEGL005108	Inland Coastal Plain Marsh		G2?
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
CEGL005178	Central Cordgrass Wet Sand Prairie		G3?
CEGL005185	Midwest Calcareous Floating Mat		G?

GELCODE: Unique reference code for each species or natural community.
 For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL005232 Central Tamarack - Red Maple Rich Swamp

G2G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002020	North-central Bur Oak Openings		G1

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary Restoration	
31111	White River	<i>gw-mixed / stream / river / low relief / surface storage</i>	Yes	No
31111	Mecan River	<i>gw-mixed / stream / river / low relief / surface storage</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
IILEYC0450	blazing star stem borer	<i>Papaipema beeriana</i>	G3
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL002265	Northern Poor Fen		G3G4
CEGL002472	Central Tamarack Poor Swamp		G4?
CEGL002492	Black Oak / Lupine Barrens		G3
CEGL005108	Inland Coastal Plain Marsh		G2?
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Middle Wisconsin River

Site Category: Restoration Landscape

Site Type: Aquatic

Subsection:

Acres: 42191.008

Square Miles: 65.925

Site Description:

Includes the Dells of the WI River. This is a large sandy river system with lots of islands. The dam at the Dells creates an unnatural daily hydrograph. Excellent cliffs that support rare plants are in the Dells area. Below the Dells, the river is wide, sandy, and shallow. Duck Creek, Rocky Run and Baraboo River entrances have extensive high quality floodplain forest. Largely undeveloped upstream except at the Dells, Lake Wisconsin and Portage. Yellow crowned night herons, heron rookeries, red shouldered hawks, prothonotary and cerulean warblers are present. Many key fish species and mussels are missing because of disconnect by the Prairie du Sac dam, but some species are still hanging on, like Higgins eye and bullhead mussels. These are likely relict populations, not thriving. Sturgeon reproducing. Gars, skipjack herring, paddle fish missing. White pine and hemlock relicts present near the upper end of Lake Wisconsin. Some sand barrens along the shore, associated with the inactive floodplain and terrace.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
AFCAA01020	lake sturgeon	<i>Acipenser fulvescens</i>	G3
IIDO31030	smoky shadowdragon	<i>Neurocordulia molesta</i>	G3
IMBIV34030	sheepnose	<i>Plethobasus cyphus</i>	G3
CEGL002045	Midwest Sandstone Dry Cliff		G?Q
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002140	Bur Oak Bottomland Woodland		G1
CEGL002287	Sandstone Moist Cliff		G4G5
CEGL002481	White Pine - White Oak Forest		G3
CEGL002597	Hemlock-Sugar Maple Relict Forest		G2Q
PDAST440G3	cliff cudweed	<i>Gnaphalium obtusifolium var saxicola</i>	G5T1T2
PDRAN01070	northern wild monkshood	<i>Aconitum noveboracense</i>	G3
PMPOA4Z1W	bog bluegrass	<i>Poa paludigena</i>	G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PDAST440G3	cliff cudweed	<i>Gnaphalium obtusifolium var saxicola</i>	G5T1T2

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary Restoration	
11211	Hemlock Creek	<i>surface / stream / large river / low relief / surface storage</i>	Yes	No

GELCODE: Unique reference code for each species or natural community. For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

12211 Wisconsin River *surface / river / large river / low relief / surface storage* Yes No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBX10030	Louisiana Waterthrush	<i>Seiurus motacilla</i>	G5
IODO31030	smoky shadowdragon	<i>Neurocordulia molesta</i>	G3
CEGL002045	Midwest Sandstone Dry Cliff		G?Q
CEGL002287	Sandstone Moist Cliff		G4G5
CEGL002481	White Pine - White Oak Forest		G3
CEGL002597	Hemlock-Sugar Maple Relict Forest		G2Q
PDAST8P1R0	shadowy goldenrod	<i>Solidago sciaphila</i>	G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Military Ridge Prairie

Site Category: Restoration Landscape

Site Type: Terrestrial

Subsection:

Acres: 95795.375

Square Miles: 149.683

Site Description:

This site just south of Military Ridge on the Dane-Iowa County border encompasses one of southern Wisconsin's most open and least developed landscapes. Scattered prairie remnants are embedded within a matrix of never-plowed "prairie pasture", Conservation Reserve Program grasslands (CRP), hayfields, and cropland. The fauna is especially notable for its grassland birds, among them rare species such as Loggerhead Shrike, Henslow's Sparrow, Bell's Vireo, and Short-eared Owl. Rare prairie invertebrates have also been documented here, and the native flora includes many rare plants as well. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR. Residential development and incompatible recreational use are among the most important threats.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPBW01110	Bell's Vireo	<i>Vireo bellii</i>	G5
ABPBX65010	dickcissel	<i>Spiza americana</i>	G4
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
ABPBXA0101	bobolink	<i>Dolichonyx oryzivorus</i>	G5
IIHOM08010	red tailed prairie leafhopper	<i>Aflexia rubranura</i>	G1G2
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002214	Midwest Dry-mesic Prairie		G2G3
CEGL002403	Midwest Dry Limestone - Dolomite Prairie		G2

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002203	Central Mesic Tallgrass Prairie		G2
CEGL002224	Central Cordgrass Wet Prairie		G3?
CEGL002258	Tussock Sedge Wet Meadow		G4?
PDFAB27090	prairie bush-clover	<i>Lespedeza leptostachya</i>	G2

Aquatic Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBW01110	Bell's Vireo	<i>Vireo bellii</i>	G5
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3

Milwaukee River mainstem**Site Category:** Functional Site**Site Type:** Aquatic**Subsection:****Acres:** 13155.806**Square Miles:** 20.556**Site Description:**

The north branch and Cedar Creek have decent mussel faunas, while the mainstem is largely a restoration project, although it still supports many fish species. The river is isolated from Lake Michigan by a series of small dams.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL005092	Leatherleaf Kettle Bog		G3G4

Restoration Conservation Targets:**Aquatic Targets:**

GELCODE	Common Name	Scientific Name	Primary	Restoration
21311	Milwaukee	<i>surface mixed / stream / lake / low relief / surface storage</i>	No	Yes

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002105	Black Ash - Mixed Hardwood Swamp		G4
CEGL005004	Beech - Maple - Northern Hardwoods Forest		G4G5

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Mirror Lake

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	997.85
Square Miles:	1.559

Site Description:

Mirror Lake, an impounded stretch of lower Dell Creek in northeastern Sauk county, is bordered by water sculpted Cambrian sandstone cliffs that provide habitat for cliff cudweed, a plant endemic to Wisconsin's Driftless Area. An unmanipulated spring-fed feeder of Dell Creek supports a large population of another globally rare plant. The natural communities found within the site are also important, and include good examples of central sands pine-oak forest, dry cliff, alder thicket, ephemeral pond, and sand barrens. Additional regionally rare species are associated with these communities.

Primary Conservation Targets:

Target Type

- Community
- Community
- Community
- Plant

Restoration Conservation Targets:

Target Type

- Plant

Aquatic Targets:

Other Conservation Targets:

Target Type

- Plant
-

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Morgan Coulee Prairie

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 7050.852

Square Miles: 11.017

Site Description:

Morgan Coulee is a steep-sided valley tributary to the Rush River in Pierce County, three miles above the junction of the Rush with the Mississippi. The coulee's south-facing bluffs support an extensive series of undisturbed dry prairies. The rich flora includes several rare species. The adjoining hardwood forests above the prairies have good potential for restoration to woodland and savanna under an appropriate management regime.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3

Olson Oak Woods

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 347.356

Square Miles: 0.543

Site Description:

Olson Oak Woods is a high-quality large, dry oak forest which lies on a sandstone ridge about three miles west of the Johnstown terminal moraine in southwestern Dane County. Scattered open-grown white oaks dating to the 1750's remain as evidence of the former savanna conditions. Frequent multiple-trunked white and black oaks, along with black cherry, bur oak, red oak, and hickory comprise the forest. Occasional ironwood, elms and basswood occur on ravines, on hills and on the remains of shaly limestone ridges. Sinkholes in Section 32 are perhaps collapsed limestone caves, since they are in rows following ravine bottoms. Nearly 300 species of vascular plants have been observed in the forest. More than 40 species of birds have nested on the site.

Primary Conservation Targets:

Target Type

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Oshkosh-Larsen Trail

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 990.817

Square Miles: 1.548

Site Description:

Oshkosh-Larsen is bisected by a multi-purpose recreational trail on an abandoned railroad right-of-way. It comprises three wet-mesic prairie remnants along a four mile stretch of this trail. Prairie species found here include little bluestem, shooting star, blazing star, rattlesnake root and prairie dock. These prairie remnants are found at the northeastern edge of the prairie-oak savanna ecosystem range in Wisconsin. Frequent fires from passing trains helped maintain the prairie vegetation.

Primary Conservation Targets:

Restoration Conservation Targets:

Target Type

Plant

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

Plant

Oxford Block

Site Category: Restoration Landscape

Site Type: Terrestrial

Subsection:

Acres: 5024.389

Square Miles: 7.851

Site Description:

This large upland block of relatively unfragmented natural vegetation is located in west central Marquette County, west of Highway 51, northeast of the village of Oxford. Inventory work to date has been minimal, but the site has high potential to contain significant stands of dry hardwood and mixed conifer-hardwood forest, and restorable oak savanna and woodland. In some areas prairie plants are common along roadsides and in forest canopy gaps, which also suggests high restoration potential.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Page Creek Marsh

Site Category:	Restoration Landscape
Site Type:	Terrestrial
Subsection:	
Acres:	1896.398
Square Miles:	2.963

Site Description:

Page Creek Marsh is a large site that supports a rich diversity of upland and wetland communities. A clear stream, Page Creek, winds through gently rolling farmland enhanced by remnants of native prairie and savanna. Broad sedge meadows, cattails, and areas of open water afford habitat for a variety of rare species. Page Creek Marsh is of particular value as a staging area for sandhill cranes during their fall migration. Luxuriant with emergent aquatic plants, the secure, deep-water habitat of the marsh provides cover for large numbers of birds every season. A state-endangered reptile is found on the site. The dominant wetland community at Page Creek Marsh is emergent aquatic; cattails, bladderwort, duckweed and arrow-head thrive in abundance. Northern sedge meadow covers 30 percent of the land, and shrub-carr or open water account for another 25 percent. Various sedge species and bluejoint grass distinguish the meadow. Small willow and dogwood grow in the shrubby areas. Oak savanna and prairie are found on the uplands.

Primary Conservation Targets:

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Pecatonica and Sugar Rivers

Site Category: Restoration Landscape

Site Type: Aquatic/Terrestrial

Subsection: 222Kh

Acres: 1150608.141

Square Miles: 1797.854

Site Description:

This site occupies what is known in Illinois as the Rock River Hill Country. Here surface deposits are thin (less than 20 feet on average) and the general contours of the preglacial landscape are still discernible. The Pecatonica River is slow and turbid but has excellent surface water quality, while the Sugar River has faster, clearer waters that run over a bed of mostly rock and sand. Ten miles of Raccoon Creek and the Sugar River upstream from Otter Creek have been designated as Biologically Significant Streams because they support especially diverse aquatic life. The Sugar River, characterized by a wide, wooded riparian corridor of floodplain forest and upland woods, contains some unique sand communities and is along an important bird migration route. Extensive marshes flank the lower Pecatonica and the bottoms of the Sugar River and Raccoon and Otter Creeks harbor large tracts of marsh, floodplain forest, sedge meadow, and wet sand prairie. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR. Changes to the natural systems of the Sugar-Pecatonica watershed since European settlement are massive, and the remaining forests, savannas, prairie, and wetlands of the Sugar-Pecatonica watershed are being altered or destroyed as fast or faster than in Illinois as a whole. Approximately 7% of the watershed is forested, just nine acres of high-quality prairie remain, and of the roughly 16,000 acres of wetland left in the region, only 17 acres are high quality. In spite of these changes, the region does provide important habitat for a diversity of flora and fauna, including river otters, bald eagles, heron colonies, and populations of the federally threatened prairie white fringed orchid.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPBW01110	Bell's Vireo	<i>Vireo bellii</i>	G5
ABPBX65010	dickcissel	<i>Spiza americana</i>	G4
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
ABPBXA0101	bobolink	<i>Dolichonyx oryzivorus</i>	G5
CEGL002062	North-central Maple - Basswood Forest		G4?
CEGL002190	Northern Buttonbush Swamp		G4
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
CEGL005139	Cinquefoil - Sedge Prairie Fen		G3G4
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDSCR09030	kitten tails	<i>Besseya bullii</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002140	Bur Oak Bottomland Woodland		G1
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4
CEGL002203	Central Mesic Tallgrass Prairie		G2
CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002214	Midwest Dry-mesic Prairie		G2G3
CEGL002224	Central Cordgrass Wet Prairie		G3?
CEGL002318	Midwest Dry Sand Prairie		G2G3
CEGL002492	Black Oak / Lupine Barrens		G3

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
22110	Pecatonica above Sugar River	<i>surface mixed / river / river / low relief /</i>	No	Yes
22210	Pecatonica mainstem	<i>surface mixed / river / large river / low relief / surface storage</i>	No	Yes
31110	Upper Pecatonica	<i>gw-mixed / stream / river / low relief /</i>	No	Yes

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABNNF06010	upland sandpiper	<i>Bartramia longicauda</i>	G5
ABPAE33020	Acadian Flycatcher	<i>Empidonax virescens</i>	G5
ABPBW01110	Bell's Vireo	<i>Vireo bellii</i>	G5
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
ABPBXA0030	Henslow's Sparrow	<i>Ammodramus henslowii</i>	G4
AFCJC10040	river redhorse	<i>Moxostoma carinatum</i>	G4
CEGL002024	Central Wet-mesic Tallgrass Prairie		G2G3
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

CEGL002203	Central Mesic Tallgrass Prairie		G2
CEGL002210	Midwest Dry-mesic Sand Prairie		G3
CEGL002214	Midwest Dry-mesic Prairie		G2G3
CEGL002215	Midwest Dry Gravel Prairie		G2
CEGL002224	Central Cordgrass Wet Prairie		G3?
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
CEGL002386	Water Lily Aquatic Wetland		G4G5
CEGL002403	Midwest Dry Limestone - Dolomite Prairie		G2
CEGL002461	Red Oak - Sugar Maple Forest		G?
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDSCR01130	earleaf foxglove	<i>Agalinis auriculata</i>	G3
PDSCR09030	kitten tails	<i>Besseya bullii</i>	G3
PMORC1Y0F0	Eastern prairie white-fringed orchid	<i>Platanthera leucophaea</i>	G2

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Pine River Cliffs

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 129.281

Square Miles: 0.202

Site Description:

Cambrian sandstone cliffs cut by the Pine River in the Driftless Area's Richland County feature an undisturbed "relict" forest dominated by white pine. The cliffs support a substantial population of a globally rare "periglacial" plant, northern monkshood.

Primary Conservation Targets:

Target Type

Community

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Quincy Bluff

Site Category:	Functional Landscape
Site Type:	Terrestrial
Subsection:	
Acres:	10308.868
Square Miles:	16.108

Site Description:

Quincy Bluff and Wetlands is a large, relatively undisturbed complex of natural communities with several documented rare plants and animals. Its significance is as a sizeable example of intact presettlement vegetation in the Wisconsin Central Sands Natural Region. Located in Wisconsin's "tension zone", the area has natural communities of both northern and southern affinities. The southern portion of the site consists of sedge meadow grading into shrub-carr and northern wet forest (tamaracks and red maple to the north). The eastern part is shrub-carr with upland islands of oak, sedge meadows, and beaver ponds interspersed. Quincy Bluff, a two-mile long pre-Cambrian sandstone bedrock outcrop, rises 200-300 feet above the bed of extinct glacial Lake Wisconsin. Quincy Bluff supports plant communities of northern dry forest and open cliffs. A driftless area mesa, Lone Rock, is located northeast of Quincy Bluff. Lone Rock is a likely turkey vulture roosting site. Sohlberg Silver Lake State Natural Area borders the northwestern portion of the site along with other seepage lakes, open bogs, tamarack swamps, and low wooded hills. The area has excellent potential for habitat for Karner blue butterflies. Populations have been found close to the site. The project area also includes homes, cabins, impoundments and ditches. Spotted knapweed, sweet clover and black locust are problem species.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IICOL02231	a tiger beetle	<i>Cicindela patruela huberi</i>	G3T2
IIDOD032130	incurvate emerald	<i>Somatochlora incurvata</i>	G3
IIDOD034020	ringed bog hunter	<i>Williamsonia lintneri</i>	G2
CEGL002045	Midwest Sandstone Dry Cliff		G?Q
CEGL002076	Black Oak - White Oak - Hickory Forest		G4?
CEGL002186	Dogwood - Pussy Willow Swamp		G5
CEGL002258	Tussock Sedge Wet Meadow		G4?
CEGL002472	Central Tamarack Poor Swamp		G4?
CEGL002478	Jack Pine - Northern Pin Oak Forest		G4G5
CEGL002490	Jack Pine / Prairie Forbs Barrens		G2
CEGL002492	Black Oak / Lupine Barrens		G3
CEGL002494	Bog Birch-Leatherleaf Poor Fen		G4G5
CEGL005108	Inland Coastal Plain Marsh		G2?
CNTPOORFE	Central poor fen		GU

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
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GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

IILEPG5021 Karner blue

Lycaeides melissa samuelis

G5T2

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IIDO032130	incurvate emerald	<i>Somatochlora incurvata</i>	G3
CEGL002471	Northern Tamarack Rich Swamp		G4
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?

Ridgeway Pine Rel ict

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	905.447
Square Miles:	1.415

Site Description:

This Driftless Area site contains several stands of old growth forest of white pine (up to 25" DBH) and red pine (up to 15" DBH), mixed with patches of red oak forest. A few jack pine exist. The pines are growing on a sandy slope and ridge top, the ground below is covered with a thick layer of needles. The understory is typical of northern pine forests.

Primary Conservation Targets:

Target Type

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Rocky Run

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	479.617
Square Miles:	0.749

Site Description:

Rocky Run Oak Opening is a large oak opening overlooking Rocky Run. On the western portion, the stream has cut two steep-walled box canyons. The oak canopy is open on the upper slopes of the area, and more closed on the flatter, lower slopes. This variation provides for a mosaic of groundlayer species, including over 100 prairie-affinitive species.

Primary Conservation Targets:

Target Type

Community

Plant

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Rush Creek

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	3934.622
Square Miles:	6.148

Site Description:

A long series of southwest-facing dolomite and sandstone bluffs above the Mississippi River floodplain support the most extensive bedrock bluff or "hill" prairies in the Driftless Area (and therefore, the world). Associated with several of the dry prairies are large stands of dry to dry-mesic upland hardwood forest. The now abrupt ecotone between forest and prairie contains a significant acreage of restorable oak savanna and woodland. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR. With appropriate stewardship, lost structural attributes of these globally rare communities can hopefully be recovered. The site provides critical habitat for a number of rare or otherwise sensitive plant and animal species, several of them highly threatened in the ecoregion.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002068	Midwestern White Oak - Red Oak Forest		G4?
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002142	Northern Dry-mesic Oak Woodland		G3G4

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBX03240	Cerulean Warbler	<i>Dendroica cerulea</i>	G4
CEGL002245	Little Bluestem Bedrock Bluff Prairie		G3
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Rush Lake

Site Category:	Restoration Landscape
Site Type:	Aquatic/Terrestrial
Subsection:	
Acres:	31141.7
Square Miles:	48.66

Site Description:

This shallow, hardwater, drainage lake occupies several thousand acres in southwestern Winnebago County. Much of the lake's basin is filled with stands of cattail, bulrush, and other emergent aquatic macrophytes. The Rush Lake marshes support regionally significant breeding populations of many rare and uncommon birds, including Red-necked Grebe, Black and Forster's Terns, and Black-crowned Night-heron. Vegetation around the lake periphery includes substantial patches of sedge meadow, remnant wet prairie, and restorable oak savanna. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR. Rare plants and animals are dependent on the continued stewardship of these natural communities. A dam at the lake's outlet has raised water levels and contributed to a decline in the extent of the emergent beds. Intensive farming occurs in much of the basin's watershed and was formerly accompanied by widespread wetland drainage. In recent years public agencies have attempted to reclaim some of this drained wetland for conservation purposes.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
ABPBG10010	sedge wren	<i>Cistothorus platensis</i>	G5
AFCJC10170	greater redhorse	<i>Moxostoma valenciennesi</i>	G3
CEGL002225	Freshwater Bulrush Marsh		G4G5
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5
CEGL002258	Tussock Sedge Wet Meadow		G4?

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002203	Central Mesic Tallgrass Prairie		G2
CEGL002258	Tussock Sedge Wet Meadow		G4?
PMPOA4Z1W0	bog bluegrass	<i>Poa paludigena</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Snow Bottom

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	13290.371
Square Miles:	20.767

Site Description:

Snow Bottom, a 15,000 acre landscape located within the Driftless Area in Grant and Iowa counties in Wisconsin, likely supports the highest concentration of pine relicts within the Prairie-Forest Border. The pine relicts occur on rocky sandstone cliffs that are largely sheltered from fire. These relicts are embedded within a matrix of oak forest, woodland, and savanna. Additional small patch communities include open cliff, bluff prairie, springs, and spring runs. Fens also occur at the site, which are an uncommon feature in the Driftless Area. Patches of talus and sink holes occur locally within the landscape. High quality tributaries of the Blue River flow through the site. The Department of Natural Resources has proposed an expansion of the current 455-acre state natural area to 12,575 acres, located within Grant County.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest		G2G3
PDAST2E1C0	Hill's thistle	<i>Cirsium hillii</i>	G3
PDMAL0X010	glade mallow	<i>Napaea dioica</i>	G3
PDPOR080G0	prairie fame-flower	<i>Talinum rugospermum</i>	G3?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

St. Peter's Prairie

Site Category: Restoration Landscape

Site Type: Terrestrial

Subsection:

Acres: 4259.059

Square Miles: 6.655

Site Description:

This is a small lobe of the historic Empire prairie. There are 50 acres of remnant dry to dry-mesic prairies on rocky hillsides within an agricultural landscape. Leafy spurge has invaded most sites. Threat of residential development is high.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IHHOM08010	red tailed prairie leafhopper	<i>Aflexia rubranura</i>	G1G2

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002203	Central Mesic Tallgrass Prairie		G2

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002214	Midwest Dry-mesic Prairie		G2G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Star Prairie

Site Category:	Restoration Landscape
Site Type:	Terrestrial
Subsection:	
Acres:	186934.743
Square Miles:	292.09

Site Description:

While the formerly extensive prairies that once covered western St. Croix and southern Polk counties have been obliterated, significant portions of the landscape remain in grassy cover and thus this site constitutes one of Wisconsin's major opportunities to conserve grassland wildlife at a large scale. The area was identified as a priority landscape for grassland birds and prairie remnants by the WI-DNR. The many federal Waterfowl Production Areas (WPAs) and the DNRs Western Prairie Habitat Restoration Area are two of the ongoing projects at this site designed to ensure that adequate habitat to maintain grassland species is maintained. Numerous prairie pothole seepage lakes, scattered small native prairie remnants, and never-plowed prairie/savanna pastures are among the current protection priorities. Many rare grassland species have been documented here. Major management issues include grassland fragmentation by existing and changing land uses, the quality and quantity of available water, and increasing residential development.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002225	Freshwater Bulrush Marsh		G4G5

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002020	North-central Bur Oak Openings		G1

Aquatic Targets:

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002062	North-central Maple - Basswood Forest		G4?

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Summerton Bog

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	476.422
Square Miles:	0.744

Site Description:

Summerton Bog is notable in that it contains many plant species (sedges in particular) that are northern in type among good quality wetland communities characteristic of southern Wisconsin. Plants found in the Summerton meadow are tussock sedge, sawgrass sedge, Canada bluejoint grass, aster species, Joe-pye-weed and goldenrod. Flowers in the fen include fringed gentians, yellow avens, bunchberry, yellow stargrass, yellow loosestrife, lobelia and as many as nine orchid species. The low, lush meadow and fen vegetation surrounded by tamaracks is a gathering place for nesting birds. As many as 65 species have been spotted. The bog is also an important nesting area for sandhill cranes.

Primary Conservation Targets:

Restoration Conservation Targets:

Target Type

Invertebrate

Community

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

Community

Plant

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Tamarack Creek Bog

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 393.666

Square Miles: 0.615

Site Description:

Located in the bottom of a Driftless Area valley in southern Trempealeau county, this site contains one of the few extant tamarack forests in this portion of the PFB ecoregion. Both rare and regionally uncommon plants are present. Surrounding land use is primarily agricultural.

Primary Conservation Targets:

Target Type

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Bird

Community

Plant

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Trenton Bluff

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	423.233
Square Miles:	0.661

Site Description:

Trenton Bluff is a dry prairie on a southwest-facing slope in the Mississippi River valley. It consists of two units; the western portion comprises two prairies separated by a wooded draw. The eastern portion is steeper; an open cliff quickly grades into shrubby oak woods. Dominant grasses on the dry prairie include Indian grass, little bluestem, big bluestem and side-oats grama. Reptile fauna includes milk snake and timber rattlesnake. Nesting birds include rufous-sided towhee and lark sparrow. Several plants of the Great Plains are at their eastern range limit here.

Primary Conservation Targets:

Target Type

Invertebrate

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Community

Plant

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Trimbel le River

Site Category:	Functional Site
Site Type:	Aquatic
Subsection:	
Acres:	20070.521
Square Miles:	31.361

Site Description:

The Trimbelle is a clear, hard water trout stream. Most of the length of the river has a sandy bottom. Beaver, muskrat are present. Several species of ducks nest along the river, including mallard, teal and wood. This is provisional river site, it seems to be best of its type within the EDU from a GIS assessment, but no field work has been done.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
11210	Trimbelle River	<i>surface / stream / large river / low relief /</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
PDSCR09030	kitten tails	<i>Besseyia bullii</i>	G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Upper Eau Claire River

Site Category: Functional Landscape

Site Type: Aquatic/Terrestrial

Subsection:

Acres: 59157.325

Square Miles: 92.435

Site Description:

This stretch of the Eau Claire River drains eastern Clark and western Eau Claire counties. The landscape is mostly forested, but includes excellent patches of pine barrens, sedge meadow/poor fen, and tamarack-black spruce swamp. All of these communities support rare species. Water quality is generally good, and stretches of the Eau Claire River and its tributaries maintain habitat for sensitive aquatic life. Management challenges include protection of water quality and hydrology, restoring long-suppressed fire regimes, and curbing the spread of invasive species.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IODO12200	barrens snaketail	<i>Ophiogomphus sp 1 nr aspersus</i>	G?
IMBIV35070	round pigtoe	<i>Pleurobema sintoxia</i>	G4
IMBIV41010	salamander mussel	<i>Simpsonaias ambigua</i>	G3
CEGL002257	Northern Sedge Wet Meadow		G4G5Q

Restoration Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
CEGL002224	Central Cordgrass Wet Prairie		G3?

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
22211	Eau Claire	<i>surface mixed / river / large river / low relief / surface storage</i>	Yes	No

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

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Westport Drumlins

Site Category:	Restoration Landscape
Site Type:	Terrestrial
Subsection:	
Acres:	1054.942
Square Miles:	1.648

Site Description:

This site consists of a constellation of small but rich prairie remnants that constitute the best remaining examples of these globally rare communities in a landscape that has been almost totally converted to agricultural and residential uses. Rare plants and invertebrates are dependent on the protection and maintenance of this complex.

Primary Conservation Targets:

Target Type

Community

Plant

Restoration Conservation Targets:

Target Type

Community

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

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Wolf/Embarrass/Crystal/Waupaca Rivers

Site Category:	Functional Landscape
Site Type:	Aquatic/Terrestrial
Subsection:	
Acres:	520104.408
Square Miles:	812.676

Site Description:

The Wolf River system supports a diverse assemblage of native fishes, including a large population of the globally rare Lake Sturgeon. The lower river drains a landscape heavily dominated by agricultural use, but as the gradient drops, the floodplain broadens and the river is bordered by extensive floodplain forest, and large emergent and submergent marshes. These natural communities support significant populations of many specialized and/or area sensitive species, especially birds, and represent the only potentially viable habitat for some of them in the eastern part of the PFB ecoregion.

Primary Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
AFCAA01020	lake sturgeon	<i>Acipenser fulvescens</i>	G3
AFCJB28080	pugnose shiner	<i>Notropis anogenus</i>	G3
AFCJC10170	greater redhorse	<i>Moxostoma valenciennesi</i>	G3
CEGL002224	Central Cordgrass Wet Prairie		G3?
CEGL002229	Midwest Mixed Emergent Deep Marsh		G5
CEGL002233	Midwest Cattail Deep Marsh		G5
CEGL002382	Wild rice marsh		G?
CEGL002471	Northern Tamarack Rich Swamp		G4

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
12111	Wolf River	<i>surface / river / river / low relief / surface storage</i>	Yes	No
21111	Wolf River	<i>surface mixed / stream / river / low relief / surface storage</i>	Yes	No
31111	Little Wolf River	<i>gw-mixed / stream / river / low relief / surface storage</i>	Yes	No
31111	Embarrass	<i>gw-mixed / stream / river / low relief / surface storage</i>	Yes	No

Other Conservation Targets:

GELCODE	Common Name	Scientific Name	Global Rank
IILEPG5021	Karner blue	<i>Lycaeides melissa samuelis</i>	G5T2
CEGL002492	Black Oak / Lupine Barrens		G3

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

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Targets Captured at Ecologically Significant Areas

Table 5: Addendum

This product uses data provided by members of the Network of Natural Heritage Programs. It was compiled from a variety of sources including state surveys, universities, systematic collections, non-game programs, county inventories, and individual biologists. Most Heritage Programs are part of their respective state governments. Additions and changes to these data are ongoing. Neither the members of the Network nor TNC are responsible for inaccuracies in the data and do not necessarily endorse interpretations derived from the data.

IA

Cedar Hills Sand Prairie

Site Category: Functional Landscape

Site Type: Terrestrial

Subsection:

Acres: 1062.56

Square Miles: 1.66

Site Description:

Cedar Hills Sand Prairie contains one of the finest examples of sand prairie left in the state of Iowa. The 90-acre Conservancy preserve contained within this site contains mesic and dry sand prairie, sedge meadow, and calcareous fen. It has over 380 species of plants, including *Botrichium simplex* and *Eriophorum angustifolium*. Several rare butterflies (e.g. *Speyeria idalia*) are found at the preserve, and both short-eared and long-eared owls (*Asio flammeus* and *A. otus*) use the area as winter roost sites. Properties to the east and south of the preserve include additional sand prairie, savanna, sedge meadow, fen, marsh, and open water habitats.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Spring Creek

Site Category: Restoration Landscape

Site Type: Terrestrial

Subsection:

Acres: 14549.999

Square Miles: 22.735

Site Description:

This site was selected based on the aquatic systems represented. No elements for this site are in the Heritage database, so further consultation with experts will be needed to assess its importance.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

MN

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Duck Slough

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	394.337
Square Miles:	0.616

Site Description:

Significant wetland communities surround an undeveloped shallow, marl-lined lake in this site occurring in the Hardwood Hills landscape. A floating mat of rich fen grading to tamarack swamp makes up the lakeshore, with willow swamp, wet meadow, and mixed hardwood swamp occurring in portions of Duck Slough. This high-quality site represents a unique expression of northern flora in this part of the state. It includes habitat for Blanding's turtles and sandhill cranes.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Lake Maria State Park

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	222Mb
Acres:	1132.927
Square Miles:	1.77

Site Description:

Rolling terrain on stagnation moraine near the northern edge of the Big Woods Subsection. The site includes large areas of maple-basswood and oak forest, including some high quality communities. Numerous wetland basins include emergent marsh, wet meadow, shrub swamp, and rich fen communities. This site provides important habitat for Cerulean warblers and red-shouldered hawks.

Primary Conservation Targets:

Target Type

Community

Community

Community

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Target Type

Bird

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

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Nelson Fen WMA

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 84.756

Square Miles: 0.132

Site Description:

This eighty five acre wetland site contains one of the best-quality calcareous fens in southeastern Minnesota. The four-acre fen, which occurs in a crater left over from dynamiting the surrounding hillside, contains five state-listed plant species that occur very rarely in southeastern Minnesota. The fen is surrounded by shrub swamp with groundwater seepage throughout. Most of the site occurs within the Nelson Fen State Wildlife Management Area.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Otter Creek

Site Category: Functional Site

Site Type: Aquatic

Subsection:

Acres: 26944.945

Square Miles: 42.102

Site Description:

Otter Creek is a fairly small warmwater stream which originated approximately six miles north of the Minnesota-Iowa border. The stream flows southwest for 12.9 miles before entering Iowa. Depth averages two feet with a maximum of six feet. Habitat comprises elongated pools with slow water velocities. Riffles are scarce. Substrate is mainly mud and silt in pools with gravel, sand, and occasional boulders in riffles.

Agriculture dominates the land use in the watershed. Row crops are planted within a few feet of the stream bank on all private lands in the upper half of the main stream. In the lower half of the stream, 62% of riparian land is pastured. Otter Creek and its tributaries have been ditched from mile 6.75 to 12.9. Two rock dams are present at mile 0.75.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
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Pig's Eye SNA

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Md

Acres: 138.979

Square Miles: 0.217

Site Description:

Complex of floodplain forest, hardwood swamp forest, shrub wetland, emergent marsh, and meander scar lakes in the Fluvial Geomorphic Region. Colonial waterbird nesting site and bald eagle nesting site, notable for its survival in the middle of the Twin Cities metropolitan area.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Rock Dell Fen

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Lf

Acres: 178.668

Square Miles: 0.279

Site Description:

Three calcareous fens in the Blufflands Geomorphic Region. One in crater left by dynamiting hillside (Nelson Fen) is surrounded by shrub swamp with much groundwater seepage. The other two are on shallow peat domes perched on moderately sloping hillsides and are surrounded by sterile sedge (*Carex stricta*) meadow. Other rare plants include hair-like beak-rush (*Rhynchospora capillacea*) and whorled nut-rush (*Scleria verticillata*).

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

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St. Cloud Area Outcrop

Site Category: Functional Site

Site Type: Terrestrial

Subsection: 222Ma

Acres: 5752.659

Square Miles: 8.989

Site Description:

A large, highly significant natural landscape in the undulating to hilly Des Moines Lobe Geomorphic Region. Contains some of the best regional examples of prairie/granite outcrop vegetation in a natural setting of oak woodland and wet prairie (which supports large populations of *Platanthera flava*).

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

WI

Bass Lake Fen

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 89.545

Square Miles: 0.14

Site Description:

Bass Lake Fen is a 20 acre fen on the northeast shore of Bass Lake. The fen is exceptionally rich, containing over 125 species of vascular plants. Several scattered, shallow, marl-bottomed ponds are dominated by needle spike rush, small bladderwort and grass-leaved pondweed. To the east the fen grades into sedge meadow, to the north is tamarack swamp and to the south it is bordered by shrub-carr with scattered tamaracks. Bass Lake is a clear lake and is an important waterfowl resource and warm-water fishery.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
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Battle Bluff Prairie

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 810.928

Square Miles: 1.267

Site Description:

Battle Bluff is located in southwestern Vernon County just east of the Mississippi River. The south and west exposures of the bluff are exceedingly steep and support an extensive dry prairie of excellent quality. Many specialized plants and animals occur here. The dry hardwood forests bordering the prairie have potential for the restoration of oak woodland and savanna attributes. The site is currently managed by the DNR as a State Natural Area.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Big Island

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 304.504

Square Miles: 0.476

Site Description:

Big island is within the valley of the Wisconsin River just north of the city of Wisconsin Rapids. The site is at the northern edge of the PFB ecoregion. The island contains a stand of relatively undisturbed mesic hemlock-hardwood forest with old-growth attributes, a community that is at its southernmost range limit here.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
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Breakneck Ledge

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 973.585

Square Miles: 1.521

Site Description:

This site encompasses an ecologically significant stretch of the southern portion of the Niagara Escarpment, a dolomite/limestone bedrock feature that stretches from southeastern Wisconsin north and east to Niagara Falls and beyond. Of especially high conservation importance are the populations of rare, highly specialized, land snails found here. As this part of the escarpment is within an area of intensive agriculture, the escarpment and its associated natural communities also provide refugia for many additional species.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Del ls of the WI River

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 3526.598

Square Miles: 5.51

Site Description:

The Wisconsin Dells has been a popular and heavily publicized tourist attraction since the late nineteenth century. The rapid, catastrophic drainage of Glacial Lake Wisconsin created spectacular water-carved cliffs and canyons in the area's Cambrian sandstone bedrock. These geologic features in turn provide cold humid microhabitats that allow an interesting and ecologically significant array of unusual plants and animals to persist. Among the most noteworthy of the site's inhabitants are the Wisconsin endemic cliff cudweed, and the arctic disjunct Lapland rosebay. Relict stands of hemlock and yellow birch occupy the cold spring-fed gorges, and more xeric sites atop the cliffs are occupied by stands of white, red, and jack pine, and white and black oak. The larger more mature stands of conifer-hardwood forest support resident northern animals, found at few other locations in the PFB ecoregion. The area receives extremely heavy recreational use and residential development is increasing rapidly. Construction of a dam at the city of Wisconsin Dells early in the 20th century inundated many of the river cliffs and the lower stretches of the tributary gorges.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

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Dewey Marsh

Site Category: Functional Site
Site Type: Terrestrial
Subsection:
Acres: 7222.176
Square Miles: 11.285

Site Description:

Dewey Marsh is located within the several thousand acre Dewey Marsh Wildlife Area and is predominantly northern sedge meadow of moderate diversity. The sedge meadow is dominated by bluejoint grass and sedges. A portion of the headwaters of Hay Meadow Creek flows through the meadow, a slow warm soft water creek. Diverse wildlife use the area, including prairie chicken, sandhill crane, and Henslow's sparrow.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Gasner Hollow

Site Category: Functional Site
Site Type: Terrestrial
Subsection:
Acres: 422.802
Square Miles: 0.661

Site Description:

Rich, dry, bluff prairie between Gasner Hollow Road and Co Rd X, with a good population of Echinacea purpurea and prairie ringneck snakes. Also noteworthy as the location of Wisconsin's best chinquapin oak woodland community.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

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Lake Winnebago-Asylum Point

Site Category:	Functional Site
Site Type:	Aquatic
Subsection:	
Acres:	379.317
Square Miles:	0.593

Site Description:

The name references a spawning area for the globally rare Lake Sturgeon, one of many in the Lower Wolf and Embarrass River systems. It would be worth considering one large site here, to encompass the Lower Wolf and its extensive associated floodplain forest, wet meadow and emergent marsh communities, and ecologically significant portions of the Winnebago Pool lakes (Poygan, Winneconne, Butte des Mortes, and Winnebago).

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Little Platte River

Site Category:	Functional Site
Site Type:	Aquatic
Subsection:	
Acres:	94376.834
Square Miles:	147.466

Site Description:

The Little Platte River is a small, hard bottom, warm water river with good populations of top predator fish species. The river supports a diverse structure, created by a series of limestone ledges that form riffles and pools. The river drains an area that is used intensively for agriculture. Silt has increased in the substrate from past and current agriculture within the watershed. Based on a GIS watershed assessment and limited expert opinion, this river seems to be the best example of this aquatic system within the Mississippi River-Driftless Ecological Drainage Unit. There is very limited invertebrate and fish inventory. This stream harbors the rare Ozark Minnow (*Notropis nubilus*).

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

GELCODE	Common Name	Scientific Name	Primary	Restoration
21211	Platte River	<i>surface mixed / stream / large river / low relief / surface storage</i>	No	Yes
31211	Platte River	<i>gw-mixed / stream / large river / low relief / surface storage</i>	No	Yes

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community. For information on Global Ranks, see Appendix B.

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Lunch Creek

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	1447.132
Square Miles:	2.261

Site Description:

This alkaline wetland of several thousand acres contains calcareous fen, southern sedge meadow, wet prairie, and alder thicket communities. Several rare species are known from the site, but detailed inventories have not yet been conducted there.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Pea Creek Meadow

Site Category:	Functional Site
Site Type:	Terrestrial
Subsection:	
Acres:	248.044
Square Miles:	0.388

Site Description:

This large open wetland complex occupies a depression in the headwaters area of Pea Creek, a tributary of the biotically rich Eau Claire River system. The primary community is an undisturbed central poor fen/northern sedge meadow of several hundred acres. The wetlands support a diverse avian assemblage, which includes uncommon species. The wetland is embedded within extensive county forest.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Plainfield Lakes

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 2703.474

Square Miles: 4.224

Site Description:

This site in northwestern Waushara County features a series of small seepage lakes that demonstrate dramatic natural water level fluctuations. Low water periods expose broad expanses of sandy or gravelly beaches, and this habitat is then occupied by a group of highly specialized plants. Several of these are very rare, and one species is endemic to central and northwestern Wisconsin. Over time the specialized beach vegetation is taken over by coarser, more generalized plants. When water levels rise this competing vegetation is set back, creating conditions favorable for recolonization of the habitat by the specialists when the waters recede. Protection of lake hydrology, residential shoreline development, and inappropriate use of ATVs are among the major management issues. The DNR's State Natural Areas program has an active protection project here.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

Riveredge

Site Category: Functional Site

Site Type: Terrestrial

Subsection:

Acres: 309.688

Square Miles: 0.484

Site Description:

Riveredge is a privately-owned nature center on the Milwaukee River in northwestern Ozaukee County. Used primarily for education and appreciation, the site provides habitat for several rare plants and animal, and also contains good examples of native forest communities and aquatic features.

Primary Conservation Targets:

Restoration Conservation Targets:

Aquatic Targets:

Other Conservation Targets:

GELCODE: Unique reference code for each species or natural community.
For information on Global Ranks, see Appendix B.

This report does not list those species or communities which are considered sensitive by the Natural Heritage Programs.

Conservation Target Goals Assessment

Table 6

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Stratification Goal Met	Reason goal not met
11110	<i>surface / stream / large river / low relief /</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 2 EDUs.	1	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured GOH #goal met <input type="checkbox"/> GOH stratification goal met <input type="checkbox"/>				
11111	<i>surface / stream / river / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 2 EDUs.	0	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured GOH #goal met <input type="checkbox"/> GOH stratification goal met <input type="checkbox"/>	0			
11210	<i>surface / stream / large river / low relief /</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 3 EDUs.	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured GOH #goal met <input checked="" type="checkbox"/> GOH stratification goal met <input checked="" type="checkbox"/>	3			
11211	<i>surface / stream / large river / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 6 EDUs.	4	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured GOH #goal met <input type="checkbox"/> GOH stratification goal met <input type="checkbox"/>	4			

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met														
11311	<i>surface / stream / lake / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 2 EDUs.		<input type="checkbox"/>	<input type="checkbox"/>															
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met</td> <td>GOH stratification goal met</td> <td colspan="3"></td> </tr> <tr> <td></td> <td></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met						<input type="checkbox"/>	<input type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met																	
		<input type="checkbox"/>	<input type="checkbox"/>																	
12111	<i>surface / river / river / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 1 EDU.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met</td> <td>GOH stratification goal met</td> <td colspan="3"></td> </tr> <tr> <td></td> <td>1</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met					1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met																	
	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																	
12210	<i>surface / river / lake / low relief /</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 2 EDUs.	1	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.														
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met</td> <td>GOH stratification goal met</td> <td colspan="3"></td> </tr> <tr> <td></td> <td>1</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met					1	<input type="checkbox"/>	<input type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met																	
	1	<input type="checkbox"/>	<input type="checkbox"/>																	
12211	<i>surface / river / large river / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 13 EDUs.	5	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.														
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met</td> <td>GOH stratification goal met</td> <td colspan="3"></td> </tr> <tr> <td></td> <td>5</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met					5	<input type="checkbox"/>	<input type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met																	
	5	<input type="checkbox"/>	<input type="checkbox"/>																	
12310	<i>surface / river / lake / low relief /</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 1 EDU.		<input type="checkbox"/>	<input type="checkbox"/>															
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met</td> <td>GOH stratification goal met</td> <td colspan="3"></td> </tr> <tr> <td></td> <td></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met						<input type="checkbox"/>	<input type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met																	
		<input type="checkbox"/>	<input type="checkbox"/>																	

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met				
21110	<i>surface mixed / stream / river / low relief /</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 1 EDU.	0	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.				
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 0</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>							
21111	<i>surface mixed / stream / river / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 3 EDUs.	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 3</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 3	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 3	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>							
21210	<i>surface mixed / stream / large river / low relief /</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 1 EDU.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 1</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>							
21211	<i>surface mixed / stream / large river / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 3 EDUs.	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 5</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 5	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 5	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>							
21311	<i>surface mixed / stream / lake / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 1 EDU.	0	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.				
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 0</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>							

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met				
22110	<i>surface mixed / river / river / low relief /</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 1 EDU.	0	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.				
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 0</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>							
22210	<i>surface mixed / river / large river / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 3 EDUs.	1	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.				
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 1</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>							
22211	<i>surface mixed / river / large river / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 4 EDUs.	3	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.				
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 3</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 3	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 3	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>							
22221	<i>surface mixed / river / large river / med-high relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 1 EDU.		<input type="checkbox"/>	<input type="checkbox"/>					
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>							
31110	<i>gw-mixed / stream / river / low relief /</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 2 EDUs.	0	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.				
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 0</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>							

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met							
31111	<i>gw-mixed / stream / river / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 1 EDU.	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 4</td> <td>GOH #goal met <input checked="" type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 4	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 4	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>										
31210	<i>gw-mixed / stream / large river / low relief /</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 1 EDU.		<input type="checkbox"/>	<input type="checkbox"/>								
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>										
31211	<i>gw-mixed / stream / large river / low relief / surface storage</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 2 EDUs.	1	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.							
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 1</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>										
31220	<i>gw-mixed / stream / large river / med-high relief /</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 1 EDU.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 1</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>										
32220	<i>gw-mixed / river / large river / med-high relief /</i>	Represented within each Ecological Drainage Unit (EDU) within which it occurs. Occurs in 1 EDU.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 1</td> <td>GOH #goal met <input checked="" type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>										

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
ABNME0101	yellow rail <i>Coturnicops noveboracensis</i>	1 - 5 populations	0	<input type="checkbox"/>	<input type="checkbox"/>	Adequate numbers captured at ESAs, but not viable.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
ABNNF06010	upland sandpiper <i>Bartramia longicauda</i>	At least 5 - 10 populations	2	<input type="checkbox"/>	<input type="checkbox"/>	Target not assessed over entire ecoregion.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 2	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
ABNSB13040	short-eared owl <i>Asio flammeus</i>	1 - 5 breeding populations	0	<input type="checkbox"/>	<input type="checkbox"/>	Adequate numbers captured at ESAs, but not viable.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
ABNYFO404	red headed woodpecker <i>Melanerpes erythrocephalus</i>	At least 5 - 10 populations	5	<input type="checkbox"/>	<input type="checkbox"/>	Target not assessed over entire ecoregion.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 5	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
ABPAE33020	Acadian Flycatcher <i>Empidonax virescens</i>	1 - 5 populations	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 5	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
ABPBG10010	sedge wren <i>Cistothorus platensis</i>	At least 5 - 10 populations	3	<input type="checkbox"/>	<input type="checkbox"/>	Target not assessed over entire ecoregion.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 3	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
ABPBW01110	Bell's Vireo <i>Vireo bellii</i>	1 - 5 populations	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 2	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
ABPBX03240	Cerulean Warbler <i>Dendroica cerulea</i>	1 - 5 populations	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 4	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
ABPBX07010	prothonotary warbler <i>Protonotaria citrea</i>	1 - 5 populations	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 3	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
ABPBX08010	worm-eating warbler <i>Helmitheros vermivorus</i>	1 - 5 populations	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 2	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
ABPBXA0101	bobolink <i>Dolichonyx oryzivorus</i>	At least 5 - 10 populations	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		Geography of Hope Goals Analysis:	GOH #captured 5	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>	
AFCAA01020	lake sturgeon <i>Acipenser fulvescens</i>	10 populations represented across range of environmental conditions in which it occurs.	5	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
		Geography of Hope Goals Analysis:	GOH #captured 5	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>	
AFCJB28080	pugnose shiner <i>Notropis anogenus</i>	10 populations represented across range of environmental conditions in which it occurs.	6	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
		Geography of Hope Goals Analysis:	GOH #captured 6	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>	
AFCJC10040	river redhorse <i>Moxostoma carinatum</i>	10 populations represented across range of environmental conditions in which it occurs.	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
		Geography of Hope Goals Analysis:	GOH #captured 4	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>	
AFCJC10170	greater redhorse <i>Moxostoma valenciennesi</i>	10 Populations represented across range of environmental conditions in which it occurs.	12	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		Geography of Hope Goals Analysis:	GOH #captured 12	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>	

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
AFCQC01010	crystal darter <i>Crystallaria asprella</i>	5-10 populations represented across the range of environmental conditions in which it occurs.	7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 7 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
AFCQC02B60	Western sand darter <i>Etheostoma clarum</i>	5-10 populations represented across the range of environmental conditions in which it occurs.	0	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 0 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input type="checkbox"/>						
AFCQC04090	gilt darter <i>Percina evides</i>	10 populations represented across range of environmental conditions in which it occurs.	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 2 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
AMACC0110	Indiana Or Social Myotis <i>Myotis sodalis</i>	Protect one known occurrence in ecoregion.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 1 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input type="checkbox"/>						
ARADE02040	timber rattlesnake <i>Crotalus horridus</i>	5-10 populations represented across the range of environmental conditions in which it occurs.	2	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 2 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input type="checkbox"/>						

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002024	Central Wet-mesic Tallgrass Prairie	18. At least one per subsection.	5	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 5 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002026	Bulrush - Cattail - Burreed Shallow Marsh	10. At least one per subsection.	5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Goal may be met, but association was not assessed during planning.
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 5 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002027	Northern Cordgrass Wet Prairie	5	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Goal met with restoration.
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 4 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002045	Midwest Sandstone Dry Cliff	7. At least one per subsection.	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 9 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002048	Midwest Sedimentary Dripping Cliff	10. At least one per subsection.	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not met because association was so finely divided.
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 7 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002062	North-central Maple - Basswood Forest	7. At least one per subsection.	17	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 17	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002063	Aspen / American Hazel Forest	No sites selected specifically for this target. Make sure captured in some sites.	0	<input type="checkbox"/>	<input type="checkbox"/>	Goal may be met, but association was not assessed during planning.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002068	Midwestern White Oak - Red Oak Forest	10. At least one per subsection.	17	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 17	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002071	Red Maple - Ash - Birch Swamp Forest	1-5 occurrences	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 2	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002076	Black Oak - White Oak - Hickory Forest	10. At least one per subsection.	19	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 19	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002077	Northern Pin Oak Forest	18. At least one per subsection.	5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Target narrowly distributed, captured representative examples or many populations in single ESA
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 5	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002078	Black Oak Forest	10. At least one per subsection.	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Target narrowly distributed, captured representative examples or many populations in single ESA
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 4	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002081	Ash - Elm - Mixed Lowland Hardwood Forest	18. At least one per subsection.	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 8	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002098	Bur Oak - Swamp White Oak Mixed Bottomland Forest	5	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 5	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002105	Black Ash - Mixed Hardwood Swamp	7. At least one per subsection.	12	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 12	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002111	Driftless White Pine - Northern Hardwoods Forest	18. At least one per subsection.	3	<input type="checkbox"/>	<input type="checkbox"/>	Target not well inventoried.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 3	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002137	Northwestern Great Plains Bur Oak Woodland	1-5. Limited range but peripheral to PFB	0	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002140	Bur Oak Bottomland Woodland	18. At least one per subsection.	4	<input type="checkbox"/>	<input type="checkbox"/>	Captured all known occurrences
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 4	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002142	Northern Dry-mesic Oak Woodland	18. At least one per subsection.	4	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 4	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002144	Chinquapin Oak Bluff Woodland	10. At least one per subsection.	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Target not well inventoried.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 2	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002158	Northern Bur Oak Openings	1-5	0	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 0 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input type="checkbox"/>						
CEGL002160	Northern Oak Barrens	1-5	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 5 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002186	Dogwood - Pussy Willow Swamp	7. At least one per subsection.	5	<input type="checkbox"/>	<input type="checkbox"/>	Goal may be met, but association was not assessed during planning.
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 5 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002187	Dogwood - Mixed Willow Shrub Meadow	No sites selected specifically for this target. Make sure captured in some sites.	2	<input type="checkbox"/>	<input type="checkbox"/>	Goal may be met, but association was not assessed during planning.
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 2 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002189	Bog Birch - Willow Prairie Fen	18. At least one per subsection.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 1 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002190	Northern Buttonbush Swamp	No sites selected specifically for this target. Make sure captured in some sites.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002202	Northern Mesic Tallgrass Prairie	1-5	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 2	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002203	Central Mesic Tallgrass Prairie	10. At least one per subsection.	0	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002210	Midwest Dry-mesic Sand Prairie	7. At least one per subsection.	4	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 4	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002214	Midwest Dry-mesic Prairie	10. At least one per subsection.	7	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 7	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002215	Midwest Dry Gravel Prairie	10. At least one per subsection.	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 11	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002221	River Bulrush Marsh	7. At least one per subsection.	1	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002224	Central Cordgrass Wet Prairie	12. At least one per subsection.	4	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 4	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002225	Freshwater Bulrush Marsh	7. At least one per subsection.	7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 7	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002229	Midwest Mixed Emergent Deep Marsh	10. At least one per subsection.	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 7	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002233	Midwest Cattail Deep Marsh	5. At least one per subsection.	6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 6 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002245	Little Bluestem Bedrock Bluff Prairie	18. At least one per subsection.	18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 18 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002256	Lake Sedge Wet Meadow	12. At least one per subsection.	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Goal may be met, but association was not assessed during planning.
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 7 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002257	Northern Sedge Wet Meadow	3	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 1 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input type="checkbox"/>						
CEGL002258	Tussock Sedge Wet Meadow	10. At least one per subsection.	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 11 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002265	Northern Poor Fen	7. At least one per subsection.	4	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 4	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002267	Northern Tallgrass Calcareous Fen	1-5	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002282	Midwest Pondweed Submerged Aquatic Wetland	7. At least one per subsection.	1	<input type="checkbox"/>	<input type="checkbox"/>	Goal may be met, but association was not assessed during planning.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002287	Sandstone Moist Cliff	10. At least one per subsection.	13	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 13	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002291	Midwest Dry Limestone/Dolostone Cliff	10. At least one per subsection.	5	<input type="checkbox"/>	<input type="checkbox"/>	Target not well inventoried.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 5	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002292	Midwest Moist Limestone/Dolostone Cliff	10. At least one per subsection.	5	<input type="checkbox"/>	<input type="checkbox"/>	Target not well inventoried.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 5	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002293	Maderate Cliff	18. At least one per subsection.	5	<input type="checkbox"/>	<input type="checkbox"/>	Never were enough occurrences to meet goal.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 2	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002298	Quartzite - Granite Rock Outcrop	3	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Captured all known occurrences
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 2	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002308	Limestone - Dolomite Talus	7. At least one per subsection.	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 8	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002318	Midwest Dry Sand Prairie	10. At least one per subsection.	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 8	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002377	Little Bluestem - Porcupine Grass Dry-mesic Hill Prairie	18. At least one per subsection.	0	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 0 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input type="checkbox"/>						
CEGL002378	White Pine - (Red Pine) Driftless Bluff Forest	25. At least one per subsection.	18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 18 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002381	Speckled Alder Swamp	1-5. At least one per subsection.	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 5 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
CEGL002382	Wild rice marsh	1-5. Periperal to PFB	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 1 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input type="checkbox"/>						
CEGL002383	Prairie Transition Rich Fen	10. At least one per subsection.	8	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 8 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002385	Skunk Cabbage Seepage Meadow	7. At least one per subsection.	3	<input type="checkbox"/>	<input type="checkbox"/>	Goal may be met, but association was not assessed during planning.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 3	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002386	Water Lily Aquatic Wetland	7. At least one per subsection.	1	<input type="checkbox"/>	<input type="checkbox"/>	Goal may be met, but association was not assessed during planning.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002387	Algific Talus Slope	18. At least one per subsection.	21	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 21	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002403	Midwest Dry Limestone - Dolomite Prairie	1-5	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002430	Midwest Ephemeral Pond	12. At least one per subsection.	1	<input type="checkbox"/>	<input type="checkbox"/>	Goal may be met, but association was not assessed during planning.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002472	Central Tamarack Poor Swamp	10. At least one per subsection.	14	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 14	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002475	Spruce - Fir - Aspen Forest	1-5	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002478	Jack Pine - Northern Pin Oak Forest	7. At least one per subsection.	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Goal may be met, but association was not assessed during planning.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 4	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002480	White Pine - Red Oak Forest	5. At least one per subsection.	7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 7	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002481	White Pine - White Oak Forest	10. At least one per subsection.	5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Target not well inventoried.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 5	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002482	White Pine - Red Maple Swamp	10. At least one per subsection.	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 11	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002485	Black Spruce Bog	1-5	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 2	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002488	Bur Oak - Northern Pin Oak Woodland	3	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 3	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL002490	Jack Pine / Prairie Forbs Barrens	10. At least one per subsection.	5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 5	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>		
CEGL002492	Black Oak / Lupine Barrens	18. At least one per subsection.	12	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 12	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL002494	Bog Birch-Leatherleaf Poor Fen	7. At least one per subsection.	6	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 6 GOH #goal met <input checked="" type="checkbox"/> GOH stratification goal met <input checked="" type="checkbox"/>				
CEGL002498	Leatherleaf Bog	3	2	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 2 GOH #goal met <input checked="" type="checkbox"/> GOH stratification goal met <input checked="" type="checkbox"/>				
CEGL002499	Northern Little Bluestem Gravel Prairie	1-5	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 1 GOH #goal met <input type="checkbox"/> GOH stratification goal met <input type="checkbox"/>				
CEGL002505	Granite/Metamorphic Rock Outcrop Sparse Vegetation	3	1	<input type="checkbox"/>	<input type="checkbox"/>	Goal may be met, but association was not assessed during planning.
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 1 GOH #goal met <input type="checkbox"/> GOH stratification goal met <input type="checkbox"/>				
CEGL002586	Silver Maple - Elm - (Cottonwood) Forest	10	14	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 14 GOH #goal met <input checked="" type="checkbox"/> GOH stratification goal met <input checked="" type="checkbox"/>				

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met				
CEGL002597	Hemlock-Sugar Maple Relict Forest	20. At least one per subsection.	4	<input type="checkbox"/>	<input type="checkbox"/>					
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 4</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 4	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 4	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>							
CEGL005004	Beech - Maple - Northern Hardwoods Forest	5	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>					
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 2</td> <td>GOH #goal met <input checked="" type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 2	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 2	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>							
CEGL005037	Northern (Great Lakes) Flatwoods	1-5	0	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.				
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 0</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 0	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>							
CEGL005038	Maple-Ash-Elm Swamp Forest	10	1	<input type="checkbox"/>	<input type="checkbox"/>					
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 1</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>							
CEGL005083	Dogwood - Willow - Blueberry Swamp	1-5	1	<input type="checkbox"/>	<input type="checkbox"/>	Goal may be met, but association was not assessed during planning.				
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 1</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>							

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL005092	Leatherleaf Kettle Bog	10. At least one per subsection.	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 6	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL005108	Inland Coastal Plain Marsh	7	4	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 3	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL005139	Cinquefoil - Sedge Prairie Fen	7. At least one per subsection.	14	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 14	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL005176	Midwest Dry-mesic Gravel Prairie	5. At least one per subsection.	3	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 3	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		
CEGL005178	Central Cordgrass Wet Sand Prairie	1-5	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured 2	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>		

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
CEGL005183	Midwest Glacial Drift Hill Prairie	5	0	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured GOH #goal met <input type="checkbox"/> GOH stratification goal met <input type="checkbox"/>				
CEGL005185	Midwest Calcareous Floating Mat	12. At least one per subsection.	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured GOH #goal met <input checked="" type="checkbox"/> GOH stratification goal met <input checked="" type="checkbox"/>	8			
CEGL005202	Northern Sandstone Talus	1-5	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured GOH #goal met <input checked="" type="checkbox"/> GOH stratification goal met <input checked="" type="checkbox"/>	1			
CEGL005232	Central Tamarack - Red Maple Rich Swamp	1-5	6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured GOH #goal met <input checked="" type="checkbox"/> GOH stratification goal met <input checked="" type="checkbox"/>	6			
CEGL005241	Tussock Sedge Fen	?		<input type="checkbox"/>	<input type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u>		GOH #captured GOH #goal met <input type="checkbox"/> GOH stratification goal met <input type="checkbox"/>				

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met														
CEGL005276	Midwestern Oak Woodland - Quartzite Glade	Represent diversity of Baraboo Hills bedrock glades.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met</td> <td>GOH stratification goal met</td> <td colspan="3"></td> </tr> <tr> <td></td> <td>1</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met					1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met																	
	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																	
CNTPOORFE	Central poor fen	10. At least one per subsection.	14	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met</td> <td>GOH stratification goal met</td> <td colspan="3"></td> </tr> <tr> <td></td> <td>14</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met					14	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met																	
	14	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																	
FOR_SEEP	Forested seep	10. At least one per subsection.	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met</td> <td>GOH stratification goal met</td> <td colspan="3"></td> </tr> <tr> <td></td> <td>6</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met					6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met																	
	6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																	
ICMAL05580	Wisconsin well amphipod <i>Stygobromus putealis</i>	Endemic species. Protect only known occurrence.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met</td> <td>GOH stratification goal met</td> <td colspan="3"></td> </tr> <tr> <td></td> <td>1</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met					1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met																	
	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																	
IICOL02231	a tiger beetle <i>Cicindela patruela huberi</i>	At least 10-12 populations across the range of environmental conditions in which it occurs.	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>															
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met</td> <td>GOH stratification goal met</td> <td colspan="3"></td> </tr> <tr> <td></td> <td>8</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met					8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met																	
	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																	

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met							
IIHOM26010	a prairie leafhopper <i>Attenuipyga vanduzeei</i>	At least 10 populations represented across range of environmental conditions in which it occurs.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 1</td> <td>GOH #goal met <input checked="" type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>										
IIHOM27010	a leafhopper <i>Destria crocea</i>	Include the two known occurrences within the portfolio if the species and site are viable.		<input type="checkbox"/>	<input type="checkbox"/>								
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>										
IIHOM29010	a prairie leafhopper <i>Polyamia dilata</i>	At least 10 populations represented across range of environmental conditions in which it occurs.	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 8</td> <td>GOH #goal met <input checked="" type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 8	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 8	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>										
IILEP57010	Powesheik skipperling <i>Oarisma powesheik</i>	1-5 populations represented across the range of environmental conditions in which it occurs.	6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 6</td> <td>GOH #goal met <input checked="" type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 6	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 6	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>										
IILEP65140	Dakota skipper <i>Hesperia dacotae</i>	1-5 populations represented across the range of environmental conditions in which it occurs.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 1</td> <td>GOH #goal met <input checked="" type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> <td colspan="3"></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>			
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 1	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>										

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Stratification Goal Met	Reason goal not met
IILEPG5021	Karner blue <i>Lycaeides melissa samuelis</i>	Include all sites identified as critical in WT's Habitat Conservation Plan for this species.		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met	GOH stratification goal met	
				<input checked="" type="checkbox"/>	<input type="checkbox"/>	
IILEPJ6040	regal fritillary <i>Speyeria idalia</i>	1-5 populations represented across the range of environmental conditions in which it occurs.	7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		<u>Geography of Hope Goals Analysis:</u>	7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
IILEYC0450	blazing star stem borer <i>Papaipema beeriana</i>	At least 10 populations represented across range of environmental conditions in which it occurs.	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Target not well inventoried.
		<u>Geography of Hope Goals Analysis:</u>	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
IIODO12090	pygmy snaketail <i>Ophiogomphus howei</i>	Protect single known population within ecoregion.	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<u>Geography of Hope Goals Analysis:</u>	0	<input type="checkbox"/>	<input type="checkbox"/>	
IIODO12180	St. Croix snaketail <i>Ophiogomphus susbehcha</i>	Protect one known occurrence within ecoregion.	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		<u>Geography of Hope Goals Analysis:</u>	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
IIDO12200	barrens snaketail <i>Ophiogomphus sp 1 nr aspersus</i>		5	<input type="checkbox"/>	<input type="checkbox"/>	
		<u>Geography of Hope Goals Analysis:</u>	GOH #captured 5	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>	
IIDO31030	smoky shadowdragon <i>Neurocordulia molesta</i>	1-5 populations represented across the range of environmental conditions in which it occurs.	6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		<u>Geography of Hope Goals Analysis:</u>	GOH #captured 6	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>	
IIDO32130	incurvate emerald <i>Somatochlora incurvata</i>	5-10 populations represented across the range of environmental conditions in which it occurs.	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		<u>Geography of Hope Goals Analysis:</u>	GOH #captured 5	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>	
IIDO34010	ebony bog hunter <i>Williamsonia fletcheri</i>	At least 10 populations represented across range of environmental conditions in which it occurs.		<input type="checkbox"/>	<input type="checkbox"/>	
		<u>Geography of Hope Goals Analysis:</u>	GOH #captured	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>	
IIDO34020	ringed bog hunter <i>Williamsonia lintneri</i>	At least 10 populations represented across range of environmental conditions in which it occurs.	2	<input type="checkbox"/>	<input type="checkbox"/>	Captured all known occurrences
		<u>Geography of Hope Goals Analysis:</u>	GOH #captured 2	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input type="checkbox"/>	

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
IMGAS20190	bluff vertigo <i>Vertigo meramecensis</i>	At least 10 populations represented across range of environmental conditions in which it occurs.	9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 9 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
IMGAS20370	Briarton pleistocene vertigo <i>Vertigo brierensis</i>	Minimum of 10 populations, stratified by watersheds across its range.	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Captured all known occurrences
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 2 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
IMGAS20381	Hubricht's vertigo <i>Vertigo hubrichti hubrichti</i>	Minimum of 10 populations, stratified by watersheds across its range.	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 11 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
IMGAS20382	Hubricht's vertigo <i>Vertigo hubrichti variabilis</i>	Minimum of 10 populations, stratified by watersheds across its range.	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 11 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
IMGAS20430	Iowa pleistocene vertigo <i>Vertigo iowaensis</i>	At least 10 populations represented across range of environmental conditions in which it occurs.	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 8 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
IMGAS54060	pleistocene disc <i>Discus macclintocki</i>	Minimum of 10 populations, stratified by watersheds across its range.	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured 10 GOH #goal met <input checked="" type="checkbox"/> GOH stratification goal met <input checked="" type="checkbox"/>						
IMGAS66120	frigid ambersnail <i>Catinella gelida</i>	Minimum of 10 populations, stratified by watersheds across its range.	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured 10 GOH #goal met <input checked="" type="checkbox"/> GOH stratification goal met <input checked="" type="checkbox"/>						
IMGAS68270	Minnesota pleistocene Succineid <i>Novisuccinea n.sp. Minnesota A</i>	Minimum of 10 populations, stratified by watersheds across its range.	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured 10 GOH #goal met <input checked="" type="checkbox"/> GOH stratification goal met <input checked="" type="checkbox"/>						
IMGAS68280	Iowa pleistocene Succineid <i>Novisuccinea n.sp. Minnesota B</i>	Minimum of 10 populations, stratified by watersheds across its range.	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured 10 GOH #goal met <input checked="" type="checkbox"/> GOH stratification goal met <input checked="" type="checkbox"/>						
PDAST0T170	forked aster <i>Aster furcatus</i>	At least 10 populations represented across range of environmental conditions in which it occurs.	5	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
<u>Geography of Hope Goals Analysis:</u> GOH #captured 5 GOH #goal met <input type="checkbox"/> GOH stratification goal met <input type="checkbox"/>						

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met
PDAST2E1C0	Hill's thistle <i>Cirsium hillii</i>	At least 10 populations represented across range of environmental conditions in which it occurs.	8	<input type="checkbox"/>	<input type="checkbox"/>	Goal met with restoration.
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 8 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
PDAST440G3	cliff cudweed <i>Gnaphalium obtusifolium var saxicola</i>	At least 10-12 populations across the range of environmental conditions in which it occurs.	6	<input type="checkbox"/>	<input type="checkbox"/>	Captured all known occurrences
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 6 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input type="checkbox"/>						
PDAST8P1R0	shadowy goldenrod <i>Solidago sciaphila</i>	At least 10-12 populations across the range of environmental conditions in which it occurs.	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 10 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
PDCRA0A0H	Leedy roseroot <i>Sedum integrifolium ssp leedyi</i>	Include the three sites known for this species if the species and site are considered viable.	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 5 GOH #goal met: <input checked="" type="checkbox"/> GOH stratification goal met: <input checked="" type="checkbox"/>						
PDFAB27090	prairie bush-clover <i>Lespedeza leptostachya</i>	At least 10 populations represented across range of environmental conditions in which it occurs.	3	<input type="checkbox"/>	<input type="checkbox"/>	Target degraded or decimated and insufficient restoration sites delineated.
<u>Geography of Hope Goals Analysis:</u> GOH #captured: 3 GOH #goal met: <input type="checkbox"/> GOH stratification goal met: <input type="checkbox"/>						

Gelcode	Target	GOAL	Number occ. captured	Number Goal Met	Strati- fication Goal Met	Reason goal not met				
PPOPH010N0	little goblin moonwort <i>Botrychium mormo</i>	1-5 populations represented across the range of environmental conditions in which it occurs.	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 2</td> <td>GOH #goal met <input checked="" type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 2	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 2	GOH #goal met <input checked="" type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>							
PPOPH010W0	prairie dunewort <i>Botrychium campestre</i>	5-10 populations represented across the range of environmental conditions in which it occurs.	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>					
<table border="1"> <tr> <td><u>Geography of Hope Goals Analysis:</u></td> <td>GOH #captured 2</td> <td>GOH #goal met <input type="checkbox"/></td> <td>GOH stratification goal met <input checked="" type="checkbox"/></td> </tr> </table>							<u>Geography of Hope Goals Analysis:</u>	GOH #captured 2	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>
<u>Geography of Hope Goals Analysis:</u>	GOH #captured 2	GOH #goal met <input type="checkbox"/>	GOH stratification goal met <input checked="" type="checkbox"/>							

Table 7

Percentage of Prairie-Forest Border Goals Met

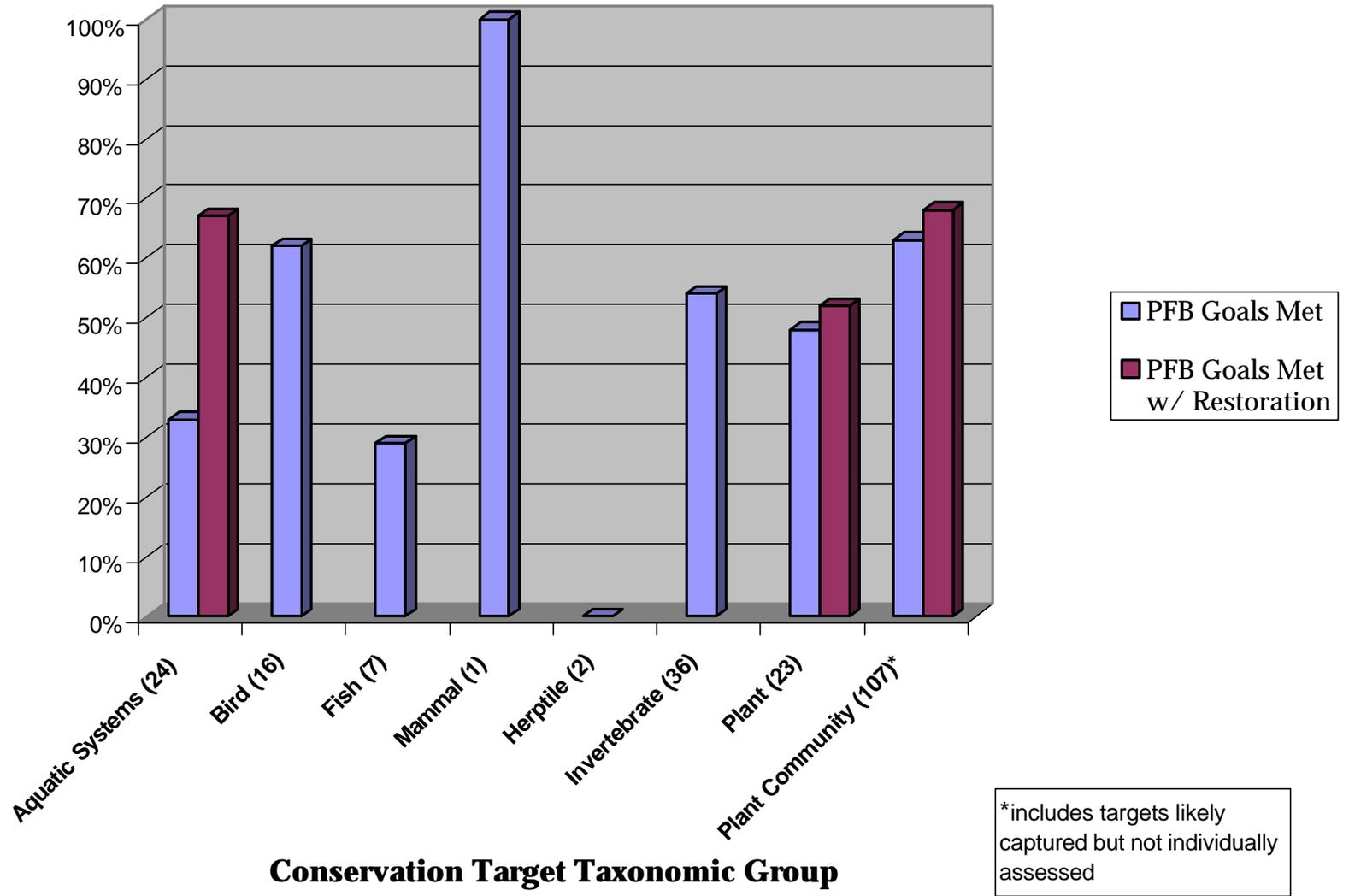
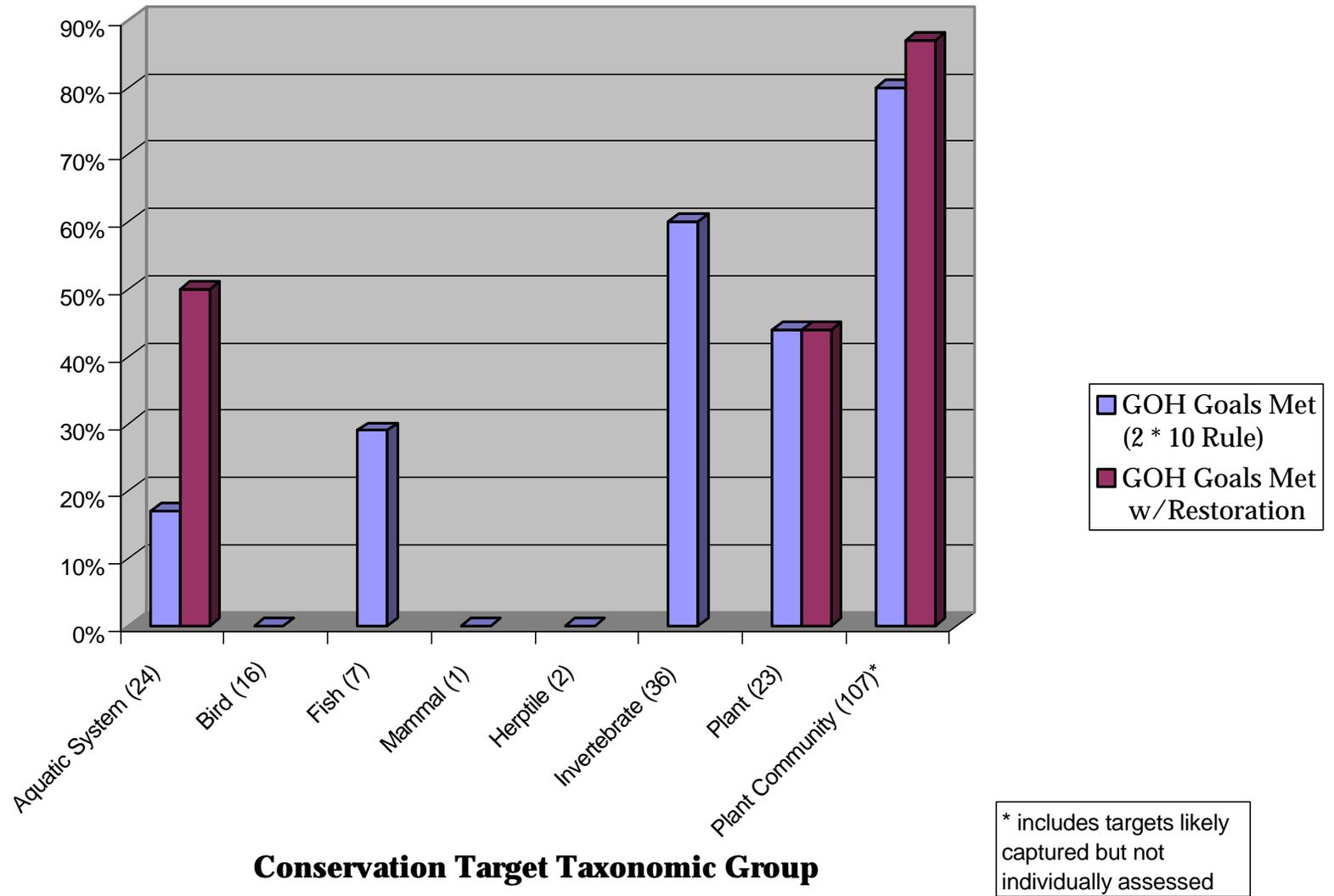


Table 8

Percentage of Geography of Hope Goals Met



Planning Participants

COLORADO

Name	Job title	Organization	Division
Wayne Ostlie	Chief Executive Officer	Weather Creek Conservation Consultants	

IOWA

Name	Job title	Organization	Division
Dave DeGues	E. IA Field Representative	The Nature Conservancy	Iowa Chapter
Keith Fletcher	Landscape Cons. Proj. Manager	The Nature Conservancy	Iowa Chapter
Mark Leoschke	Botanist	IA Department of Natural Resources	
John Pearson		IA Department of Natural Resources	
Jerry Selby	Dir. Of Science and Stewardship	The Nature Conservancy	Iowa Chapter

ILLINOIS

Name	Job title	Organization	Division
Ed Anderson	District Natural Heritage Biologist	IL Department of Natural Resources	
Doug Carney	Aquatic Ecologist	IL Department of Natural Resources	
David Clark		Wetlands Initiative	
Lisa Haderlein	Dir. of Conservation Planning	The Nature Conservancy	
Shannon Horn	Conservation Planner	The Nature Conservancy	Illinois Chapter
Mary Lammert	Aquatic Ecologist	The Nature Conservancy	Great Lakes Program
Randy Nyboer	Regional Administrator	IL Department of Natural Resources	Div. of Natural Heritage
Tim Tear	Dir. of Conservation Science	The Nature Conservancy	Illinois Chapter

MICHIGAN

Name	Job title	Organization	Division
Dave Ewert	Dir. of Science and Stewardship	The Nature Conservancy	Michigan Chapter

MINNESOTA

Name	Job title	Organization	Division
Jenny Brown	Dir. of Science and Stewardship	The Nature Conservancy	Minnesota Chapter
Hannah Dunevitz	Regional Plant Ecologist	MN Heritage	Fish and Wildlife
Mark Ebbers		MN Department of Natural Resources	Fisheries
Garth Fuller	Land Steward	The Nature Conservancy	SE MN Field Office
Mary Harkness	Ecoregional Ecologist	The Nature Conservancy	Midwest Regional Office

WISCONSIN

Name	Job title	Organization	Division
Becky Abel	Conservation Planner	The Nature Conservancy	Wisconsin Chapter
Karen Bassler	Conservation Coordinator	The Nature Conservancy	Wisconsin Chapter
Nancy Braker	Dir. of Science and Stewardship	The Nature Conservancy	Wisconsin Chapter
Eric Epstein	Ecologist	WI Department of Natural Resources	Bureau of Endangered Resources
Don Fago	Programmer/Modeler	WI Department of Natural Resources	Integrated Science Services
Deirdre Gruendler	Conservation Planner	The Nature Conservancy	Wisconsin Chapter
Rich Henderson	Terrestrial Ecologist-Botany	WI Department of Natural Resources	Integrated Science Services
Randy Hoffman	Management Specialist	WI Department of Natural Resources	Natural Areas Section
Martin Jennings	Northern Lakes Ecologist	WI Department of Natural Resources	Northern Regional Headquarters -
Emmet Judziewicz		WI Department of Natural Resources	Bureau of Endangered Resources
Larry Leitner		Southeastern Wisconsin Regional Planning	
John Lyons	Watershed Ecologist	WI Department of Natural Resources	Integrated Science Services
Mark Martin	Public Lands Specialist	WI Department of Natural Resources	Bureau of Endangered Resources
Rebecca Power	Park Ranger	USFWS	Necedah Nat'l Wildlife Refuge
Steve Richter	Land Steward	The Nature Conservancy	Wisconsin Chapter
Bill Smith	Zoologist	WI Department of Natural Resources	
Pam Thiel		USFWS	
Paul West	Stewardship Ecologist	The Nature Conservancy	Wisconsin Chapter
Kristin Westad	Assistant Biologist/Botany	WI Department of Natural Resources	Bureau of Endangered Resources
Carla Wright	Budget & Planning Specialist	WI Department of Natural Resources	Science Services
Scott Yes		USFWS	

HERITAGE PROGRAMS RANKING SYSTEM

G1= Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G2= Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3= Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single state or physiographic region) or because of other factors making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.

G4= Apparently globally secure, though it may be quite rare in parts of its range, especially at the periphery.

G5= Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GH= Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered.

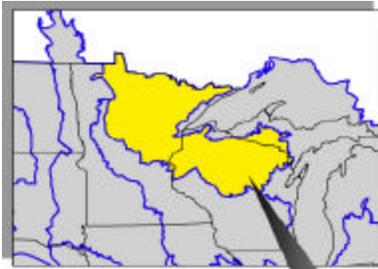
GU= Possibly in peril range-wide, but its status is uncertain. More information is needed.

GX= Believed to be extinct throughout its range (e.g. Passenger pigeon) with virtually no likelihood that it will be rediscovered.

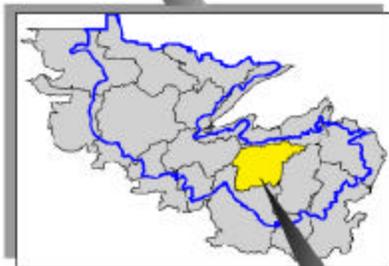
G? = Not ranked.

Species with a questionable taxonomic assignment are given a "Q" after the global rank. Subspecies and varieties are given subranks composed of the letter "T" plus a number or a letter. The definition of the second character of the subrank parallels that of the full global rank. (Examples: a rare subspecies or a rare species is ranked G1T1; a rare subspecies of a common species is ranked G5T1.)

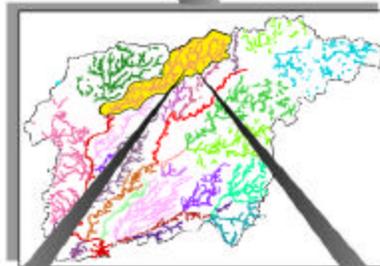
Aquatic CI assification Framework



a. North central United States with ecoregional boundaries, one ecoregion highlighted



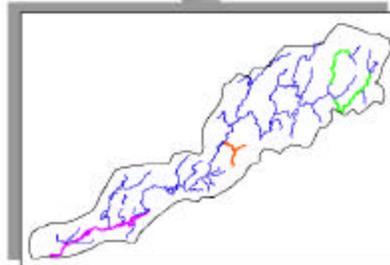
b. Ecoregion with Ecological Drainage Unit (EDU) boundaries, one EDU highlighted



c. EDU with systems indicated, one system highlighted



d1. System with macrohabitats indicated



d2. System with alliance occurrences indicated

Great Lakes bird ecoregional planning: A final report

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INTRODUCTION

Ecoregion planning by The Nature Conservancy (TNC) is designed to ensure that sites with globally rare or regionally endemic species and communities are protected along with representative plant communities and associated species, including those best represented in an ecoregion. Specific attempts are being made to protect vulnerable species. Among vulnerable species, birds are an especially appropriate focus because their distribution, relative abundance, and habitat requirements are comparatively well known. Consequently, as part of the planning efforts in the Great Lakes ecoregion (see Fig. 1), the Great Lakes and Michigan offices of The Nature Conservancy initiated an ecoregion planning program for birds. The project was completed with the support and participation of the Minnesota, Wisconsin, Illinois, Indiana, Ohio, Central and Western New York Chapters of The Nature Conservancy, in consultation with the Wings of the Americas program of The Nature Conservancy, the American Bird Conservancy, National Audubon Society and Partners in Flight (PIF). Information from field ornithologists, including representatives of private and public organizations, obtained at experts workshops and from the literature is summarized in this report. This information will be integrated with other ecoregion plans of The Nature Conservancy to identify priority sites in the Great Lakes ecoregion.

GOAL

The goal of this project is to identify up to 10 locations for each breeding bird of conservation concern and to ascertain the important stopover and wintering sites for landbirds, raptors, shorebirds, and waterbirds in the Great Lakes ecoregion. Information collected on non-Great Lakes ecoregion portions of the Great Lakes states will be incorporated into other ecoregional plans.

SPECIES SELECTION

We focused on avian species that have a global Partners in Flight score of 20 or more or a Nature Conservancy rank of G1-G4 (Table 1). As time permitted, we also noted the presence and number of secondary focus species (those with a state or physiographic score of 20 or more and other species of particular concern in a state (see Table 1) at sites. Rankings of species are largely based on the following parameters: the percentage of the world's population (based on Breeding Bird Survey routes) occurring in an area, population trends of each bird species, and the importance of the area relative to its overall range. Species with small ranges, low abundance, fluctuating populations, and long-term, relatively large population declines are those of highest priority.

To enhance compatibility between TNC and PIF conservation efforts, the Great Lakes ecoregion bird list was cross-referenced to the PIF priority species list for physiographic regions most comparable to the Great Lakes ecoregion. Our list of priority species, while very close to that of PIF, is not an exact match because TNC ecoregion boundaries differ from physiographic boundaries of PIF. This can have a dramatic effect on recognizing the apparent importance of an area to a species and thus its status as a species of conservation concern, especially for species near the edge of their range. Based on this consideration, we expanded our list to include the following species as primary focus species for the Great Lakes and adjacent ecoregions: Red-headed Woodpecker, Sedge Wren, Blue-winged Warbler, Black-and-white Warbler, Canada Warbler, and Grasshopper Sparrow. We also reviewed one species, Red Crossbill, we would have ignored based on TNC ranks or PIF scores.

The list of species evaluated for this project does not include many species listed as endangered, threatened or special concern by one or more Great Lakes states. There are several reasons for these differences: the listed species are peripheral to the Great Lakes ecoregion or Great Lakes states; the species may be much more abundant in other parts of its range; viable populations may not occur; or populations may represent a very small proportion of the world's population. State-listed species not included in this analysis certainly deserve protection. However, the primary focus of this project is global: to ensure through careful site selection that these species do not become extinct.

SITE SELECTION: GENERAL METHODS

The primary method of collecting data was through one-day experts' workshops, one each being held in Michigan (October 1998), Indiana (November 1998), Ohio (November 1998), Wisconsin (November 1998) and Minnesota (January 1999). At each of these meetings, experienced field ornithologists convened to identify sites that met one or more of the criteria mentioned under "Goals", and more fully described below. Boundaries around each site were delineated on DeLorme atlases and cross-referenced to data sheets. Additional information was gained from publications (e.g. Breeding Bird Atlases, state bird books, *Important Bird Areas in New York* by Jeff V. Wells), information sent to us from those unable to attend meetings, information from Natural Heritage programs, information compiled from important bird area projects of National Audubon Society and the American Bird Conservancy and information from species-specific inventories (e.g. Cerulean Warbler project of the Cornell Laboratory of Ornithology and Kirtland's Warbler censuses) or banding stations (e.g. Kalamazoo Nature Center, MI; Dearborn Campus of the University of Michigan, Black Swamp Bird Observatory, OH).

SITE SELECTION: BREEDING SITES

Our goal was to identify at least 10 sites with 25 or more breeding pairs in the Great Lakes ecoregion for each primary focus species. Selecting at least 10 breeding sites meets or exceeds the recommendations provided by the Wings of the Americas program although this should be considered a minimal number of sites for maintaining each species. The 10 sites selected are those that help ensure the future of these primary focus species in the Great Lakes ecoregion. Whenever possible, sites were dispersed across the ecoregion. This helps ensure that local environmental changes (habitat loss or fragmentation; effects of alien species, weather

catastrophes) do not eliminate a species from an ecoregion. It further recognizes that different breeding populations of the same species probably have different wintering areas and migration routes that may also be vulnerable to degradation. This redundancy, especially when considered across all ecoregions, should strengthen our confidence that we have prevented extinction (but not necessarily further declines).

The criterion of 25 breeding pairs that consistently breed at a site is below what many biologists would consider the lower threshold of viability and is dependent on landscape context, population stability, and many other factors. Nonetheless, adopting this criterion eliminates sites unlikely to sustain a species compared to procedures based only on presence/absence or qualitative data (e.g. common, uncommon etc.) and provides a consistent measure to compare sites. This ensures we will at least maintain 250 breeding pairs (still a small number) of our target species whenever possible in the Great Lakes ecoregion. Many primary focus species also occurred at additional sites, further securing their long-term survival.

There is one endemic species in the ecoregion, the Kirtland's Warbler. We identified all areas designated as Kirtland's Warbler management areas as bird ecoregion sites. This includes currently occupied habitat and areas that will be managed in the future as Kirtland's Warbler habitat. In addition, non-designated areas currently occupied by Kirtland's Warblers qualified as bird ecoregion sites. We did not map other areas even though they could be used by Kirtland's Warblers following fire.

The Great Lakes population of the Piping Plover is listed as endangered under United States law. Banding data indicate that all sites are part of one interbreeding population. The Great Lakes population does not interbreed with populations in the Great Plains or the Atlantic coast. We decided to identify all sites occupied (consistently or sporadically) by Piping Plover in the last 15 years as bird ecoregion sites. We also elected to include sites historically used by Piping Plovers that still appear to be suitable; these are designated second priority sites but were not mapped.

We also mapped all Peregrine Falcon nesting sites in non-urban, historically used sites. Similar to the Piping Plover, banding data indicate that Peregrines disperse widely through the Great Lakes states and each site appears to be part of one population. Consequently, for the same reasons as Piping Plover, each site was important to note.

By contrast, we did not record Bald Eagle breeding sites except where they are locally distributed, as in northern Ohio. Extensive areas with relatively high concentrations of nesting Bald Eagles were noted but not mapped.

SITE SELECTION: STOPOVER SITES

In addition to focusing on breeding populations, we identified important migratory stopover sites using criteria adopted or modified from the Important Bird Area project of the American Bird Conservancy and the National Audubon Society: 20,000 birds/site/ migration season for landbirds and shorebirds and 10,000 birds/site/migration season for raptors and waterfowl. The number of landbirds per site per season is rarely known so the sites selected as stopover sites for landbirds may be especially prone to bias in sampling. Still, where this number could be

estimated based on projections from banding data, or estimated or actual counts, we included the site as an important bird area. The bias is probably greatest where there are extensive banding programs (there may be many unidentified areas comparable to banding sites) and least where counts are consistently made. Selection of the most important stopover sites will become more refined as more data are collected. Important wintering areas were noted for a few species (e.g. Bald Eagle, grassland raptors such as Short-eared Owl and Northern Harrier, waterfowl) but virtually all of these sites were south of the Great Lakes ecoregion.

We elected to identify all migration concentration sites as bird ecoregion sites. Our rationale is that these sites form a complex network and that they may be critical to many populations of birds. Although many important stopover sites have yet to be identified, some characteristics of sites that concentrate migrants are known.

In both spring and fall, landbirds may be concentrated in vegetated areas, especially with complex cover, near “hostile” landscapes such as the Great Lakes, urban areas, and intensively farmed lands. In spring, stopover areas for landbirds in northern areas (New York, Michigan, Wisconsin, and Minnesota) may be concentrated near water where aquatic insects are emerging (this effect may be most pronounced the further north birds proceed). Further south (perhaps northern or central Illinois, Indiana, Ohio southward), where migrants appear when caterpillars are available on newly emerged leaves (especially oak, hackberry, willow and other species), spring migrants may concentrate where caterpillars are consistently most abundant. In fall, many landbird migrants feed on fruit, and may concentrate where dogwood, Mountain ash, and other fruit bearing trees and shrubs are plentiful.

Mapping stopover sites for landbirds is particularly difficult as birds may concentrate in different areas with changes in weather and resource abundance. Further, long stretches of shoreline may be attractive to migrants. The maps showing landbird stopover sites are conservative and both the number of important stopover sites, and their boundaries, are likely to expand as our knowledge of stopover sites improves.

Migrating waterfowl typically concentrate in productive bodies of water, especially in shallow bays and along marshy or shallow shores of the Great Lakes and inland bodies of water managed for waterfowl. Some areas, such as Whitefish Point, MI, have large numbers of waterfowl that fly over or past the point but relatively small numbers feed or rest in nearshore waters. We identified these areas as important waterfowl areas where they coincided with other ecoregionally important bird areas.

Shorebird distribution and numbers may vary considerably from year-to-year. There are few consistent concentration areas for migrating shorebirds in the Great Lakes ecoregion. This was identified as a conservation issue for birds in Michigan, Ohio, and Wisconsin. The few sites identified tended to be associated with Great Lakes shorelines or lakeplains with rich soil (e.g. Lake Erie, Saginaw Bay), some of which are managed for waterfowl.

Raptor migration routes often parallel Great Lakes shorelines where long stretches of shoreline support a steady stream of raptors. Consequently, many sites identified as important raptor “stopover sites” are perhaps better interpreted as points where raptors congregate before crossing

water (e.g. Mackinaw City and Whitefish Point, MI) or where raptor migration is monitored within migration corridors as at Derby Hill, NY, and Hawk Ridge, MN.

CAVEATS

Selection of bird sites during experts' workshops was done independently of selection of ecoregion sites based on non-avian species and communities. The final list of recommended bird sites for ecoregion selection, however, does reflect other biodiversity considerations; sites with other biodiversity value were chosen over strictly avian sites if they were of similar value to bird conservation.

Data availability was most complete for species of greatest interest to birders and where field studies, especially of bird communities, have been most comprehensive. Some relatively intact landscapes proved to be among the most difficult to evaluate, especially in Michigan's Upper Peninsula, where field work has been uneven. Statewide biases were evident in some cases. Golden-winged Warbler populations, for example, have been poorly delimited in Michigan's lower peninsula compared to Wisconsin. Documentation of stopover sites is incomplete and varies considerably from state-to-state; there is particularly little information regarding the relative importance of inland stopover sites.

Estimates of the number of breeding birds or the number of migrating birds using a site are often very coarse. Biases include how often sites are visited or sampled, the techniques used to estimate numbers of birds, the availability of land for sampling and the attention paid to particular species. For example: public and conservation lands are usually visited more than private lands, sites known to harbor rare species or large concentrations of birds attract more attention than other sites, easily accessible sites are better known than less accessible sites, and observers estimate numbers differently.

Spatial definition of bird ecoregion sites varies from small stopover sites to huge, largely contiguous landscapes encompassing at least thousands of hectares. This difference in scale introduces biases in itself. To minimize this bias, and still recognize the critical interaction of landscape and site that affects productivity of many area-sensitive avian species, we included whole landscapes as one unit where these landscapes are relatively isolated (e.g. Hoosier National Forest and Shawnee Uplands, Indiana) but where landscapes are intact and continuous over very broad areas (e.g. northern Minnesota, Wisconsin, Michigan and extending into Canada; southeastern Ohio and then extending throughout the Appalachians) we defined discrete areas within a landscape. Such an approach accounts for findings that productivity of many bird species improves in relatively intact landscapes. Thus, relatively small areas in extensive, intact landscapes may support viable breeding populations while similarly-sized areas in smaller, isolated landscapes may not.

Data from the Canadian portion of the Great Lakes ecoregion will be available in late 1999 through the Important Bird Areas project of Ontario (Steve Wilcox, Bird Studies Canada). We anticipate there will be many important Great Lakes ecoregion bird sites in Ontario which will complement the work done in the United States portion of the ecoregion.

Despite these biases and limitations, we have nominated a set of sites that will drive our planning efforts. The process of identifying important bird sites is iterative but we believe each site nominated for consideration here is clearly important to bird conservation.

RESULTS

A total of 131 sites were identified (Table 2) and mapped (Fig. 2) as portfolio Great Lakes ecoregion bird sites for primary focus species and stopover sites. We also summarized information on both primary and secondary focus species, including sites not selected for the portfolio of sites (Table 3). Sites were not selected for the final portfolio list for one or more of the following reasons: they did not meet numerical criteria for breeding sites for primary focus species, or for stopover sites; they met the criteria but other sites protected more species; or other sites provided better geographical distribution of bird sites across the ecoregion.

We mapped all known sites (including those with fewer than 25 breeding pairs) for the following species: Peregrine Falcon, Piping Plover, and Kirtland's Warbler. This group of species, each of which is threatened or endangered under United States law, is highly localized in distribution and requires, or has required, intensive protection efforts to maintain populations in the Great Lakes area and elsewhere.

We met the target of 10 sites per ecoregion for the following species: American Bittern, Black Tern, Wood Thrush, Golden-winged Warbler, Black-throated Blue Warbler, Black-and-white Warbler, and Canada Warbler. For each of these species there are more than 10 sites that support large breeding populations in the Great Lakes ecoregion. For example, Wood Thrush and Black-and-white Warbler are found throughout much of the ecoregion, especially in large forest tracts, while the Black-throated Blue Warbler is widespread in deciduous or mixed forests of Michigan's Upper Peninsula and adjacent Wisconsin. Although the selected sites provide some of the best opportunities to protect these species, other sites within the the Great Lakes ecoregion (see Table 3) will further enhance their protection

We identified fewer than 10 sites with 25 or more breeding pairs for the following primary focus species: American White Pelican (1 identified site), Trumpeter Swan (1 site), Sharp-tailed Grouse (6 sites), Yellow Rail (1 site), Red-headed Woodpecker (5 sites), Sedge Wren (9 sites), Blue-winged Warbler (8 sites), Prairie Warbler (2 sites), Cerulean Warbler (3 sites), Prothonotary Warbler (7 sites), Dickcissel (1 site), Henslow's Sparrow (2 sites), LeConte's Sparrow (5 sites), and Grasshopper Sparrow (5 sites). For some of these species, such as Sedge Wren and Grasshopper Sparrow it is likely that additional inventory work will result in locating 10 sites with 25 or more breeding pairs. However, many of the species with fewer than 10 identified sites are at the edge of their range in the Great Lakes ecoregion and they can be better protected in other ecoregions.

Several species with PIF global scores of 20 or more occur in the Great Lakes ecoregion but numbers are too low to warrant selecting sites for their protection: Greater Prairie Chicken, Bell's Vireo, Worm-eating Warbler, Connecticut Warbler, and Nelson's Sharp-tailed Sparrow.

Another group of species of conservation concern, including Marbled Godwit, Franklin's Gull, Sprague's Pipit, Swainson's Warbler, and Baird's Sparrow, do not breed in the Great Lakes ecoregion of the Great Lakes states and should be considered in other ecoregion planning processes as has been done in the Northern Tallgrass Prairie ecoregion.

Secondary focus species are generally more common and widespread than primary focus species. Locations of these species are noted in Table 3. Data on secondary focus species is less complete than for primary focus species so that most of these species probably occur at more of the listed sites than is indicated. One set of secondary focus species, including Black-billed Cuckoo, Belted Kingfisher, Olive-sided Flycatcher, E. Wood Pewee, Least Flycatcher, Willow Flycatcher, Veery, Brown Thrasher, Warbling Vireo, Rose-breasted Grosbeak, Field Sparrow, Bobolink, Baltimore Oriole, and Purple Finch, are identified as birds of particular conservation concern by PIF. Of these species, E. Wood Pewee, Least Flycatcher, Veery, Rose-breasted Grosbeak, Field Sparrow, and Baltimore Oriole are especially widespread in favorable habitat. Willow Flycatcher (locally common in shrubby wetlands in the southern Great Lakes ecoregion) and Olive-sided Flycatcher (scattered pairs in spruce bogs of northern Michigan, Wisconsin and Minnesota in the Great Lakes ecoregion) may be the most locally distributed of these species. Additional inventory work is needed for many of these species, especially more estimates of numbers of each species at sites.

One species not highly ranked by PIF or TNC should be noted: Red Crossbill. There may be several species of "Red Crossbill." Although Red Crossbills are common in western North America, they appear to be locally distributed in northeastern North America and some eastern populations may be specifically distinct from each other and from western populations. Red Crossbills seem to be consistently found in the Great Lakes ecoregion only near Lake Superior from Grand Marais, MI to Whitefish Point, MI in extensive red, white, and jack pine forests where there are groves of mature trees. No Great Lakes ecoregion sites were noted in Wisconsin and Minnesota that consistently supported Red Crossbills. It does not breed (except rarely after major irruptions) in Illinois, Indiana, Ohio, Pennsylvania or the Great Lakes ecoregion portions of New York.

Of the approximately 80 stopover sites named as important bird areas, most are concentrated along the shores of the Great Lakes. The Great Lakes ecoregion, along with ecoregions along the Gulf Coast, the northern Atlantic coast, and the Pacific coast, may support some of the highest concentrations of stopover sites in the continent. Additional work on stopover sites is clearly needed (a number of studies are being done or about to be initiated) but the high number of sites recommended for protection is consistent with the potential importance of the region to migrating birds.

SOME FINAL CONSIDERATIONS

A quick review of Table 3 suggests that information on bird populations is incomplete, even in areas as well known as those identified in this process. Consequently, we urge further review of information presented in Table 3 so that information gaps can be filled.

Boundaries of sites selected for birds are very generalized and delimit only where a species or group of species occurs. Site conservation planning will follow for sites where this has not been done and will include other species and plant community targets and should also account for processes, at the appropriate scale, needed to maintain the site. This may result in major modification of the depicted boundaries shown on Fig. 2.

Since the purpose of this project was to identify important sites for vulnerable bird species, we made no effort to describe ecological considerations or management recommendations for these species or communities of species. There are excellent synopses of this information available in the literature. Partners in Flight Bird Conservation Plans for the Great Lakes basin will soon be available.

Finally, although any project of this nature remains a work in progress, we are confident that the sites nominated here reflect a systematic and well considered approach to the identification of important bird sites in the Great Lakes area. However, we need to consider other ecoregions in the United States and internationally if comprehensive bird conservation programs that address breeding and wintering grounds and stopover sites are to be successful.

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Figure 1. Great Lakes Basin ecoregions,
including the Great Lakes Ecoregion

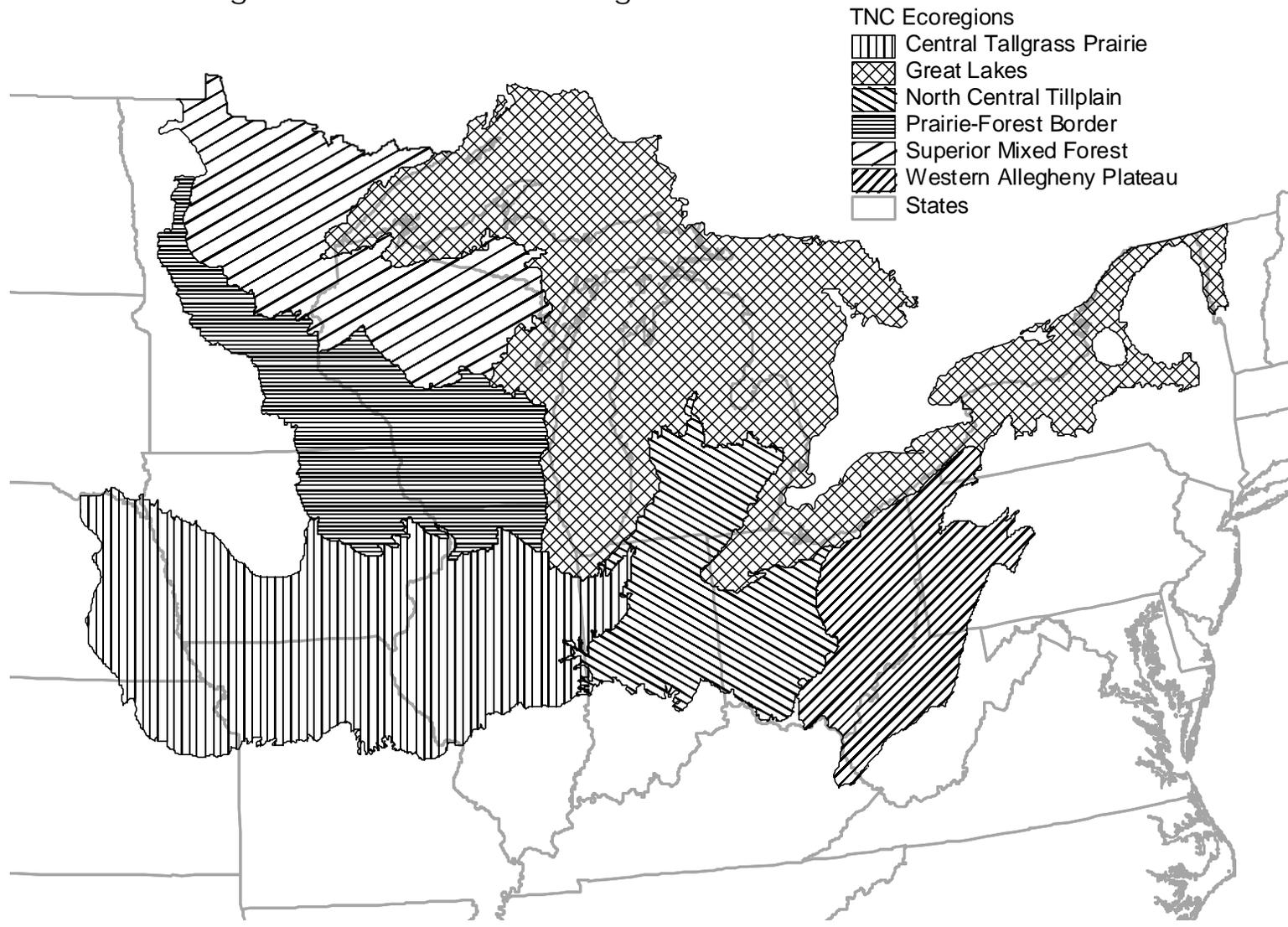


Table 1. Species evaluated for protection in the Great Lakes ecoregion. Global scores refer to Partners in Flight (PIF) scores and The Nature Conservancy (TNC) global ranks as of December 1997. P refers to primary focus species and S to secondary focus species. Species are listed in phylogenetic order.

Species	Abbreviation	Global score		Category status	
		PIF	TNC	Primary focus	Secondary focus
American White Pelican	AMWP	16	G3	P	
American Bittern	AMBI	17	G4	P	
Trumpeter Swan	TRSW	21	G4	P	
Bald Eagle	BAEA	15	G4	P	
Peregrine Falcon	PEFA	14	G4	P	
Greater Prairie Chicken	GRPC	25	G4	P	
Sharp-tailed Grouse	STGR	14	G4	P	
Yellow Rail	YEAR	22	G4	P	
Piping Plover	PIPL	24	G3	P	
Black Tern	BLTE	17	G4	P	
Red-headed Woodpecker	RHWO	18	G5	P	
Sedge Wren	SEWR	18	G5	P	
Wood Thrush	WOTH	20	G5	P	
Bell's Vireo	BEVI	23	G5	P	
Blue-winged Warbler	BLWA	19	G5	P	
Golden-winged Warbler	GWWA	25	G4	P	
Black-throated Blue Warbler	BTWA	20	G5	P	
Kirtland's Warbler	KIWA	30	G1	P	
Prairie Warbler	PRWA	20	G5	P	
Cerulean Warbler	CEWA	25	G4	P	
Black-and-white Warbler	BAWW	14	G5	P	
Prothonotary Warbler	POWA	21	G5	P	
Worm-eating Warbler	WEWA	21	G5	P	
Connecticut Warbler	COWA	18	G4	P	
Canada Warbler	CAWA	18	G5	P	
Dickcissel	DIKL	20	G4	P	
Grasshopper Sparrow	GRSP	16	G5	P	
Henslow's Sparrow	HESP	24	G4	P	
LeConte's Sparrow	LCSP	19	G4	P	
Nelson's Sharp-tailed Sparrow	STSP	24	G5	P	
Wood Duck	WODU	15	G5		S
American Black Duck	BLDU	19	G5		S
Hooded Merganser	HOME	16	G5		S
Redhead	REDH	18	G5		S
Ring-necked Duck	RNDU	15	G5		S
Northern Harrier	NOHA	16	G5		S
Ruffed Grouse	RUGR	15	G5		S
Wild Turkey	WITU	13	G5		S
N. Bobwhite	NOBO	17	G5		S
Sandhill Crane	SACR	18	G5		S
Upland Sandpiper	UPSA	15	G5		S
American Woodcock	AMWO	18	G5		S
Wilson's Phalarope	WIPH	17	G5		S

Forster's Tern	FOTE	15	G5	S
Black-billed Cuckoo	BBCU	16	G5	S
Yellow-billed Cuckoo	YBCU	17	G5	S
Short-eared Owl	SEOW	19	G5	S
Whip-poor-will	WHIP	17	G5	S
Chuck-wills-widow	CHWI	19	G5	S
Chimney Swift	CHSW	17	G5	S
Black-backed Woodpecker	BBWO	18	G5	S
Olive-sided Flycatcher	OSFL	17	G5	S
Eastern Wood-Pewee	EAWP	17	G5	S
Yellow-bellied Flycatcher	YBFL	17	G5	S
Least Flycatcher	LEFL	16	G5	S
Willow Flycatcher	WIFL	16	G5	S
Acadian Flycatcher	ACFL	18	G5	S
Marsh Wren	MAWR	14	G5	S
Veery	VEER	17	G5	S
Brown Thrasher	BRTH	17	G5	S
Loggerhead Shrike	LOSH	17	G5	S
Yellow-throated Vireo	YTVI	15	G5	S
Warbling Vireo	WAVI	12	G5	S
Philadelphia Vireo	PHVI	17	G5	S
Nashville Warbler	NAWA	15	G5	S
Chestnut-sided Warbler	CSWA	16	G5	S
Cape May Warbler	CMWA	18	G5	S
Black-throated Green Warbler	BGWA	16	G5	S
Blackburnian Warbler	BNBW	17	G5	S
Yellow-throated Warbler	YTWA	17	G5	S
Mourning Warbler	MOWA	16	G5	S
Louisiana Waterthrush	LOWA	19	G5	S
Kentucky Warbler	KYWA	19	G5	S
Hooded Warbler	HOWA	18	G5	S
Rose-breasted Grosbeak	RBGR	15	G5	S
Clay-colored Sparrow	CCSP	18	G5	S
Field Sparrow	FISP	17	G5	S
Bobolink	BOBO	19	G5	S
Baltimore Oriole	BAOR	15	G5	S
Purple Finch	PUFI	14	G5	S

Table 2. Important bird sites for primary focus species and stopover sites. Sites selected meet criteria defined for each species, as described in the text (generally 25 or more breeding pairs per site), or meet criteria for stopover sites. Sites described as “other sites” have breeding populations but numbers are uncertain or fewer than 25 breeding pairs but have been selected as a bird conservation site for other species or as a stopover site. For each site the estimated number of pairs is provided unless otherwise noted. Where a “+” is noted, the species is present but no estimate of numbers was provided.

American White Pelican

WI: Cat Island 150

American Bittern

MI: Houghton Lake marshes 50
 MI: Seney 50
 MI: Lower Manistee 40
 MN/WI: St. Louis River estuary/Pokegama Swamp >25
 NY: St. Lawrence corridor >25
 MI: Munuscong >25
 WI: Kakagon, Bad River 25
 MI: Lake Stella 25
 MI: Scott’s Marsh >25
 WI: Peshtigo/Oconto 15-30

Other American Bittern sites: WI: Cat Island (5-10), Door County forest corridor(10), Lower Wolf (5-10);MI: Waugoshance Point and Temperance Island (+), St. Clair Flats (<25), Northern Lake Huron marshes and peninsulas (>25), Wigwam Bay (15-20), Saginaw Bay (+); NY: Eastern Lake Ontario barrier beaches (10-20), Perch River Wildlife Management Area (<10), Northern Montezuma wetlands (+), Iroquois NWR (+).

Trumpeter Swan

MI: Seney 80 birds

Other Trumpeter Swan sites: WI: Kakagon/Bad River (1 pair); NY: Perch River Wildlife Management Area (2 pairs).

Bald Eagle

Specific sites generally not noted except in those counties where concentrations occur or where there are concentrations in relatively disjunct areas.

MI: Iron, Gogebic, Chippewa & Mackinac Counties >80
 OH: Sandusky River 8
 OH: Western Lake Erie marshes 20
 OH: Sandusky Bay 5

Peregrine Falcon

All breeding sites are noted.

MN: Tettegouche 1
 MN: Sawtooth 1
 MN: Wolf Ridge 1
 MI: Trap Hills 1
 MI: Porcupine Mountains 1
 MI: Pictured Rocks 1

Sharp-tailed Grouse

MI: Seney (includes Bullock Ranch, Danaher Pl.)	50
MI: Indian River	>25
MI: Rudyard Flats	>25
MI: Raco Plains	>25
MI: Ready Lake	>25
MI: Kingston Plains	>25

Other Sharp-tailed Grouse sites: MI: High Rollaway (T42N, R15W, Sect. 5,6), Sunken Lake (T46, 47N, R14W), Prairie Creek (T46N, R17W, Sect. 34), Rapid River, Kirtland's Warbler management areas (lower peninsula). Note: Indian River includes Swamp Lake, Mint Farm.

Yellow Rail

MI: Seney	0-80
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Other Yellow Rail sites: MI: Houghton Lake marshes (2); WI: Peshtigo/Oconto (10-15), Kakagon/Bad River (?), Door County forest corridor(10).

Piping Plover

All sites with breeding pairs of Piping Plovers in the last 15 years are indicated below. Sites used prior to this time are not listed.

MI: Waugoshance Point/Temperance Island	3-5
MI: Grand Marais	>3
MI: Glen Harbor, Sleeping Bear Dunes etc.	>3
MI: Cross Village	>2-3
MI: Vermilion Point (part of Whitefish Point)	>2-3
MI: Cathead Bay	>2
MI: Pointe aux Chenes	1
MI: Beaver Island	1
MI: Fisherman's Island State Park	1
MI: Cheboygan State Park/Grass Bay	1 (once)
WI: Kakagon/Bad River	1 (1998)
MI: Whitefish Point	1 (1984-85)
MI: Little Lake Harbor	1 (1987)
MI: Thorne Swift preserve	1 (1993)
MI: Deer Park	1 (1985-88)
MI: Crisp Point	1 (1984-85;87)
MI: Fox Islands	1-2

Black Tern

NY: Point Peninsula & Town of Cape Vincent	80
MI: Northern Lake Huron marshes and peninsulas	50-100
NY: St. Lawrence corridor	60
MI: Bay de Noc	50
NY: Eastern Lake Ontario barrier beaches	43
MI: Houghton Lake marshes	40
WI: Peshtigo//Oconto	25-50
NY: Iroquois NWR	25-40
MI: Wigwam Bay	30
NY: Perch River Wildlife Management Area	31
MI: Seney	25
MI: St. Clair Flats	25

Other Black Tern sites: WI: Kakagon/Bad River (0-25), Lower Wolf (10-30), Door County forest corridor (10); MI: Lower Manistee (10-15); NY: Northern Montezuma wetlands (5-10).

Red-headed Woodpecker

MI: Allegan SGA & Kalamazoo River	50
MI: Menominee River	25
OH: Goll Woods	25
OH: Oak Openings	25
OH: Sandusky River	25

Other Red-headed Woodpecker sites: WI: Lower Wolf (+); OH: Chagrin River (10), Thompson Township. (2).

Sedge Wren

MI: Seney	300
WI: Kakagon/Bad River	100
WI: Peshtigo/Oconto	50
MI: Houghton Lake marshes	>25
MI: Rudyard Flats	>25
MI: Tahquamenon Falls	>25
WI: Door County forest corridor	>25
WI: Lower Wolf	20-50

Other Sedge Wren sites: WI: Cat Island (0-20); MI: N. Lake Huron marshes and peninsulas(+), Allegan SGA & Kalamazoo River, (5), Lake Stella (?), Scott's Marsh (?), Munuscong (?); NY: Eastern Lake Ontario barrier beaches (+), N. Montezuma wetlands (2-5), Iroquois NWR (+), St. Lawrence corridor (+); OH: Thompson Township (2).

Wood Thrush

MI: Allegan SGA & Kalamazoo R.	200
OH: Oak Openings	>100
WI: Peshtigo/Oconto	>50
OH: Sandusky River	>50
WI: St. Peters Dome	25-50
WI: Door County forest corridor	>25
MI: Tahquamenon Falls	>25
MI: Glen Arbor, Sleeping Bear Dunes, Pt. Betsie, N. & S. Manitou	>25
MI: Galien River/Warren Woods	>25
OH: Goll Woods	25

Other Wood Thrush sites: WI: Lower Wolf (+); MI: Hope (<25); OH: Western Lake Erie Islands (5), Chagrin River (25), Thompson Township (6).

Blue-winged Warbler

MI: Allegan SGA & Kalamazoo River	>100
OH: Oak Openings	100
WI: Peshtigo/Oconto	30-40
NY: Northern Montezuma wetlands	>25
NY: Oswego River complex	>25
NY: Sodus Bay	>25
NY: Iroquois NWR	>25
NY: Nine Mile Pt. to Derby Hill	>25

Other Blue-winged Warbler sites: WI: Lower Wolf (+); MI: Gratiot-Saginaw SGA, Hope; OH: Goll Woods (2), Western L. Erie marshes (6), Chagrin River (12), Thompson Township (2), Sandusky Bay (6), Sandusky River (10).

Golden-winged Warbler

WI: Kakagon/Bad River	60
WI: Peshtigo/Oconto	>25
MI: Indian River	>25
MI: Gratiot-Saginaw SGA	>25
WI: St. Peter's Dome	>25
MN/WI: St. Louis estuary/Pokegama Swamp	>25
NY: Indian River Lake area	>25
MI: Hope (Midland County)	25
MN: Lester-Amity	>25

Other Golden-winged Warbler sites: WI: Lower Wolf (?); MI: Allegan SGA & Kalamazoo River (<5); Rudyard Flats (+); NY: Perch River Wildlife Management Area (5).

Black-throated Blue Warbler

MI: E. Hiawatha National Forest A & B	350
WI: Apostle Islands	11-100
MN: Tettegouche region	>25
MN: Sawtooth region	>25
MI: Porcupine Mountains	>25
MI: Glen Arbor, Sleeping Bear Dunes, Pt. Betsie, and N. & S. Manitou	>25
MI: High Island (part of Beaver Islands)	>25
WI: St. Peter's Dome	>25
MI: Tahquamenon Falls	>25
NY: Indian River Lake area	>25

Other Black-throated Blue Warbler sites: WI: Door County forest corridor (10); MI: Waugoshance Point/Temperance Island (+), Cheboygan State Park/Grass Bay (>5), St. Vital Pt. (>5).

Kirtland's Warbler

MI: Kirtland's Warbler management areas	>750
MI: Upper Peninsula sites	<20

Prairie Warbler

NY: Jefferson County alvars	50-100
MI: Glen Arbor, Sleeping Bear Dunes, Pt. Betsie, N. & S. Manitou	25

Other Prairie Warbler sites: MI: Galien River/Warren Woods (<15); OH: Oak Openings (1).

Cerulean Warbler

NY: Northern Montezuma wetlands	250
MI: Allegan SGA & Kalamazoo River	>50
MI: Galien River/Warren Woods	25

Other Cerulean Warbler sites: WI: Peshtigo/Oconto (5), Lower Wolf (10-25); MI: Menominee River (<25), Gratiot-Saginaw SGA (<25), Maple River (<25), Paw Paw River (10); OH: Goll Woods (12), Oak Openings (5), Sandusky Bay (3), Sandusky River (10); NY: St. Lawrence corridor (5-10), Iroquois (+).

Black-and-white Warbler

NY: Jefferson County alvars	100's
MI: E. Hiawatha National Forest A & B	150
WI: Peshtigo/Oconto	100
MI: Menominee River	100
WI: Kakagon/Bad River	60
WI: Door County forest corridor	50
WI: St. Peter's Dome	>25
MN/WI: St. Louis River estuary/Pokegama Swamp	>25
WI: Apostle Islands	>25
MI: Seney	25
MI: Allegan SGA & Kalamazoo River	25

Other Black-and-white Warbler sites: WI: Lower Wolf (5-10), MI: Horseshoe Bay (>25), Trap Hills (>25), Tahquamenon Falls (25), Gratiot-Saginaw SGA (+); OH: Goll Woods (1), Oak Openings (2), Sandusky River (2), Sandusky Bay (3), Chagrin River (6), Western Lake Erie beaches (6).

Prothonotary Warbler

MI: Paw Paw River	>50
MI: Allegan SGA & Kalamazoo River	50
WI: Lower Wolf	30-50
MI: Galien River/Warren Woods	45
MI: Maple River	>25
OH: Western Lake Erie marshes	25
OH: Chagrin River	25

Other Prothonotary Warbler sites: MI: Shiawassee National Wildlife Refuge (+); OH: Sandusky River (12); Sandusky Bay (6); NY: Northern Montezuma Wetlands (a few), Iroquois NWR (+); IN: Indiana Dunes (>5).

Worm-eating Warbler

No sites meet criteria.

Other Worm-eating Warbler sites: MI: Allegan SGA & Kalamazoo River (10), Galien River/Warren Dunes (+); OH: Sandusky River (2).

Connecticut Warbler

No sites meet criteria

Other Connecticut Warbler sites: MI: Hole-in-the-donut (12)

Canada Warbler

WI: Apostle Islands	>100
WI: Kakagon/Bad River	100
WI: Peshtigo/Oconto	>25
MI: Fox Islands	>25
MI: E. Hiawatha A & B	>25
MI: Tahquamenon Falls	>25
MI: Porcupine Mountains	25
NY: Indian River Lake area	25
MI: Menominee River	25
MI: Baraga Plains	25

Other Canada Warbler sites: MI: Horseshoe Bay (+), Beaver Island (+), Glen Arbor, Sleeping Bear Dunes (+), Allegan SGA & Kalamazoo River (10); MN: Sawtooth (+), Temperance (+), Tettegouche (+)

Dickcissel

OH: Thompson Township >25

Other Dickcissel sites: OH: Oak Openings (0-20), Sandusky River (2).

Henslow's Sparrow

NY: Perch River grasslands 80

MI: Marion >25

Other Henslow's Sparrow sites: MI: Allegan SGA & Kalamazoo River (<5); OH: Sandusky River (2), Thompson Township (6); NY: St. Lawrence corridor(<25), Point Peninsula and Town of Cape Vincent (+).

LeConte's Sparrow

MI: Seney 200

WI: Kakagon/Bad River >25

MI: Lake Stella >25

MI: Scott's Marsh >25

MN: Duluth Township/Clear Valley area >25

Other LeConte's Sparrow sites: WI: Peshtigo/Oconto (1-10); MI: Rudyard Flats (<10).

Grasshopper Sparrow

NY: Perch River Grasslands >100

MI: Hole-in-the-donut >100

OH: Thompson Township >50

OH: Oak Openings 30

MI: Glen Arbor, Sleeping Bear Dunes,

Pt. Betsie, N. & S. Manitou >25

MI: Menominee River >25

Other Grasshopper Sparrow sites: MI: Allegan SGA & Kalamazoo River (<5); Gratiot-Saginaw SGA (+), Rudyard Flats (+); OH: Sandusky River (4); NY: Iroquois NWR (+).

Stopover Sites. An “X” in a column indicates that site meets the minimum criterion (see text) for selection (LB=landbirds; RA=raptors; SH=shorebirds; WA=waterfowl).

Site	Stopover Site For:			
	LB	RA	SH	WA
MN: Hawk Ridge	X	X		
MN/WI: St. Louis R. estuary/Minn./Wisconsin Pts./Pokegama Swamp	X	X	X	X
WI: Red Cliff Indian Reservation	X	X		
WI: Apostle Islands	X	X		
WI: Kakagon/Bad River	X	X		X
WI: Shiocton Bottoms				X
WI: Cat Island/Lower Green Bay		X		X
WI: Door County forest corridor	X			
IL: Palos Hill Forest Preserve and McGinnis Slough			X	
IL: Illinois Beach State Park	X	X		X
IL: Lake Michigan Waterfront	X	X	X	X
IN: Indiana Dunes National Lakeshore (part of southern Lake Michigan rim)	X	X		
IN: Migrant trap (part of southern Lake Michigan rim)	X			
MI: Isle Royale	X	X		
MI: Brockway Mtn./Copper Harbor	X	X		
MI: Pt. Abbaye	X	X		
MI: Menominee River	X			
MI: Sand Point Marsh (part of Pictured Rocks)	X		X	
MI: Bay de Noc			X	
MI: Garden Peninsula	X	X		
MI: Stonington Peninsula	X	X		
MI: Horseshoe Bay Natural Area (USFS)	X	X		
MI: Munuscong			X	
MI: N. Lake Huron marshes-and peninsulas	X	X	X	
MI: N. Lake Huron-St. Vital Point	X	X		
MI: Pt. La Barbe	X			
MI: Round Island Wilderness Area	X	X		
MI: Scott’s Marsh				X
MI: Seney	X			
MI: Tahquamenon Falls	X	X		
MI: Whitefish Pt./Vermilion Pt.	X	X		X
MI: Beaver Island/High Island/Fox Island	X			
MI: Pt.Sable/Ludington State Park	X	X		
MI: Cheboygan State Park/Grass Bay	X	X		
MI: Harbor Springs	X			
MI: Cathead Bay	X	X		X
MI: Mackinaw City		X		
MI: Thunder Bay/Misery Bay/Squaw Bay	X	X		X
MI: Houghton Lake marshes				X
MI: Negwegon and Black River	X			
MI: Muskegon River mouth/Muskegon Wastewater	X	X		X
MI: Tawas Point	X	X		X
MI: Wigwam Bay (part of Pine River Delta)				X
MI: Waugoshance Point and Temperance Island	X	X		X
MI: Saginaw Bay (Nayanquing, Sleeper State Park, Karn Consumer Power Plant, Quinicasse, Port Crescent State Park, Sand Point, Tobico Marsh)	X	X	X	X

Site	Stopover Site For:			
	LB	RA	SH	WA
MI: St. Clair Flats				X
MI: Allegan State Game Area and Kalamazoo River				X
MI: Galien River/Warren Woods	X			
MI: Detroit River				X
MI: Metro Beach Metropark	X			
MI: Paw Paw River	X			
MI: Lake Erie Metropark/Point Mouille	X	X	X?	X
MI: Shiawassee Nat'l Wildlife Refuge			X	X
MI: Maple River				X
MI: Dearborn Woods	X			
OH: Oak Openings	X	X		
OH: Maumee River & Bay/Erie Marsh, MI	X			X
OH: Western Lake Erie marshes	X	X	X	X
OH: Portage River	X			X
OH: Chagrin River	X			X
OH: Sandusky Bay	X		X	X
OH: Sandusky River	X	X		
OH: Western Lake Erie Islands	X			X
OH: Headlands/Mentor CBC area				X
OH: Lakeshore Metropark				X
PA: Presque Isle	X			
NY: St. Lawrence corridor				X
NY: Dunkirk Harbor and Pt. Gratiot				X
NY: Niagara River Corridor			gulls	X
NY: Braddock Bay	X	X		
NY: Oswego River complex			gulls	X
NY: Nine Mile Point to Derby Hill	X			X
NY: Oneida Lake region				X
NY: Sodus Bay to West Nine Mile Point	X	X		X
NY: Eastern L. Ontario barrier beaches	X	X	X spora dic	X
NY: Northern Montezuma wetlands			X	X
NY: Cayuga Lake				X
NY: Seneca Lake				X
NY: Iroquois NWR (includes Oak Orchards)				X
NY: Point Peninsula, town of Cape Vincent		X		

aquatic system assessment

ESA: Baraboo Hills

ESA ID: 155

Stream name: Baraboo Hills headwater streams

Stream System #	Surface Geology:
System Type:	% Natural Cover:
Type Code:	% Forested:
# of Targets:	% Wetland:
Road Crossings:	% Agricultural:
Dams:	% Urban:

ESA: Black River-Meadow Valley-Bear Bluff

ESA ID: 133

Stream name: Black River

Stream System # 39	Surface Geology: upper-coarse till, medium till; lower-colluvium, outwash
System Type: surface / river / large river / low relief / surface storage	% Natural Cover: 58.0%
Type Code: 12211	% Forested: 51.6%
# of Targets: 4	% Wetland: 4.6%
Road Crossings: 1834	% Agricultural: 40.7%
Dams: 33	% Urban: 1.3%

Stream name: East Fork Black River

Stream System # 40	Surface Geology: medium till, colluvium, peat
System Type: surface / stream / large river / low relief / surface storage	% Natural Cover:
Type Code: 11211	% Forested:
# of Targets: 1	% Wetland:
Road Crossings:	% Agricultural:
Dams: 9	% Urban:

Stream name: Morrison Creek

Stream System # 42b	Surface Geology: colluvium, outwash, peat
System Type: surface mixed / stream / large river / low relief / surface storage	% Natural Cover: 93.6%
Type Code: 21211	% Forested: 84.5%
# of Targets: 1	% Wetland: 6.7%
Road Crossings: 76	% Agricultural: 2.0%
Dams: 13	% Urban: 4.4%

Stream name: Robinson Creek

Stream System # 42c

Surface Geology: colluvium, outwash, peat

System Type: surface mixed / stream / large river / low relief / surface storage

% Natural Cover: 72.3%

Type Code: 21211

% Forested: 68.9%

of Targets: 1

% Wetland: 2.0%

Road Crossings: 181

% Agricultural: 24.4%

Dams: 8

% Urban: 3.3%

Stream name: Yellow River

Stream System # 29

Surface Geology: coarse moraine and till, lake sand and peat (@mouth)

System Type: surface / river / large river / low relief / surface storage

% Natural Cover: 62.2%

Type Code: 12211

% Forested: 46.6%

of Targets:

% Wetland: 10.1%

Road Crossings: 414

% Agricultural: 36.7%

Dams: 13

% Urban: 1.0%

ESA: Cedarburg Bog

Stream name: Cedarburg Bog lakes

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

ESA: Coon Creek

Stream name: Coon Creek

Stream System # 22b

Surface Geology: colluvium, outwash

System Type: gw-mixed / stream / large river / low relief / surface storage

% Natural Cover: 56.8%

Type Code: 31211

% Forested: 44.0%

of Targets:

% Wetland: 2.8%

Road Crossings: 231

% Agricultural: 42.6%

Dams: 14

% Urban: 0.6%

ESA: Fort McCoy

ESA ID: 134

Stream name: Silver Creek

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

ESA: Glacial Lakes

ESA ID: 94

Stream name: Seepage and drainage lakes

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

ESA: Huiras Lake

ESA ID: 40

Stream name: Huiras Lake

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

ESA: Kettle Moraine

ESA ID: 252

Stream name: Bark River

Stream System # 50

Surface Geology: outwash, coarse moraine

System Type: surface / stream / large river / low relief / surface storage

% Natural Cover: 24.5%

Type Code: 11211

% Forested: 15.0%

of Targets: 2

% Wetland: 6.1%

Road Crossings: 163

% Agricultural: 71.9%

Dams: 16

% Urban: 3.6%

Stream name: Middle Kettle Moraine Lakes

Stream System #	Surface Geology:
System Type:	
	% Natural Cover:
Type Code:	% Forested:
# of Targets:	% Wetland:
Road Crossings:	% Agricultural:
Dams:	% Urban:

Stream name: Mukwonago Lakes

Stream System #	Surface Geology:
System Type:	
	% Natural Cover:
Type Code:	% Forested:
# of Targets:	% Wetland:
Road Crossings:	% Agricultural:
Dams:	% Urban:

Stream name: Mukwonago River

Stream System #	Surface Geology:
System Type: surface mixed / stream / river / low relief / surface storage	
	% Natural Cover: 36.6%
Type Code: 21111	% Forested: 26.2%
# of Targets: 2	% Wetland: 4.5%
Road Crossings: 32	% Agricultural: 59.8%
Dams: 5	% Urban: 3.6%

Stream name: Scuppernong Creek

Stream System # 51	Surface Geology: peat, coarse moraine
System Type: surface / stream / river / low relief / surface storage	
	% Natural Cover: 30.3%
Type Code: 11111	% Forested: 23.9%
# of Targets: 1	% Wetland: 4.9%
Road Crossings: 47	% Agricultural: 69.1%
Dams: 4	% Urban: 0.6%

ESA: Kickapoo River

ESA ID: 189

Stream name: Kickapoo River

Stream System # 26

Surface Geology: colluvium and outwash

System Type: surface mixed / river / large river /
low relief / surface storage

% Natural Cover: 48.1%

Type Code: 22211

% Forested: 46.4%

of Targets:

% Wetland: 0.8%

Road Crossings: 830

% Agricultural: 51.6%

Dams: 19

% Urban: 0.3%

ESA: Kinnickinnic River

ESA ID: 158

Stream name: Kinnickinnic River

Stream System # 45

Surface Geology: coarse till

System Type: gw-mixed / stream / large river /
low relief / surface storage

% Natural Cover: 12.6%

Type Code: 31211

% Forested: 10.7%

of Targets:

% Wetland: 0.4%

Road Crossings: 183

% Agricultural: 86.1%

Dams: 2

% Urban: 1.2%

ESA: Kishwaukee River

ESA ID: 208

Stream name: Kishwaukee mainstem

Stream System # 5

Surface Geology: coarse and medium till and moraine,
outwash

System Type: surface / river / large river / low
relief /

% Natural Cover: 12.2%

Type Code: 12210

% Forested: 9.8%

of Targets:

% Wetland: 1.7%

Road Crossings:

% Agricultural: 82.8%

Dams: 0

% Urban: 5.0%

Stream name: Kishwaukee, northern branch

Stream System # 6

Surface Geology: outwash, coarse moraine and till

System Type: surface mixed / stream / large river
/ low relief /

% Natural Cover: 9.7%

Type Code: 21210

% Forested: 7.6%

of Targets:

% Wetland: 1.3%

Road Crossings: 2

% Agricultural: 86.5%

Dams: 4

% Urban: 3.8%

ESA: Kishwaukee River

ESA ID: 208

Stream name: South Branch Kishwaukee

Stream System # 7

Surface Geology: medium ground and end moraine

System Type: surface / stream / large river / low relief /

% Natural Cover: 5.6%

Type Code: 11210

% Forested: 4.6%

of Targets:

% Wetland: 0.8%

Road Crossings:

% Agricultural: 92.2%

Dams: 0

% Urban: 2.2%

ESA: Lemonweir River

ESA ID: 211

Stream name: Lemonweir River

Stream System # 31

Surface Geology: peat, lake sand

System Type: surface / river / large river / low relief / surface storage

% Natural Cover: 57.6%

Type Code: 12211

% Forested: 43.4%

of Targets: 2

% Wetland: 10.9%

Road Crossings: 725

% Agricultural: 41.1%

Dams: 25

% Urban: 1.3%

ESA: Little Platte River

ESA ID: 192

Stream name: Platte River

Stream System # 22a

Surface Geology: colluvium, outwash

System Type: gw-mixed / stream / large river / low relief / surface storage

% Natural Cover: 28.8%

Type Code: 31211

% Forested: 27.8%

of Targets: 2

% Wetland: 0.5%

Road Crossings: 465

% Agricultural: 70.0%

Dams: 2

% Urban: 1.2%

Stream name: Platte River

Stream System # 82c

Surface Geology: fine end moraine, outwash, peat, some areas of coarse and medium end moraine, ice contact

System Type: surface mixed / stream / large river / low relief / surface storage

% Natural Cover: 51.0%

Type Code: 21211

% Forested: 24.0%

of Targets:

% Wetland: 25.1%

Road Crossings: 279

% Agricultural: 48.6%

Dams: 5

% Urban: 0.4%

ESA: Long Prairie River

ESA ID: 163

Stream name: Long Prairie River

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

ESA: Lost Mound / Apple River

ESA ID: 234

Stream name: Apple River

Stream System # 9b

Surface Geology: bedrock, colluvium, loess, outwash and lake sand n. mouth

System Type: gw-mixed / river / large river / med-high relief /

% Natural Cover: 16.2%

Type Code: 32220

% Forested: 15.1%

of Targets:

% Wetland: 0.5%

Road Crossings: 343

% Agricultural: 82.8%

Dams: 1

% Urban: 0.9%

ESA: Lower Chippewa & Red Cedar Rivers

ESA ID: 162

Stream name: Chippewa River

Stream System # 33

Surface Geology: coarse moraines and till, medium till

System Type: surface / river / large river / low relief / surface storage

% Natural Cover: 41.2%

Type Code: 12211

% Forested: 36.0%

of Targets: 7

% Wetland: 3.8%

Road Crossings: 2686

% Agricultural: 57.4%

Dams: 47

% Urban: 1.4%

Stream name: Red Cedar River

Stream System # 36

Surface Geology: coarse and medium till, coarse ground moraine, outwash, areas of outwash and peat

System Type: surface mixed / river / large river / low relief / surface storage

% Natural Cover: 48.1%

Type Code: 22211

% Forested: 42.0%

of Targets: 3

% Wetland: 2.3%

Road Crossings: 1223

% Agricultural: 51.0%

Dams: 21

% Urban: 0.9%

Stream name: Apple River

Stream System # 44b

Surface Geology: coarse till and end moraine, some peat and outwash

System Type: surface mixed / stream / large river / low relief / surface storage

% Natural Cover:

Type Code: 21211

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams: 12

% Urban:

Stream name: Old Mill Stream

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

Stream name: St. Croix

Stream System # 43

Surface Geology: outwash, peat, coarse and medium moraine, medium till

System Type: surface / river / large river / low relief / surface storage

% Natural Cover: 40.3%

Type Code: 12211

% Forested: 21.5%

of Targets: 8

% Wetland: 13.8%

Road Crossings: 1358

% Agricultural: 57.7%

Dams: 26

% Urban: 1.8%

Stream name: Valley Creek

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

Stream name: Lower Wisconsin River spring ponds

Stream System #	Surface Geology:
System Type:	
	% Natural Cover:
Type Code:	% Forested:
# of Targets:	% Wetland:
Road Crossings:	% Agricultural:
Dams:	% Urban:

Stream name: Wisconsin River

Stream System # 24	Surface Geology: outwash sand and colluvium; upper watershed drains coarse moraine and lake sand
System Type: surface / river / large river / low relief / surface storage	
	% Natural Cover: 47.3%
Type Code: 12211	% Forested: 39.1%
# of Targets: 10	% Wetland: 4.3%
Road Crossings: 2706	% Agricultural: 51.0%
Dams: 76	% Urban: 1.7%

Stream name: Mecan River

Stream System # 61a	Surface Geology: outwash and lake sand, coarse moraine
System Type: gw-mixed / stream / river / low relief / surface storage	
	% Natural Cover:
Type Code: 31111	% Forested:
# of Targets:	% Wetland:
Road Crossings:	% Agricultural:
Dams: 0	% Urban:

Stream name: White River

Stream System # 61b	Surface Geology: outwash and lake sand, coarse moraine
System Type: gw-mixed / stream / river / low relief / surface storage	
	% Natural Cover:
Type Code: 31111	% Forested:
# of Targets:	% Wetland:
Road Crossings:	% Agricultural:
Dams: 0	% Urban:

Stream name: Franklin Creek

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

Stream name: Kyte River

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

Stream name: Pine Creek

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

Stream name: Wisconsin River

Stream System # 28a

Surface Geology: outwash sand, till, morainal material

System Type: surface / river / large river / low relief / surface storage

% Natural Cover: 62.4%

Type Code: 12211

% Forested: 56.8%

of Targets: 1

% Wetland: 2.1%

Road Crossings: 174

% Agricultural: 37.1%

Dams: 6

% Urban: 0.5%

ESA: Mil waukee River mainstem

ESA ID: 199

Stream name: Milwaukee River

Stream System # 65

Surface Geology: upper-coarse moraine, outwash;
lower-fine texture moraine

System Type: surface mixed / stream / lake / low relief / surface storage

Type Code: 21311

% Natural Cover:

of Targets:

% Forested:

Road Crossings:

% Wetland:

Dams: 0

% Agricultural:

% Urban:

ESA: Minnesota River

ESA ID: 156

Stream name: LeSueur River

Stream System # 94

Surface Geology: outwash, medium ground moraine, areas of peat, ice contact, bedrock, med. end moraine

System Type: surface / stream / large river / low relief / surface storage

Type Code: 11211

% Natural Cover: 9.4%

of Targets: 1

% Forested: 4.3%

Road Crossings: 735

% Wetland: 3.5%

Dams: 9

% Agricultural: 89.1%

% Urban: 1.5%

Stream name: Minnesota River

Stream System # 95

Surface Geology: along valley-outwash, medium end moraine, bedrock

System Type: surface / river / large river / low relief / surface storage

Type Code: 12211

% Natural Cover: 11.4%

of Targets:

% Forested: 5.4%

Road Crossings: 2023

% Wetland: 4.0%

Dams: 19

% Agricultural: 87.3%

% Urban: 1.3%

ESA: North Fork Crow River

ESA ID: 164

Stream name: North Fork Crow

Stream System # 88a

Surface Geology: outwash, medium ground moraine, areas of peat, ice contact

System Type: surface / stream / large river / low relief / surface storage

Type Code: 11211

% Natural Cover: 29.5%

of Targets: 1

% Forested: 7.9%

Road Crossings: 874

% Wetland: 16.1%

Dams: 14

% Agricultural: 69.1%

% Urban: 1.3%

ESA: Otter Tail

ESA ID: 250

Stream name: Otter Tail

Stream System # 74

Surface Geology: outwash, medium ground and end moraine, peat, coarse ground moraine, ice contact

System Type: surface / stream / large river / low relief / surface storage

% Natural Cover: 47.7%

Type Code: 11211

% Forested: 23.1%

of Targets: 2

% Wetland: 12.6%

Road Crossings: 536

% Agricultural: 51.2%

Dams: 40

% Urban: 1.1%

ESA: Pecatonica and Sugar Rivers

ESA ID: 191

Stream name: Pecatonica above Sugar River

Stream System # 4a

Surface Geology: medium till and moraine, colluvium, outwash and coarse till

System Type: surface mixed / river / river / low relief /

% Natural Cover: 9.1%

Type Code: 22110

% Forested: 6.9%

of Targets:

% Wetland: 1.5%

Road Crossings: 239

% Agricultural: 89.3%

Dams: 4

% Urban: 1.5%

Stream name: Pecatonica mainstem

Stream System # 2

Surface Geology: outwash sand, bedrock, coarse glacial materials

System Type: surface mixed / river / large river / low relief /

% Natural Cover: 16.1%

Type Code: 22210

% Forested: 8.2%

of Targets:

% Wetland: 4.5%

Road Crossings:

% Agricultural: 83.6%

Dams: 0

% Urban: 0.3%

Stream name: Raccoon Creek and tributaries

Stream System #

Surface Geology:

System Type: / / / /

% Natural Cover: 15.6%

Type Code:

% Forested: 10.5%

of Targets:

% Wetland: 3.8%

Road Crossings: 275

% Agricultural: 83.8%

Dams: 1

% Urban: 0.6%

ESA: Pecatonica and Sugar Rivers

ESA ID: 191

Stream name: Upper Pecatonica

Stream System # 3a

Surface Geology: colluvium

System Type: gw-mixed / stream / river / low relief /

% Natural Cover: 8.1%

Type Code: 31110

% Forested: 7.5%

of Targets:

% Wetland: 0.3%

Road Crossings: 608

% Agricultural: 91.5%

Dams: 9

% Urban: 0.4%

ESA: Rollingstone River

ESA ID: 235

Stream name: Rollingstone River

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

ESA: Root River

ESA ID: 218

Stream name: Root River, South Fork

Stream System # 17a

Surface Geology: colluvium, karst

System Type: gw-mixed / stream / river / low relief /

% Natural Cover: 28.0%

Type Code: 31110

% Forested: 27.3%

of Targets:

% Wetland: 0.7%

Road Crossings: 320

% Agricultural: 71.5%

Dams: 4

% Urban: 0.5%

ESA: Rum River

ESA ID: 165

Stream name: Rum River

Stream System # 80

Surface Geology: outwash, fine end moraine, coarse end moraine, peat, lake sand and clay

System Type: surface / river / large river / low relief / surface storage

% Natural Cover: 54.1%

Type Code: 12211

% Forested: 26.2%

of Targets:

% Wetland: 24.3%

Road Crossings: 834

% Agricultural: 44.0%

Dams: 12

% Urban: 1.9%

ESA: Rush Lake

ESA ID: 201

Stream name: Wauca/ Eight Mile Creek

Stream System #	Surface Geology:
System Type:	
	% Natural Cover:
Type Code:	% Forested:
# of Targets:	% Wetland:
Road Crossings:	% Agricultural:
Dams:	% Urban:

ESA: S. Branch Middle Fork Zumbro

ESA ID: 168

Stream name: S. Branch Middle Fork Zumbro

Stream System # 20	Surface Geology: medium ground moraine, outwash, loess, colluvium, some karst
System Type: surface mixed / stream / river / low relief /	
	% Natural Cover: 9.4%
Type Code: 21110	% Forested: 6.9%
# of Targets:	% Wetland: 2.1%
Road Crossings: 1126	% Agricultural: 85.4%
Dams: 16	% Urban: 5.2%

ESA: Straight and Turtle Rivers

ESA ID: 167

Stream name: Straight River

Stream System #	Surface Geology:
System Type:	
	% Natural Cover:
Type Code:	% Forested:
# of Targets:	% Wetland:
Road Crossings:	% Agricultural:
Dams:	% Urban:

Stream name: Turtle River

Stream System #	Surface Geology:
System Type:	
	% Natural Cover:
Type Code:	% Forested:
# of Targets:	% Wetland:
Road Crossings:	% Agricultural:
Dams:	% Urban:

ESA: Tetes des Mortes Creek

ESA ID: 194

Stream name: Tetes Des Morts

Stream System # 10d

Surface Geology: outwash and loess

System Type: surface / stream / large river / low relief /

% Natural Cover: 48.9%

Type Code: 11210

% Forested: 48.6%

of Targets:

% Wetland: 0.2%

Road Crossings:

% Agricultural: 49.7%

Dams: 0

% Urban: 1.3%

ESA: Trimbel l e River

ESA ID: 159

Stream name: Trimbelle River

Stream System # 23b

Surface Geology: coarse and medium till

System Type: surface / stream / large river / low relief /

% Natural Cover: 22.3%

Type Code: 11210

% Forested: 17.0%

of Targets:

% Wetland: 1.7%

Road Crossings: 280

% Agricultural: 77.1%

Dams: 7

% Urban: 0.5%

ESA: Turkey River

ESA ID: 176

Stream name: Turkey River

Stream System # 14a

Surface Geology: fine till, medium ground moraine, colluvium

System Type: surface mixed / river / large river / low relief /

% Natural Cover: 18.6%

Type Code: 22210

% Forested: 17.2%

of Targets:

% Wetland: 1.2%

Road Crossings:

% Agricultural: 79.7%

Dams: 8

% Urban: 1.7%

ESA: Upper Cannon River

ESA ID: 146

Stream name: Cannon River

Stream System # 21

Surface Geology: medium ground moraine, outwash and lake sand, colluvium and loess; some peat, ice contact

System Type: surface / river / large river / low relief /

% Natural Cover: 15.0%

Type Code: 12210

% Forested: 7.8%

of Targets: 1

% Wetland: 4.7%

Road Crossings: 1347

% Agricultural: 82.6%

Dams: 34

% Urban: 2.4%

ESA: Upper Eau Claire River

ESA ID: 109

Stream name: Eau Claire

Stream System # 35

Surface Geology: coarse till and moraine, medium moraine, outwash(north), colluvium, outwash (south)

System Type: surface mixed / river / large river / low relief / surface storage

% Natural Cover:

Type Code: 22211

% Forested:

of Targets: 1

% Wetland:

Road Crossings:

% Agricultural:

Dams: 18

% Urban:

ESA: Upper Iowa River

ESA ID: 175

Stream name: Upper Iowa River

Stream System # 13

Surface Geology: fine till, colluvium, some karst (Coldwater Ck., Pine Ck.)

System Type: surface mixed / river / large river / low relief /

% Natural Cover: 16.7%

Type Code: 22210

% Forested: 15.4%

of Targets:

% Wetland: 1.1%

Road Crossings: 306

% Agricultural: 82.2%

Dams: 14

% Urban: 1.2%

ESA: Upper Mississippi River

ESA ID: 221

Stream name: Upper Mississippi River

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code: 12211

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

ESA: Vol ga River/Brush Creek/Bear Creek

ESA ID: 177

Stream name: Volga River

Stream System # 14b

Surface Geology: fine till, medium ground moraine, colluvium

System Type: surface mixed / river / large river / low relief /

% Natural Cover: 30.2%

Type Code: 22210

% Forested: 28.6%

of Targets:

% Wetland: 1.3%

Road Crossings:

% Agricultural: 68.3%

Dams: 2

% Urban: 1.6%

ESA: Wapsipinicon River

ESA ID: 229

Stream name: **Wapsipinicon River**

Stream System # 69

Surface Geology: medium ground moraine, outwash

System Type: surface mixed / river / large river /
low relief / surface storage

% Natural Cover: 12.5%

Type Code: 22210

% Forested: 7.2%

of Targets:

% Wetland: 4.2%

Road Crossings: 13

% Agricultural: 85.4%

Dams: 24

% Urban: 2.2%

ESA: Whitewater River

ESA ID: 143

Stream name: **Whitewater River**

Stream System # 38b

Surface Geology: colluvium and outwash

System Type: surface mixed / stream / large river
/ low relief / surface storage

% Natural Cover: 25.7%

Type Code: 21211

% Forested: 23.0%

of Targets:

% Wetland: 2.4%

Road Crossings: 371

% Agricultural: 73.8%

Dams: 6

% Urban: 0.5%

ESA: Wolf/Embarrass/Crystal/Waupaca Rivers

ESA ID: 203

Stream name: **Crystal River**

Stream System #

Surface Geology:

System Type:

% Natural Cover:

Type Code:

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams:

% Urban:

Stream name: **Embarrass River**

Stream System # 57a

Surface Geology: coarse moraine, outwash, medium
moraine, some areas of lake sand and ice
contact

System Type: gw-mixed / stream / river / low
relief / surface storage

% Natural Cover:

Type Code: 31111

% Forested:

of Targets:

% Wetland:

Road Crossings:

% Agricultural:

Dams: 0

% Urban:

Stream name: Little Wolf River

Stream System # 57b

System Type: gw-mixed / stream / river / low relief / surface storage

Type Code: 31111

of Targets:

Road Crossings:

Dams: 0

Surface Geology: coarse moraine, outwash, medium moraine, some areas of lake sand and ice contact

% Natural Cover:

% Forested:

% Wetland:

% Agricultural:

% Urban:

Stream name: Waupaca River

Stream System #

System Type:

Type Code:

of Targets:

Road Crossings:

Dams:

Surface Geology:

% Natural Cover:

% Forested:

% Wetland:

% Agricultural:

% Urban:

Stream name: Wolf River

Stream System # 55

System Type: surface mixed / stream / river / low relief / surface storage

Type Code: 21111

of Targets:

Road Crossings:

Dams: 0

Surface Geology: coarse moraine and outwash

% Natural Cover:

% Forested:

% Wetland:

% Agricultural:

% Urban:

Stream name: Wolf River

Stream System # 56

System Type: surface / river / river / low relief / surface storage

Type Code: 12111

of Targets:

Road Crossings:

Dams: 0

Surface Geology: lake sand, fine and medium glacial materials

% Natural Cover:

% Forested:

% Wetland:

% Agricultural:

% Urban:

Implementation Team Guidelines¹

A system for modifying an existing suite of sites (portfolio) is essential if it is to remain current and pertinent to the ongoing conservation work of the Conservancy and its partners. Without such a means, the portfolio would become obsolete and in time relegated to the dusty backroom shelves or archives. In fact, this has been the fate of many conservation plans. Because conservation action by the Conservancy now and in the coming years will be linked tightly to ecoregional portfolios, the need for maintaining its relevancy is paramount.

Any process for modifying an ecoregional portfolio must have firm guiding principles, yet be flexible enough to accommodate the multiple scenarios that are likely to play out between iterations of the full planning process. Portfolio design is principally a science-driven process (modified at least to some extent by feasibility); the primary underpinnings of the portfolio are the quality or viability of target occurrences selected to meet established ecoregional conservation goals. Consequently, as was the case in the initial portfolio design process, guidelines for portfolio modification must be scientifically sound in order to preserve its integrity. It is recommended that the specific scientific guidelines set in place for the assembly of the initial ecoregional portfolio (e.g., selection of targets, setting of goals and viability guidelines) be followed when considering modification, unless they have been determined to be scientifically flawed and in need of revision.

The first iteration portfolios may be, for many reasons, imperfect; huge data gaps exist, assembly methodologies are imperfect, and conservation goals are largely unsubstantiated. Therefore, a process for modification must be able to accommodate the varied circumstances that might warrant a change in the ecoregional portfolio. A review of portfolio assembly processes utilized to date by the Conservancy has enabled an identification of the primary circumstances which provide valid rationale for portfolio modification (Table 1). These six items will serve as the basis for which modifications to the portfolio will be considered.

The Modification Process

In order to be a useful tool for the Conservancy, a portfolio modification process must meld the need for scientific integrity with the organizational realities of those charged with the implementation of the portfolio. Although it is science that drives the development of the portfolio (thereby identifying the priority sites for conservation

¹ Information adapted from a draft process outlined by Ostlie and Martin, 1999

action in an ecoregion), the ultimate decision as to where conservation action is to be initiated (within or outside the portfolio) falls to the state director (and in some instances a program manager). It is, in turn, the responsibility of the divisional director to hold a state director accountable for achieving success within the ecoregional portfolio. Therefore, a well-designed modification process must account for the needs and responsibilities of each of these interests: science, implementation (state director or program manager), oversight (divisional director), and data management.

To address these needs, a succinct portfolio modification process was developed for the Central Tallgrass Prairie ecoregion. The portfolio modification process involves four primary steps:

- 1) A request, backed by scientific justification, to have an existing portfolio modified (sites added or deleted, or target occurrences added or deleted from an existing portfolio site).
- 2) A review of the proposal on scientific grounds by a site selection advisory team.
- 3) A final decision by the advisory team, with notice provided to the Divisional Director.
- 4) Records are updated as needed to track the changes.

Decisions will be reviewed as part of subsequent iterations of the plan.

TABLE 1: VALID RATIONALE FOR MODIFYING AN EXISTING ECOREGIONAL PORTFOLIO.

1. Ecoregional goals were not fully achieved for a conservation target, either for the numerical or spatial stratification component of the goal. As such, viable occurrences may be added to the portfolio accordingly. Justification for modifying the portfolio under this item may be based on any of four factors:
 - a. Insufficient documented viable occurrences of a target were identified to meet either the numerical or spatial stratification component of its set conservation goals.
 - b. Analysis of ecoregional plans throughout the range of a target has revealed that the rangewide conservation goal of a target has not been achieved.
 - c. An established conservation goal for a target, through PVA analysis, has been found to be inadequate to ensure its long-term viability.
 - d. Viable occurrences of sufficient quality for a community target are no longer extant in the ecoregion (or portion thereof); a lesser-quality occurrence (not used to meet conservation goals) is included to fulfill coarse filter or restoration needs.

2. Evidence suggests that a conservation target should be added or deleted from the list used to assemble the existing portfolio. Justification for adding or dropping a target may be based on any of four factors:
 - a. Additional inventory has identified new conservation targets in the ecoregion.
 - b. The global status of a species has changed, resulting in a change in its global rank.
 - c. Taxonomic changes recognize new taxa of conservation concern, or no longer recognize previously valid taxa.
 - d. The existing portfolio did not sufficiently include certain groups (e.g., aquatic communities, birds) in its assembly.

3. The existing portfolio does not adequately capture the full array of viable, native species in the ecoregion. As such, additional sites may be added to capture common species (i.e., secondary targets) not sufficiently represented in the existing portfolio (although this rationale should be used sparingly unless conservation goals for primary targets have largely been or have no possibility of being met). Justification for adding sites may be based on any of two factors:
 - a. The suite of secondary targets used to test the adequacy of the portfolio was too narrow in scope and did not adequately represent all taxa.
 - b. A lack of data on the distribution and viability of secondary targets hindered the adequate testing of the portfolio.

4. A portfolio target occurrence is no longer viable or among the most viable in the ecoregion. Justification for modifying the existing portfolio may be based on four factors:
 - a. The quality of target occurrence selected to meet ecoregion conservation goals has changed over time and no longer meets minimum viability criteria.
 - b. Guidelines used to assess the quality of an occurrence (i.e., EORANK SPECS) have been modified, and the quality of a target occurrence is now below the minimum viability threshold used to assemble the portfolio.
 - c. A portfolio target occurrence is surpassed in quality by a viable non-portfolio occurrence. This may be the result of a long-term decline in quality of a portfolio target occurrence, a long-term increase in quality of non-portfolio occurrence, or an adjustment based on better information.

- d. Established guidelines for identifying the highest quality occurrences for portfolio assembly were not adequately followed by all members of the assembly team, and errant nominations were made.
5. Target information (occurrence presence and quality) used to select a site for the portfolio was inaccurate, as determined by additional inventory.
6. A conservation site not captured by the existing portfolio possesses highly viable occurrences of multiple conservation targets, and would add greater efficiency to the portfolio over an existing portfolio site(s). This rationale should be used sparingly and with caution due to the significant ramifications it may have on the larger portfolio.