

## Living Legacies: Managing Michigan's Diverse Natural Places

### What makes Michigan, Michigan?

Look around you ... a big part of what makes this state special is the incredible diversity of life here and the unique natural places they call home:

- a songbird that nests only in northern Michigan and nowhere else in the world
- a fungus that may be one of the world's largest living organisms
- a 'walking' fern
- the Great Lakes region's only poisonous snake
- mussels buried in river beds
- majestic white pines
- whitetailed deer that roam both peninsulas

These organisms and the natural places (or ecosystems) of which they're a part are all important pieces of our state's rich biological heritage – what scientists call Michigan's biodiversity. Every piece is connected and together they're a big part of what makes Michigan unique.

To conserve this part of Michigan's identity – our biological heritage – we must conserve Michigan's ecosystems: the very places that support the natural processes where living organisms interact with each other and with the water, soil, air and other non-living things around them.

People are part of these ecosystems. We interact with all of the other elements. We depend upon the 'services' they provide – clean water to drink, air to breathe, protection from flooding, and more. Our lives are enriched by the benefits of healthy ecosystems – medicines derived from native plants; timber that supports building and job creation; and extraordinary places to walk, fish, hunt, watch and think. We all play a role in ensuring that this natural legacy exists and thrives for future generations.

The Department of Natural Resources and Environment (DNRE) has a responsibility to conserve our state's biological heritage. One way we are doing this is through an initiative we call "Living Legacies" – an effort to identify, restore and manage those places in Michigan that, together, best represent the diversity of Michigan's biological heritage. It's about making sure these many different ecosystems and the life within them become a long-lasting legacy for Michigan.

The conservation of biodiversity is an important part of the DNRE's mission. Living Legacies will help the DNRE to address legislative requirements, inform department planning efforts, fulfill a long-standing commitment to stakeholders, and prioritize expenditure of limited resources.

Michigan is a national leader with this comprehensive strategy to conserve the legacy of our biological heritage. The initiative is built on sound scientific principles, while respecting the diverse ecological, social, and economic values and perspectives that are important to Michigan's citizens. Through Living Legacies, Michigan is writing another chapter in its long history of thoughtful, forward-thinking natural resources stewardship.

### Biodiversity Stewardship Areas

The goal of the Living Legacies initiative is to establish a statewide network of places that together best represent the diverse nature of our state's biological heritage (biodiversity) and that represent strong opportunities for long-term conservation of the ecosystems that sustain Michigan's biological heritage.

Upon final DNRE approval, each place within this network will be given the DNRE's planning designation of Biodiversity Stewardship Area (BSA). Each BSA may include one or more ecosystems that likely spread across several ownerships (private and public), because nature doesn't typically recognize political boundaries. The BSA designation will inform landowners that have property within BSA boundaries of the importance of their land to conserving Michigan's biological heritage.

On the portions of BSAs for which the DNRE is responsible, we are committed to emphasizing conservation of Michigan's biological heritage through our management, with a focus on restoring and maintaining the ecosystems that exist or have the potential to be restored within the BSAs. Non-DNRE lands within BSAs are equally important to Michigan's biological heritage, but it is up to individual landowners to determine if and how they will use that information. The DNRE hopes that this designation will lead to partnerships that help to conserve Michigan's unique biological heritage.

## **History and Background**

The State of Michigan has a long and accomplished history of both public and private natural resource conservation, beginning in the late 19<sup>th</sup> century. This legacy presently includes a system of State and National Forests, National Parks, State Game and National Wildlife Refuges, Commercial Forests, and conservancy-owned lands exceeding 10 million acres.

In order to help enable sustainable natural resource management and the conservation of the State's biological heritage for future generations, the Department of Natural Resource (now DNRE) adopted in 2005 a "Biodiversity Conservation Planning Process," with the stated goal of cooperating with other landowners, to conserve, restore and protect the biological diversity of Michigan. One of the means identified to accomplish this was the establishment of a network of representative natural communities (functioning ecosystems) on a portion of DNR administered lands across the state.

In 2006, the DNRE began to compile information about areas that appeared to have the potential to be BSAs. And in 2009, the DNRE initiated, in partnership with many other stakeholders, evaluation of potential areas in the Northern Lower Peninsula and Upper Peninsula. The evaluation process for the Southern Lower Peninsula began in late-2010.

The DNRE is now beginning a public review of a set of proposed BSAs for the northern Lower Peninsula. Public review of a set of proposed BSAs for the Upper Peninsula will occur in 2011, followed by public review of a set of proposed BSAs for the Southern Lower Peninsula.

## **Identification and Designation of Proposed Biodiversity Stewardship Areas**

The first step for the DNRE was to gather as much information as we could about potential BSAs. The DNRE completed an analysis to identify potential areas using all the data we had available to us. We asked other organizations for similar analyses. We asked DNRE staff and the public for recommendations of potential areas through workshops and submission of recommendation forms.

The DNRE organized and then provided this gathered information to regional teams (Core Design Teams) of DNRE staff, representatives from Michigan tribes, and representatives of a diverse set of stakeholder organizations and interest groups. The DNRE asked the Core Design Teams to use the information we had gathered, along with their personal and organizational knowledge, to evaluate the potential areas and then recommend to the DNRE of a set of BSAs for their region that they felt best accomplished the goal of the initiative. The DNRE provided the Core Design Teams a set of criteria on which we asked them to base their evaluation of potential BSAs:

- Functionality – consideration of whether or not all of the pieces of represented ecosystems that are necessary for them to continue to exist and thrive are present, restorable or could be mimicked through management.
- Quality and Condition – consideration of the current characteristics of the place, and whether there are any indicators of high quality ecosystems present, such as rare species or vegetative conditions that require many years to develop.
- Social and Economic Values – consideration of the potential positive and negative effects on other values as a result of designation as a BSA and consideration of potential additional costs to manage an area following designation.
- Ecosystem Representation – consideration of how well a potential area would represent a particular type of ecosystem or represent variation that may occur within that ecosystem type. While two bog ecosystems that occur in different parts of the state will have much in common, they may vary significantly as a result of differences in soil, climate and other characteristics that change across the state. To conserve the full biological heritage of Michigan, we need to conserve examples of the significant variation that occurs within ecosystem types.

There were no priorities associated with these four criteria. Instead the Core Design Teams were asked to consider them all, weigh them against each other and try to find the best balance as they made decisions about which potential BSAs to recommend to the DNRE.

The Core Design Team recommendation to the DNRE passed through several levels of internal-DNRE review and revision with consideration of the same criteria described above. The Northern Lower Peninsula region is the first set of potential BSAs to make it through the internal-DNRE review process, and the DNRE has proposed a set of BSAs for the region that are based on the Core Design Team's recommendation. These proposed BSAs are being shared with the public with a request for review and feedback. After a final internal-DNRE review to consider the public feedback received, DNRE staff will recommend a set of BSAs for designation to upper management staff and the Director. The Director will make the final decision on which places receive the BSA designation.

Recommendations and decisions about the areas designated are made based on the best information that is available. However, this information is not complete. As we learn more about these places (and other potential places) through surveys, restoration and management efforts, and communication with partners, we may find that there is a need to add, remove, or modify the designations. The entire statewide network of BSAs will go through a formal review and revision process at least once every ten years.

### **Management and Use of Biodiversity Stewardship Areas**

The BSA designation is a planning designation that informs landowners that have property within BSA boundaries of the importance of their land to conservation of Michigan's biological heritage. The DNRE has committed to emphasizing conservation of Michigan's biological heritage on the portions of BSAs that we manage and will seek opportunities to work in partnership with others who share a common interest.

The DNRE encourages other interested landowners within BSA boundaries to implement actions that may benefit conservation of biological heritage, and avoid actions that may cause it harm. In this way, the BSA designation can inform a landowner's decisions about use and management of their lands, but it does not require or restrict any specific actions by the landowner. The designation does not affect any previously existing legal or other formal commitments a landowner has made in regards to their lands and it does not change the ability of the public to access their lands. The DNRE will seek opportunities to partner with and assist other interested landowners, such as providing information about the kinds of actions that might benefit or harm conservation of

biological heritage. Some opportunities may be available through current DNRE private land and outreach programs.

Planning for and management of the portions of BSAs that occur on DNRE-managed lands will occur through our normal land management planning processes that include opportunities for public participation. For each BSA that includes DNRE-managed lands, we will describe in the associated planning document (e.g., Regional State Forest Management Plan, State Game Area Master Plan, State Park Management Plan) the conditions that we would like to achieve in the portions of the BSA that we manage, based on the ecosystems that occur there or have the potential for restoration. This description will include information about the kinds of plant and animal species we believe the ecosystems should support and the desired structure of vegetation within the ecosystem(s), as well as the natural processes (i.e., flooding, fire, wind) that must be in place or mimicked through management to achieve and maintain the desired species composition and vegetative structure. We will work to achieve the desired conditions through implementation of management activities followed by evaluation to ensure that the management activities are having the desired effect. Some BSAs may already have the desired conditions and may only require minimal management to maintain those conditions. Other BSAs may be very far from the desired conditions and may require extensive management over 100 years or more to achieve those conditions.

In general, land uses that promote or do not impact or detract from conservation of Michigan's biological heritage (biodiversity) are acceptable within DNRE-managed portions of BSAs. Most historical or existing land uses that are already in place will continue and new uses may be allowed if they will not detract from the ability to achieve the desired conditions of the BSA. These uses may include, but are not limited to, recreation, mineral extraction, and timber harvests. Uses will be assessed for their impacts and possible alternatives within DNRE planning processes. Legal or contractual obligations or other restrictions on use of DNRE-managed lands due to previous designations or due to the funds with which the land was purchased will continue to apply, regardless of the BSA designation.

### **Proposed Biodiversity Stewardship Areas in the Northern Lower Peninsula**

The 151 proposed Biodiversity Stewardship Areas in the Northern Lower Peninsula encompass approximately 678,000 acres (6%) of just over 12 Million total acres in the region. The smallest proposed BSA is 26 acres and the largest is 36,847 acres. They include many different types of ecosystems, from sink holes to dunes to prairies to northern hardwood forests, and also represent some of the variation that occurs in the Northern Lower Peninsula within these ecosystem types.

The proposed BSAs include many different types of ownership, including:

- Approximately 254,000 acres (12%) of a little over 2 Million acres of DNRE-managed lands in this region
- Approximately 217,000 acres (19%) of a little over 1 Million acres of Federally-managed lands in this region
- Approximately 205,000 acres (2%) of a little under 9 Million acres of private lands in this region.
- Approximately 2,000 acres (22%) of around 10,000 acres of remaining ownership types in this region, composed entirely of lands managed by other units of state and local government.

Diverse ecological, social, and economic values and perspectives were considered during development of the network of BSAs. Given these considerations, we believe the proposed BSAs in the Northern Lower Peninsula represent the best opportunities for maximizing conservation of Michigan's biological heritage through conservation of ecosystems, while minimizing the potential for negative effects on other land uses and values.