Michigan's Wildlife Action Plan

Highlights of the first 5 years

State Wildlife Grants funding in action

Working together to prevent wildlife from becoming endangered






Introduction

Wildlife Action Plans, taken together, create a national conservation strategy for safeguarding wildlife and their habitats for current and future generations. Each state's action plan is uniquely designed to serve the needs of that state. Michigan's Wildlife Action Plan was developed by the conservation community and provides an overview of 404 Michigan species that are in the greatest need of conservation. The plan describes threats to the species and then lays out conservation actions to keep species off state and federal endangered species lists. Conservation of endangered species is complicated and expensive. Proactive conservation and management of species before they become endangered is more straightforward, cost-efficient, and effective.

State Wildlife Grants (SWG) are critical to the success of the Wildlife Action Plans. This funding, from revenues collected from Outer Continental Shelf Oil and Gas royalties, leverages significant additional funding that benefits wildlife and their habitats in Michigan. Without this funding, costs for species recovery would skyrocket, more species would become endangered, and more regulations would be put in place. This small amount of funding has a huge impact, especially for wildlife most in need. Here are just a few highlights of what this funding has done to help conserve Michigan's wildlife.

Conserving Michigan's species

Reintroducing osprey into Michigan

Historically, ospreys and bald eagles were found throughout Michigan but both declined due to pesticide poisoning. While both populations have rebounded in Michigan, ospreys only rebounded in the northern part of the state. To aid their restoration statewide, an osprey reintroduction project was started in southern Michigan. Ospreys that were reintroduced, as well as their offspring, continue to return to restoration sites. **Osprey were state threatened when the project began, and now their populations have rebounded enough to justify removing them from the state threatened and endangered species list.** One relatively inexpensive project has resulted in a dramatic decrease in permitting burden. Osprey conservation is an excellent example of what is possible for other species of greatest conservation need with a little bit of help.

Partners: *Michigan Department of Natural Resources, US Fish and Wildlife Service, Huron-Clinton Metro Authority Metroparks, the Detroit Zoo, Detroit Zoological Society, DTE Energy, Michigan bird researchers, private land owners, and numerous citizen volunteers*

Where are all the bats in Michigan?

Bats are fascinating and often misunderstood creatures and much is still unknown about them. Michigan has nine species of bats, seven that are species of greatest conservation need. Eight species of bats live along just one creek: Black Creek in Lenawee County. A research project in this bat "hot spot" focused on better understanding their movements, habitat, and diet. So what did we learn? **Evening bats are indeed a resident and are reproducing in Michigan; the newly found colony is the northernmost on the continent.** This bat was found to eat several pests of soy and corn crops - a free public service, which reduces pesticide costs to farmers and enriches the quality of our food. Forests along river corridors proved to be key roosting places for many bats, providing more fodder for protecting riparian corridors. Surprisingly, the first maternity colony of any bat species in Michigan were documented using a bridge as a roost. More surveys are now needed under appropriately constructed bridges in southern Michigan to search for new bat populations.

Partners: *Michigan Department of Natural Resources, US Fish and Wildlife Service, Eastern Michigan University, S.M. Smith Co.*

Karner blue butterfly: lessons in conserving species efficiently

The Karner blue butterfly is a gorgeous, little blue butterfly that is restricted to tiny remnants of North America's once great savannas. Only 0.02% of the original oak savanna remains. For perspective, four penalty flags would cover about 0.02% of a football field. Given that tremendous loss of habitat, many species that use this habitat have become rare. **By focusing on restoring savanna habitat for the showy Karner blue butterfly, other less showy, but equally imperiled species benefit.** SWG funds have been used to restore degraded oak savannas throughout south and west Michigan, with the goal of increasing the sheer amount of savanna habitat, perhaps from four penalty flags to five, or six, or maybe one day an end-zone of savanna to restore the Karner blue butterfly, and also to keep the many other, less showy savanna species off endangered species lists.

Partners: *Michigan Department of Natural Resources, U.S. Fish and Wildlife Service, Detroit Zoo, John Ball Zoo, Toledo Zoo, The Nature Conservancy, Land Conservancy of West Michigan, Michigan Nature Association, U.S. Forest Service, Consumers Energy, West Michigan Butterfly Association.*

Protecting piping plovers

The Great Lakes population of piping plovers is listed as endangered at both the federal and state level. Every spring a network of biologists, birders, researchers and volunteers watch for returning piping plovers. This network places protective cages over all known nests, wherever landowners will allow, to protect the nest and young chicks from predation and being trampled by people. The mesh of the cages is wide enough to allow adult piping plovers easy access, while excluding dogs, raccoons, and seagulls, which might eat or trample the eggs. Decades of conservation efforts have paid off, and the **Great Lakes population of piping plovers now numbers 60 pairs of nesting plovers, up from a low of 12 nesting pairs in 1990.** Yet another program that shows that success can be reached through dedication and strong partnerships!

Partners: *Michigan Department of Natural Resources, US Fish and Wildlife Service, US Forest Service, Little Traverse Bay Band of Odawa Indians, University of Michigan Biological Station, Central Michigan University Biological Station, Detroit Zoo, John Ball Zoo, Saginaw Zoo, and many, many local volunteers*

On-the-ground habitat management

Successful management for a globally rare bird and timber products

The Kirtland's warbler is the rarest warbler in North America. This songbird is dependent on dense, young jack pine habitat for breeding. Jack pine management for timber requires the use of clear cutting and prescribed fire, which are not always well supported by the public. Yet these techniques are also critical to providing habitat for the globally rare Kirtland's warbler and other valuable wildlife. By managing jack pine stands on a 50 year harvest rotation, nesting habitat can be maintained for the warblers while supporting the commercial harvest of jack pine. These areas also provide key habitats for the Eastern bluebird, white tailed deer, black bear, and snowshoe hare. **This program has met the recovery goals for Kirtland's warbler and the land managing agencies are working to remove the species from the endangered species list while ensuring suitable breeding habitat is maintained.** This conservation program provides significant economic and social benefits, including jobs associated with timber products, hunting, and tourism. Every year during the breeding season, a Kirtland's Warbler Festival is held that brings hundreds of tourists from around the world to northern Michigan to celebrate this unique species, its habitat, and the management success that the partners have achieved.

Partners: *Michigan Department of Natural Resources, US Fish and Wildlife Service, US Forest Service, Kirtland Community College, The Nature Conservancy, Bahamas National Trust, Michigan Audubon Society, Kalamazoo Nature Center, National Guard, and California University of Pennsylvania*

Reducing the threat from non-native invasive species

Non-native, invasive species pose one of the biggest threats to Michigan's wildlife. Invasive species have displaced native plants and animals and in some cases have significantly disrupted ecosystem processes and functions. For example, the invasive phragmites forms dense, impenetrable stands that decreases available habitat for ducks, birds, and fish, while altering hydrology. These changes also degrade landowners' shoreline views, reduce access for swimming, fishing, and hunting, and likely affect property values. **State Wildlife Grants funding has helped control and manage high-threat invasive species on state and private lands.** The strategic prevention, early detection, and rapid response to invasive species is essential to conserving native wildlife and plants.

Partners: *Michigan Department of Natural Resources, US Fish and Wildlife Service, The Nature Conservancy, local contractors, private landowners, volunteers*

Collaborating with industry and agriculture

Working with industry to minimize impacts to migrating birds

Threats to birds are varied and can come from surprising places. For over 50 years, birds have died due to collisions with communication towers (e.g., radio and cell phone towers). Some estimates suggest that as many as 4-5 million birds per year, primarily night migrating songbirds, collide with and die at communication towers. But the number could be even higher. Despite these documented mass kills of a diversity of bird species, little formal, experimental, large-scale research had been conducted to identify tower variables likely to increase the risk to migrating birds. State Wildlife Grants helped to fund studies looking at tower height, light types (red strobes, white strobes, and red blinking incandescent), guy wires, and bird mortality during spring and fall migrations. This research revealed that **easy, cost-effective changes in light types significantly decreased bird mortality.** Partly because of this research, the Federal Aviation Administration is considering changes in tower lighting regulations.

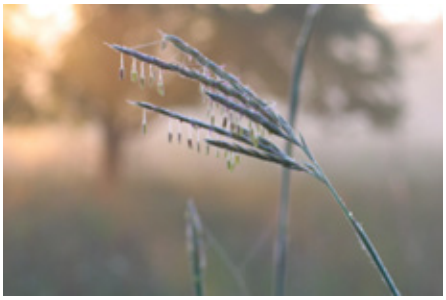
Partners: *Michigan Natural Features Inventory, Central Michigan University, Michigan Office of the Attorney General, Michigan Department of Natural Resources, US Fish and Wildlife Service, Federal Aviation Administration, Federal Communications Commission, US Forest Service, American Bird Conservancy*

Working with industry to protect a rare moth

The three-staff underwing moth is an endangered species in Michigan that relies on a rare plant called the leadplant. This little gray and orange moth has brought some unlikely partners together to help protect its critical habitat. The three-staff underwing moth and the leadplant are found along Wolverine Power's transmission line right-of-way in Barry State Game Area. **Industry, the state, and partners worked together to develop and implement a management plan that protects the moth and leadplant while allowing the power company to control vegetation along their transmission line.** The partnerships didn't stop there. Local high school students raised leadplants and planted them on the moth restoration site to help fill cleared areas surrounding the utility right-of-way. This partnership gave the students a rare opportunity to be part of the management and restoration of an endangered species.

Partners: *Michigan Department of Natural Resources, US Fish and Wildlife Service, Wolverine Power Supply Cooperative, Inc., National Wild Turkey Federation (NTWF), Thornapple Valley NWTF Chapter, Michigan Natural Features Inventory, Hastings High School Agri-Science program students*

Working with Farm Bill programs to help wildlife



Grassland birds, as a group, have suffered the most sever population declines of any other group of birds in Michigan. Only 2% of Michigan's historic grasslands remain. Grasslands are critical habitats for species of greatest conservation need, as well as key games species such as deer, turkeys, ducks, and geese. Set aside programs like the Farm Bill's Conservation Reserve Enhancement Program (CREP) have been increasing the amount of grasslands in Michigan that may help to reverse the declines of some key grassland species. To increase the wildlife value of CREP and other Farm Bill programs like it, research was needed to determine differences in wildlife response to grassland planting options allowed under the CREP program. These options included 100% native grasses and 30:70 native to non-native grasses. This study found that whole-field plantings of native grasses and forbs provided significantly more habitat value to birds than the non-native plantings. This information is now being used to help revise the Farm Bill in Michigan. This is **another example of where research is helping to inform habitat management, as well as prioritizing how funding is used.**

Partners: *Michigan State University, Michigan Department of Natural Resources, US Fish and Wildlife Service, Natural Resources Conservation Service*

Long-term monitoring to inform management and decisions

Surveys to better understand Michigan's wildlife

Understanding population trends of wildlife is necessary to make well informed decisions about priorities, conservation needs, and actions. State Wildlife Grants funding has helped fund surveys for:

- Breeding Birds in Michigan - In 1983, the Department of Natural Resources initiated Michigan's first comprehensive statewide breeding bird survey, leading to the publication of the Atlas of Breeding Birds of Michigan. Periodic updates are critical to keep information current, monitor trends in populations, and provide accurate data for use in planning and management efforts. The Michigan Breeding Bird Atlas II project is now in progress.
- Nocturnal Birds – This group of birds are typically underrepresented in large-scale breeding bird surveys, like the Breeding Bird Atlas. Due to the difficulty of data collection and recent concerns about possible population declines in this group of birds, special surveys were conducted for these species, including common nighthawks, whip-poor-wills, and owls.
- Frogs and Toads – Michigan is home to 13 native species of frogs and toads. In recent decades there has been more attention drawn to frog and toads as their populations are declining around the world. They are often good indicators of environmental quality. Therefore monitoring efforts to understand frog and toad population status and distribution are critical and on-going, mainly though volunteers.
- Lakes and Streams – Michigan's lakes and streams provide habitat to a plethora of fish, mussels, and bugs. Monitoring the habitat quality in these ecosystems helps us better conserve and manage rare fish and mussels, game fish, as well as providing information about water quality.
- Supporting species recovery plans – The Kirtland's warbler, Karner blue butterfly, and Mitchell's satyr butterfly all require regular surveys to ensure our management is effective and that their populations are headed in a positive direction.

Partners: *Michigan Department of Natural Resources, US Fish and Wildlife Service, Michigan Natural Features Inventory, Kalamazoo Nature Center, Michigan Audubon Society, Arcus Gay and Lesbian Fund, Herbert H. and Grace A. Dow Foundation, Saginaw Bay Watershed Initiative Network, Kalamazoo Community Foundation, Frey Foundation, local birders, and many, many other volunteers*

Getting people involved

Volunteer Purple Corps: a successful model

Purple loosestrife is an invasive wetland plant that can form dense and impenetrable stands that displace native plant and animals. The Tip of the Mitt Watershed Council, through the Volunteer Purple Corps (VPC), developed and implemented a long-term management plan to protect and restore native species and habitats from the threat of the invasive purple loosestrife. The Watershed Council also initiated an online database of locations of aquatic invasive species in the area, which is being used as an educational and decision-support tool. **The Volunteer Purple Corps serves as a successful model to other watersheds on how to address invasive species at a local level.** To find out more: *www.watershedcouncil.org/volunteer.*

Partners: *The Tip of the Mitt Watershed Council, Michigan Department of Natural Resources, Michigan State University, local volunteers*

Working together to eradicate phragmites from Beaver Island

In 2007, all 27.2 acres of phragmites occurrences on Beaver Island were treated. This early intervention project was designed to eradicate phragmites before it could spread and gain a firm foothold on Beaver Island. This was truly a cooperative effort. **The success of this project was due largely to an aggressive and comprehensive outreach campaign** by Peane Township with assistance from the state, partners, and volunteers. A video on phragmites was produced by Peane Township and is available online at: *http://www.agreatlakesjewel.org* along with links to other resources.

Partners: *Peane and St. James townships, Beaver Island Property Owners Association, Michigan Department of Natural Resources, Michigan Department of Environmental Quality, Ducks Unlimited, The Nature Conservancy, University of Michigan, volunteers*

Bringing more money to Michigan to help wildlife

To supplement all the work that is being conducted using State Wildlife Grants, Michigan's Department of Natural Resources and conservation partners have been extremely successful in bringing additional competitive funding to Michigan to conserve and manage wildlife and their habitats. Here is a small sample of what we are doing with competitive State Wildlife Grants funding:

- The Department of Natural Resources and partners have received **funding for two projects to help private landowners manage their lands for wildlife.** One project is for restoration of prairie fen and associated savanna habitats to conserve the Mitchell's satyr butterfly and eastern massasaugua rattlesnake. The other project is working on restoring oak savanna, pine barrens, and jack pine forests for the Karner blue butterfly and Kirtland's warbler.
- White-nose syndrome (WNS) in bats has killed more than a million bats in 14 states and 2 Canadian provinces. Although WNS has not been documented in Michigan to date, the state is on high-alert. This additional **funding has been used to develop a disease response plan for WNS,** to conduct surveillance, and to educate and communicate with the public. This is a collaborative effort with multiple states.

Partners: *Michigan Department of Natural Resources, The Nature Conservancy, Michigan Natural Features Inventory, Southwest Michigan Land Conservancy, Michigan Nature Association, National Wild Turkey Federation, Organization for Bat Conservation, Bat Conservation International, and a variety of other state agencies.*

Tools to help land managers and the public make better decisions

Endangered species assessment tool

This web-based tool allows the user to develop a preliminary evaluation of whether endangered, threatened, or special concern species, high quality natural communities or other unique natural features have been known to occur at or near a site of interest. This tool is helping to streamline formal environmental reviews and to allow land managers, developers, contractors, and the general public make better informed decisions. To view the tool, go to: *http://www.mcgi.state.mi.us/esa/*

Digital water atlas for inland waters

The Digital Water Atlas provides spatially explicit and tabular information describing Michigan's inland waters to support resource and land management. This comprehensive Geographic Information System (GIS) database includes data on: blue ribbon trout streams, boat launch sites, Michigan trout and salmon designations, watershed maps, a fish atlas, and hydrography information. To view the available data layers, go to: *http://ifrgis.snre.umich.edu/projects/DWA/dwa.shtml*

Invasive species field guide of Michigan

This field guide is intended to help readers identify key invasive species early so that a rapid response can be initiated while successful treatment is still likely. It features 47 species, with detailed photos, plant descriptions, habitat preferences, modes of reproduction, and guidance for monitoring and rapid response. This guide provides a concise overview of invasive plants including the specific threats they pose, the importance of early detection, and the elements of a more comprehensive approach for addressing their impacts. The helpful tips, comprehensive glossary, and distribution maps based upon documented herbarium records make this field guide truly unique. To see more, go to: *http://web4.msue.msu.edu/mnfi/invasive-species/index.cfm*

Partners: *Michigan Department of Natural Resources, US Fish and Wildlife Service, Michigan Natural Features Inventory, University of Michigan, Michigan State University Extension*

The next 5 years

The development of the Wildlife Action Plan was the most comprehensive wildlife conservation strategy in Michigan's history. But so much more work is needed to implement this important strategy. As we move into the next 5 years of the Wildlife Action Plan we will further prioritize conservation needs to focus efforts to achieve even bigger conservation successes. The State Wildlife Grants program is critical to the success of the Wildlife Action Plan and keeping species from becoming endangered. This funding enables Michigan and other states to leverage substantial additional funding from a variety of sources to do good things for wildlife by conserving and managing their populations and habitats. State Wildlife Grants also provide funding to develop needed tools to help land managers and policy makers make better informed decisions. Working together with Michigan's conservation partners, we can keep common species common and conserve wildlife for future generations to enjoy.

For more information about Michigan's Wildlife Action Plan

visit: **www.michigan.gov/wildlife**

Or call the Wildlife Action Plan Coordinator at (517) 284-6166

For information or assistance on this publication, contact the Michigan Department of Natural Resources and Environment, P.O. Box 30444, Lansing, MI 48909-7944. This publication is available in alternate formats upon request.