

NATURAL HERITAGE CONSERVATION PROGRAM
2016 ANNUAL REPORT

**American marten
rediscovered in the
Apostle Islands**

Page 6



**New bat species
found for the first
time in 60 years**

Page 5

**Piping plover returns
to Lower Green Bay
after 75 years**

Page 11

**Record Karner blue
butterfly numbers**

Page 12

American marten, photo
by Dean Tvedt, 1955

A NOTE FROM THE DIRECTOR

Dear Wisconsin conservationist,

It's been a great year to be involved in conservation in Wisconsin. On a personal note, I am thrilled to have taken over leadership for a fantastic program where I have spent 15 rewarding years. More exciting, however, is the work being done across Wisconsin to conserve our state's natural heritage.

Just as Wisconsin features a rich *cultural* heritage, we have an important *natural* heritage composed of a diversity of plants, animals and ecosystems. Our program's mission is to conserve this heritage, and this report describes some of the projects we worked on over the last year.

This year featured exciting discoveries. For example, you may be surprised to read that new species are still being found in Wisconsin! There were inspiring stories such as the many Wisconsinites who generously donated their time and hard work to make a difference. In some cases, they worked to maintain high-quality state natural areas; in others, they collected important scientific data. There were

also encouraging stories of rare species like the Karner blue butterfly that provided hints of potential comebacks. Meanwhile, other stories validated previous restoration efforts such as nesting piping plovers on Lower Green Bay or the Higgins' eye mussel persisting on the Wisconsin River.

All of these stories represent attempts to make the state a better place, and they all share something in common. Namely, they were made possible by combinations of dedicated staff, partners and citizens that chose to make an investment in our natural heritage—whether through time, money or a combination of the two. We hope you enjoy reading this annual report, and we look forward to continuing our shared efforts in 2017.

Sincerely,
Drew Feldkirchner



NATURAL HERITAGE CONSERVATION PROGRAM

(FY 2016 Revenue)

Donation Match*

\$500,000

Program Revenue

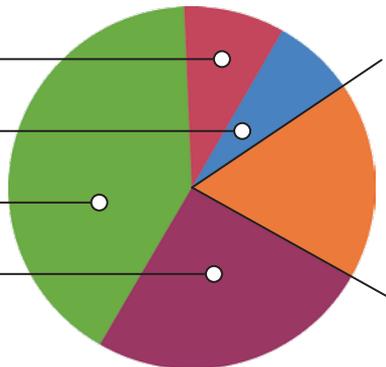
\$409,304

Grants

\$2,299,770

State Funds

\$1,414,634



*Donations to the Endangered Resources Fund are matched dollar for dollar by the state up to \$500,000.

Donations

License Plate Sales

\$394,769

Donor Funds

\$359,462

Tax Return Donations

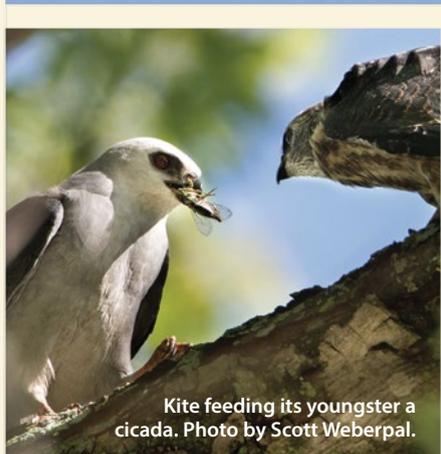
\$234,413

SIX NEW DISCOVERIES

NHC staff and our citizen scientists trained more eyes and ears on our skies, waters and lands than ever before in 2016 and produced some amazing finds. Their discoveries have enriched our understanding and appreciation of wild Wisconsin.

For the first time ever, Mississippi kites have been found breeding in Wisconsin, with confirmation of a pair raising one chick at a nest in Rock County. This represents one of the northernmost breeding records in the raptor's range and perhaps the most exciting find of Wisconsin Breeding Bird Atlas II so far. Historically nesting in mature bottomland forest in the southeastern U.S., since the 1970s this species has been increasingly expanding its range to the west and north, readily nesting in shelterbelts and suburban neighborhoods. Known for their graceful, swooping aerial maneuvers, they often take prey like dragonflies and cicadas.

MISSISSIPPI KITE RIDES THE WIND TO WISCONSIN



Kite feeding its youngster a cicada. Photo by Scott Weberpal.



One of the Mississippi kite pair that nested in Rock County. Photo by Scott Weberpal.

Photo by Dan Jackson.

02 TINY DANCER TAKES CENTER STAGE



Wisconsin is at the northernmost part of the range of the blue-ringed dancer, and this beautiful damselfly has now been confirmed in the state. A visitor to Wisconsin photographed the dancer in 2014, but the photo just came to the attention of NHC biologists in 2016 and was confirmed in June. Field surveys this summer to get a handle on the extent of the population found the species in a roughly 20-mile reach of the Bark River in Waukesha and Jefferson counties.

03 A SSSSSSECRET WORTH SHARING



The lined snake, Wisconsin's first new documented herptile in more than a generation, has now been found in a second county. The small, secretive snake resembles a gartersnake, dines on earthworms and can be distinguished by the half-moon shapes along its belly. A volunteer originally discovered the lined snake in 2011 in Iowa County; NHC staff have since found it at nearby sites and in 2016, a researcher found the species in Dane County.

Photo by Heather Kaarakka, Wisconsin DNR.

04

EVENING BAT MARKS DAWN OF NEW ERA IN WISCONSIN

NHC staff have documented the first new bat species in Wisconsin in more than 60 years. The brownish, black-masked, beetle-eating evening bat winters in Florida and is not susceptible to white-nose syndrome. It was found in Rock County during habitat research using radio transmitters. The evening bat's historic range has been close to the Wisconsin-Illinois border, but researchers were surprised to find sizable colonies when they tracked the bats to their roosts.



An evening bat found by NHC biologists in Rock County. Photo by Heather Kaarakka, Wisconsin DNR.



Wisconsin Conservation Department personnel on the dock at Quarry Bay, Stockton Island (in the Apostle Islands) holding shipping cases containing martens. Photo by Harold C. Jordahl.



Marten being released from shipping case. Photo by Harold C. Jordahl.



06 Photo by Harold C. Jordahl.

Island-hopping martens a happy mystery

American martens have been found on the Apostle Islands National Lakeshore for the first time in more than 40 years, boosting recovery efforts for this endangered, secretive mammal. Ten martens reintroduced to Stockton Island hadn't been seen since 1969 until a volunteer park ranger noted one in a 2010 journal entry. NHC received a cell phone photo from a kayaker of one in 2014, and park service staff tracked down the marten. Trail cameras and DNA analysis have since revealed martens on seven different islands, potentially making this the third established marten population in Wisconsin and a vital backstop to help assure species survival. The discovery is also fueling research among DNR, the Great Lakes Indian Fish and Wildlife Commission, UW-Madison and the National Park Service to better understand how the martens moved around and beat the odds on the islands in Lake Superior.

Yellow lily discovery twice as nice

NHC's rare plant monitoring coordinator dispatched two volunteers in a canoe down the Galena River in southwest Wisconsin to search for a rare yellow water lily (*Nuphar advena*) last sighted in the area in 1972. Fewer than 10 populations are known to exist in the state. The volunteers quickly found the lily floating in shallow water near Benton, near where the earlier collector had described. They pinpointed the location with GPS coordinates, counted the plants and documented the surrounding habitat, including any threats. This discovery is a success story twice over: the rare plant population has persisted all these years and thanks to the volunteers, knowledge of this rare plant has increased dramatically.

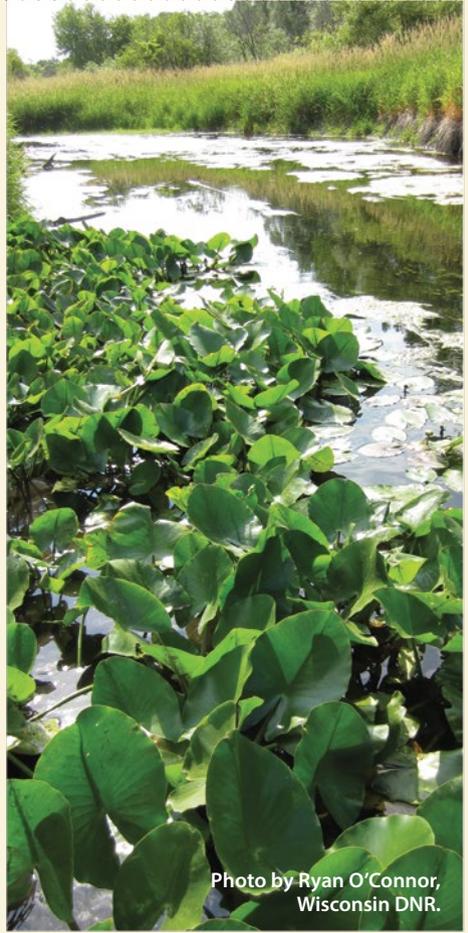


Photo by Ryan O'Connor,
Wisconsin DNR.



Rare Plant Monitoring
Program volunteer Jan
Axelson took this photo of
the rare yellow water lily.

NHC biologist Heather Kaarakka using a receiver to radio-track a tagged bat to its roost tree in Dane County. Photo by Michael Kienitz.

TRACKING THREATENED BATS TO THEIR SUMMER HOMES

Radio-tracking research by NHC biologists is helping unlock the summer habitat secrets of several bat species threatened by white-nose syndrome. Little was known about summer habitats for eastern pipistrelles and northern long-eared bats, so biologists in 2015 and 2016 placed transmitters on female bats caught in fine mesh nets in the bats' travel corridors on public forests and over water. They tracked bats to their roosts and documented tree species and other information that will help guide recovery efforts since white-nose syndrome is dramatically reducing bat populations. The information will be important for developing best management practices to allow sustainable forest management to continue that will ultimately benefit the bats.

Endangered mussels ferried by fish are doing well on the Wisconsin River

Nearly 15 years after state and federal biologists used bass and walleye to deliver endangered freshwater mussels to the Wisconsin River at Prairie du Sac, and placed others by hand in the riverbed, the mussels are growing and in good condition. Diving surveys in 2016 showed the Higgins' eye had not succumbed to the invasive zebra mussels that had threatened the species on the Mississippi River and led to the innovative project to propagate the mussels and deliver them to tributary waters. With half of Wisconsin's 51 native mussels imperiled, these results are good news and lessons for restoring other endangered mussels.

Citizen scientists monitor natural resources

NHC is enlisting members of the public in helping monitor Wisconsin's wildlife and waters through awarding 23 Wisconsin organizations, local governments and projects a combined \$100,000 to foster volunteer efforts. Groups receiving the competitive awards will focus on monitoring resources as wide-ranging as water levels in northern lakes, the spread of invasive plants in southwestern Wisconsin and bumble bees in southern Wisconsin. The funding is part of the Citizen-based Monitoring Partnership Program. Sponsoring organizations typically contribute \$3 in donated time and money for every \$1 the state provides the project.

Breeding Bird Atlas II wraps up its second season

Wisconsin's volunteer-based, multi-year survey to understand which birds nest here wrapped up its second season having documented 220 nesting species, including



NHC biologist Lisie Kitchel holding a mussel. Photo by Michael Kienitz.

11 new since the last survey 20 years ago and one species never before documented in Wisconsin, the Mississippi kite. The more than 1,100 volunteers for the Wisconsin Breeding Bird Atlas II also documented the growing presence of once-rare native birds like peregrine falcons, bald eagles and trumpeter swans. Their reports will provide important information on shifts in bird populations to inform future conservation efforts. Birders of all skill levels are invited to participate in the survey in 2017.



Rusty-patched bumble bee. Photo by Jay Watson, Wisconsin DNR.

Hogweed meets its match

Giant hogweed, an invasive plant with toxic sap that can burn the skin and grow 15 feet high, is meeting its match in Wisconsin. Thanks to the state's 2009 rule to regulate species and rapidly respond when plant and animal invaders first appear, hogweed has been eradicated from one site in Wisconsin and is under control in all other known sites, including two sites discovered in Sheboygan County in 2016 that represented the southernmost and most urban discovery. A citizen call to NHC resulted in identifying the hogweed and spurred local partnership efforts with the private property owners to work to control the infestation.

Work for bumble bees buzzing

Wisconsin efforts to protect declining native bumble bee populations are ramping up, recognizing their importance including as pollinators of wildflowers and of economically important crops including apples, cranberries and cucumbers. NHC staff helped create the Wisconsin Pollinator Protection Plan recommending best management practices

for improving pollinator habitat. We also recruited citizens for a citizen science project to track and conserve bumble bees in North America and funded a University of Wisconsin-Arboretum project to expand citizen-based monitoring in southern Wisconsin. NHC staff also are participating in national workshops on rusty-patched bumble bees to discuss what to do in the immediate future to prevent the extinction of this species which was recently proposed for listing as a federally endangered species.

Making a difference, one acre at a time

Volunteers working through NHC's State Natural Areas Volunteer Program are making a difference caring for some of Wisconsin's best remaining prairies, oak savannas, wetlands and lakes. Eighteen volunteer groups devoted 3,181 hours at 26 sites in 2015, directly impacting 467 acres and representing \$74,910 in value. Volunteers encourage native plant and animal communities to thrive by cutting brush, pulling and spraying invasive plants, collecting seeds, monitoring rare species and preparing fire breaks.

Banded piping
plover on the
Apostle Islands.
Photo by Andrew
Horton, USFWS.

For the first time in 75 years, a pair of federally endangered piping plovers successfully nested and fledged three chicks from Lower Green Bay. The birds took advantage of new habitat created through restoration of the Cat Island Chain by local, state and federal partners. Piping plovers have stopped over in the area in recent years, but Long Island/Chequamegon Point in the Apostle Islands was the only regular nesting site (four nesting pairs in 2016) in Wisconsin. Additional breeding sites are important because overall numbers in the Great Lakes are still low—75 breeding pairs, up from 17 in 1986.

PIPING PLOVERS RETURN TO LOWER GREEN BAY AFTER 75 YEARS



Natural heritage preserved

More of Wisconsin's pristine landscapes and rare plants and animals are better protected thanks to NHC surveyors' work resulting in designating new state natural areas. NHC staffers inventoried rare plants and animals and high quality natural communities as part of master planning processes for wildlife areas in the Northern Kettle Moraine State Forest region and state properties along the Lower Sugar River in southern Wisconsin. Their findings led to designations of seven natural areas within those properties. As well, SNA staff completed biotic surveys and management plans for 10 existing state natural areas to help preserve bluff prairies and oak savanna along the Mississippi River into the future.

Up, up and away

Karner blue butterfly populations flew to record high numbers in 2016, with 107,906 of the federally endangered species counted over 14 sites surveyed by DNR and partners. Once again, Sandhill Wildlife Area totals dwarfed other sites, likely reflecting factors including extensive efforts by DNR staff and property managers to restore the kind of open habitat Karners need most as well as habitat benefits resulting from having a herd of buffalo at the site. Restoration efforts there and at other state-owned sites are believed to be aiding in the progress toward Karner recovery goals while also benefitting 50 other rare species that use the same kind of prairies, barrens and oak savannas.



Karner blue butterfly.
Photo by Michael Kienitz.



NHC Karner blue biologist Chelsea Gunther conducts a survey to estimate population size. Photo by Michael Kienitz.



BEING

GOOD

STEWARDS

NHC field staff managed 40 percent more acres of habitat in 2016 than they did last year, helping protect and restore state natural areas providing refuge for rare wildlife and plants and representing some of Wisconsin's best remaining prairies, oak savannas, wetlands and forests.

Ferry Bluff State
Natural Area. Photo
by Tyler Brandt,
Wisconsin DNR.



Thomas Meyer

STATE NATURAL AREAS PROGRAM ADMINISTRATOR

I'm among NHC's "old guard," having come to the bureau in '84. Since 1992, I've worked with the State Natural Areas Program, coordinating land acquisition, research, policy and program awareness. I most enjoy the public outreach aspect of my job, such as leading field trips to stunning natural places. I was trained as a plant ecologist at the University of Wisconsin where I was introduced to the splendor of our native landscapes and the need to protect them. I'm a fourth-generation "Scennie" from Racine, but never hesitate to escape Wisconsin to explore the coral reefs of tropical seas.



Mae Colcord

NATURAL RESOURCES PROGRAM SPECIALIST

I started working for NHC in November 2015 after completing my master's degree in environmental science and policy. I coordinate Wisconsin State Fair, the Midwest Outdoor Heritage Education Expo and other outreach projects for NHC and help people get Endangered and Threatened Species Permits, Scientific Collector's Permits and Scientific Research Licenses. I also review development and land management projects for impacts to endangered resources. A trip to Africa's Great Green Wall while studying abroad in Dakar, Senegal, helped to spark my interest in environmental policy.



Peter Deurkop

DRIFTLESS STATE NATURAL AREAS CREW LEADER

I work where the rubber meets the road; rather, where fire meets the field, herbicide treats the plant and seed hits the soil. As lead for the La Crosse state natural areas crew I spend most of my time directly restoring natural communities. I have a master's degree in fire ecology, and my field experience is dominated by vegetation and fire management. I usually spend my free time in the same places I work.



Tara Bergeson

STATEWIDE MONITORING COORDINATOR

I began my DNR career in 2001 as an environmental toxicologist. Today, I go by the title conservation biologist, but mostly I've always just worked with people—that's the best part of my job. These days, I work on frog and salamander projects and am on the DNR's Staff Advisory Team. Career highlights include working in Washington D.C. with the Association of Fish and Wildlife Agencies on State Wildlife Grants and Wildlife Action Plan issues. Outside of work, I'm a Girl Scout (Daisy) troop leader, serve on the board of my kids' elementary school parent-teacher group and teach Sunday school.



Jay Watson

TERRESTRIAL INVERTEBRATE ECOLOGIST

I started with the DNR in 2010 as a technician working on the Prairie Insect Study. In 2014, I began working with NHC as the terrestrial invertebrate ecologist. I coordinate terrestrial invertebrate species status assessments and biotic inventories, lead the Wisconsin Wildlife Action Plan terrestrial invertebrate team and provide consultation on invertebrate species for the program. In 2016, I also became the pollinator coordinator for the program. I'm a native Wisconsinite and live near Green Bay with my wife Laura and our son, Rex.



Stacy Rowe

UTILITY LIAISON

I first started with the DNR as a wildlife technician in 2005 working with deer registration. I returned to the DNR in 2009 as program assistant for the bureau and have worked various positions with the Endangered Resources Review Program and Natural Heritage Inventory map team before becoming the review program's utility liaison in 2014 along with continuing to coordinate the falconry program. My family enjoys just about anything that gets us outdoors, and we have a goal of visiting/camping at every state park in Wisconsin. We're up to 24!



Jessica Renley

SOUTHWEST STATE NATURAL AREAS CREW LEADER

I joined NHC six years ago as the crew leader for the southern Wisconsin state natural areas crew. I lead restoration work on over 50 natural areas each year focusing on invasive species control and prescribed burning. I plan and prioritize restoration work, write grants, manage our budget and maintain records of our work. I grew up along the Mississippi River in northeast Iowa and got my degree in environmental science from the University of Iowa. I have always been interested in preserving and protecting our native ecosystems and feel blessed to be able to work on such special properties.



Joe Henry

UPPER LAKE MICHIGAN FIELD ECOLOGIST

I'm a native Hoosier, growing up and playing in the woods in Brown County, Indiana. I cut my teeth on natural areas management in 1998 when I worked with the Indiana DNR Division of Nature Preserves. In 2003, I received a Master of Science degree from Northeastern Illinois University where I studied fire ecology and fire impacts on prairie invertebrates with Ron Panzer. Later that year I started with the Wisconsin DNR working on natural areas with the Fitchburg state natural areas crew. Since 2006, I have worked as the Upper Lake Michigan ecologist stationed in Green Bay.

THANK YOU

Tens of thousands of Wisconsinites are donors who make a difference for Wisconsin's endangered resources. Give now and double your impact—every gift is matched dollar for dollar.

1 Donate online or by check

Donate online by going to dnr.wi.gov, searching "NHC" and clicking on the donate button, or write a check payable to the "Endangered Resources Fund" and send to:

Wisconsin DNR
Natural Heritage Conservation
P.O. Box 7921
Madison, WI 53707

2 License plate

Celebrate the remarkable recovery of bald eagles in Wisconsin and help lay the foundation for the next conservation success by buying an endangered resources license plate. To learn more, go to dnr.wi.gov and search for "eagle plate."



3 Tax check-off

Donate directly on your tax form. Look for the "donations" area on your Wisconsin income tax form.



Cover photo by Dean Tvedt
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