Planning our conservation future

PARTNERSHIPS are key to preserving and enhancing our outdoor heritage and traditions.

GREG PILS

Guiding the future of conservation

Partners help the Department of Natural Resources bring conservation planning to life.

ANGELA WHITE

DNR conservation biologists sample for chytrid fungus in Blanchard's cricket frogs – Wisconsin's only endangered amphibian.

Tara Bergeson

Together with many partners, the Department of Natural Resources develops and implements two plans that help guide conservation and management of Wisconsin's fish, wildlife and their habitats. Keeping these natural resources healthy for future generations requires us to turn our understanding of their condition, and factors that influence them, into actions that will help sustain them over time.

These two plans — the Fish, Wildlife and Habitat Management Plan and the Wisconsin Wildlife Action Plan — were updated in 2013-2015 and were approved in fall 2015 by the state Natural Resources Board. These plans help the department maximize its investments to preserve the diversity, and your enjoyment, of Wisconsin's natural heritage.

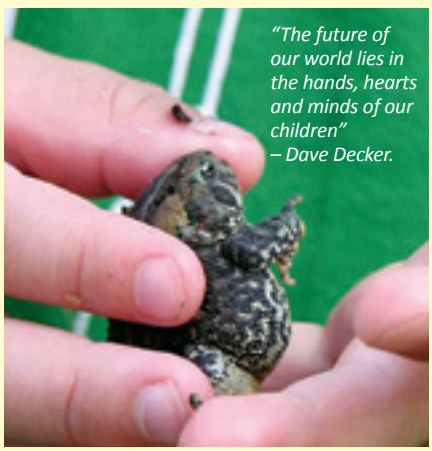
"We plan," says Todd Schaller, DNR Chief Conservation Warden and chair of DNR's fish, wildlife and habitat management team. "We don't just go do things willy-nilly. These plans direct where our priorities and focus should be over the next 10 years; though they also give us the flexibility to respond to important issues as they arise."

The two plans have overlapping goals to identify ways to provide and maintain healthy habitat for native fish and wildlife in an organized way based on sound science.

They also motivate us to work together to convert their information into conservation actions that work within the ecological, social, cultural and economic reality of our state.

Goals common to both plans help bolster their effectiveness. For example, a local fish sticks project will provide cover and habitat for game and nongame fish species alike. Similarly, an online mapping tool to identify top potentially restorable wetlands to benefit black terns, an endangered waterbird, will help blue-winged teal, and restoring oak savanna boosts a rare natural community in Wisconsin and benefits wild turkeys, as well.

"These animals share and rely on the same land and water across the state — some are very common and can survive in a great many locations — while others are rare and have specific habitat needs," says Barb Zellmer, a retired DNR administrator who helped coordinate planning efforts. "One shared goal of the plans is to better understand how actions can be adapted to address the overall landscape and all the species that rely on that landscape while at the same time recognizing and addressing the specific needs of the individual species that are targeted by a particular initiative."



TARA BERGESON

If both plans focus on native fish, wildlife and habitat in Wisconsin and have some overlapping goals, you might wonder why two plans and not just one? The answer is largely due to the plans' different funding sources and federal requirements for each.

FISH, WILDLIFE AND HABITAT MANAGEMENT PLAN

The Fish, Wildlife and Habitat Management Plan is required for the department to be eligible for funding through the Pittman-Robertson Wildlife Restoration Act (PR) and the Dingell-Johnson Sport Fish Restoration (SFR) Act. These two federal programs (passed in 1937 and 1950 respectively) authorized grant funding to states and territories for on-the-ground wildlife and fisheries conservation.

The Wildlife Restoration Program is intended to support the restoration, conservation, management and enhancement of wild birds and mammals and their habitat; to provide public use and access to wildlife resources; and to provide for education of hunters and development of shooting ranges.

The Sport Fish Restoration Program is intended to support restoration and management of fish species of material value for sport-fishing and recreation; to provide facilities that create or add to public access for recreational boating; and to provide aquatic education to the public to increase understanding of water resources and associated aquatic life.

Funds to support these programs come from import duties and excise taxes paid on equipment and gear manufactured for purchase by hunters, anglers, boaters, archers and recreational shooters. Additional funds come from federal taxes on motorboat and small engine fuels.

The federal government each year distributes the funds to the states, U.S. commonwealths and territories based on their land and water area and number of paid recreational hunting and fishing license holders.

WISCONSIN WILDLIFE ACTION PLAN

The Wisconsin Wildlife Action Plan is required for the department to be eligible for funding through the State Wildlife Grant program, a federal program Congress created in 2001, and through a related grant program established in 2008. This program provides funds to benefit sensitive and imperiled wildlife and their habitats (referred

to as "species of greatest conservation need" or SGCN).

As the challenges facing animals and habitats have grown, the Wisconsin Wildlife Action Plan has evolved beyond a document the state was required to complete to qualify for federal funding. It now serves as a reference for a broad range of organizations, and individuals seeking to conserve and sustain rare animal species and natural places in our state.

The Wisconsin Wildlife Action Plan helps landowners, state and local conservation planners, resource managers and others by providing data and information about species of greatest conservation need, their habitats and the landscapes in which they function. The voluntary plan also provides a menu of the most important conservation actions to address the challenges these species face; measures to monitor their population, habitats and the effectiveness of actions; and continued collaboration with stakeholders and partners.

Congress appropriates funds for the State Wildlife Grant Program on an annual basis so it is not automatic and nets states a significantly smaller amount than they get from Pittman-Robertson and Dingell-Johnson funding for game species.

Funds are apportioned to states, commonwealths, and U.S. territories according to a formula based on land area and population. Since 2008, Congress also has authorized funding for competitive grants encouraging multi-partner projects to implement actions in states' Wildlife Action Plans. Wisconsin and its partners have been among the most successful states in winning these competitive grants, reflecting the quality of its proposals and staff.

For each of the funding sources aimed at rare and declining species, it is up to individual state fish and wildlife agencies to determine how the funds are used, but activities must meet the intent of the grant programs. States also provide matching funds, which amplifies the overall work that can be accomplished through these programs.

NEW WAYS TO ENGAGE

The Fish, Wildlife and Habitat Management Plan and the Wisconsin Wildlife Action Plan must be updated at least every 10 years and the department taps staff experts, outside partners and citizens to do the work.

From 2013 through 2015, a Wildlife Action Plan Advisory Team, multiple working groups, and a committee of the Wisconsin Conservation Congress, brought a wide range of data, expertise and practical experience to the planning effort. The team tried two new approaches to gather input from citizens around the state and reach out to new as well as traditional audiences.

Nine community meetings were held around the state in fall 2014 and blended elements of focus groups, coffee chats and traditional public meetings. The aim was to bring together people with different viewpoints in a comfortable, friendly environment.

Participants rotated through tables, each of which had a different topic for conversation. The technique emphasizes an open discussion where there are no "right" answers, with a goal of identifying broad priorities and issues of concern among participants and engaging people beyond the usual department partners.

To gather even more diverse input, the department created an online questionnaire available in English, Spanish and Hmong and widely publicized it. Nearly 10,000 people responded to questions about use and management of public land, issues of concern for fish and wildlife populations, and which activities respondents wanted the department to prioritize.

The community meetings and online questionnaire together highlighted the common themes Wisconsin citizens identified as important to them: habitat protection, invasive species, wetlands, water quality, climate change impacts and adaptation, the future of hunting and shooting, shifting demographics and funding. That public input was compiled and considered as the plans were updated.

"Often times our customers don't feel that we listened to them . . . we provided venues to get their input," Schaller says. "We continue to do that and it's up to the users to take advantage of these opportunities. We truly can say that the public was part of the planning process."

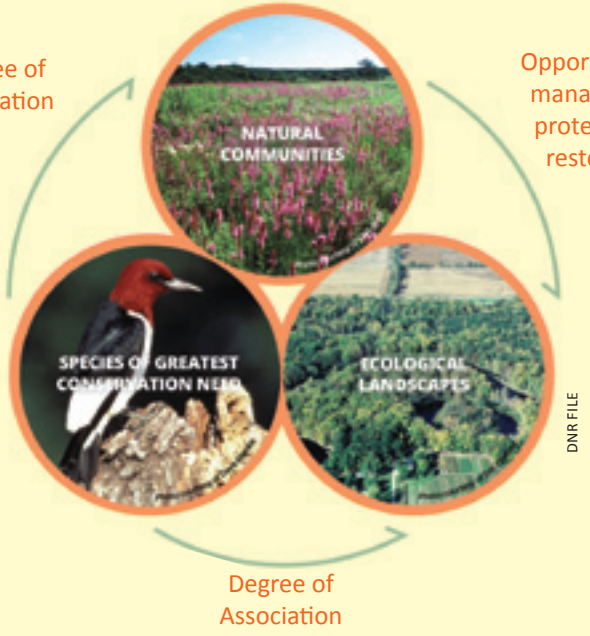
The resulting plans outline broad goals and strategies for the Department of Natural

WHAT KINDS OF PROJECTS GET FUNDED?

Examples of activities supported with Pittman-Robertson funding include wildlife research and surveys, habitat enhancement, technical assistance to private landowners, operation and management of wildlife areas and facilities, comprehensive planning for wildlife resources, and hunter education and safety.

Examples of activities supported with Sport Fish Restoration funding include development projects like fishing and boating public use facilities, and fish hatcheries; lake and stream habitat improvement projects; comprehensive planning, research, surveys and inventories; technical assistance; operation and management of fishery areas and facilities, and aquatic resource education.

Examples of activities supported with State Wildlife Grants include documenting mussel and fish habitat in the Mississippi River, working with other states to conserve migratory bird stopover habitat, providing assistance to landowners who want to restore habitat on their property, supporting field ecologists who help manage state properties, and updating and implementing the state's Wildlife Action Plan.



These core elements are combined in the Wisconsin Wildlife Action Plan to identify the ecological priorities and most important conservation actions we can undertake to sustain the diverse natural resources of our state.

Resources . They build on our foundation of working with customers, partners and the public to conserve and enhance fish, wildlife and habitat through regulations, policies, partnerships and outreach. In the following pages we share stories of some of the major initiatives and new approaches to achieve these goals, and most importantly, the people behind them. With your help, Wisconsin can offer the hunting, fishing and wildlife watching experiences you treasure, and preserve the wildlife, wetlands, waters, forests and prairies that you love.

To read the plans go to dnr.wi.gov and search "Fish, Wildlife and Habitat Plan" or "Wildlife Action Plan."

FISH, WILDLIFE AND HABITAT MANAGEMENT PLAN GOALS:

Protect, restore and enhance sustainable fish and wildlife populations and habitat through an integrated ecosystem approach.

Support and increase opportunities for people to participate in fish and wildlife-focused activities.

Improve communication and engagement with the public and program partners regarding fish and wildlife conservation issues.

Ensure management systems, resources and data are available to effectively meet program objectives and to make sound decisions based on science, including ecological, social and economic factors.

WISCONSIN WILDLIFE ACTION PLAN GOALS:

Prevent endangered species listings.

Improve understanding of species and habitat rarity, trends, threats.

Identify and implement conservation priorities in plan.

Tara Bergeson is a conservation biologist in DNR's Bureau of Natural Heritage Conservation and led planning and public input efforts for the two plans.

24 hours in a day

Demographic trends and competition for time drive outdoors future.

Lisa Gaumnitz

The key demographic trends that will affect fish and wildlife conservation, management and recreation activities in the next 10 years are many of the same ones we've been talking about for the last three, four and five decades, says longtime DNR social scientist Jordan Petchenik.

- We're gaining people, with Wisconsin population expected to grow 6.8 percent by 2025.
- We're getting older, with the share of citizens 65 and older expected to increase by 10 percent.

DNR FILE

Over 35 years, thousands of people have been involved in helping conservation biologists determine the status, distribution, and long-term population trends of Wisconsin's frogs and toads.

The Department of Natural Resources has developed a Lake Sturgeon Management Plan for the entire state.

MICHAEL KIENITZ

- We're becoming more urban and suburban, with less than half the population expected to live in rural areas by 2040.
- We're becoming more ethnically and racially diverse.

Changes in land use to accommodate growing and shifting populations will affect fish and wildlife habitat, and a more diverse customer base may hold fish and wildlife management and recreational interests and views that differ from the current customer base.

Wisconsin has typically bucked the national trend in terms of outdoors participation. We tend to have higher than average participation rates, Petchenik says.

Whether we continue that pattern depends on how well the Department of Natural Resources and partners respond to the challenge of how people choose to allocate their time. While there are the same 24 hours in the day as there were a generation ago, there are more demands and options keeping people away from the outdoors — everything from hauling kids around to sports practices to online entertainment and

information options.

"So our challenge as a department is putting our recreation opportunities front and center and hoping to make them a priority for people so they do make time," Petchenik says.

"The acid test is, when they go out there, do they have a good time? And do they want to go out again?"

The answers to those questions gets back to having access to the resources — are there places to go hunting, fishing and wildlife watching? And are there healthy populations of fish and wildlife to sustain recreation?

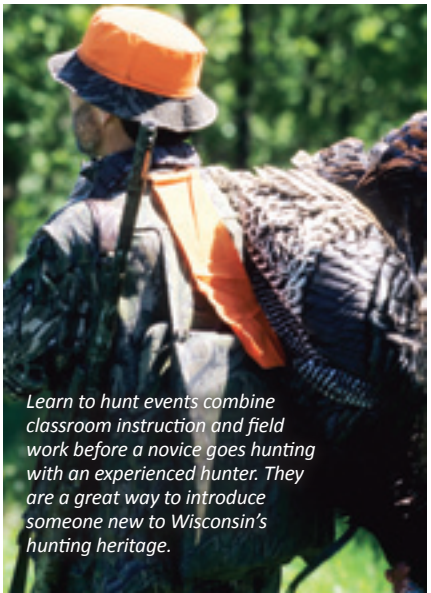
Petchenik says the access question continues to challenge Wisconsin and elsewhere due to privatization of land. Healthy fish and wildlife populations also become more of a challenge as human population grows.

TRENDS IN WILDLIFE POPULATIONS AND HABITAT

Wisconsin's location at the ecological crossroads of North America — where eastern hardwood forests meet western prairies and northern pine forest — and our long history of natural resource conservation resources have allowed Wisconsin to retain our diverse fish and wildlife species even though our landscape has changed significantly since statehood in 1848. The Fish, Wildlife and Habitat Management plan summarizes, and the Wisconsin Wildlife Action Plan provides in great detail, the status and trends of these species.

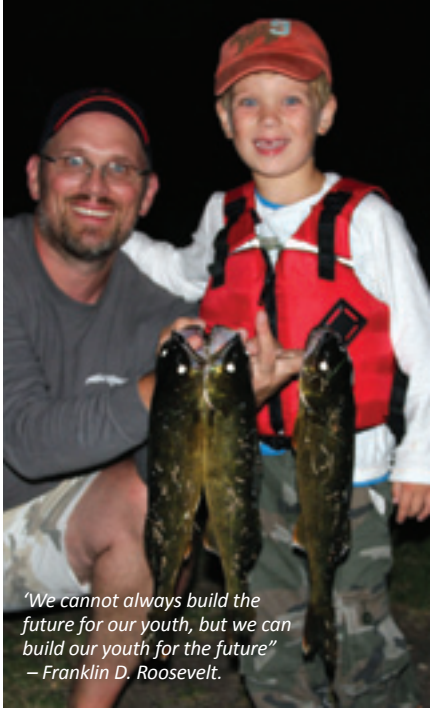
DNR FILE

Fishing is a lifelong recreational opportunity. Looking for a place to wet a line? Visit dnr.wi.gov and search "fishing."



DNR FILE

Learn to hunt events combine classroom instruction and field work before a novice goes hunting with an experienced hunter. They are a great way to introduce someone new to Wisconsin's hunting heritage.



TARA BERGESON

'We cannot always build the future for our youth, but we can build our youth for the future" – Franklin D. Roosevelt.

TARA BERGESON

A young birder ready for the Great Wisconsin Birdathon.

Wisconsin is home to 69 native mammal species, of which 14 have been identified as "species of greatest conservation need" because of low or declining populations. Important breeding, wintering or migratory habitat is provided for 284 bird species — 84 of which have been identified as "species of greatest conservation need" and there are 148 fish species native to Wisconsin — 27 of them identified as species of greatest conservation need.

Bald eagles, trumpeter swans and osprey are once endangered species that have made a rousing comeback in Wisconsin through action by the Department of Natural Resources and others; gains have also been made in bird species that depend on wetlands, and grassland birds stabilized at low levels, also due to actions on the ground.

That diversity includes about 57 wildlife game species and 53 sport fish species, which provide diverse hunting and fishing opportunities. Gains have been made through reintroducing elk, bear populations have climbed, and wild turkey populations exploded, all contributing to increased opportunities for hunting, now or in the future.

Lisa Gaumnitz writes for the DNR's Bureau of Natural Heritage Conservation.

TOP THREE ISSUES OF GREATEST CONCERN TO QUESTIONNAIRE RESPONDENTS

HABITAT LOSS AND FRAGMENTATION
More than half listed this the top concern.

WATER QUALITY
43 percent placed this as their top concern.

INVASIVE SPECIES
34 percent of respondents identified this as their top concern.

DNR FILE

Black swallowtail butterfly landing on thistle.

MICHAEL KIENITZ

Swamplovers

Meet landowners who are interested in ecological restoration as well as game management.

Lee Swanson, far left, and Jerry Goth, inset photo, conduct prescribed burns on their Dane County land to restore oak savanna and prairie.

MICHAEL KIENITZ

MICHAEL KIENITZ

Oak savanna, like this restored one on the Swamplovers Nature Preserve, is one of the most imperiled landscapes in the world.

Lisa Gaumnitz

Thirty years ago four friends chipped in to buy land near Cross Plains so they could hunt, fish and walk their dogs.

They didn't have much of a plan for the small worn-out parcels they now owned but quickly realized that if they wanted to hunt pheasant, they would need to give the birds something better to eat.

"We had corn and soybeans here and we needed a rich broth of protein for pheasants," says Jerry Goth. "That led us to prairie plants. We realized you need biodiversity if you want to raise pheasants."

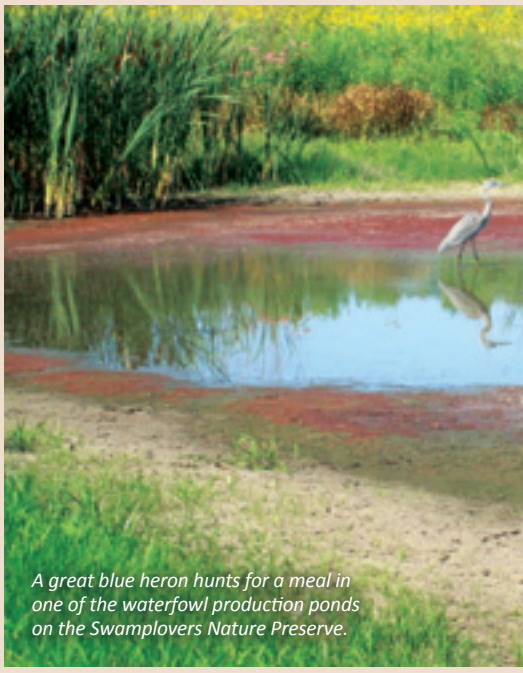
Thus, the partners began down a long and winding path that has them restoring remnant prairie but also oak savanna, woodlands and wetlands on their 460 acres to benefit game and nongame species alike.

They've invited the public onto their land for tours, hikes, hunts and more, and have taken dramatic steps to assure that the Swamplovers' Nature Preserve will be taken care of when they are gone, including setting up a foundation to pay for its future management.

The cities are full of people with no connection to nature, says Lee Swanson.

"We want it to be an educational place for people to learn to enjoy and appreciate nature so there is somebody to care for it."

Now incorporated as the nonprofit Swamplovers Foundation Inc., the men are



A great blue heron hunts for a meal in one of the waterfowl production ponds on the Swamplovers Nature Preserve.

part of a growing wave of private property owners who are stepping up to conserve native species and deliver outdoor recreation and educational opportunities as government resources shrink. They are pursuing conservation opportunities identified in the Wisconsin Wildlife Action Plan and working toward broad goals outlined in the Fish, Wildlife and Habitat Management Plan.

"The Swamplovers are part of a really under-recognized but increasingly important type of landowner," says Darcy Kind, a DNR conservation biologist who has worked with private landowners including the Swamplovers and others for the past 15 years. "They understand the need for game management and ecological restoration. They truly define the 'land ethic.' Like Leopold, hunting and fishing has heightened their desire to manage the resources and listen to the land."

SWAMPLOVERS GETS ITS NAME

On that mild, sunny March day, Swanson greets a reporter and photographer at the end of his driveway on the Swamplovers property. A bronze elk sculpture surrounded by dessicated prairie grasses and wildflowers attests to his love of elk and his efforts to restore the animal to Wisconsin through his work with the Rocky Mountain Elk Foundation. A trio of restored ponds in front of his log home already have Canada geese settling in to nest; behind his home, Goth's house peeks out from the trees on the hillside above.

Swanson ushers us inside his study and tells us how he and Goth, along with Tom Kuehn and the late Joe Kuehn, bought this land from landowners who had previously let them hunt and hike it.

The lowlands had been drained for agriculture fields and the ridge rising behind Swanson's and Goth's homes was overrun by invasive species like buckthorn, honeysuckle and garlic mustard and aggressive native plants like red cedar. The name Swamplovers came because it was poor farm land and people thought we were kind of crazy for buying it, Swanson says.

Mike Foy, a DNR wildlife biologist, came out to the site and advised them on restoring the ponds to attract waterfowl. They eventually recreated 21 ponds on the site through a partnership with the U.S. Fish and Wildlife Service and Ducks Unlimited.

Each restoration led them to another that benefitted game and nongame species, or vice versa, and tapped into federal, state and local cost-share programs.

For example, they enrolled 80 acres of woods in DNR's Managed Forest Law program, and worked with Darcy Kind through DNR's Landowner Incentive Program to get

MICHAEL KIENITZ

CRAIG ANNEN

The landowners open Swamplovers Nature Preserve to youth and disabled hunts.

LEE SWANSON

technical advice and cost sharing to restore prairie and savanna in the Driftless Area. And they've gotten turkey stamp money from DNR for many years to create more of the oak savanna that turkeys seek during the spring breeding season.

Krista Pham, DNR assistant upland wildlife ecologist, says the Swamplovers' work is right on target for DNR goals of making sure habitat remains favorable for turkeys in southern Wisconsin. "With the Swamplovers, they have a history of success, the habitat is well managed and we know it has benefits beyond turkey."

Those benefits keep popping up. One day Swanson was walking his dog on the property and came across four beautiful pale purple flowers. "I didn't know what they were. I got a hold of Jerry and told him and it turns out they were the farthest northern stand of native pale purple coneflowers. The more these nifty things we found and learned about, the more we took ownership in the caretaking of the property," he says.

Thanks to their restoration work so far, there are now thousands of those pale purple coneflowers. Nearly 2,000 native plants and animals have been documented on the land, and the most recent tally indicates that 134 at-risk species inhabit the Swamplovers Preserve, 81 of them animals, according to Craig Annen, the private contractor who helps manage the land and edits the foundation newsletter.

They expect more will be found as they increase the preserve's carrying capacity for at-risk species and to promote oak regeneration. They are partnering this year with state, federal and county partners to plant oak trees and forbs on the ridge, to convert more pasture into prairie, and to install nesting boxes throughout the preserves, woodlands, savannas and wetlands. Ruffed grouse, brown thrasher, wood thrush, southern flying squirrel, as well as species of greatest conservation need such as American woodcock, red-headed woodpecker and several bat species are among the species expected to benefit from this work.

"I always think of more things that need to be done," says Goth. The more you learn, the more you realize how complex these systems are.

"We look at a thousands-year-old prairie and we try to replicate it in a few years," he says. They are continually trying to refine what they do in the prairie and learn from the land.

WE DIDN'T WANT IT TO LOOK LIKE THAT

While the list of partnering agencies, organizations and volunteers is long, Swanson and Goth still work nonstop on their property to restore and maintain it and to raise money for its care.

JERRY GOTH

Students from Park Elementary School in Cross Plains help collect prairie seed.

JERRY GOTH

They cut red and black oak in fall and early winter, conduct prescribed burns in early spring, plant trees and forbs in spring and summer, control sweet clover and garlic mustard in summer, and collect wildflower seeds in fall.

"It's a full-time job," Swanson says. "But we love it."

Their investment in the land and love for it spurred the partners, now in their 70s, to take a trio of actions to cement the future of the Swamplovers Preserve.

They considered willing the land to the state, county or National Park Service, but worried that none would have the resources to care for it.

Ultimately, they agreed to a conservation easement with the Ice Age Trail Alliance. The easement protects and opens up to the public 100 acres of their land along a 1.5-mile stretch of the Ice Age Trail. The rest of their land is also covered by the easement and is protected from development for perpetuity.

The friends used the money they received from the conservation easement to set up a foundation to raise money for the care of their land in the future. Upon their deaths, the land will go to the Ice Age Trail Alliance, and will be open to the public.

Jerry Goth, left and Lee Swanson, right, along with Tom Kuehn, a silent partner in the Swamplovers Foundation, take great pride in their land and are leaving it to the Ice Age Trail Alliance.

MICHAEL KIENITZ

Pale purple coneflowers (Echinacea pallida) have responded to restoration work at the Swamplovers Nature Preserve.

STEPHEN B. GLASS

A LIVING LABORATORY AND EXPLORATORIUM

Swamplovers monitor the results of their management actions and the property's proximity to Department of Natural Resources and University of Wisconsin staff has made it a living laboratory.

DNR bat scientists are field testing roost designs for bats as all seven species found in Wisconsin have been documented here. Enhancing their breeding success may help bat populations survive white-nose syndrome, a deadly fungus that has already severely reduced bat populations in some hibernacula here. Research on how frogs and turtles respond to certain conservation practices, and research on trees and multitudes of insects, are other ongoing studies.

Swamplovers allow deer, wild turkey, pheasant, small game and limited waterfowl hunting at the preserve for young hunters and disabled hunters. Local hunter education instructors conduct the field portion of their classes here, and Pheasants Forever has a field day here as well.

Birdwatchers, art students and butterfly and dragonfly enthusiasts regularly visit the property and it was the site of a 2015 snowshoe race. Last year, more than 400 students from elementary school through college visited to learn about, and participate in, managing the site. And more than 1,000 hikers experienced the preserve's natural landscape along the Ice Age Trail.

This public engagement and exploration is by far the most important goal, Goth says. "It's to have the young people appreciate and love the land. Because when you love the land, you do stupid things like we did — and give away the land."

"THE FUTURE IS HERE"

The partners appreciate the enthusiasm, encouragement, advice and funding DNR staff and other agencies have provided along the way. They see such private action as the way to go because "we have an ability to get it done," in a way that the agencies can't because of the bureaucracy, the restrictions on what you can do and limited resources.

"I think the future is here," Swanson says. "People are stepping up to help and you're seeing more collaboration" to get things done on private land, witnessed by the more than 300 people who turned out a few weeks ago to The Prairie Enthusiasts' annual meeting in Madison.

Swanson and Goth, both avid readers of Aldo Leopold's writings, note his contention that "There is a clear tendency in American Conservation to relegate to government all necessary jobs that private landowners fail to perform."

They are cheered by what they see on their land and elsewhere, and think Leopold would be too.

"There's a recognition this needs to happen. If you read the later years of Aldo Leopold he couldn't see the recovery of the land," Swanson says. "If he could walk around and see what has been done in areas where he thought the damage was irreversible, I have no question in my mind he would be thrilled at the interest shown by people."

For more information, visit swamplovers foundation.org.

Lisa Gaumnitz works for DNR's Bureau of Natural Heritage Conservation.

Working for the walleye

State fish hatchery upgrades made possible by the Wisconsin Walleye Initiative.

Lisa Gaumnitz

Wisconsin anglers stand to land more of their favorite quarry — walleye — through investments being made now to the state hatchery system.

Four state hatcheries are receiving more than $8 million in upgrades to water systems and rearing ponds as well as construction of new ponds to allow them to raise more extended growth walleye. These 6- to 8-inch fish have been shown to survive at higher rates than the smaller walleye more typically stocked in Wisconsin waters because they are too big for many predators. But these larger fish require significantly more room to grow and are more expensive to raise.

The hatchery improvements are part of the Wisconsin Walleye Initiative included in the 2013-2015 state budget to boost walleye fishing in the state to benefit all users.

"The governor made it possible so we could rear more in house but also contract outside," says Dave Giehtbrock, fisheries culture section chief for the Wisconsin Department of Natural Resources. "We've made grants for infrastructure at tribal and private hatcheries and we have money to buy those fish back."

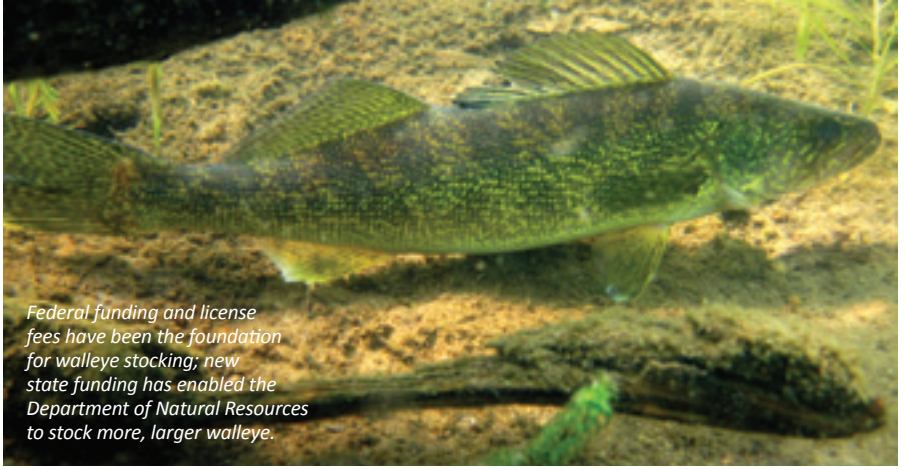
The department received $1.3 million in each of 2013, 2014 and 2015 for annual operating costs to expand production at state fish hatcheries. As well, the funding package provided a one-time allotment of $2 million for private sector and tribal infrastructure improvements and $500,000

Walleye are Wisconsin anglers' favorite target.

LORI TATE

Tommy G. Thompson State Fish Hatchery in Spooner is getting four new ponds to help raise more extended growth walleye fingerlings.

MICHAEL KIENITZ



Federal funding and license fees have been the foundation for walleye stocking; new state funding has enabled the Department of Natural Resources to stock more, larger walleye.

DNE FILE

The 6- to 8- inch walleye fingerling survive at higher rates than smaller fingerlings typically stocked in Wisconsin.

MICHAEL KIENITZ

for the annual purchase of extended growth walleye from non-DNR hatcheries. Funding totaling $500,000 was approved earlier this year to continue the effort for 2015 and 2016.

Wisconsin's best walleye waters are naturally self-sustaining and provide over 80 percent of the fish reported caught by anglers, but there are many waters where the department hopes that stocking more, larger walleye can help improve the walleye populations and provide walleye fishing opportunities that otherwise wouldn't exist.

To make the hatchery upgrades, the Department of Natural Resources was able to draw on a feasibility study it had completed before the walleye plan was announced.

"We used a lot of that information to upgrade Woodruff and Spooner. We added water capacity at Wild Rose Hatchery which enhanced our biosecurity," Giehtbrock says.

At Wild Rose, another groundwater well was drilled and the piping system was changed so that walleye and musky facilities had their own water supply, Giehtbrock says. Originally, when that hatchery was overhauled in the mid-2000s, the idea was to reuse the water that had flowed through the trout raceways and send it into the walleye and musky ponds where the nutrients in the water from the trout would feed the plankton and other aquatic life needed to feed the young musky and walleye. The discovery of the fish disease viral hemorrhagic septicemia in 2007 spurred significant changes in hatchery operations to avoid accidentally spreading the virus.

The Tommy G. Thompson State Fish Hatchery in Spooner is also upgrading its water supply for biosecurity purposes, adding filtering and UV treatment capabilities. They also will be getting four new ponds.

The improvements to Art Oehmcke State Fish Hatchery in Woodruff will include equipment to disinfect the building water supply, and an egg disinfection room and new rearing ponds.

During the first three years of the initiative through 2015, some 255 lakes were stocked with more than 1.5 million extended growth walleye. Before 2013, the state produced about 40,000 extended growth fingerlings per year.

Lisa Gaumnitz writes for DNR's Bureau of Natural Heritage Conservation.

Eat local

Hunting and fishing classes teach students how to harvest a healthy meal.

Natasha Kassulke

THERESA STABO

Executive Chef Patrick McCormick of Oliver's Public House presents a delectable creation.

THERESA STABO

Deforest High School Family and Consumer Education teacher Brittany Vanderbilt guides participant Leda McDaniel in fileting a fish.

Local. Sustainable. Delicious. In step with a growing sustainable food movement, the Department of Natural Resources is hosting classes to help people bring fish from Wisconsin waters to their plates, and lean meats from Wisconsin woods to their grills.

Both Fishing for Dinner and Learn to Hunt for Food courses are part of DNR's hunter, angler and trapper R3 (recruitment, retention and reactivation program). Responding to changing demographics that show more people living in urban areas, the courses focus on adults who have an interest in sustainably sourced food as a part of a healthy diet. The department is tracking graduates to learn if taking the classes then leads to a student purchasing a fishing or hunting license down the road. Classes are held in the field and in the kitchen.

FISHING FOR DINNER

The DNR's Fishing for Dinner program's goal is to lure new anglers to the water's edge.

"We want to give people a broad brush view of our state's fisheries," explains Theresa Stabo, DNR fisheries outreach coordinator.

The course teaches students about Wisconsin fisheries, basic fishing skills such as how to use the gear and select the right bait, how to find fishable waters close to home, and how to safely prepare their catch for the dinner table including ways to minimize fish contaminant consumption.

"We also talk about threats to sustainability such as invasive species, over harvest and habitat loss and how we are addressing those threats," Stabo says. "We talk about access — that's really important — and where you can find shore fishing sites since not everybody has a boat. There are a lot of great public access sites where people can fish from a pier."

Stabo hopes to introduce new people to fishing by tying it to the local foods movement, meaning fishing near your home. Most Wisconsinites live within 50 miles of fishable waters.

THERESA STABO

Fishing for Dinner participant Chris Kluth catches his first bluegill.

Members of the Pike Lake Sportsmen's Club, Chris Shumway and Bruce Sadowski, putting on a shore lunch at Pike Lake.

THERESA STABO

"We want to get younger people excited about fishing, but also reach those who might have missed the boat because they didn't grow up in a fishing family or attend a fishing clinic, or maybe it's an activity they had set aside and now they want to get back in," Stabo says. "It's for people who are concerned about where their food comes from and value locally grown, high quality food that is good for them and tastes good. Fishing fits the bill. You can't get much more local than a fish caught from a nearby body of water."

The Fishing for Dinner program has completed its second year. Classes had been free and funded through the Federal Aid in Sport Fish Restoration Fund, which draws revenues from manufacturers' excise taxes on sport fishing equipment, import duties on fishing tackle, yachts and pleasure crafts and a portion of the gasoline fuel tax attributable to small engines and motorboats. Participants have been asked to contribute, nominally to cover the cost of pontoon boat rentals that get them out on the water.

People who register for the sessions and have less than two years of fishing experience do not need a fishing license to take the class, but must obtain a DNR customer identification number.

The first course was taught in Milwaukee with ice fishing and then a follow up spring fishing course with that first group.

Since then, the department has co-sponsored classes with partner groups in Milwaukee and Madison. In Milwaukee, the 2016 winter classes were held at the Urban Ecology Center with a fishing outing with members of the Pike Lake Sportsmen's Club at Pike Lake in the Kettle Moraine State Forest. The final winter session was held at the Hunger Task Force kitchen facility with help from Outpost Natural Foods and Milwaukee Area Technical College to demonstrate how to fillet and cook fish.

In Madison, students got help from the Wisconsin Fishing Team based on the University of Wisconsin-Madison campus, Willy Street Coop and others.

"We've had local chefs from Oliver's Public House come in and help teach how to clean and cook the fish and that has been very fun," Stabo recalls.

To learn more, go to dnr.wi.gov and search "Fishing for Dinner."

LEARN TO HUNT FOR FOOD

The Learn to Hunt for Food courses focus on deer, and, more recently wild turkeys, but can be applied to any kind of game. The lessons include how to find a place to hunt, how to butcher game and how to prepare and cook wild game. The course includes an option to participate in a 2-day hunt.

DNR's Learn to Hunt for Food courses have run since 2012. The first class was held at Madison College and had 20 participants, but interest continues to grow, according to Keith Warnke, DNR's hunting and shooting sports coordinator. Today, there are more than 150 graduates.

In 2015, the DNR held four classes — three in Madison and one in Watertown. Each course had 10 to 20 participants. Also new in 2015 was a "Learn to Hunt for Food" course focused on turkeys with 20 participants.

"Interest and opportunities in these courses are continuing to grow," says Michael Watt, a program specialist in DNR's hunting and shooting sports program. "Right now the DNR runs four classes each year (three deer and one turkey) but then we also have some partners who do courses."

The National Turkey Federation, some colleges, and rod and gun clubs are coming on board. Minnesota, Kentucky, South Dakota and Massachusetts have borrowed from the Wisconsin syllabus.

The courses are free and tied to DNR's hunter recruitment efforts and as such, are eligible for Pittman-Robertson funding (Federal Aid in Wildlife Restoration Act), which is money generated by a tax on the sale of archery equipment, ammunition and firearms.

"We're trying new approaches and ideas to see if we have success by evaluating them and seeing if they have any positive impact on our recruitment efforts," explains Watt.

"The Learn to Hunt for Food classes are part of an R3 action plan — recruit, retain and reactivate," says Warnke. "There is a national hunting and shooting sports (Council to Advance Hunting and Shooting Sports) R3 plan that we have used as a model to begin drafting our own Wisconsin plan."

The evaluation looks at how many graduates go on to purchase hunting licenses and the evaluation of the first two years of classes shows that it is working.

"We've found that between 40 and 50 percent of the course participants will buy a hunting license each year," Warnke says.

"The key to this program is good mentors. That's our limiting resource — our bottleneck," explains Watt. "We need a long term commitment."

For more information go to dnr.wi.gov and search "Learn to Hunt." To learn about becoming a mentor search "Mentored Hunting." ■

Natasha Kassulke is editor of Wisconsin Natural Resources *magazine.*

A successful Learn to Hunt for Deer class outing.

DNR FILE

Enhancing public access and use of DNR lands

Caring for what we have and building for the future.

DNR FILE

Natasha Kassulke

When people walk or bike the 3.7-mile crushed gravel Terrell's Island Breakwall Trail on the south side of Lake Butte des Morts near Oshkosh, they might not know how significant and involved the construction project was. The year-long project involved putting a cap on top of the big stones with finer stones and created a looping trail that is wheelchair accessible. Visitors to Terrell's Island were always able to walk the breakwall and explore this area, but prior to the construction, trails did not exist past the shoreline, and people were seen climbing among large rocks and boulders.

Today, there are about 2 miles of the trail that lead out over the open water. From there, one can see the Village of Butte des Morts, open water, cattail marsh land and a wet meadow. There are deer, muskrats, great blue herons, pelicans, marsh wrens, ducks and geese. The project was completed with the cooperation of the Butte des Morts Conservation Club.

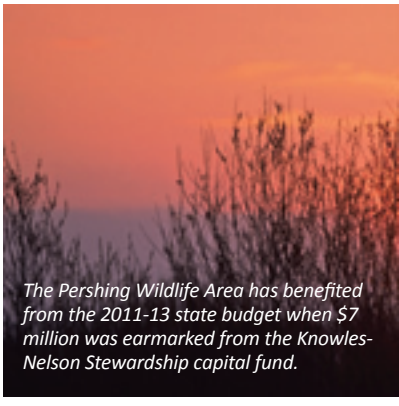
The project joins newly electrified campsites at Interstate and Big Foot Beach state parks, road access improvement at Ten Mile Creek and Pershing wildlife areas, Lake Wisconsin Moon Valley boat launch improvement, Besadny Fish and Wildlife Area accessible trail and fishing platform replacement, and informational signage at the White River Fishery Area — all which benefited from the 2011-13 state budget when $7 million was earmarked from the Knowles-Nelson Stewardship capital development funding to complete 172 projects.

Dan Olson, capital budget section chief for DNR's Bureau of Facilities and Lands, explains that of that, $5 million was used for infrastructure improvements on DNR lands consisting mostly of projects such as parking lots, public access roads, increased

The Terrell's Island Breakwall aerial view.

An accessible walkway and parking to a hunting blind at the Grand River Marsh Wildlife Area.

DNR FILE



The Pershing Wildlife Area has benefited from the 2011-13 state budget when $7 million was earmarked from the Knowles-Nelson Stewardship capital fund.

signage and property boundary marking. About $1.25 million was used to increase electrification in state parks. The remaining amount, $750,000, was used for additional access projects including boating/canoeing/kayaking access, trails and other repair projects related to water control and emergency needs.

The projects included:

- Parking lots: 106 projects covering 425 lots
- Roads: 37 projects covering about 145 miles
- Trails: Terrell's Island Breakwall Trail
- Campsite electrification: 6 projects covering 471 sites
- Informational signs: 16 projects covering 1,200 signs
- Boat access: 3 projects
- Fishing access: 2 projects
- State park hunting signs: 1 statewide project

DNE FILE

The Wisconsin Legislature created the Knowles-Nelson Stewardship Program in 1989 to preserve valuable natural areas and wildlife habitat, protect water quality and fisheries, and expand opportunities for outdoor recreation.

In past years, while Stewardship funding was made available to acquire lands, funding was generally not available to keep up with increasing management needs— the conservation infrastructure of DNR properties.

"Access projects are still a high priority for us with our regular capital development program funding sources — we don't just use Stewardship funding for those projects," Olson explains. "We have about $20 million available each year to take care of everything from improving entryways to state parks to improving public access."

As an ongoing effort, the Department of Natural Resources is prioritizing funding towards those that also help achieve compliance with environmental regulations and other code requirements such as the Americans with Disabilities Act; improve the quality of the recreation experience and services to the public; assure the health, safety and security of DNR employees and the public visiting DNR properties; and improve water supply and sewage systems in state parks.

The projects are varied and statewide. For example, the department manages about 1,250 miles of roads paved in gravel, 2,700 parking lots and 1,000 bridges.

Some of the projects are done by DNR crews and others are contracted out. State parks and other friends groups also play an important role in property improvements. The Stewardship program makes $250,000 in annual matching grants available to nonprofit and conservation organizations with priority given to projects submitted by friends groups. The groups must match the contributions with cash and in-kind donations of materials and labor.

"We are trying to catch up to make sure we are taking care of what we have," Olson says.

Natasha Kassulke is editor of Wisconsin Natural Resources *magazine.*

DNE FILE

A parking lot was repaired and regraded at the Peter Helland Wildlife Area in Columbia County.

DNE FILE

GO WILD FOR WISCONSIN – YOUR LICENSE TO EXCITEMENT

WI DEPARTMENT OF TOURISM

When the Department of Natural Resources launched its Go Wild campaign in spring 2016, it got a boost from several federal funding sources. Wisconsin asked for $100,000 Pittman-Robertson funding and $40,000 in Sport Fish Restoration funding for the Go Wild campaign.

The investment is paying off. Go Wild makes it easier for the public to engage in a broad variety of recreational opportunities made possible by prudent management of natural resources, and efforts to provide public awareness, public access and skills training.

The Go Wild brand is a highly visible part of a new customer licensing system and offers key licenses and registrations (boat, ATV/UTV and snowmobile) all in one place, and features several options to show proof of licensing from mobile device display to scanning a Wisconsin driver's license, paper document and even a collectible Conservation Card.

When you purchase your license, either at a vendor or at home, you will receive a printed paper document containing your harvest permits, such as deer, spring turkey or goose. Each tag will include instructions and space for proper validation. Because Go Wild uses plain paper, validation of most tags involves marking the paper tag rather than slitting or punching.

There were no license fee increases with implementing the Go Wild system.

Go Wild is a portal that focuses on creating a greater awareness of the hunting, fishing, boating and wildlife viewing opportunities in Wisconsin, communicating information about wildlife and sport fish, and encouraging an understanding, appreciation and an involvement by the public in wildlife and sport fish programs.

Go Wild will also assist the public in making informed decisions regarding wildlife and sport fish programs, activities and affected resources.

To start, simply visit GoWild.WI.Gov or stop at one of more than 1,000 DNR license sales vendors and Service Center locations.

By Natasha Kassulke

go WILD
GoWild.WI.Gov

Revising trout regulations

Longer seasons and simplified rules have anglers smiling.

Lisa Gaumnitz

Mat Wagner's already noticing the impact of Wisconsin's revised trout regulations on his fly shop and guide service in Viroqua.

"We have seen an uptick in the number of people fishing for sure," says Wagner, owner of Driftless Angler, of the catch-and-release season that started two months earlier this year. "People like to know they don't have to travel to Iowa to go fishing."

Wagner expects his business to reel in more significant benefits as other rule changes fully take effect this year and as the word gets out about longer trout seasons and simplified rules.

He is particularly excited that the regular fishing season is now two weeks longer; it opens immediately after the catch-and-release season ends and closes October 15 instead of September 30 as in past years.

"I think those changes are going to be a huge benefit for fishing — more time to fish," Wagner says. The removal of the five-day closure between the early trout season and opening day of the regular season is "phenomenal," he says. "In the past, those five days were in the middle of our black caddis hatch but no one could fish."

The rule changes will benefit fish populations as well because they will mean more watchful eyes on the streams for more of the year, helping look for poachers and other problems and being advocates for the streams, Wagner says.

The changes resulted from a nearly three-year process of public input collected by DNR's fisheries staff to review and simplify Wisconsin's trout fishing regulations, says Joanna Griffin, who leads DNR's trout team.

The department conducted public meetings, online surveys and scientific, random mail surveys of current anglers and anglers who had fallen away from the sport to gain insight on trout fishing, and barriers to the same, in Wisconsin. A task force of anglers, businesses linked to trout fishing, bait shop owners and local people considered the social science and biological research the department presented to help determine management goals. Quality fishing, simplified regulations and more opportunity were the group's broad direction.

"From there, we worked with the stakeholder task force and fisheries biologists and said, 'how do we achieve that in a way that still protects the fish,'" Griffin says.

DNR biologists simplified regulations by reducing from four to three the number of categories for regulatory purposes and color coded maps to follow a stoplight concept. Green streams have no length limit and a five daily bag limit; yellow streams have a three fish daily bag limit with an 8-inch minimum limit; and red streams vary from catch-and-release to 10 bag streams.

Revised trout regulations are simpler but still provide the necessary protection for strong brook trout populations.

RYAN ALGER

Eliza Woulf makes the most of the early catch-and-release season.

SUBMITTED BY ELIZA WOULF

This 10-year-old was all smiles after catching a nice brown trout in a Vernon County stream using a worm. Revised trout regulations are simpler and provide a variety of opportunities to appeal to all anglers.

MATT MITRO

MATT MITRO

There are more changes: the number of special regulations was reduced from 40 to 10; longer stretches of streams have the same regulations, and regulations change at road crossings not county lines, making it easier to follow, Griffin says. There is a consistent season for inland lakes with trout.

The Department of Natural Resources also is trying to provide better tools to help anglers find the waters they want to fish, including changing the regulations pamphlet to be easier to read and developing an application for smartphones that will help users figure out what regulations are on a particular water and what public access is available through easements on private lands.

"When it comes to rule simplification I think the route that the DNR used to make the recent changes in trout rules and regulations was good," says Bob Haase, a Conservation Congress Trout Study Committee member and part of DNR's trout task force. "There has to be a balance between rule simplification and changes based on good scientific data.

"Everyone had a lot of opportunities to give public input and they involved both the Conservation Congress Trout Study Committee, Trout Unlimited and others in all the proposed changes. It was not rushed through and I think overall it was good." ■

Lisa Gaumnitz writes for the DNR's Bureau of Natural Heritage Conservation.

Citizen-based monitoring is critical for Wisconsin bats

White-nose syndrome sparks an increase in bat awareness and conservation efforts.

Heather Kaarakka

The past nine years have been a severe curse, but also a small blessing for bats in North America. In 2007, a white fungus was observed growing on bats hibernating in a cave in New York. With the appearance of the fungus came odd behavior and mass mortality of infected bats. The disease came to be called white-nose syndrome because of the white fungus that appears on the muzzle, wings, ears and forearm of afflicted bats. It is common to observe declines of 90 to 100 percent in hibernacula infected with WNS. The disease and fungus (*Pseudogymnoascus destructans*) that causes it have spread rapidly across the continent since 2007, and WNS first appeared in Wisconsin's hibernating bat populations in 2014.

While WNS has the potential to cause regional extinction of several species of bats, concern over the impacts of the disease has also resulted in an increase in bat awareness and conservation efforts. As the eastern United States and Canada saw dramatic declines in bat populations from white-nose syndrome, regions where the disease had not yet appeared began large-scale efforts to catalogue summer and winter bat roosts, and survey the landscape to determine relative abundance and distribution of bat species.

A little brown bat, which is a species monitored by citizen scientists in the summer and is threatened with extinction by white-nose syndrome.

HEATHER KAARAKKA

A volunteer from North Lakeland Discovery Center holds a bat detector to survey for bats on a lake.

JON PEARCE

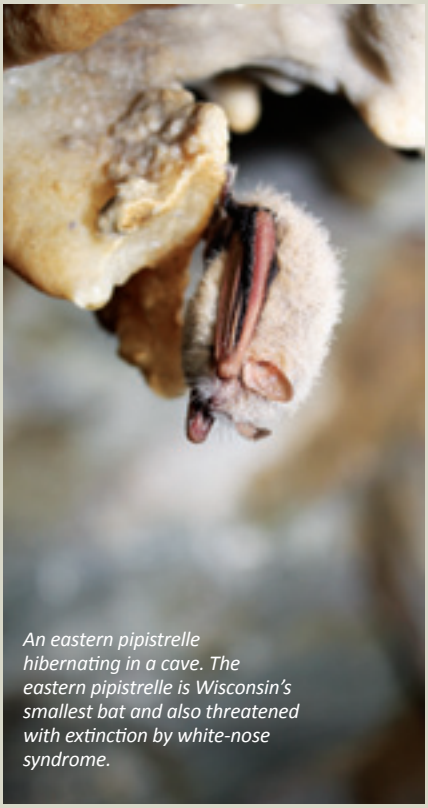
The large-scale bat monitoring effort in Wisconsin resulted in the creation of the Wisconsin Bat Program in 2007 by bat biologist David Redell.

Redell began his work investigating the ecology of bats at one of the largest little brown bat hibernacula in the Midwest, and was able to grow the program to monitor and track bat populations statewide. Integral parts of the Wisconsin Bat Program include two survey efforts through which data is collected almost entirely by citizen scientists and volunteers — summer bat roost monitoring and bat acoustic monitoring.

Bat life history is somewhat complex. In fall, bats either migrate south or head to hibernacula in Wisconsin to spend the six to eight months of winter. Fall is also an integral part of a bat's life because it is the time for mating. Female bats mate in the fall and delay fertilization until spring when they emerge from hibernation or migrate back north. On the summer landscape, some

A group of volunteers wait for over 3,000 bats to emerge from bat houses at Yellowstone Lake State Park.

HEATHER KAARAKKA



An eastern pipistrelle hibernating in a cave. The eastern pipistrelle is Wisconsin's smallest bat and also threatened with extinction by white-nose syndrome.

HEATHER KAARAKKA

bats form colonies of females where baby bats, called pups, are born and raised. It is at this summer habitat where the benefits of bats start to show.

In Wisconsin, bats consume insects and have a wide diet, consisting not only of human pests, but also agricultural and forestry pests. A single bat can consume thousands of insects each night, and it has been estimated that bats save farmers over $600 million on pesticides annually in Wisconsin alone.

In summer during the day, two species of bats in Wisconsin roost in bat houses and buildings — the little brown bat and the big brown bat, both species of greatest conservation need and state-threatened because of white-nose syndrome. These species may form large colonies of hundreds of bats and are usually easy to locate and monitor. Citizen scientists participating in the project locate a bat roost, and several times each summer conduct emergence surveys.

Surveys consist of sitting outside the bat roost and counting the bats as they emerge to forage in the evening. Through the efforts of summer roost volunteers, the Wisconsin Bat Program has been able to create a database of roost locations and population estimates across the state, and notes from surveyors have advanced biologists' understanding of roosting behavior for these species. The database of summer roosts has acted as a spring board for further research including projects investigating bat diet using guano analysis, banding bats to follow them from summer to winter habitat, and marking bats at summer roosts to investigate roost fidelity.

Bats in Wisconsin use echolocation to navigate and capture prey. These echolocation calls are in the ultrasonic range above human hearing, and just as a chickadee can be identified by its song, so too can a bat species be identified by its echolocation signature. Recent advances in recording technology have allowed the creation and use of hand-held ultrasonic detectors.

These machines, affectionately known as "bat detectors," have the ability to record bat sonograms, GPS coordinates, date and time for each bat encounter, and track the route taken by the surveyor. Trained volunteers conduct acoustic surveys by walking, biking, boating or driving in the evening across a variety of landscapes. Thanks to the efforts of acoustic monitoring volunteers, Wisconsin has been able to identify ranges of species found in the state, investigate relative abundances between species and habitats, and begin to understand foraging habitat for bats.

These two citizen-based monitoring projects have been critical to the advancement of knowledge of bats in Wisconsin. Over 1,200 volunteers have given the Wisconsin Bat Program the ability to gather massive amounts of information from across the state. The Wisconsin Bat Program citizen scientist base continues to expand, helping to advance biologists' understanding of bats before, during and after populations in the state are impacted by white-nose syndrome. To volunteer, search Wisconsin Bat Program online. ■

Heather Kaarakka is a conservation biologist in DNR's Natural Heritage Conservation program and coordinator of the Bat Roost Monitoring Project.

A model that helped launch many of Wisconsin's wildlife habitat conservation initiatives

The North American Waterfowl Management Plan.

Meredith Penthorn

Ducks, geese and swans are among the most popular huntable and watchable birds, and plentiful waterfowl populations provide for both pursuits. Continental breeding duck population estimates exceeded 49 million in 2015, indicating stable duck populations and hunting opportunities for citizens in Wisconsin and across the nation. Since the 1980s, waterfowl populations have grown to these levels with the assistance of a cooperative model for conservation known as the North American Waterfowl Management Plan (NAWMP).

Conceived in 1986 between the United States and Canada, the NAWMP built upon the protection of 1916's Migratory Bird Treaty to advance the conservation, restoration and enhancement of waterfowl habitat, especially within prime waterfowl breeding range. Hunters, concerned by waterfowl population declines coinciding with worsening habitat conditions, called for stronger conservation measures. North American partners recognized that wetland and upland habitat loss, due to wetland drainage, incompatible agricultural practices and development, needed to be addressed.

The NAWMP formulated an international vision of restoring populations to their average 1970s levels by working on a landscape level, emphasizing habitat rather than population conservation.

The number of trumpeter swans in Wisconsin has zoomed from zero to nearly 4,700 a generation after the Department of Natural Resources and partners launched recovery efforts, national survey results show.

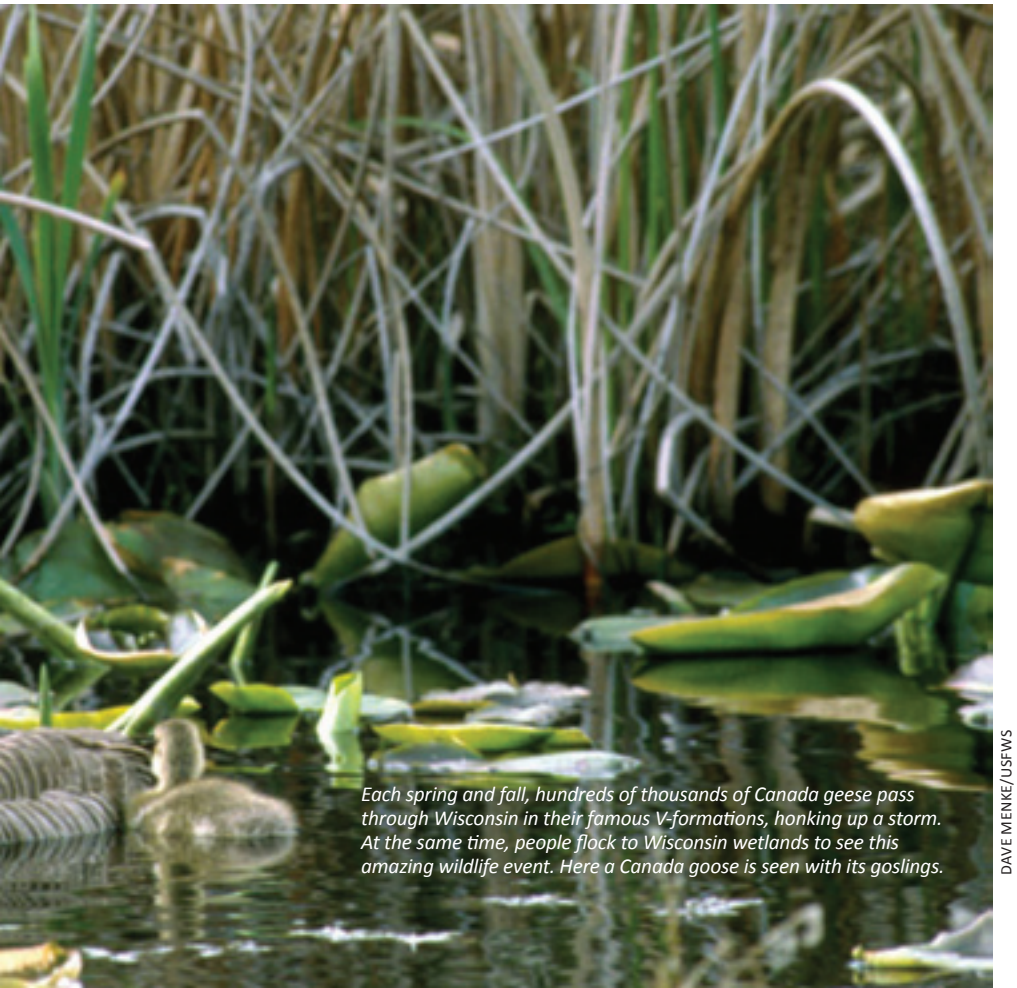
DON NADEWHURST/USFWS

The NAWMP paved the way for regional joint ventures, consisting of governments, conservation groups, businesses and individuals, to implement the plan on a regional scale. The resulting regional projects of multiple joint ventures working across North America help achieve the plan's overarching international objectives for waterfowl populations. Currently, Wisconsin works within the Upper Mississippi River and Great Lakes Region Joint Venture to transform local habitat conservation projects into large-scale positive impacts for migratory birds.

Since the 1986 NAWMP, Wisconsin and partners within the regional joint venture have sponsored a variety of habitat conservation and population monitoring projects. Since 1992, Wisconsin has secured federal North American Wetlands Conservation Act (NAWCA) grants totaling over $30 million, with an additional $102 million in partner funds, to contribute to the restoration, enhancement and protection of over 141,000 acres of wetland and upland habitat across Wisconsin. Wisconsin also supports conservation projects across the border in Canada; one-third of the funds generated by state duck stamp purchases assists in prairie pothole habitat restoration in Manitoba, a major site for breeding waterfowl that later migrate south through Wisconsin. State funds are leveraged four-fold with funding from nonprofit conservation organizations such as Ducks Unlimited, along with Canadian NAWCA dollars. Sending these funds

This is not your average duck. The wood duck is often called Wisconsin's most beautiful duck with its bright, multi-colored feathers. Males have a red eye with a distinctive orange beak with a black tip; green, white and brown-streaked head with a white cheek patch.

MIKE SWEET/USFWS



Each spring and fall, hundreds of thousands of Canada geese pass through Wisconsin in their famous V-formations, honking up a storm. At the same time, people flock to Wisconsin wetlands to see this amazing wildlife event. Here a Canada goose is seen with its goslings.

DAVE MENKE/USFWS

to Canada also unlocks grant money for agencies and partners to apply to projects in the United States.

States have also implemented the NAWMP through the Waterfowl Breeding Population and Habitat Survey, which measures spring waterfowl abundance and habitat conditions important in statewide population estimates, and the Mid-Winter Waterfowl Survey, which informs wildlife managers of winter habitat preferences and waterfowl distribution.

Additional tools, such as waterfowl banding, improved population modelling for mallards and the Wisconsin All-Bird Conservation Plan have all drawn from guidelines established in the NAWMP.

Due to its collaborative, landscape-level approach to conservation and the resulting benefits for waterfowl and wetland and upland birds, components of the NAWMP model have also been adopted by several initiatives including Partners in Flight, Bird Conservation Initiatives, Important Bird Areas and the state Wildlife Action Plans and Fish, Wildlife and Habitat Management Plans.

Both the Wildlife Action Plan, which aims to prevent species of greatest conservation need from becoming threatened or endangered, and the Fish, Wildlife and Habitat Management Plan, which provides guidance on wildlife and habitat conservation and recreation, allow Wisconsin to compete for State Wildlife Grants, Wildlife Restoration Act Grants and other funding. These grants fund habitat projects for game and non-game birds and feed into NAWMP objectives.

Periodic NAWMP revisions over the past decades reflect the changing world of waterfowl conservation. Importantly, the 2012 revision identifies hunter and non-hunter engagement, human dimensions research and societal desires as essential components in the sustainability of waterfowl conservation. Additional efforts to involve citizens in conservation will help ensure that habitat projects continue to receive support and funding.

The NAWMP model helped launch many of the wildlife habitat conservation initiatives that benefit Wisconsin today. Its broad-scale habitat focus, strong foundation of partnerships and goal of increasing citizen support of waterfowl ultimately benefit a much wider range of birds, wildlife and natural systems for the benefit of all Wisconsinites. ■

Meredith Penthorn is a communications specialist with the Department of Natural Resources. Kent Van Horn, DNR 's migratory bird specialist, and Jason Fleener, DNR wetland specialist, contributed to this article.

Landowner Conservation Reports

Lottery helps landowners learn about their property.

Lisa Gaumnitz

First as a private restoration consultant and now as a state conservation biologist, Alex Wenthe is cheered by the interest he sees in people knowing what wildlife lives on their land and caring for it.

"There truly is a land ethic that is extremely strong in Wisconsin. Whether you're talking to a hunter, angler or birder, there is this strong underlying feeling of wanting to do right by the land," says Wenthe, who grew up in northern Illinois.

As the leader of a new initiative from DNR's Natural Heritage Conservation program, Wenthe hopes to give private landowners information about unique plants and animals potentially on their land, and offer recommendations on how to enhance habitat for all native species.

For the third year in a row, Wenthe has generated Landowner Conservation Reports for 100 private property owners randomly selected through an online lottery drawing. For the last two years, landowners have also been able to choose to have a site visit along with the report.

The reports are made possible by a private gift to the Natural Heritage Conservation program. The gift allows DNR to waive the fees it is normally required to charge for searches of some of the DNR and federal databases listing where rare plants and animals have been found through field surveys of public lands or nongovernmental organization lands.

The customized reports provide information about rare species found in the area, invasive species to be on the lookout for, and general information about the soils, geology and hydrogeology in the area. The report also identifies the conservation opportunities of the property, based on the Wisconsin Wildlife Action Plan, as well as a list of state, federal and other programs available to help the landowner.

"The report provides general recommendations for each property as laid out

Wisconsin landowners are interested in learning what plants and animals live on their land. DNR Landowner Conservation Reports help provide answers.

A growing number of Wisconsin landowners are managing their land to conserve rare species.

DNR FILE

by the Wisconsin Wildlife Action Plan and information about federal, state and local programs that are a good fit for the property," he says. "It excites and encourages the landowner and hopefully makes it a little less overwhelming to get started on restoration."

Wenthe also has been able to steer people to the Deer Management Assistance Program, the Managed Forest Law program, and others that line up with property owner desires and site eligibility.

Landowners are responding, with enrollment in the lottery climbing significantly every year. More than 1,100 landowners entered the lottery for the 2016 reports.

Sixty percent of lottery entrants said that their goal was getting general information about their land; 55 percent were interested in managing their land for game species; 50 percent in controlling invasive species; and 40 percent each listed ecological restoration or rare species management as their goal for their property.

"There's a very high demand for this type of service on private land," Wenthe says. "There are a lot of landowners out there who are looking for help and guidance."

And that's good news for native plant and wildlife species in a state where 85 percent of the land is privately owned. ■

Lisa Gaumnitz writes for the DNR's Bureau of Natural Heritage Conservation.

KEVIN DOYLE

MICHAEL KIENITZ

Landowners can learn which federal, state and local programs may be a good fit for their property. DNR's Landowner Incentive program provides technical and financial help for restoring prairie or savanna in the Driftless Area.

Prescribed burns are an important land management tool for many landowners.

DNR FILE

Streambank conservation easements

Allowing angler access and protecting streamside buffers.

Lisa Gaumnitz

Kurt Welke has lifted hundreds of fish nets and fin-clipped thousands of fish in his 15 years as the lead state biologist working to improve fishing in Dane County.

Now on the cusp of retirement, Welke is harnessing modern technology, Knowles-Nelson Stewardship Program funding and kitchen table diplomacy to make the biggest difference yet for anglers now and in the future.

He's reeling in private landowners willing to agree to conservation easements that pay them for angler access to trout streams on their land while protecting streamside buffers important to keeping the water clean and the trout populations healthy.

DNR FILE

DNR fish biologist Kurt Welke.

"This is the most important and rewarding thing I've done in the last 15 years of my career," Welke says.

In just over a year, he has helped secure 14 conservation easements along 5.5 miles of premier trout streams in Dane County. His work, along with that of other DNR fish biologists, land appraisers and grant managers, have helped the Department of Natural Resources secure 30 more miles of easements since 2014 with negotiation underway with 330 landowners. That's an increase of 25-fold according to Paul Cunningham, the DNR fisheries habitat ecologist who created the tools that made this possible.

Anglers now have more and easier public access to Dane County's Gordon Creek.

When the 2013-2015 state budget reduced Knowles-Nelson Stewardship funding overall and stipulated that two-thirds be spent on conservation easements, Cunningham and other DNR staff involved in the longstanding streambank protection program went to work.

They wanted to maximize the Stewardship funding available to benefit anglers and fish populations. They streamlined the identification, appraisal and acquisition processes used for streambank easements, and created databases allowing biologists to easily track and display on digital maps information that would help them understand where to focus their attention and at what stage of the negotiation process they were.

"We used to create a list of eligible waters and groups would come in to apply. Now, we're out approaching them and deliberately focusing in on where we think the priorities are," Cunningham says. "Our fish biologists are able to track hundreds and hundreds of landowners in the negotiation process."

The effort focused on three primary geographic areas in 2013-2015: trout and smallmouth bass streams of the Driftless Area in western Wisconsin, the Milwaukee River area and trout streams of northeast

Trout numbers and sizes have improved since the 1950s; conservation easements make it easier for anglers to fish for them.

DNR FILE

RYAN ALGER

Wisconsin.

In fall 2014, Welke and Dane County colleagues used the database to generate customized letters and sent them to thousands of landowners, inquiring if they would be interested in learning more about conservation easements. They heard back from 200 to 300 people who were very interested. Welke and others individually contacted owners and set up interviews and met onsite to understand the features of their particular land.

"We keep on nibbling away from this very generalist shotgun mailing approach to narrow down and service clients," Welke says.

So far, Welke, DNR colleagues, Dane County Land Conservation Department staff and Trout Unlimited partners have secured more than 50 easements, bringing access to Pleasant Valley, Syftestad and Kittleson Valley creeks.

"When you start stacking consecutive conservation easements, you see cumulative benefits," Cunningham says. "You get a management scale impact on the ecosystem, not just the site. By protecting and restoring riparian buffers, you're improving the ability of that system to attenuate sediment delivery, improve water quality, and provide opportunities for habitat improvement."

The general public gains as well; land under the streambank protection program is also open to the public to fish, hike, watch wildlife, snowshoe and cross country ski, and is permanently protected as green space.

Now that the database systems are set up and the low-hanging fruit is gone, the department will seek to better tap local implementation teams to make landowner contacts in coming years, Welke says. Landowners may feel more comfortable being approached by an organization instead of state government.

"Neighbors along the stream talk, so this captures the beauty of those testimonials," Welke says.

"It's been a pleasure to work with families who obviously love Wisconsin's landscape," Welke adds. "I've sat at a lot of kitchen tables with landowners and I don't think a family's primary motivation is money but a love of their land and a comfort that it will be properly managed in the future.

"If you want an efficient use of license holders' money, this is it."

Lisa Gaumnitz writes for the DNR's Bureau of Natural Heritage Conservation.

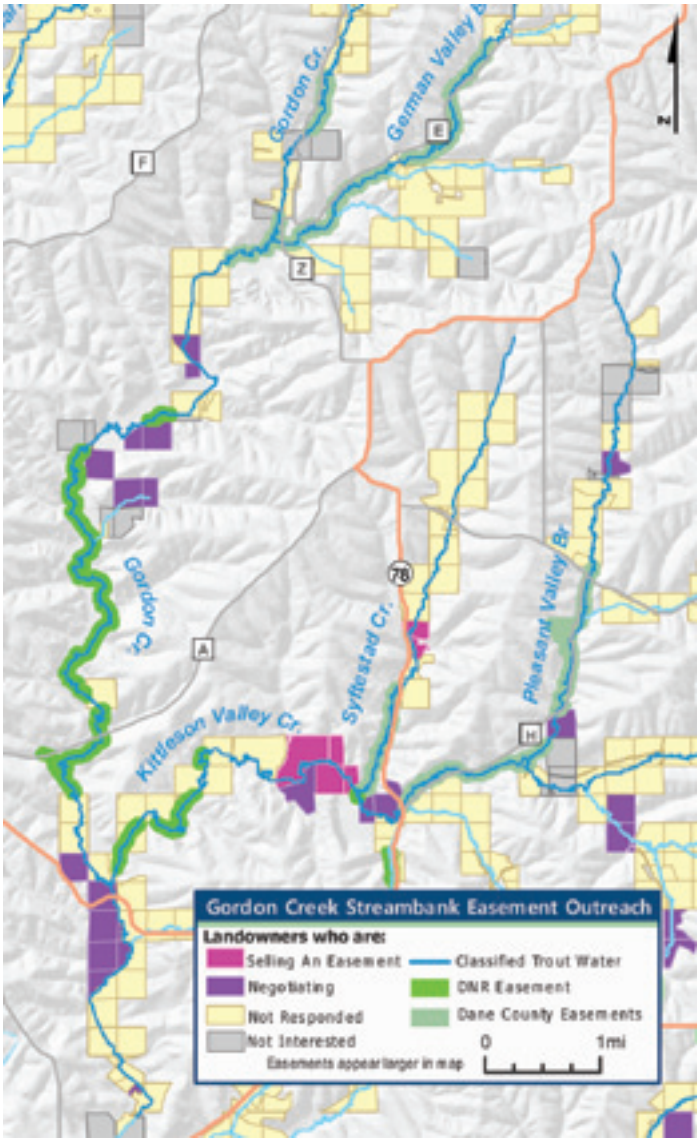
DNR's Streambank Protection Program increases public access to streams and allows for healthier streams and fish populations.

DNR FILE

HOW DO I FIND THESE FISHING EASEMENTS?

DNR's Public Access Lands Atlas and a companion online mapping application can help you find public lands and public access to streams on private lands enrolled in the Streambank Protection Program. Print off PDFs of maps of the counties you are interested in fishing, or use the online mapping tool to customize and print off your own maps. Go to dnr.wi.gov and search "Atlas."

Landowners interested in application materials, more information about the Streambank Protection Program and a list of eligible streams can visit dnr.wi.gov and search "streambank."



RYAN ALGER

Zeroing in on effective, cost-efficient wildlife habitat

New wetlands tool helps prioritize wetland conservation activities.

Lisa Gaumnitz

The black tern, an endangered waterbird in Wisconsin, and the American bittern, a wading bird with declining populations, share the same habitat as the American blue-winged teal, a dabbling duck popular with hunters.

Soon, the online mapping tool Tom Bernthal, DNR water resources management specialist, and Nick Miller, science director for The Nature Conservancy in Wisconsin, are creating with partners can help government agencies and organizations zero in on where to best help the birds — and hunters and birders — by providing the shallow marshes and upland grassland they need.

"It's the classic conservation bang for the conservation buck," says Bernthal, a DNR wetlands specialist.

Decision makers can use the tool to decide where they can best use their limited conservation dollars to protect or restore wetlands to help this waterbird and other species favoring the same habitats.

That's particularly important in a state that's lost half of its wetlands since the 1800s. More than 5 million of the 10 million wetland acres have been filled in or drained to make way for roads, cities and agricultural fields, and wetland losses have been particularly large in some southeastern Wisconsin counties and some urban areas.

"Wetlands provide an array of ecosystem services that benefit people and wildlife, everything from habitat, to purifying water, to connecting landscapes to providing flood abatement," says Miller. But wetlands do not provide all the same services, nor to the same degree.

The online mapping tool will help users prioritize wetland conservation activities.

"We'll be able to show that wetland restoration in this particular place will improve these specific ecosystem functions and services," Bernthal says. Users will be able to turn on or off certain layers depending on which ecosystem services they consider most important to them.

Restoring wetlands to gain certain ecosystem services will help restore the overall health of these watersheds, particularly the lakes and rivers receiving rainwater and snowmelt running off the land, and will help communities reduce costs associated with the infrastructure they've needed to have to replace the ecosystem services they lost when wetlands were destroyed.

Miller, Bernthal and GIS specialists from their organizations have already developed a wetland model in 2012 for the Duck-Pensaukee watershed near Green Bay. They are now improving that model, taking it statewide and putting it online, Miller says.

To create the wildlife habitat information layer, the developers are turning to the Wisconsin Wildlife Action Plan, which is totally voluntary and not being used for regulation.

RYAN BRADY

The overwhelming threat to American bittern populations in Wisconsin and nationwide is loss of wetland habitat.

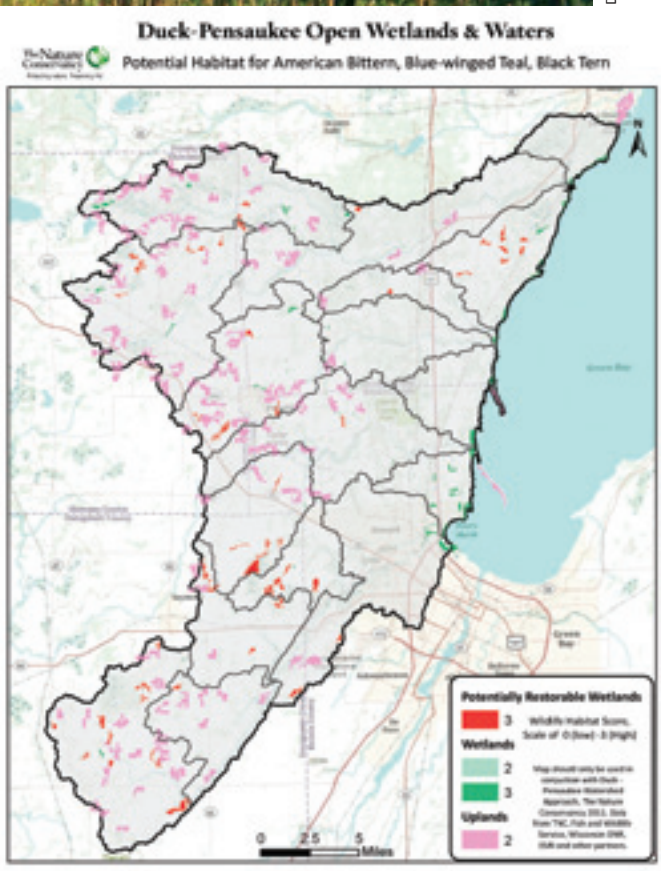
DNR FILE

Communities and organizations can use the online mapping tool to help decide where best to restore wetlands.

Blue-winged teal will benefit from habitat restoration work done for the black tern, an endangered species, and the American bittern, a rare and declining species in Wisconsin.

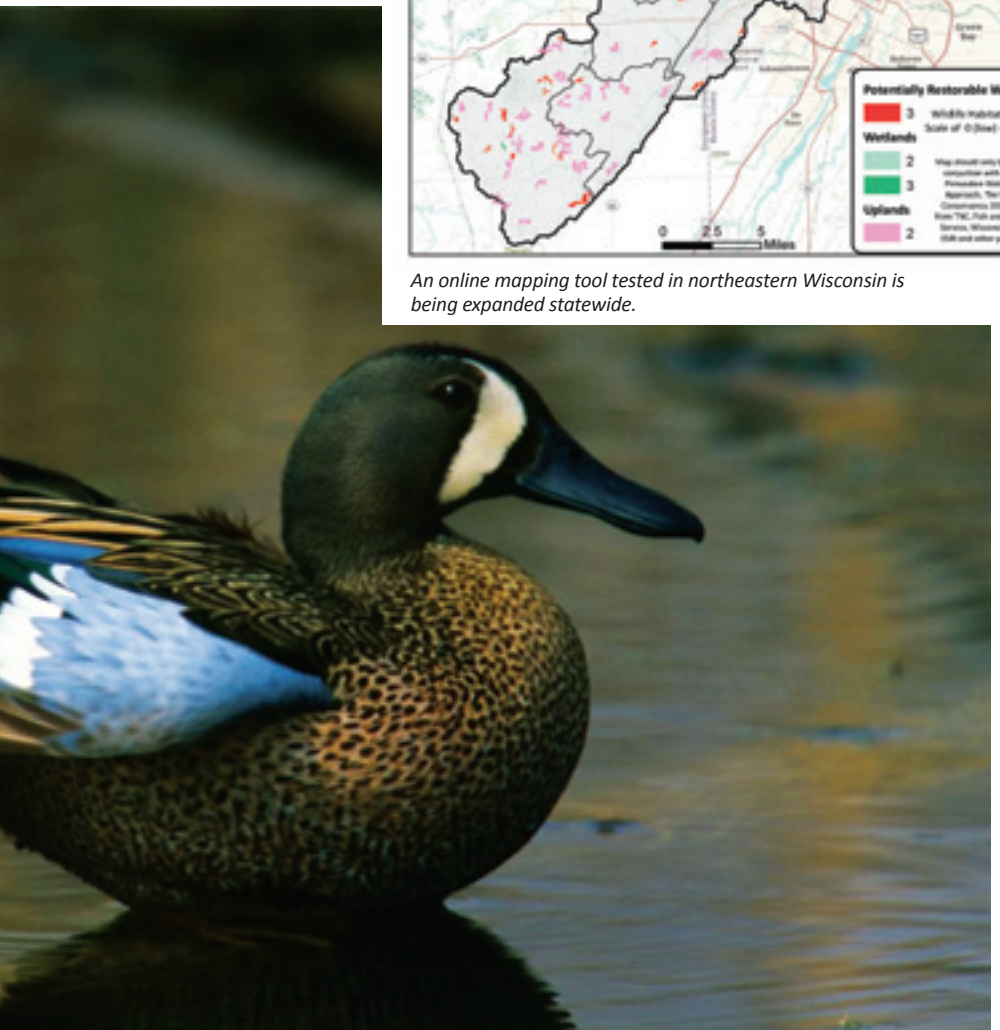
DNR FILE

Habitat and monitoring are critical factors in keeping rare birds off the endangered and threatened species list. DNR staff and volunteers survey shallow marshes to keep tabs on marshbird trends.



THE NATURE CONSERVANCY

An online mapping tool tested in northeastern Wisconsin is being expanded statewide.



JACK BARTHOLMAI

They are using information from the plan about where species in need of conservation action are found and where there's potential for them to exist based on the location of potentially restorable habitat.

"So much incredibly good thinking has gone into that one plan that we are using to help drive decisions," Miller says. "We're taking the Wildlife Action Plan and saying, which wetlands might be priorities for restoration based on analyzing where those rare species exist."

The informational layers are being created now and computer models will be created this summer. Bernthal and Miller and others involved in the project will pull on their rubber boots and walk around wetlands along the Mississippi River and Lake Superior to see if what they find on the ground matches with what the computer model they are developing tells them should be there. They've already done such ground-truthing along the Milwaukee River floodplains.

Once they've completed this accuracy check, they'll build the online tools and are working to have them available in 2017, Miller says.

The mapping tool can have immediate and broad applications for the department. The tool will benefit a new wetland mitigation program that allows property owners to purchase credits directly from the department to pay for the restoration of wetlands if their project would impact other wetlands. Under the program, the property owner will have to purchase a minimum of 1.2 credits for every one acre of wetlands filled, according to Matt Matrise who coordinates the program for the Department of Natural Resources.

"The in-lieu wetland mitigation program can use these tools to say, these are the restoration opportunities we'd really like to see you pursue," Matrise says.

As well, DNR's fisheries management staff could use the tool to see which wetlands adjacent to headwater trout streams are important to maintaining the stream baseflow levels and water temperature trout need.

Communities could understand which wetlands are most important for protecting drinking water supplies, or where wetlands can help protect lake water quality and fish habitat.

"We're viewing this as a major tool," Miller says. "It's an excellent example of a public-private partnership that can make a difference for people and wildlife."

Lisa Gaumnitz writes for the DNR's Bureau of Natural Heritage Conservation.

Fish sticks

A habitat technique is catching on.

Lisa Gaumnitz

Carol LeBreck couldn't have known the ripples she'd create with her idea to drop and anchor downed trees in the shallow water in front of her property along Bony Lake in Bayfield County.

She volunteered to have the experiment done along her shoreline to demonstrate the benefits of restoring to lakes the fallen trees and other natural structure that had been removed over time.

So trees that needed to be thinned within 100 feet of her shoreline were cut down and positioned in the water in clusters using different configurations.

Fish of all sorts moved in quickly — young fish seeking shelter and larger fish seeking hunting grounds. Anglers followed them, lining up in their boats along her shoreline.

The tree clusters served as "wave breakers" preventing shoreland erosion, and sheltered the near-shore aquatic vegetation that provides habitat for a variety of aquatic life.

News of those results travelled quickly and within a few years, several other lakes within Bayfield County began encouraging property owners to consider installing what people were now calling "fish sticks."

The habitat technique has continued to spread throughout Wisconsin as well as to nearby states. Now, a new streamlined permit and a new state grant program for lake habitat projects are likely to bring them to even more waters, says Scott Toshner, the DNR fish biologist in Bayfield County who helped Le Breck on Bony Lake and who has led efforts to take fish sticks statewide.

"It's the funding and the willingness of shoreland property owners that ultimately gets these things done on the landscape," Toshner says.

Funding has been available through DNR's Healthy Lakes Grant program starting in February 2015 and has helped nearly triple the number of fish sticks projects

Bluegill quickly found and started using the "fish sticks" habitat placed in Bony Lake in Bayfield County.

Fish sticks have also attracted musky to Bony Lake.

SCOTT TOSHNER

since 2013, according to Martye Griffin, DNR statewide waterway policy leader.

Bayfield and Douglas counties lead the way, having installed more than 3,000 trees in 14 lakes. Fish sticks also have been placed in southeastern and central Wisconsin lakes, and in northeastern Wisconsin.

"It's fairly intuitive to think about wood in the water, especially for those who fish," Toshner says.

LeBreck has found it very rewarding to see her idea spread, but she wants people to know that the projects have potentially wide-ranging benefits.

"As a matter of personal opinion, I think the term "fish sticks" sells these efforts short," she says. "The benefits folks might see are FAR GREATER than those for fish."

Toshner's snorkeling surveys confirm the fish sticks "are definitely fish magnets," and that anglers are fishing over them, based on the lures he retrieves from the trees.

But his surveys also show the trees provide loafing places for turtles, and that frogs and salamanders, as well as perch and musky, are laying eggs on the trees.

The logs lessen the erosive effects of wave action from high boat traffic, and from ice heaves.

Comprehensive University of Wisconsin research will get underway this year to try to quantify the benefits that his surveys show anecdotally, Toshner says.

Results of that research will be an important part of bringing fish sticks to more waters, although it seems like a paradigm shift is already underway.

"One of the biggest effects and perhaps the most important is we get free wood out of it," Toshner says. "Neighbors volunteer to have fish sticks placed along their property or when a tree falls they don't pull it out. Up to this point, it seemed like you were a good neighbor if you pulled it out."

To learn more, go to dnr.wi.gov and search "fish sticks."

Lisa Gaumnitz writes for the DNR's Bureau of Natural Heritage Conservation.

SUBMITTED BY SCOTT TOSHNER

Scott Toshner, left, and Carol LeBreck, right, have worked to bring fish sticks habitat projects to other Wisconsin lakes.

SCOTT TOSHNER

DNR FILE

More lake property owners are letting fallen trees lie or allowing fish sticks projects along their shoreline to provide habitat for fish and other creatures. Here, logs are being moved into place. When the ice melts they will settle into the lake.

New and improved shooting ranges are on target

Federal funding boost allows increased recreational shooting opportunities for Wisconsin gun owners.

To meet growing needs for shooting, the DNR's 5-year shooting range guidance calls for increasing safe shooting opportunities, especially in southern Wisconsin.

DNR FILE

Natasha Kassulke

When the Yellowstone Wildlife Area Shooting Range, located in northeastern LaFayette County, reopened in 2014, shooters found a major facelift that included three completely rebuilt ranges — 100-yard (rifle), 50-yard (rifle) and 25-foot (pistol) — as well as an archery range under development. The shooting platforms were covered, having a roof put over them, so that shooters could practice during inclement weather and each shooting range had a disabled accessible station.

The range is owned and managed by the Wisconsin Department of Natural Resources. There are no fees to use the range.

In addition to the separate shooting areas, improved berms and backstops naturally deflect sound upward. Swivel seats at the shooting benches appeal to both left and right-handed shooters.

The funding for improvements came from the Pittman-Robertson Fund (Federal Aid in Wildlife Restoration Act), which is money generated by a tax on the sale of archery equipment, ammunition and firearms. Using Pittman-Robertson funds for shooting range improvements and development is giving back to those who pay into the system. The National Rifle Association also

Work at the Yellowstone Wildlife Area Shooting Range was funded by Pittman-Robertson funds and the National Rifle Association.

DNR FILE

contributed significant funds to the Yellowstone Lake project.

Recent increases in gun and ammunition sales has allowed the department to put more money toward its existing public shooting range program, including the one at Yellowstone Lake, as well as opening new public ranges and providing grants to private ranges.

"We've built new archery ranges in Neenah, built a 300-yard side berm and rebuilt backstops at the Shiocton range, and the objective of all of these projects is to increase public access to safe, affordable, convenient and well-managed opportunities to shoot recreationally," says Keith Warnke, DNR's hunting and shooting sports coordinator. "There has also been a dramatic growth in ownership of handguns and folks need a good, safe place to learn how to use those guns. We are using P-R dollars to provide that."

"We are seeing a growing demand for 25-foot ranges which are specific to handgun use," says Michael Watt, a program specialist in DNR's hunting and shooting sports program.

To meet growing needs for shooting ranges, especially for pistols, DNR's 5-year shooting range guidance (2014-2019) calls for increasing safe shooting opportunities, especially in the southern part of the state. Work began on 16 existing private ranges and 20 public ranges in fiscal year 2015 alone, Watt says. He adds that the department allocated about $1.2 million in fiscal year 2014 and $2.5 million in fiscal year 2015 for public and private shooting ranges.

DNR's range grant program is open to private ranges in even years with a November deadline to apply.

"Private ranges can apply for up to 50 percent cost share," Warnke explains, "in exchange for at least 100 days of public access each year for the next 20 years."

"And they can charge a reasonable fee for that access," Watt adds.

The Department of Natural Resources also cost shares up to 75 percent for projects at public shooting ranges such as those owned by the state, counties and municipalities.

The NRA has contributed more than $250,000 for range projects in Wisconsin through grants to the department since 2013.

Warnke, who is part of a national range development committee, says, "It speaks to integration and making sure we are taking advantage of all the various funding sources to help stretch our dollar. We are looking for efficiency and accountability."

There are estimated to be over 400 shooting ranges in Wisconsin, of which 30 to 35 are on public land.

An aerial view of the Shiocton shooting range, which is a public range.

DNR FILE

"But there are only five public ranges located in the southeastern third of the state where the majority of the population lives," notes Warnke. "Thus, we've identified a need for expanded public range access opportunities especially in that area of the state."

Shooting opportunities in the Dane and Sauk county areas are particularly limited. The closest public shooting ranges are McMiller Sports Center in Waukesha County outside of Eagle (DNR leases the range to a contractor who runs it), the Yellowstone Wildlife Area in Lafayette County and the soon to be developed Mud Lake range in Columbia County a half hour from Madison. One publicly owned (the Dane County Law Enforcement Training facility) is open to the public weekends from 9 a.m. to 4 p.m.

Shooting range development also is being considered in the master plan revision process for the Lower Wisconsin State Riverway land in the Dane and Sauk county areas.

When implementing plans for public shooting ranges, the department follows best management practices recommendations from organizations such as the NRA, the National Shooting Sports Foundation and the U.S. Environmental Protection Agency, including lead reclamation at both rifle and shotgun ranges.

Warnke says lead reclamation is a priority for McMiller and the department is working with private ranges to help them implement EPA's Best Management Practices. For trap shooting, soil sifters are used to remove debris.

"We are trying to make ourselves an example of Best Management Practices for lead at outdoor shooting ranges," Warnke says. "We take great strides at places like McMiller, Yellowstone Lake and the new Columbia County site to be good neighbors when operating a range. That's really pretty critical to what we do."

The Yellowstone Wildlife Area Shooting Range after updates.

DNR FILE

Today, not having access to private land can be a bottleneck for hunters who want to practice. Properly sighting rifles and practicing accurate shooting are key to safe and proficient hunting. Ranges provide a place to safely hone one's skills and are excellent for beginners.

To learn more about ranges offering public access in Wisconsin, go to dnr.wi.gov and search "shooting ranges."

Natasha Kassulke is editor of Wisconsin Natural Resources *magazine.*

Teen dives into comprehensive bird survey

Wisconsin Breeding Bird Atlas is essential to conservation planning.

Joshua Cullum is one of the youngest volunteers surveying bird populations to help guide bird conservation for the next generation.

ANNA CULLUM

Lisa Gaumnitz

At a time when many teens seem tethered to their screens, 17-year-old Joshua Cullum of Rock County is picking his way through the woods and wetlands of Wisconsin and peering through his binoculars to help birds.

Cullum is one of the youngest volunteers for a comprehensive bird survey known as the Wisconsin Breeding Bird Atlas and aimed at understanding what birds breed in Wisconsin, where and how that's changed over the past 20 years. His results, combined with those of hundreds of other volunteers, will help guide bird conservation efforts for the next generation, and that's important to him.

"You know your work isn't just for your enjoyment, but that it brings forth valuable data on the bird diversity of the state and will help us preserve both our birds and habitats in the future," he says.

The second Atlas survey Cullum and others are helping conduct "is providing a new snapshot of Wisconsin's bird populations and helping us to better prioritize their conservation needs," says Kim Kreitinger, president of Wisconsin Society for Ornithology, one of the partnering organizations sponsoring the survey.

With more than 700 volunteers already, and more being recruited through 2020, this project is also elevating public awareness of nature and directly connecting Wisconsin's citizens to conservation, she says.

Because Cullum and other volunteers are following the same basic methods used in the previous survey 20 years ago, ornithologists can compare bird populations over time and also over local, statewide and regional scales, says Ryan Brady, DNR science coordinator for the survey.

"It's such a broad and intensive survey for so many species," Brady says. "It's very powerful in that regard, and that in turn, makes it very important in terms of conservation planning."

The "atlasers" go to the priority block they commit to — a roughly 3-mile by 3-mile square block — and record the different birds they see, documenting for each species the breeding behaviors observed. Seeing a singing male in suitable habitat is a sign that breeding is possible; observing a pair of birds in suitable habitat during the breeding season is a sign that breeding is probable; seeing a bird on a nest or a bird feeding its young are confirmed signs of breeding.

Volunteers can visit the same block many times over a single breeding season to get a good representation of the birds that use that habitat over that period, or spread their effort on the same block over multiple years. People with less time or birding experience can still turn in more casual reports on the birds they see engaged in breeding behavior. All sightings are reported through a special Atlas portal to eBird, a web-based tool many birders are already using to report their bird sightings.

Brady says Cullum "has been a big boon to the project" because of the perspective he brings and because he is surveying an area that is not well covered, the Orfordville block in Rock County.

Cullum got started birding when he was six, watching vultures ride the thermals atop the bluffs along the Mississippi River near his grandparents' house in southern Illinois.

"It was an odd species to begin a journey of birding, as many people consider them dirty or even disgusting. But if you take the time to watch them master the air even a foul thing becomes beautiful," he says.

Cullum also says that he enjoys birding as a way to "see how amazing God's creation is" and to enrich his hunting experience. "When I'm hunting, sitting in the woods for long hours really never gets boring because the entire time I have something to do: watch birds," he says. "Combining watching birds and other woodland creatures, how they interact, and how they use the environment can really make sitting there something more than just hunting."

It's also a good way to escape from the stress of school.

"Simply getting into the outdoors, in the fresh air, and watching the amazingness of birds is like nothing else," Cullum says. "When birding, people often forget to slow down and actually watch birds. If you slow down and take time to not only count and identify them but also observe them, then you can begin to appreciate them more. That is what Atlasing helps you do."

To volunteer, visit wsobirds.org/atlas.

Lisa Gaumnitz writes for DNR's Bureau of Natural Heritage Conservation.

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