



MICHIGAN RESULTS REPORT

Our State of Nature

### TWO PATHS TO 2050

### BUSINESS AS USUAL OR SUSTAINABILITY

#### **LAND MANAGEMENT**





#### **FOOD PRODUCTION**



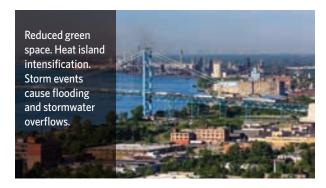


#### **CLIMATE CHANGE**





#### **URBAN CONSERVATION**





# 2018

### **CONSERVATION**

#### MICHIGAN RESULTS REPORT

#### Our State of Nature

I took this year's cover photo not by design, but by chance. I was driving my son home from a high school event this past August, pulled into the driveway in our suburban neighborhood, and noticed something in our native garden that I had never seen before. For the past several years, I have adopted the habit of carrying my binoculars and camera with me wherever I go, and luckily they were sitting on the back seat of the car. I noticed this hummingbird clearwing moth (*Hemaris thysbe*), grabbed my camera, flicked it on, and started clicking away hoping for one or two good shots.

Chance events, like a brief encounter with a clearwing moth, shouldn't be rare. The Nature Conservancy strives to create a world where nature is part of our everyday lives. The work highlighted in this annual report is intended to be part of a shared effort to tackle the world's major challenges to people and nature. While these challenges are global, they all touch down in the Great Lakes region, in Michigan, and, hopefully, in your front yard.

Please share your love of nature, and our annual report, with your family, friends and colleagues as part of a movement to make nature part of our everyday lives.

PATRICK DORAN, Ph.D. Associate State Director



### PARTNERING TO ESTABLISH NORTHEAST MICHIGAN'S NEWEST PRESERVE

In April 2018 we acquired nearly 1,400 acres on North Point Peninsula, just outside of Alpena on Michigan's sunrise coast, through an extraordinary collaborative effort involving TNC, the National Oceanic and Atmospheric Administration, the Friends of Thunder Bay National Marine Sanctuary and Huron Pines. This property features over four miles of pristine Lake Huron shoreline surrounded by the nation's first freshwater marine sanctuary.

But this partnership is more than land preservation; it also strengthens local conservation capacity. The property will be owned and managed by a local nonprofit, Friends of Thunder Bay National Marine Sanctuary, and the conservation easement will be held by Huron Pines, the first for that organization. The vision for the North Point property is informed by the needs of the community and reflects a shared commitment to protecting the ecologically vulnerable areas of the peninsula while enhancing opportunities for exploring and appreciating the area's culturally rich maritime and coastal heritage.



### TRACKING PROGRESS TOWARD GREAT LAKES HEALTH

Blue Accounting (www.blueaccounting.org), a partnership between TNC and the Great Lakes Commission (GLC), brings people together, helping agencies and organizations across the region track progress toward shared goals. The initiative translates existing data into relevant information so decision-makers can understand how their investments and actions are impacting the region.

To demonstrate and test the potential of Blue Accounting, five distinct pilot projects led by TNC and GLC are applying Blue Accounting methodologies to these Great Lakes issues, sharing new resources widely with audiences online.

Each of these projects is supported by a collaborative group of key experts and stakeholders who inform the way we deliver relevant information on Great Lakes issues. For example, to help protect the Great Lakes from aquatic invasive species, TNC staff assisted in drafting a plan for coordinated, interstate Great Lakes surveillance to detect new invasive species early and respond more quickly. This plan, which was put into practice in 2018, is helping to identify the most likely new invasive species and ensure that monitoring is conducted at the highest-risk sites. We are in the process of expanding these tools for Canadian waters as well.



### PUTTING OUR RESTORATION EXPERTISE TO USE

In 2018, we capped off two significant restoration projects in the Ottawa National Forest, marking the completion of an innovative three-year Stewardship Agreement. These agreements are partnerships between TNC and the U.S. Forest Service in which TNC manages sustainable timber harvests on Forest Service lands, with the sale proceeds supporting much-needed restoration projects.

The first project was a massive tree-planting effort to restore habitat along our treasured rivers and streams. A crew consisting of both TNC and Forest Service staff planted 360,000 white pine, hemlock and tamarack saplings across 1,200 acres surrounding the cold-water tributaries of the East Branch of the Ontonagon River.

The second project involved some unusual logistics. A popular hiking trail, the White Deer Lake Trail, passes through the McCormick Wilderness Area. Parts of the trail flood frequently, and nearby areas have been degraded by hikers avoiding the floods. To restore this area, crews needed to install 400 feet of elevated boardwalk. But because the Wilderness Act of 1964 prohibits the use of motorized vehicles and equipment within federally-designated wilderness areas, two specially-trained mule teams, known as "pack strings," from the Shoshone National Forest in Wyoming

were brought in to transport lumber and materials nearly two miles through the wilderness to the project site.



Watch the video at <u>nature.org/michiganforests</u>

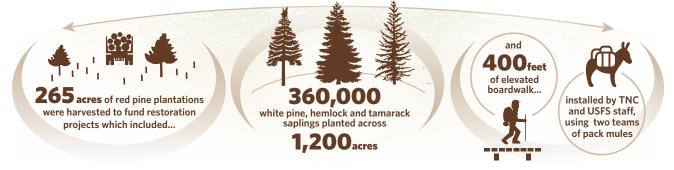
### INFORMING MICHIGAN'S STATE LAND STRATEGY

In 2018, the state legislature approved the DNR Managed Public Land Strategy which will now serve as a clear, unifying framework for the continued conservation, use and management of public lands. TNC was proud to serve on the advisory committee, appointed by the Director of MDNR, that made this plan a reality, aligning priorities and ensuring that state lands are managed sustainably.

For more than a century, the State of Michigan has managed public lands that are home to an abundant diversity of wildlife and forests as well as lakes, streams and shoreline. These lands enhance our quality of life and provide recreational and economic opportunities. Today, our state forests, parks, recreation and game areas total 4.6 million acres across the state and contribute \$38 billion to the state's economy. The Managed Public Land Strategy will help ensure that state lands continue to provide these amazing benefits for Michiganders for generations to come.



For full details of the DNR-Managed Public Land Strategy, visit *michigan.gov/dnrlandstrategy*.



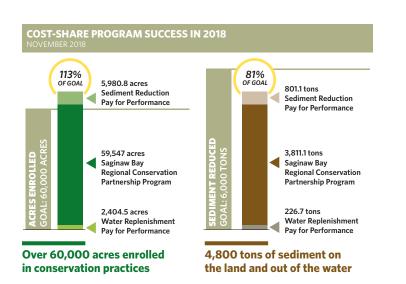
#### PARTNERSHIPS IN RESTORATION

STEWARDSHIP AGREEMENT BETWEEN TNC AND THE U.S. FOREST SERVICE



#### **IMPROVING SOIL HEALTH IN SAGINAW BAY**

2018 was a landmark year for our Saginaw Bay Watershed Initiative, as we surpassed our goal of 60,000 acres of agricultural lands enrolled in conservation cost-share programs one year ahead of schedule. Nearly 68,000 acres have been enrolled in conservation practices that reduce sediments and nutrients from entering our rivers and streams. This is a powerful start toward our ultimate goal of facilitating the implementation of practices on 1.8 million acres across the entire watershed. The foundation of our success has been the development of strong and trusted relationships with farmers and agribusinesses.



#### SOIL HEALTH HEROES Our first-ever Saginaw Bay Watershed Agricultural Conservation Awards Banquet in March 2018 showcased outstanding achievements of agricultural conservation and the people making it happen within the Saginaw Bay watershed. Awardees included: **Agribusiness Award** J.J. Metz **Practitioner Award** Huron County Field Office **Contributor Award** Paul Sweeney **Conservation Innovation Award** Dan Ritter **Conservation Newcomer Award** Chad Dzurka, Dzurka Brothers, LLC **Conservation Veteran Award** Wayne "Lee" Wackerle **Conservation Impact Award Steve Tait** ©Jason Whalen/Fauna Creative



### GLOBAL CONNECTIONS FOR SUSTAINABLE FISHERIES

On a picture-perfect day in June, a delegation from the Chinese Ministry of Agriculture visited Michigan to meet with TNC and several partners. They were here to learn how American freshwater fishery experts are using new tools and methods for improving aquatic habitat. China faces many of the same freshwater fishery challenges that we do in the Great Lakes: degraded habitat, invasive species and declining native fish populations.



Learn more about TNC's sustainable fisheries work in the Great Lakes online: nature.org/greatlakes



### CRAYFISH CONTROL PUTTING SCIENCE TO THE TEST

Early detection and rapid response is the best approach for controlling new invasive species, but what about species that are already established? TNC's history of science-based solutions gives us the experience we need to address complex invasive species issues and protect the fisheries that are so critical to the health of the Great Lakes. This includes developing new invasive species control methods, such as a barrier to protect spawning reefs from the invasive rusty crayfish.

In 2018, we began testing rusty crayfish control methods on several important spawning reefs in Little Traverse Bay and Grand Traverse Bay in partnership with the Michigan Department of Natural Resources and Central Michigan University. In prototype tests, a barrier stopped most rusty crayfish from crossing, suggesting that such a barrier around a spawning reef could create a relative safe haven for the eggs of native fish. Open-water testing will provide the final confirmation of whether it can adequately address this threat to Great Lakes fisheries.

"We have more in common than we have differences. We all want clean water, healthy fish and good places to live. We can work together to learn how to do the best we can for people and nature."

 Dr. Wang Luhong, project officer for TNC's Healthy Rivers program in China



### CARBON MARKETS, CONSERVATION AND CLIMATE CHANGE

As part of TNC's Working Woodlands program, Wilderness Lakes Reserve, 6,000 acres in the Upper Peninsula acquired in 2017, is now enrolled in California's Air Resources Board Compliance Offset Program (see below). This is a voluntary market allowing private forest landowners to sell carbon credits to companies to offset their emissions and reach emissions reduction goals. In the coming years, TNC will use funds generated from the sales of Wilderness Lakes carbon credits for forest restoration and management while preventing an estimated 700,000 metric tons of carbon from entering the atmosphere.



©The Heads of State

#### EMISSIONS CAD **CO2 CAP-AND-TRADE** - EXCESS EMISSIONS UNUSED **SYSTEM ALLOWANCE** Under California's system, companies can comply by either reducing their emissions below the cap set by the state or by purchasing "allowances" or offsets from companies that are coming in under the cap. Proceeds from the sale of offsets create financial incentives for better forestry and other emissionsreducing initiatives.

#### **CERTIFYING FORESTS FOR SUSTAINABILITY**

The Nature Conservancy is demonstrating our commitment to natural climate solutions by certifying our working forest reserves through the Forest Stewardship Council (FSC). FSC certification ensures that the timber we harvest, and the products made from that timber, meet the FSC's high standards of environmental, social and economic performance. Our new Wilderness Lakes Reserve and our Two Hearted River Forest Reserve are currently FSC-certified, and we are in the process of helping our partners certify several newly acquired forest reserves in Marquette County.

TNC is using our FSC-certified forest reserves to raise the profile of sustainably grown and harvested timber, its economic viability and its potential for managing a forest that will be able to adapt to a changing climate. Managing our reserves this way also allows us to take a leadership role in demonstrating how well-planned timber harvests can improve forest health by increasing the diversity of species and the resilience of the forest against climate change, and by generating funds that can be reinvested in conservation. We are also bringing FSC certification to private lands through our Working Woodlands program. This expansion of FSC certification in Michigan's northern forests is strengthening the network of healthy forests across the Upper Peninsula and beyond, changing the way people think about forest management.



**FM CERTIFIED** uses scientific research and testing to make sure products conform to the highest standards for safety and property loss prevention.

**CoC CERTIFIED** FSC Chain-of-Custody certification traces the path of products from forests through the supply chain, verifying that FSC-certified material is identified or kept separated.



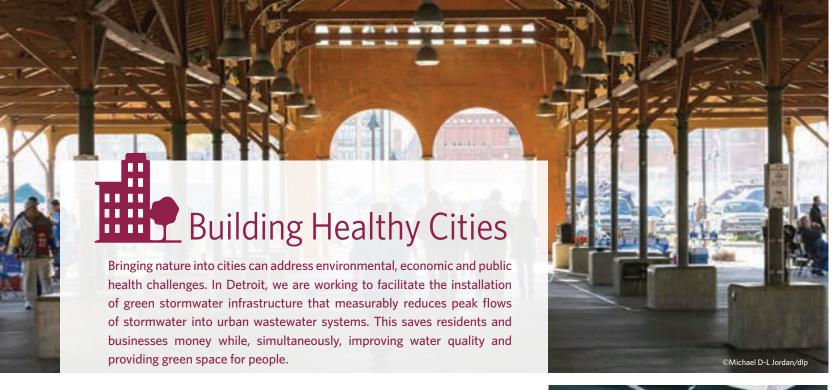
#### **CLIMATE CHANGE AND CRITTERS**

Healthy ecosystems depend on a delicate balance. Climate change threatens this balance, disrupting the temperature patterns that influence which species thrive and which species fail.

In the past, chilly winter temperatures may have presented an obstacle to the northward spread of the hemlock woolly adelgid. But as climate change leads to warmer temperatures, that protection for Michigan's 170 million hemlock trees could be ending.

This tiny pest has devastated hemlock forests of the eastern United States. And it has recently been found in four coastal counties in southwestern Michigan. However, the early detection of this invasive species presents an unusual opportunity to stop it before it spreads too far. TNC, in partnership with the Michigan Dune Alliance and several Cooperative Invasive Species Management Areas (CISMAs), has launched a project to survey the distribution of hemlock woolly adelgid so we can prioritize treatment of those areas.

Time is of the essence. The loss of the hemlock tree would remove its cooling influence on its habitat and allow forest and stream temperatures to rise, compounding the impacts of climate change on wildlife and the beauty of Lake Michigan's forests and dunes.



### GETTING TO THE HEART OF GREEN STORMWATER INFRASTRUCTURE

Like many of Detroit's historic sites, Sacred Heart Church was built long before the city's present challenges with stormwater and infrastructure. Using nature to make the old new again, The Nature Conservancy is working hand in hand with the church community to install a series of green stormwater facilities. TNC staff were on hand in early August at the Church's annual bazaar to demonstrate how green stormwater infrastructure (GSI) is going to improve stormwater management for the church. Construction is set to begin at Sacred Heart in early 2019.

The Sacred Heart parking lot project is one critical piece in the strategy to expand GSI efforts in Detroit. The project will include bioswales, pervious concrete and retention areas to capture roof runoff (see conceptual rendering below). All of this new infrastructure will lead to decreased runoff volume to the sewer system, habitat creation, property beautification and a reduction in drainage charge fees to the church.

Learn more about TNC's work in Detroit at <u>nature.org/Detroit</u>.







#### PASSING A POST-CONSTRUCTION STORMWATER ORDINANCE

A significant step forward for TNC's urban conservation program in Detroit took place in November when the Detroit City Council unanimously approved an ordinance that requires new construction to meet stormwater control standards, with big implications for green stormwater infrastructure (GSI). The ordinance incentivizes GSI (see above illustration) as a means for developers to meet or reduce stormwater management obligations.

TNC analyzed 20 similar policies across the United States and used that research to help the City understand how GSI can help revitalize Detroit neighborhoods. Our contributions enabled the City to develop an ordinance with flexibility; one that ensures equity in requiring that everyone subject to the ordinance does their part while also allowing for off-site compliance. This means that property owners who can't meet the requirements on their own property can contribute to projects at a different location.

This opens the door for one of our most high profile projects in Detroit, where we are seeking to bring large-scale GSI to the historic Eastern Market neighborhood as part of a multi-partner revitalization effort. This work is generously supported by the Ralph C. Wilson Jr. Foundation, the Fred A. and Barbara M. Erb Family Foundation and the DTE Energy Foundation. As Detroit's recovery continues, this policy will ensure that clean water plays a central role.



#### **DON'T TOUCH MY WATER**

TNC's urban conservation program is committed to cultivating supportive relationships with community-based organizations that have a deep understanding of local issues.

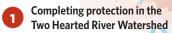
This includes organizations like the Eastside Community Network (ECN), which we supported in a project to raise awareness of water issues in Detroit, with funding from the Pisces Foundation. ECN created a 30-minute video entitled "Don't Touch my Water" that was screened for community residents and stakeholders to a highly positive reception. This video highlights the social justice crisis around water, which is exacerbated by climate change, aging infrastructure and historical inequities. As the video emphasizes, we have a shared responsibility to come together as a community around this issue if we are to protect the precious water supply on which we all depend.





## Conservation Across Michigan





TNC and the Michigan Department of Natural Resources finalized a large land "swap" of approximately 7,500 acres; this is the last piece of the protection plan for the Two Hearted River Watershed that began with the Big UP Deal in 2005. Large exchanges like these allow for more streamlined and efficient land management since the properties now align with other properties owned by the DNR and TNC, reducing the number of boundary acres that each property owner must manage.



### Eastern Lake Michigan: new infrastructure improves visitor experience at Ross Preserve

An enlarged parking lot, new interpretive signage, and trail markers and benches have been installed at the Ross Coastal Plain Marsh Preserve. With approximately five miles of trails and a varied landscape ranging from forested dunes to rare coastal plain marshes, this 1,500-acre preserve in southwest Michigan is a popular destination for naturalists and outdoor recreationists. With oversight and guidance from TNC restoration staff, a local high school student built and installed three new benches for his Eagle Scout project.



### Management by fire in southern fens

TNC staff from three state chapters (OH, IN, MI) came together to carry out a prescribed burn at the Paw Paw Prairie Fen Preserve. Fire was once a natural process that helped restore and regenerate prairie fen and oak savanna, so we now include prescribed burns as a tool when managing the health of these ecologically significant landscapes.



### Connecting People to Our Conservation Work

Four articles published in peer-reviewed journals; visit www.nature.org/michiganscience for full list

26 outreach opportunities including preserve field trips and presentations

**44** guest speaker and sponsorship opportunities

Alpena O

Midland

Saginaw

Flint o

Ann Arbor Detroit

Traverse City

and Rapids

Kalamazoo



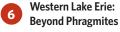
### 4 DITCH kicks off in two Michigan counties

The Conservancy's "Drain Infrastructure Transactions for Clean H2O" project (D.I.T.C.H.) has kicked off in two locations – Monroe and Saginaw Counties – and will focus on using filter and buffer strips as new drainage management techniques. Additional water management practices are expected to be deployed in future projects. The purpose of the D.I.T.C.H program is to work with drain professionals in predominantly agricultural areas to improve water quality by employing new management techniques for agricultural drainage.



#### 5 Saginaw Riverfront Park

TNC worked with multiple community stakeholders to create the Saginaw Riverfront Park, an open, recreational space for the RACER Trust property. Plans for this park include public access to the river and lake, nature viewing areas, a link with regional trails, an observation platform and more. We are proud to have worked with the MDNR, Saginaw County, City of Saginaw, Saginaw Community Foundation, Saginaw Future, MDEQ, Saginaw Basin Land Conservancy and the U.S. Fish and Wildlife Service to make this a reality.



This year TNC conducted invasive species surveys on more than 8,800 acres of vital Lake Erie coastal wetlands thanks to a partnership with the Detroit River-Western Lake Erie Cooperative Weed Management Area (WLE CWMA). TNC and DRWLE-CWMA have collaborated for several years on the control and management of Phragmites along coastal Western Lake Erie. Now, through new funding from the National Fish and Wildlife Foundation, we are able to address additional invasive species in the area. Next, we will use the survey data to prioritize treatments, track and map target invasive species locations and treatments, and remove invasives from at least 776 acres across more than 20 coastal wetland locations.



### **Our Staff**

TNC staff members are central to our mission to protect the lands and waters on which all life depends. The expertise they bring in their respective fields, their relationships with partner organizations and their collaboration with our supporters increase our conservation impact not just here in Michigan, but far beyond our borders.









TNC is grounded in science. One key role that we have always played is as a leader in conservation planning – the discipline geared toward identifying important places for conservation and the strategies that will help us achieve our goals. In April 2018, senior scientist and conservation planning coach Doug Pearsall joined 130 coaching peers from 29 different countries in Australia to share best practices in conservation planning and project management. (a.)

Asian carp and other aquatic invasive species are among the biggest threats facing the Great Lakes. To attract the brightest minds and ideas for solving this challenge, the State of Michigan held the Great Lakes Invasive Carp Challenge in Detroit on March 27, 2018. The event attracted 353 proposals from 27 countries, including one from TNC's senior policy director, **Dave Hamilton**. Dave's proposal for a chlorine treatment system at the Brandon Lock and Dam near Chicago won second place in the contest. His award of \$125,000, plus an additional \$10,000 for being named a finalist, will go to TNC's Great Lakes conservation work on aquatic invasive species. (b.)

The International Wildlife Refuge Alliance (IWRA) celebrated the continued support for the Detroit River International Wildlife Refuge (DRIWR) in April 2018. At the event, TNC was presented with the John D. Dingell Friend of the Refuge Awards in recognition of the organizations' leadership and dedication to conservation on the Detroit River and western Lake Erie Basin. (c.)

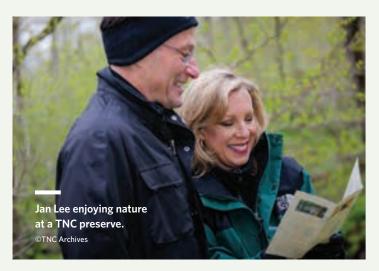
Thanks to generous support from **Essel and Menakka Bailey**, TNC has started an innovative approach to building the next generation of conservation leaders: The Essel and Menakka Bailey Fellowship Endowment. The Endowment allows TNC to hire undergraduate and graduate students to work alongside conservation staff on a range of projects. The goal is to develop the program into a regional and possibly nationally recognized opportunity, giving students the conservation experience they need to build their resumes and conservation careers.

TNC hired its inaugural Bailey fellow, **Mauri Liberati**, in August of 2018. Mauri recently completed her Ph.D. in the Department of Natural Resources and the Environment at the University of Connecticut. During her 18 months with TNC, Mauri's work will focus on the connections between conservation actions and human well-being. By expanding our understanding of these linkages, we will improve our ability to strategically determine where and how we work to maximize benefits to nature and people, as well as assess measurable benefits to the quality of people's lives. (**d.**)

### In 2018, we celebrated the careers and contributions of two incredible employees:

Janet Lee, director of philanthropy, retired at the end of 2018 after 14 years with TNC. In her role, she was responsible for ensuring sustainable funding for Michigan conservation and science, strengthening our donor engagement and implementing the "Our Michigan" campaign. Thanks to her countless hours and contributions to conservation, the chapter raised at least \$58 million for The Nature Conservancy during her tenure, most of which was dedicated to Michigan projects and programs.

Tina Hall, director of land resources, has taken another step in her long career as a dedicated conservationist; she is now the director of the Tucson Audubon Society's Paton Center for Hummingbirds in Arizona. Tina joined TNC in 1989, and her conservation impacts are profound. Many major projects completed in the last 20 years in Michigan have benefitted from her expertise. A highlight of her tenure was her central involvement in the "Big UP" deal, which protected 248,000 acres in conservation easements and 23,318 acres in the Two Hearted River Forest Reserve in Michigan's Upper Peninsula.







In 2010, the Muskegon Environmental Research & Education Society (MERES) created the Michigan Environmental Hall of Fame to honor the people and organizations with long-standing commitment to the environment. Michigan Chapter State Director Helen Taylor was inducted into the Hall of Fame in 2018.

#### STATE DIRECTOR

Helen Taylor

#### **CONSERVATION DIRECTORS**

Dr. Patrick Doran Associate State Director

Rich Bowman Director of Working Lands

Kari Marciniak Director of Strategic Communications

Chris May Director of Protecting Land and Water

Doug Pearsall Conservation Senior Scientist

Rich Tuzinsky Director of Land Protection

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