

2006-2010 Progress Report

SUSTAIN OUR GREATLAKES

Supporting Ecological Restoration
for the People and Wildlife
of the Great Lakes Basin



EXECUTIVE SUMMARY:

A MESSAGE FROM THE PARTNERS



Who We Are:

Sustain Our Great Lakes is a unique bi-national public-private partnership led and administered by the National Fish and Wildlife Foundation. Partners include corporate funder ArcelorMittal and four federal agencies: the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Forest Service, and National Oceanic and Atmospheric Administration.

Our Mission:

Sustain Our Great Lakes has been designed to advance the goals of the *Great Lakes Water Quality Agreement*, the *Great Lakes Regional Collaboration Strategy to Restore and Protect the Great Lakes*, and the *Great Lakes Restoration Initiative Action Plan*. Our mission is to sustain, restore and protect fish, wildlife and habitat in the basin by leveraging funding, building conservation capacity, and focusing partners and resources toward key ecological issues. This mission echoes the values of each partner organization, as well as our collective commitment to the Great Lakes.

One of the unique strengths of *Sustain Our Great Lakes* is the ability to capitalize on the knowledge, skills and experiences of our diverse corporate and agency team members, and our other partners such as non-governmental organizations, grant-making peers, tribes, local community leaders and state, provincial and local governments. This engagement deepens and enriches our impact in both the U.S. and Canada. We thank all of the organizations who have shared best practices, lessons learned and strategies for achieving our unified goal of building capacity and improving the Great Lakes.

Our Objectives:

We achieve progress toward our mission through two primary vehicles.

First, we award funding through a competitive annual grants process. Through this grant-making, our individual

funding contributions are leveraged many times over, maximizing their collective on-the-ground impact on the health of the Great Lakes basin. In addition, our ability to offer funding through shared requests for proposals creates greater efficiency for applicants. Through our program, local conservation organizations are able to acquire the resources, staff, experience and expertise needed to undertake or expand critical restoration efforts.

Second, we strive to strengthen organizations and environmental work throughout the basin with the power of knowledge sharing. We function as a centralized hub, distributing information across a complex network of partners and communities. Promoting two-way dialogue about Great Lakes issues provides a forum for stakeholders to connect and communicate. We also maintain strong communications with other grant-makers and stakeholders to assist in telling the story of the basin, voicing its needs and celebrating its success. In these ways, *Sustain Our Great Lakes* has become not only an important source of funding but also a source of information and tools for organizations, community leaders and residents of the Great Lakes basin in the U.S. and Canada.

Just as we evaluate our applicants' work, we review our own. Recently, we engaged in a strategic planning exercise to refine our mission, goals and funding priorities. This exercise established a framework to further focus grant-making toward important ecological and social outcomes, enable meaningful assessments of grant performance and improve evaluation of the program as a whole. The four funding priorities that emerged are:

- Restoring aquatic connectivity
- Restoring stream and riparian habitat
- Restoring wetland habitat
- Restoring coastal (near-shore/shoreline) habitat

Our Achievements:

Since 2006, *Sustain Our Great Lakes* has awarded 103 grants worth \$12.1 million in corporate and federal partner funding. Grantees matched this funding with an additional \$14.1 million, for a total conservation investment of \$26.2 million. The success of our program attracted new funding in 2010, largely provided through the Great Lakes Restoration Initiative, increasing the total 2010 investment to \$13.5 million.

Through our grants, *Sustain Our Great Lakes* has provided support for the:

- Restoration of aquatic connectivity to 475 stream miles (121 miles completed)

- Restoration of 55 miles of stream and riparian habitat (27 miles completed)
- Restoration of 6,740 acres of wetland habitat (3,807 acres completed)
- Restoration of 1,605 acres of coastal habitat (53 acres completed)
- Restoration of 9,058 total acres (wetland and coastal acres plus 713 additional acres of other habitat; 4,114 acres completed)

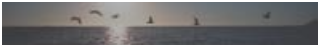












These miles and acres of restored habitat signify important benefits for both the wildlife and the people of the Great Lakes basin, including a cleaner environment, more robust fish and wildlife populations, and a better quality of human life. We believe our collaborative approach reaps ongoing benefits that will help to build a

more sustainable future for the 35 million people who call the Great Lakes basin their home. Through this report, we hope you learn more about the importance of the basin, the environmental challenges it faces and the restoration successes that our partners are achieving each and every day.

Most sincerely,

The Sustain Our Great Lakes Program Partners

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Cover photo courtesy of Todd Hogrefe.

THE GREAT LAKES: AN UNPARALLELED AND IMPERILED RESOURCE

The Great Lakes are among the most important natural resources in the world. With more than 21 percent of the earth's surface fresh water, 10,000 miles of shoreline and 30,000 islands, they provide drinking water for 35 million people and serve as a habitat for a vast array of plants and wildlife, including more than 200 globally rare species. The region's immense network of coastal marshes, inland wetlands and forests provide critical ecological services, such

as water filtration and storage, flood control, nutrient cycling and carbon storage. The Great Lakes offer unmatched opportunities for shipping, industry, tourism and outdoor recreation that have fostered one of the largest economies in the world.

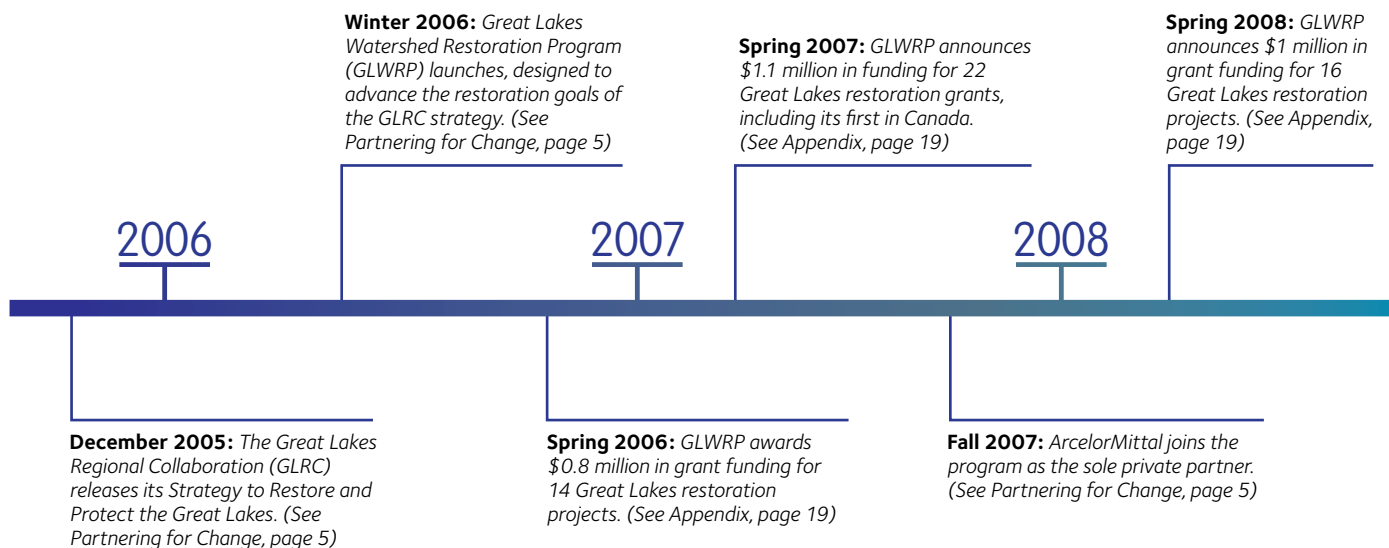
Despite these values, the Great Lakes have been significantly degraded by human activity over the past two centuries. Several threats such as habitat loss and fragmentation, invasive species

and pollution have impaired water quality, wildlife populations and quality of life in the basin. Recovering many of the critical values that have been lost while safeguarding those that remain requires intensive and extensive efforts to protect, restore and conserve the habitats and biodiversity of the Great Lakes ecosystem. Through investments in this work, *Sustain Our Great Lakes* is helping to restore these values to the people and wildlife of the region.



Photo courtesy of Bill Steers.

Important Benchmarks of Sustain Our Great Lakes



PARTNERING FOR CHANGE: THE GENESIS OF SUSTAIN OUR GREAT LAKES

SUSTAIN OUR
GREAT LAKES

The Great Lakes Regional Collaboration (GLRC) was created in 2004 by a U.S. Presidential Executive Order recognizing the Great Lakes as a national treasure and calling for the creation of a “regional collaboration of national significance.” The GLRC created unique partnerships that worked together to develop a strategic plan for the conservation of the Great Lakes ecosystem. It built upon the goals of the Great Lakes Water Quality Agreement (GLWQA), a commitment between the U.S. and Canada to restore and maintain the chemical, physical and biological integrity of the Great Lakes basin.

In 2006, to advance the goals of the GLRC’s strategic plan and the GLWQA, the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Forest Service and National Oceanic and Atmospheric Administration partnered with the National Fish and Wildlife Foundation to pool and leverage their resources for Great Lakes habitat restoration. The original program was called the Great Lakes Watershed Restoration Program. In 2007, the world’s leading steel company,

ArcelorMittal, joined this group as the sole private partner. The result of this unique public-private collaboration is *Sustain Our Great Lakes*, a bi-national program working to sustain, restore and protect fish, wildlife and habitat in the basin by leveraging funding, building conservation capacity and focusing partners and resources toward key ecological issues.

In 2009, President Obama announced a new Great Lakes Restoration Initiative (GLRI) to advance the GLRC strategies and committed \$475 million in new funding toward Great Lakes restoration. *Sustain Our Great Lakes* received \$6 million in GLRI funding in 2010 to address priorities outlined in the GLRI Action Plan.

By securing new partners and funding sources, *Sustain Our Great Lakes* has significantly increased capacity to support on-the-ground restoration and advance the goals of the GLRC strategy, GLWQA and GLRI Action Plan. We achieve our impact, in part, by awarding annual competitive grants to eligible grantees, including non-profit organizations, educational institutions, and state, provincial, tribal and local governments.

- **Community Grants Program**
– offering grants from \$25,000 to \$150,000 with an emphasis on improving local habitat conditions and local conservation capacity
- **Stewardship Grants Program**
– offering grants from \$150,001 to \$1.5 million with an emphasis on large-scale habitat restoration

“Sustain Our Great Lakes has served as a catalyst for new partnerships and opportunities that have profoundly enhanced our stewardship capabilities and long-term sustainability.”

– Kristopher Krouse, Executive Director,
Shirley Heinz Land Trust
(Sustain Our Great Lakes Grantee)

2009

Spring 2009: The program is renamed *Sustain Our Great Lakes* (SOGL). SOGL announces \$1.5 million in grant funding for 26 Great Lakes restoration projects. (See Appendix, page 19)

Winter 2009: President Obama announces \$475 million in funding for a new Great Lakes Restoration Initiative (GLRI). (See *Enhancing our Impact*, page 6)

2010

Summer 2009: SOGL creates two distinct grant programs: 1) Community Grants, funded primarily through partner contributions; and 2) Stewardship Grants, funded primarily with support from the GLRI. (See *Partnering for Change*, this page)

Summer 2009: SOGL launches a new program website, Facebook page and Twitter account to share Great Lakes information with partners and the public across the basin. (See *Connecting Across The Basin*, page 9)

July–December 2010: SOGL conducts strategic planning to refine our mission, goals and funding priorities. Results of this effort are reflected in the 2011 Requests for Proposals. (See *Focusing Resources*, page 6)

Spring 2010: SOGL awards \$7.6 million in grant funding for 25 Great Lakes restoration projects. (See Appendix, page 18)

FOCUSING RESOURCES: FUNDING PRIORITIES FOR SUSTAIN OUR GREAT LAKES

In 2010, the *Sustain Our Great Lakes* partners invested significant time in a strategic planning exercise to refine the mission, goals and funding priorities of the program. This exercise established a framework to further focus grant-making toward important ecological and social outcomes, enable meaningful assessments of grant performance, and improve evaluation of the program as a whole.

Top priorities that emerged from the strategic planning exercise include improving the quality and connectivity

of **tributary, wetland and coastal habitats** through the following focal issues:

- **Restoring Aquatic Connectivity** (e.g., dam removal, bridge and culvert replacement, installation of fish passage structures)
- **Restoring Stream and Riparian Habitat** (e.g., streambank stabilization, invasive species control, restoration of native vegetation, placement of in-stream structures, hydrological restoration)
- **Restoring Wetland Habitat** (e.g., invasive species control, restoration of native vegetation, hydrological restoration)
- **Restoring Coastal (Near-shore/ Shoreline) Habitat** (e.g., restoration/enhancement of spawning reefs, removal of artificial structures, restoration of natural beach topography, invasive species control)

ENHANCING OUR IMPACT: LEVERAGING FUNDS

Sustain Our Great Lakes grants are administered by the National Fish and Wildlife Foundation and supported through a combination of federal and corporate dollars, with contributions from ArcelorMittal, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Forest Service, and National Oceanic and Atmospheric Administration. In 2010, in addition to base funding contributed by the funding partners, *Sustain Our Great Lakes* administered another \$6 million in GLRI support, increasing the program's grant budget five-fold over the previous year (Figure 1).

From 2006 through 2010, *Sustain Our Great Lakes* awarded 103 grants worth **\$12.1 million**. Grantees matched this funding with an additional **\$14.1 million**, for a total conservation investment of **\$26.2 million** (Table 1).

More than half of the total investment was made in 2010 alone: the program awarded 25 grants worth **\$7.6 million** and matched with **\$5.9 million** for an overall annual investment of **\$13.5 million**.

Figure 1: Sustain Our Great Lakes Grant Funding by Year

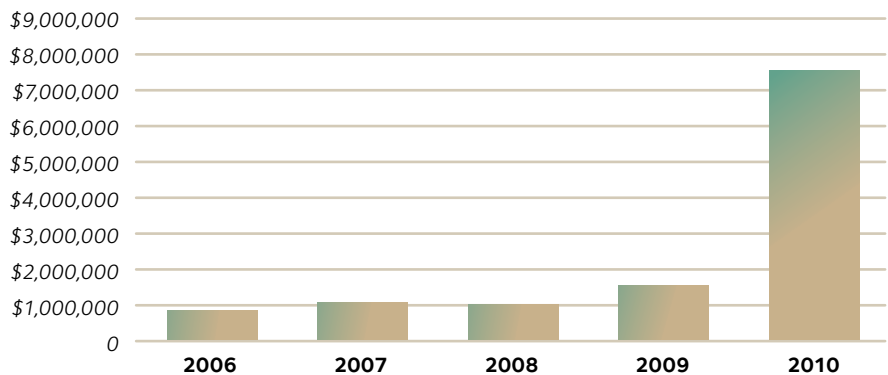


Table 1: Breakdown of Annual Funding, Total Investment

Year	# Grants	Total Grant \$	Grantee Match \$ ^a	Total Conservation Investment
2006	14	\$830,231	\$1,706,785 ^b	\$2,537,016
2007	22	\$1,080,500	\$2,519,125 ^b	\$3,599,625
2008	16	\$1,026,321	\$1,164,671 ^c	\$2,190,992
2009	26	\$1,526,343	\$2,843,820 ^c	\$4,370,163
2010	25	\$7,644,445	\$5,868,655 ^c	\$13,513,100
Total	103	\$12,107,840	\$14,103,056^c	\$26,210,896

^a Match is non-federal (U.S.) in origin and voluntary (not required by court order or permit).

^b All grants are closed and match values are certified.

^c Some grants are active and the value reflects both certified and pledged match.

PRODUCING RESULTS: OUTCOMES OF CONSERVATION INVESTMENTS

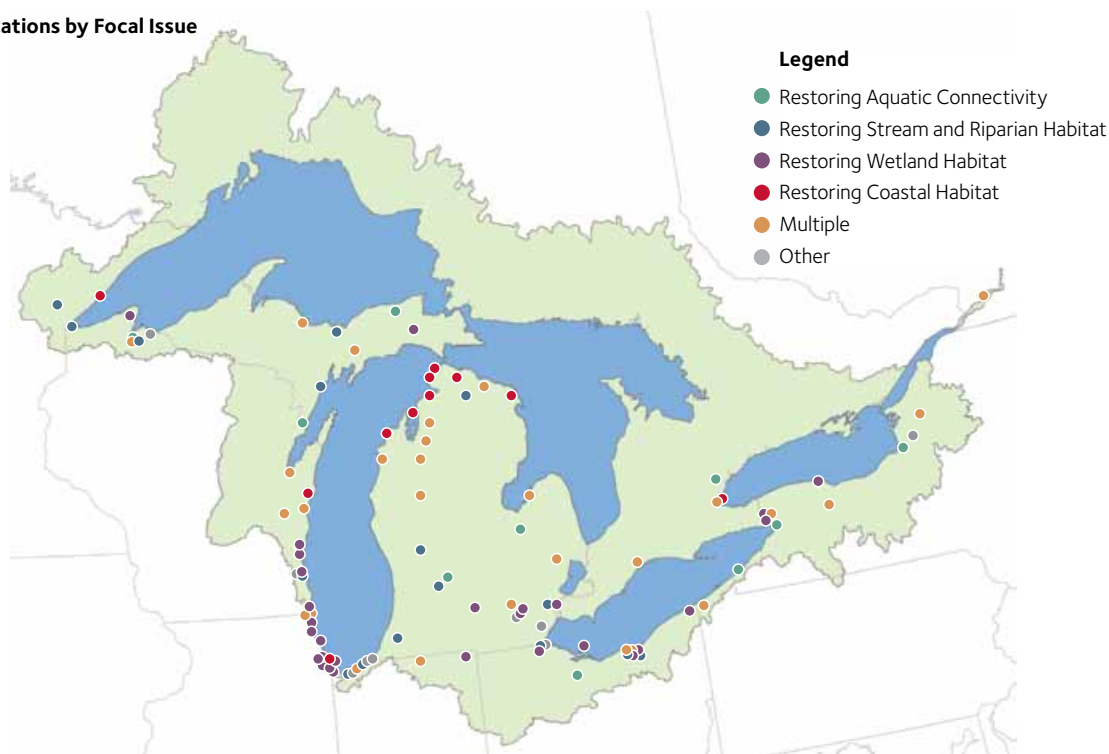
SUSTAIN OUR
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Sustain Our Great Lakes has effectively directed the vast majority of funding toward the priorities of improving the quality and connectivity of **tributary,**

wetland and coastal habitats. From 2006 through 2010, the program awarded 103 grants for projects across all eight Great Lakes states and both

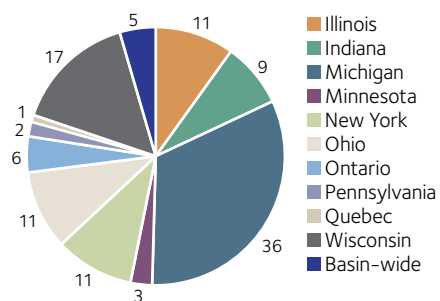
Great Lakes provinces (Figures 2 and 3). All but nine of the 103 grants directly addressed one or more of the focal issue categories (Figure 4).

Figure 2: Project Locations by Focal Issue



Note: Projects that address multiple focal issues are coded as 'Multiple.' Projects that did not fit the any of the focal issues are coded as 'Other.'

Figure 3: Total Projects per State/Province



Note: Projects in multiple states/provinces are included in the counts for each relevant state/province, so the total number of projects shown (112) exceeds the total number of grants made (103).

Through our grants, Sustain Our Great Lakes has provided support for:

- Restoring aquatic connectivity to **475** stream miles (121 miles completed)
- Restoring **55** miles of stream and riparian habitat (27 miles completed)
- Restoring **6,740** acres of wetland habitat (3,807 acres completed)
- Restoring **1,605** acres of coastal habitat (53 acres completed)
- Restoring **9,058** total acres (wetland and coastal acres plus 713 additional acres of other habitat; 4,114 acres completed)

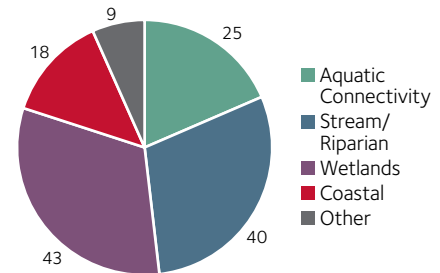
PRODUCING RESULTS: CONTINUED

Table 2: Outcomes by Focal Issue

Priority Outcomes	Miles of Restored Aquatic Connectivity	Miles of Restored Stream and Riparian Habitat	Acres of Restored Wetland Habitat	Acres of Restored Coastal Habitat
State				
Illinois	1 (1)	1.3 (1.0)	987.1 (222.1)	0 (0)
Indiana	0 (0)	0.4 (0.4)	664 (37)	10 (10)
Michigan	400.5 (107.5)	42 (20.5)	1,932 (822)	1,091 (43)
Minnesota	0 (0)	0 (0)	0 (0)	500 (0)
New York	0 (0)	2.5 (0)	37 (14)	0 (0)
Ohio	3 (3)	0.3 (0.3)	226.5 (79.5)	0 (0)
Pennsylvania	0 (0)	0 (0)	0 (0)	0 (0)
Wisconsin	30 (9)	6 (5.1)	2,798 (2,632)	3 (0)
Province				
Ontario	40 (0)	2 (0)	95 (0)	0.8 (0)
Quebec	0 (0)	0.2 (0)	0 (0)	0 (0)
Total	474.5 (120.5)	54.7 (27.3)	6,739.6 (3,806.6)	1,604.8 (53)

Note: At the end of 2010, 55 of 103 grants were completed and closed, while 48 grants remained active. Outcomes for completed projects/closed grants are indicated in parentheses.

Figure 4: Total Projects per Focal Issue



Note: Projects that addressed multiple focal issues are included in the counts for each relevant category, so the total number of projects shown (135) exceeds the total number of grants made (103).

DEMONSTRATING THE BENEFITS: IMPORTANCE AND VALUE OF OUTCOMES

Tallies of miles and acres being restored through *Sustain Our Great Lakes* are more than just numbers on a page; they signify important benefits for the wildlife and people of the Great Lakes basin. Some of these benefits include:

- Improved water quality
- Healthier fish and wildlife populations, including populations of many imperiled species
- Reduced health risks associated with fish consumption
- Increased property values near restored areas
- Reduced flooding and related property damage
- Reduced ecological impacts associated with development
- Increased financial support and job opportunities for local organizations and contractors
- Improved outdoor recreational opportunities and tourism

- Increased environmental awareness and organizational conservation capacity

A 2007 Brookings Institution report¹ concluded that, on average, every dollar invested in Great Lakes ecological restoration is expected to generate nearly two dollars of long-term economic benefit. This benefit accrues both directly and indirectly from improved tourism, fishing and recreation, improved property values, reduced water treatment costs and many other outcomes of ecological restoration. In addition, restoration work itself generates important short-term economic activity as practitioners employ staff, hire contractors, purchase equipment and supplies, and pay for transportation and lodging. Although the particular benefits of any individual restoration project are site-specific, the \$26.2 million investment leveraged by *Sustain Our Great Lakes* through 2010 could be expected to generate at least

\$52 million in long-term economic benefit across the basin.

Together, the ecological, economic and social benefits of restoration translate into a cleaner environment, more robust fish and wildlife populations, and better quality of human life. The 35 million residents within the Great Lakes basin rely on a healthy, functioning ecosystem for their personal health, economic prosperity, recreational enjoyment, and psychological and spiritual well-being, and as a result, they are benefiting from the conservation outcomes generated with support from *Sustain Our Great Lakes*.

These outcomes and benefits are further explored on pages 10–17, which highlight the *Sustain Our Great Lakes* focal issues.

¹ Austin, JC, S Anderson, PN Courant, and RE Litan. 2007. *America's North Coast: A Benefit-Cost Analysis of a Program to Protect and Restore the Great Lakes*. Ann Arbor, MI. 83 pp.

CONNECTING ACROSS THE BASIN: BUILDING CAPACITY THROUGH COMMUNICATIONS

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In addition to supporting important on-the-ground habitat restoration, *Sustain Our Great Lakes* is helping to increase the conservation capacity of local communities. Many of the grants awarded by the program have allowed smaller conservation organizations to acquire the staff, experience and expertise needed to expand their efforts to improve local habitat conditions. Additionally, grant funding has provided support for the environmental education and training of an estimated 11,000 students, teachers, volunteers and professionals. This work not only helps train the next generation of habitat stewards; it also builds public awareness of the challenges facing the Great Lakes and the important values of ecological restoration.

Recently, social media and other web-based content have helped *Sustain Our Great Lakes* broaden our role in sharing information. Through Facebook, Twitter and www.sustainourgreatlakes.org, the program has been informing constituents about Great Lakes issues and providing a forum for stakeholders to communicate with each other. By posting news stories, publicizing events, highlighting ongoing restoration efforts, featuring partner organizations in 'Twitterviews' and responding to partner questions, *Sustain Our*

Great Lakes has become a source of information for many stakeholders not only in the Great Lakes basin but across the U.S. and Canada.



www.sustainourgreatlakes.org

BUILDING ON SUCCESS: THE FUTURE OF SUSTAIN OUR GREAT LAKES

The unique strength of *Sustain Our Great Lakes* is found in the diversity and dedication of our program partners and grantees. The program has succeeded by leveraging the experience, expertise,

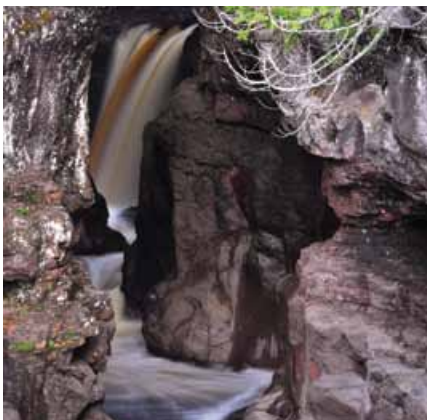


Photo courtesy of Todd Hogrefe.

talents and funding of representatives from the public and private sector.

Sustain Our Great Lakes capitalizes on the diverse knowledge, skills and experiences of our partners. As a group, the team has expertise in biology, habitat restoration, regulatory issues, communications and grants administration that provides the foundation for effective program management.

Funding contributions of each partner are leveraged many times over, maximizing the return on their investments. Their collective on-the-ground impact far exceeds what any individual partner could achieve alone. In addition, the diversity of program funding sources reduces the effects of annual fluctuations in individual

partner budgets, ensuring *Sustain Our Great Lakes* is consistently able to award significant funding from one year to the next.

Sustain Our Great Lakes strives to build upon these strengths by adding new program partners and engaging more citizens on both sides of the U.S. – Canadian border. With broad participation, *Sustain Our Great Lakes* can further accelerate the restoration of our tributary, wetland and coastal habitats and the critical ecological and economic values they provide. The ultimate outcome will be a cleaner, healthier and more prosperous environment for the people and wildlife of the Great Lakes basin.

FOCAL ISSUE 1: RESTORING AQUATIC CONNECTIVITY

The ability for aquatic organisms to move both upstream and downstream is vital to the natural population dynamics of many species of fish, mollusks, insects and other wildlife. Many Great Lakes fish, such as lake sturgeon, Atlantic salmon and brook trout, require passage between lakes, large rivers and their spawning habitat in upstream tributaries to complete their life cycles. Connectivity among aquatic habitats is critical for the health of our waterways as well as the condition of our commercial and recreational fisheries.

Today, however, barriers such as dams and poorly performing culverts and road crossings block passage of aquatic organisms in almost all large rivers of the Great Lakes basin. Many Great Lakes fish species are unable to access a majority of their historic spawning habitats, severely curtailing reproduction and recruitment rates. In addition, barriers create impoundments and alter flows in ways that often result in increased water temperatures, sediment loads and damaging floods. These effects not only degrade habitat and water quality for wildlife; they also have important detrimental impacts on the human residents of the basin.

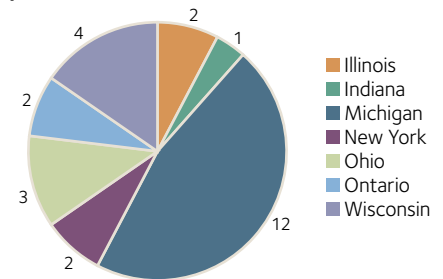
To address these issues, *Sustain Our Great Lakes* is helping to remove passage barriers and install passage structures across the basin. With the support of 25 grants awarded by the program (Figure 5), grantees are:

- **Removing 19 dams**
(3 completed)
- **Replacing or modifying 38 culverts and road crossings**
(10 completed)
- **Installing or improving 10 passage structures**
(7 completed)
- **Restoring aquatic connectivity to 475 stream miles**
(121 completed; Table 3)



Photo courtesy of Todd Hogrefe.

Figure 5: Aquatic Connectivity Projects per State/Province



Note: Projects in multiple states are included in the counts for each relevant state, so the total number of aquatic connectivity projects shown (26) exceeds the total number of grants made (25).



Photo courtesy of Todd Hogrefe.

Table 3: Miles of Aquatic Connectivity to be Restored per State/Province

Grant Year	2006	2007	2008	2009	2010	Total
State Illinois			1 (1)			1 (1)
Indiana						
Michigan	7.5 (7.5)	5 (5)	1 (1)	283 (94)	104 (0)	400.5 (107.5)
Minnesota						
New York						
Ohio		3 (3)				3 (3)
Pennsylvania						
Wisconsin		9 (9)			21 (0)	30 (9)
Province Ontario					40 (0)	40 (0)
Quebec						
Total	7.5 (7.5)	17 (17)	2 (2)	283 (94)	165 (0)	474.5 (120.5)

Note: At the end of 2010, 10 of 25 aquatic connectivity grants were completed and closed while 15 grants remained active. Outcomes for completed projects/closed grants are indicated in parentheses.

The reconnection of aquatic habitats is having important benefits for many fish and wildlife populations. For example:

- **Lake sturgeon:** Restoration of fish passage to 134 stream miles is generating population growth that is expected to include a 600 percent increase in the number of adult sturgeon in Lake Michigan over two to four generations.
- **Brook trout:** Removal of 15 dams and replacement of 33 culverts are improving connectivity and quality of more than 70 miles of spawning habitat in Michigan.
- **Northern pike:** Removal of fish barriers and restoration of wetlands are improving connectivity of 43 stream miles and improving 99 acres of spawning habitat across the basin.
- **Atlantic salmon:** Construction of a fish ladder is restoring passage to 40 stream miles and access to 200 acres of historic spawning habitat in Ontario.



Lake sturgeon, a fish benefiting from dam removal in the Lake Michigan basin. Photo courtesy of U.S. Fish and Wildlife Service.

In addition to improving connectivity, this work is improving habitat for these and many other species by restoring more-natural temperatures and flows and reducing sediment inputs downstream. These benefits are not limited to wildlife. As a result of these actions, people in the basin will enjoy improved water quality, less property damage related to flooding, better recreation opportunities such as angling and kayaking, and the economic benefits of improving a fishery valued at more than \$7 billion per year.

2010 Project Spotlight

Upper Manistee Riparian Corridor Restoration (MI)

Grant Recipient: Conservation Resource Alliance

Grant Award: \$625,791

Project Location: Upper Manistee River watershed in Kalkaska County, MI

Project Description: The Conservation Resource Alliance and a broad coalition of partners are removing 12 dams and improving a stream road crossing along the North Branch of the Manistee River and Flowing Well Creek. In addition, technical assistance is being provided to private landowners for the restoration of wetland and upland habitat along the North Branch and its tributaries. These actions are: 1) restoring upstream fish passage to 14 stream miles; 2) restoring a more natural flow regime along 20 miles of stream; and 3) facilitating the restoration of native vegetation on approximately 650 acres of wetland and upland habitat. This work is benefiting populations of brook trout, brown trout and many other species.



Project location. The Great Lakes basin is shown in green.



One of 12 dams to be removed as part of the project. Photo courtesy of Conservation Resource Alliance.

FOCAL ISSUE 2: RESTORING STREAM AND RIPARIAN HABITAT



Great Lakes rivers and streams provide habitat for a vast assemblage of fish, mollusks, insects and other wildlife. Many fish, like the imperiled redbreasted sunfish and eastern sand darter, use tributaries for all stages of their life cycles; others, like coaster brook trout and lake sturgeon, may use them only as spawning and nursery habitat. In all cases, however, healthy tributaries are necessary to sustain populations of these and many other species. In addition, rivers and streams in the basin provide drinking water for millions of people, are conduits for nutrient transfer and provide opportunities for economically important

activities such as boating and angling.

Past and present land uses have degraded many of the rivers and streams in the basin by reducing base flows, increasing artificially high peak flows, altering water temperatures, enabling establishment of invasive species, accelerating bank erosion, smothering stream substrates with sediment and disrupting the downstream transport of large woody debris. In addition to having negative impacts on fish and wildlife populations, these changes have led to increased risks of property damage due to flooding and degradation of drinking water quality.

To address these issues, *Sustain Our Great Lakes* has awarded 40 grants (Figure 6) for restoring stream and riparian habitat. Some of the work being supported includes control of invasive species, restoration of native vegetation, streambank stabilization, placement of in-stream habitat structures and watershed planning. Through these and other actions, grantees are:

- Restoring **55** miles of stream and riparian habitat (27 miles completed; Table 4)

Figure 6: Stream/Riparian Habitat Projects per State/Province

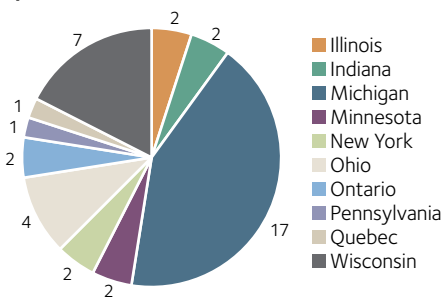


Table 4: Miles of Stream/Riparian Habitat to be Restored per State/Province

Grant Year	2006	2007	2008	2009	2010	Total
State						
Illinois			1 (1)		0.3 (0)	1.3 (1)
Indiana	0.2 (0.2)			0.2 (0.2)		0.4 (0.4)
Michigan	7.5 (7.5)	5.5 (5.5)	1.1 (1)	6 (6)	21.9 (0.5)	42 (20.5)
Minnesota						
New York					2.5 (0)	2.5 (0)
Ohio		0.2 (0.2)		0.1 (0.1)		0.3 (0.3)
Pennsylvania						
Wisconsin	0.1 (0.1)	5 (5)		0.8 (0)	0.1 (0)	6 (5.1)
Province						
Ontario				2 (0)		2 (0)
Quebec				0.2 (0)		0.2 (0)
Total	7.8 (7.8)	10.7 (10.7)	2.1 (2)	9.3 (6.3)	24.8 (0.5)	54.7 (27.3)

Note: At the end of 2010, 19 of 40 stream/riparian grants were completed and closed while 21 grants remained active. Outcomes for completed projects/closed grants are indicated in parentheses.

Restoration of this stream habitat is having important benefits for many fish and wildlife populations. For example:

- **Brook trout:** Bank stabilization, invasive species control and placement of in-stream woody structures are restoring 41 miles of coldwater stream for brook trout in Michigan.
- **Northern map turtle:** Native vegetation planting and litter clean-up along two miles of stream near Hamilton Harbor, Ontario are improving habitat for the northern map turtle.
- **Northern pike:** Restoration of natural stream meander, invasive species control and native vegetation planting are improving more than eight miles of tributary habitat for pike across the basin.

Like the restoration of aquatic connectivity, this work is improving habitat for these and many other species by restoring more natural temperatures and flows and reducing sediment inputs downstream. The human benefits of these changes include improved water quality, less property damage related to flooding, better opportunities for recreation such as angling and kayaking, and improvement of a multi-billion dollar fishing industry.



Brook trout, a fish benefiting from stream restoration in Michigan. Photo courtesy of U.S. Fish and Wildlife Service.



2010 Project Spotlight

Riverwatch Academy for Niagara River Watershed Restoration (NY)

Grant Recipient: Buffalo Niagara Riverkeeper

Grant Award: \$149,956

Project Location: Buffalo River, Scajaguada Creek and Cayuga Creek in the Niagara River watershed, Niagara and Erie counties, NY

Project Description: Buffalo Niagara Riverkeeper, in partnership with Buffalo State College and Erie County Community College, is developing a Riverwatch Academy for the training of residents, teachers, students, professionals and community leaders in watershed management and restoration. Academy volunteers are restoring 3.5 miles of streambank and 35 acres along three degraded Niagara River tributaries: Buffalo River, Scajaguada Creek and Cayuga Creek. Activities at these sites include: managing invasive plant species; planting native trees, shrubs and forbs of high wildlife value; restoring aquatic plant species; and monitoring long-term water and habitat quality.



Project location. The Great Lakes basin is shown in green.



Students learn to conduct aquatic invertebrate monitoring on Cayuga Creek during a River Academy session. Photo courtesy of Buffalo Niagara Riverkeeper.

FOCAL ISSUE 3: RESTORING WETLAND HABITAT

The term ‘wetland’ captures an extremely diverse collection of habitats, ranging from small forested vernal pools that are less than an acre to vast coastal marshes that can exceed a thousand acres. Across this spectrum, wetlands provide critical habitat and ecological services for wildlife and people. They provide breeding habitat for amphibians, spawning and nursery habitat for fish, stopover habitat for migrating waterfowl and shorebirds, and nesting and foraging habitat for resident birds. In addition, they collect and store stormwater, slowing runoff and reducing flooding. Wetlands also filter sediment and pollutants, improving the quality of

water before it enters our streams, rivers and lakes.

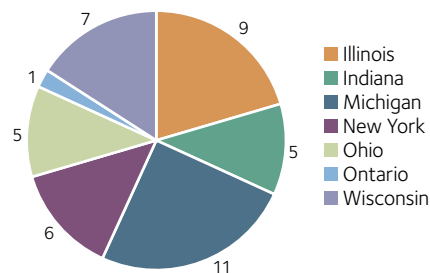
Today, the Great Lakes basin has lost more than 50 percent of its wetlands, and coastal wetlands in some areas have declined by as much as 95 percent. These losses have occurred due to a number of factors, including filling and draining for agriculture and commercial, residential and industrial development. Those wetlands that remain are often degraded through invasive species and hydrological alteration.

Through 43 grants (Figure 7), *Sustain Our Great Lakes* is helping to restore the

acreage and quality of wetlands throughout the basin. With this support, our grantees are controlling invasive species and restoring more natural hydrology, native vegetation and natural connections between wetlands and other waterways. Collectively, this work is:

- Restoring and improving **6,740** acres of wetland habitat (3,807 acres completed; Table 5)

Figure 7: Wetland Restoration Projects per State/Province



Note: Projects in multiple states are included in the counts for each relevant state, so the total number of wetland projects shown (44) exceeds the total number of grants made (43).

Table 5: Acres of Wetlands to be Restored per State/Province

Grant Year	2006	2007	2008	2009	2010	Total
State						
Illinois		67.5 (67.5)		229.6 (154.6)	690 (0)	987.1 (222.1)
Indiana				37 (37)	627 (0)	664 (37)
Michigan	750 (750)	72 (72)	175 (0)		935 (0)	1,932 (822)
Minnesota						
New York			14 (14)		23 (0)	37 (14)
Ohio	2.5 (2.5)	77 (77)			147 (0)	226.5 (79.5)
Pennsylvania						
Wisconsin	858 (858)	14 (14)	1,760 (1,760)	166 (0)		2,798 (2,632)
Province						
Ontario					95 (0)	95 (0)
Quebec						
Total	1,610.5 (1,610.5)	230.5 (230.5)	1,949 (1,774)	432.6 (191.6)	2,517 (0)	6,739.6 (3,806.6)

Note: At the end of 2010, 22 of 43 wetland grants were completed and closed while 21 grants remained active. Outcomes for completed projects/closed grants are indicated in parentheses.



Photo courtesy of Bill Steers.

Restoring this wetland habitat is having important benefits for many species of fish and wildlife. For example:

- **Blanding's turtle:** Restoration of more than 1,473 acres of wetlands and associated uplands is providing Blanding's turtles with the matrix of habitats they need to complete their life cycles.
- **White cat's paw pearly mussel:** Restoration of 80 acres of wetlands and 500 acres of adjacent uplands in Indiana is improving habitat for the only

known extant population of this endangered species.

- **Mitchell's satyr:** Prairie fen restoration in Michigan has restored 175 acres of habitat for this endangered species.

In addition to improving habitat for these and other species, wetland restoration is benefiting the people of the basin by reducing flooding and improving water quality. Moreover, it is enhancing hunting and wildlife viewing opportunities, as well as the economic benefits derived from

those activities, by increasing the habitat available for use by waterfowl and shorebirds.



Blanding's turtle, a reptile benefiting from wetland restoration across the basin. Photo: Daniel Kennedy, Michigan Department of Natural Resources.

2010 Project Spotlights

Chiwaukee Illinois Beach Lakeplain Restoration (IL, WI)

Grant Recipient: Lake County Forest Preserve District

Grant Award: \$998,557

Project Location: Chiwaukee Prairie, Spring Bluff, and Illinois Beach State Park between Kenosha, WI and Waukegan, IL

Project Description: Lake County Forest Preserve District and partners are restoring 690 acres of coastal lakeplain at Chiwaukee Prairie, Spring Bluff and Illinois Beach State Park by controlling invasive species, improving hydrology and improving habitat connectivity. Project actions include: 1) controlling six widespread invasive plants across 509 acres; 2) eradicating 25 localized invasive plant populations; 3) restoring surface water flow in Dead Dog Creek to reduce flooding in 150 wetland acres; and 4) removing a gravel road to reconnect 31 acres of wetland. These actions will improve habitat for the 800 animal and plant species (including 63 state-threatened and endangered species) known to use the coastal lakeplain habitat.



Restored lakeplain habitat at Spring Bluff Nature Preserve. Photo courtesy of Chip Williams, Lake County Forest Preserve District.

Restoring Wet Prairies in the Oak Openings (OH)

Grant Recipient: The Nature Conservancy

Grant Award: \$72,664

Project Location: Kitty Todd Preserve in Harding Township, Lucas County, OH

Project Description: The Nature Conservancy is restoring approximately 35 acres of wetland habitat and associated upland buffer on land recently added to the Kitty Todd Preserve in the Oak Openings Region. Project actions include mowing, herbicide treatment of invasive species, prescribed burns, seeding with native plants and tile breaking to restore natural conditions. The work will result in a reduction in the woody canopy to 50 to 75 percent cover, reduction of invasive species to less than 10 percent cover, and increase in native species diversity to at least 50 species and 90 percent of the total vegetation. By restoring hydrology and community structure, this project will improve habitat for many rare plant wildlife and plant species.



Project locations. The Great Lakes basin is shown in green.



The endangered Karner blue butterfly in the Oak Openings Region. Photo courtesy of The Nature Conservancy.

FOCAL ISSUE 4: RESTORING COASTAL HABITAT

The Great Lakes basin encompasses more than 10,000 miles of shoreline and is home to the largest system of freshwater dunes in the world. These coastal habitats host globally significant natural communities and are critical stopover areas for many waterfowl and shorebirds during migration. Seven federally threatened and endangered species, such as piping plover and Hine’s emerald dragonfly, are associated with Great Lakes shoreline, and some of them, such as Pitcher’s thistle and dwarf lake iris, occur nowhere else in the world. Due to their aesthetic and recreational appeal, these habitats attract significant tourism and are a major economic driver of many coastal communities.

Although they are ecologically and economically important, shorelines are also among the most threatened habitats in the basin. Development is a significant threat to biodiversity in these areas. Habitat loss, degradation and fragmentation have been identified as primary threats to many coastal species, including six of the seven federally listed species that depend on Great Lakes shoreline. In addition, recreational activities, invasive species and disease are major threats to many coastal fish and wildlife populations.

Sustain Our Great Lakes is addressing these issues by supporting the restoration

of coastal habitats and the conservation of imperiled coastal species. Through 18 grants (Figure 8), grantees are:

- Restoring **1,605 acres of coastal habitat** (53 complete; Table 6)
- Protecting and monitoring Great Lakes piping plover nests at **one-third of all known nesting sites** (ongoing)

Figure 8: Coastal Restoration Projects by State/Province

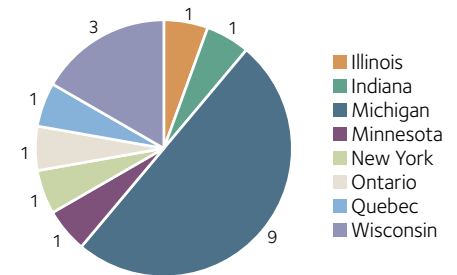


Table 6: Acres of Coastal Wetlands to be Restored per State/Province

Grant Year	2006	2007	2008	2009	2010	Total
State Illinois						
Indiana	10 (10)					10 (10)
Michigan		5 (5)	38 (38)	120 (0)	928 (0)	1,091 (43)
Minnesota					500 (0)	500 (0)
New York						
Ohio						
Pennsylvania						
Wisconsin					3 (0)	3 (0)
Province Ontario					0.8 (0)	0.8 (0)
Quebec						
Total	10 (10)	5 (5)	38 (38)	120 (0)	1,431.8 (0)	1,604.8 (53)

Note: At the end of 2010, 5 of 18 coastal grants were completed and closed while 13 grants remained active. Outcomes for completed projects/closed grants are indicated in parentheses.

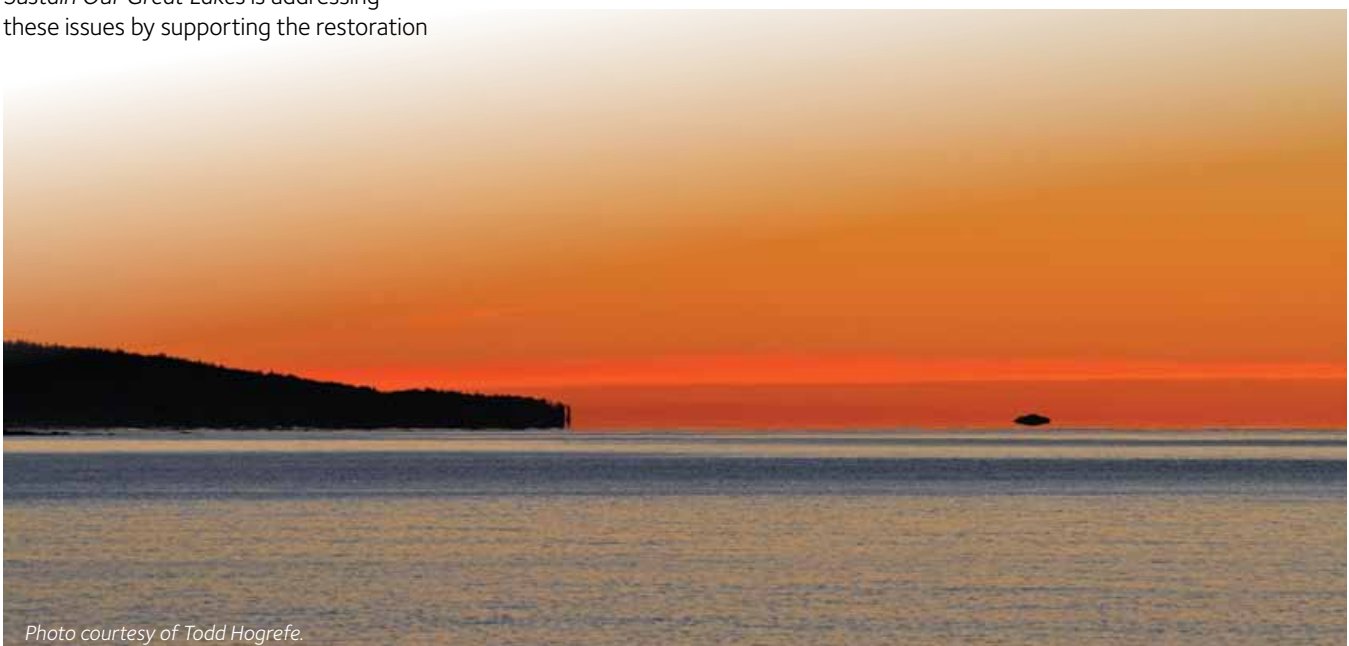


Photo courtesy of Todd Hogrefe.

Coastal habitat restoration is benefiting many wildlife and plant species including:

- **Piping plover:** Nest protection, captive rearing and invasive species control have helped the number of nesting

pairs increase by 15 percent since 2006.

- **Lake whitefish and lake herring:** Construction of a shoal along an island in western Lake Ontario is creating

nearly an acre of new spawning habitat for these and other fish species.

- **Houghton's goldenrod and Michigan monkeyflower:** Control of invasive *Phragmites* infestation is improving habitat conditions for these and other imperiled plants in northern Michigan.

In addition to improving habitat for these and other species, coastal restoration is benefiting the people of the basin by ensuring coastal areas retain their unique beauty and continue to draw tourism to local communities. It is also helping improve the condition of productive near-shore waters that are critical for sustaining much of the multi-billion dollar Great Lakes fishing industry.



Great Lakes piping plover, an endangered shorebird benefiting from shoreline restoration and nest protection in northern Michigan. Photo courtesy of Alice Van Zoeren.



2010 Project Spotlight

Restoring Lake Superior's Coastal Forest (MN)

Grant Recipient: Sugarloaf: the North Shore Stewardship Association

Grant Award: \$64,982

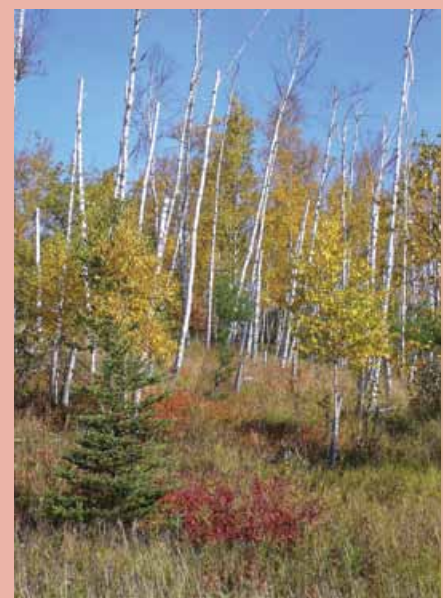
Project Location: Minnesota's north shore of Lake Superior in St. Louis, Lake and Cook Counties, adjacent to or near Highway 61

Project Description: Sugarloaf: The North Shore Stewardship Association is taking a lead role in restoring native coastal forests to Minnesota's North Shore of Lake Superior. To achieve this goal, Sugarloaf is: 1) developing forest stewardship plans for 15 to 20 landowners; 2) providing on-the-ground plan implementation assistance to landowners; and 3) providing 45 hours

of woodland stewardship training for participating landowners and other interested persons. These actions will result in at least 500 acres of restored forest with potential for much more. Partners include the University of Minnesota Extension Woodland Advisors, Minnesota Conservation Corps, Minnesota Land Trust and the Cook County Invasives Team.



Project location. The Great Lakes basin is shown in green.



Dead and dying birch to be replaced with healthy trees through forest restoration. Photo courtesy of Molly Thompson, Sugarloaf: The North Shore Stewardship Association.

APPENDIX

SUSTAIN OUR GREAT LAKES GRANT RECIPIENTS

2010 Grantees and Project Summaries

Illinois (and Wisconsin)

- **Lake County Forest Preserve District** and partners are restoring 690 acres of coastal lakeplain at Chiwaukee Prairie, Spring Bluff and Illinois Beach State Park by controlling invasive species and improving hydrology. (Grant award = \$998,557)

Indiana

- **Save the Dunes Conservation Fund** and partners are restoring 14 acres of foredune and savanna habitat at Stockwell Woods by controlling invasive species, planting native species and conducting prescribed burns. (Grant award = \$39,100)
- **Shirley Heinze Land Trust** and partners are restoring 47 acres of interdunal wetland habitats in the Indiana Dunes region to counter the effects of fire suppression and invasive species in the area. (Grant award = \$31,378)
- **The Nature Conservancy** is improving wildlife habitat and water quality by restoring 80 acres of wetlands and reforesting 500 acres of adjacent uplands in the Upper Saint Joseph watershed in Steuben County. (Grant award = \$382,211)

Michigan

- **City of Frankenmuth** and partners are constructing a "rock ramp" style fish passage sequence at the Frankenmuth Dam to restore connectivity to 73 stream miles and provide fish access to spawning habitat. (Grant award = \$200,000)
- **Conservation Resource Alliance** and partners are restoring 14 miles of fish passage and 20 miles of stream in the Upper Manistee River watershed by removing 12 dams, improving a road crossing and assisting landowners. (Grant award = \$625,791)
- **Ducks Unlimited** and partners are restoring 10 miles of fish passage, one mile of channelized stream and 75 acres of marsh by restoring and protecting the ecology of lower Bowens Creek and Arcadia Marsh. (Grant award = \$783,823)
- **Huron Pines RC&D Council** and partners are restoring wildlife habitats and connectivity in Silver Creek by removing nine fish barriers, installing

2,000 feet of buffer strips and controlling invasive species on 20 acres. (Grant award = \$133,510)

- **The Nature Conservancy** and partners are conducting surveys and controlling and monitoring seven invasive plants that threaten dunes, wetlands and forests along the 505-mile shoreline of eastern Lake Michigan. (Grant award = \$748,118)
- **Lake Superior State University** and partners are conducting surveys, monitoring, nest protection, captive rearing and invasive species control to improve piping plover reproductive success and nesting habitat. (Grant award = \$150,000)
- **Michigan Natural Features Inventory** and partners are developing a regional network to detect and control non-native, invasive *Phragmites* along more than 100 miles of Michigan's Lake Huron shoreline. (Grant award = \$115,199)
- **Upper Peninsula RC&D Council** is working with partners to establish a network for identifying, monitoring and controlling invasive plants throughout the Upper Peninsula. (Grant award = \$150,000)
- **Schrems West Michigan Chapter of Trout Unlimited** and partners are improving more than 2,500 feet of habitat in the Coldwater River to reduce bank erosion and enhance populations of trout and other wildlife. (Grant award = \$40,750)
- **Stewardship Network** is coordinating volunteer efforts to remove an anticipated 150,000 pounds of invasive garlic mustard to improve habitat and reduce the risk of expansion into other areas. (Grant award = \$15,000)
- **Stewardship Network** is developing and distributing Field Workshop Kits to enable sponsors and practitioners of workshops and workdays to plan and host science-based events in the Great Lakes basin. (Grant award = \$15,000)

Minnesota

- **Sugarloaf: the North Shore Stewardship Association** is guiding the restoration of more than 500 acres of coastal forest by providing stewardship training and assistance to landowners along Minnesota's Lake Superior shore. (Grant award = \$64,982)

New York

- **Buffalo Niagara Riverkeeper** and

partners are restoring 35.5 riparian acres and 3.5 miles of shoreline along three degraded Niagara River tributaries through its Riverwatch Academy program. (Grant award = \$149,956)

- **Research Foundation of the State University of New York** is controlling invasive plants, planting native species and conducting excavation to restore a nine-acre sedge/grass wetland near Braddock Bay of Lake Ontario. (Grant award = \$33,546)

Ohio

- **Western Reserve Land Conservancy** and partners are protecting 112 acres of globally imperiled and rare habitat on Kelleys Island through fee simple acquisition and conservation easements. (Grant award = \$1,000,000)
- **The Nature Conservancy** is restoring 35 acres of wetland habitat and upland buffer on land recently added to the Kitty Todd Preserve in the Oak Openings Region to improve wildlife habitat and hydrology. (Grant award = \$72,664)

Ontario

- **Credit River Anglers Association** and partners are constructing a fish ladder at Norval Dam along the Credit River in Ontario to allow passage of American eel, Atlantic salmon and other fish species. (Grant award = \$60,000)
- **Elgin Stewardship Council** is working with the local community to restore wetland, tallgrass prairie and forest habitat on 120 acres of marginal farm land adjacent to Brock Creek in Elgin County. (Grant award = \$35,000)
- **Hamilton Port Authority** is adding rock substrate and enhancing existing structural elements to create a spawning shoal for lake herring, whitefish and other native fish in western Lake Ontario. (Grant award = \$150,000)

Wisconsin

- **Lakeshore Natural Resource Partnership** and partners are restoring 18 acres and 2,500 feet of stream bank along Centerville Creek in Manitowoc County to improve wildlife habitat and water quality. (Grant award = \$149,791)
- **River Alliance of Wisconsin** (WI and MI) is constructing a fish bypass around two dams on the Menominee River to facilitate downstream lake sturgeon migration and population growth in Lake Michigan. (Grant award = \$1,500,000)

2009 Grantees

Illinois

- Alliance for the Great Lakes
- BOLD Chicago Institute
- Fishin' Buddies (project in IL and IN)
- Friends of the Forest Preserves
- Lake County Forest Preserve District
- South Suburban Mayors and Managers Association
- The Field Museum (project in IL and IN)

Indiana

- Elkhart County Drainage Board
- Save the Dunes Conservation Fund
- Shirley Heinze Land Trust

Michigan

- Clinton River Watershed Council
- Conservation Resource Alliance
- Michigan Department of Natural Resources
- Michigan Natural Features Inventory
- The Nature Conservancy (2 grants)

New York

- Bird Studies Canada (project in NY and ON)
- Izaak Walton League

Ohio

- Cuyahoga Soil and Water Conservation District
- West Creek Preservation Committee

Ontario

- Bay Area Restoration Council

Quebec

- Nature-Action Quebec

Wisconsin

- Bad River Watershed Association
- Milwaukee Metropolitan Sewerage District
- Gathering Waters Conservancy
- Bayfield County Land and Water Conservation Department

2008 Grantees

Illinois

- Lake County Stormwater Management Commission

Indiana

- The Nature Conservancy

Michigan

- Alger Conservation District
- Monroe County
- Michigan State University
- The Nature Conservancy
- Superior Watershed Partnership
- Tip of the Mitt Watershed Council
- Watershed Center of Grand Traverse Bay

New York

- Buffalo Niagara Riverkeeper
- Izaak Walton League (project in multiple states)
- The Nature Conservancy

Ohio

- Lake Erie-Allegheny Partnership for Biodiversity
- Ohio Environmental Council

Wisconsin

- City of Manitowoc Parks and Recreation Department
- Ozaukee Washington Land Trust

2007 Grantees

Illinois

- BOLD Chicago Institute
- City of Chicago
- The Nature Conservancy (project in multiple states)

Michigan

- Conservation Resource Alliance
- Delta Conservation District
- Friends of the Detroit River
- Huron Pines RC&D Council
- Michigan Nature Association
- Oakland Land Conservancy
- Partnership for MEANDRS
- River Raisin Institute

Minnesota

- The Nature Conservancy

New York

- Izaak Walton League (project in multiple states)
- New York Rivers United

Ohio

- West Creek Preservation Committee
- The Nature Conservancy

Ontario

- Bird Studies Canada (projects in multiple states and provinces)

Pennsylvania

- Lake Erie Region Conservancy

Wisconsin

- Brown County Land Conservation Department
- City of Ashland
- Great Lakes Indian Fish and Wildlife Commission
- Milwaukee Community Service Corps

2006 Grantees

Indiana

- Portage Parks Department

Michigan

- Barry Conservation District
- Muskegon River Watershed Assembly
- The Nature Conservancy

Minnesota

- Minnesota Pollution Control Agency

New York

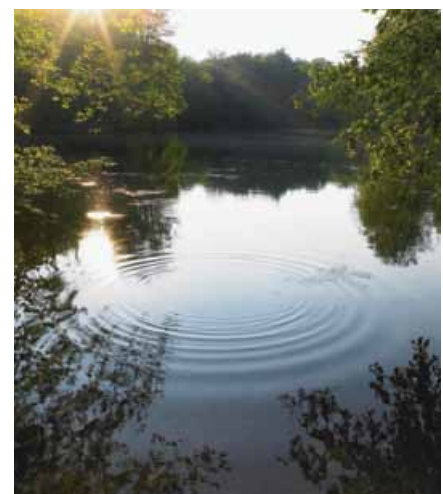
- New York Rivers United
- New York State Tug Hill Commission

Ohio

- Cleveland Metroparks
- Sandusky River Watershed Coalition
- Toledo Metropolitan Area Council of Governments

Wisconsin

- Ozaukee Washington Land Trust
- Northland College
- River Revitalization Foundation
- Wisconsin Department of Natural Resources




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