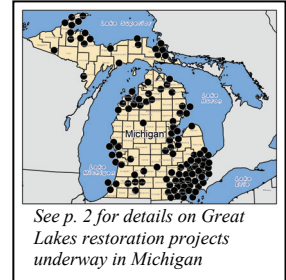


# GREAT LAKES RESTORATION at work in Michigan

March 2011

The State of Michigan – together with local communities, tribes, business and industry, and nongovernmental organizations – is collaborating with the federal government to implement a comprehensive restoration strategy for the Great Lakes. This partnership is generating on-the-ground actions that will improve Michigan's economy, environment and quality of life. This fact sheet describes how Great Lakes restoration is benefiting Michigan and showcases restoration projects now underway.



## The Great Lakes: A Vital Economic Asset for Michigan

The Great Lakes are Michigan's most valuable natural resource and are fundamental to our identity and quality of life. The Great Lakes have extraordinary economic value for Michigan. Despite difficult economic conditions, the last decade saw a 33 percent increase in tourism-related employment in Michigan's coastal counties, generating almost 20,000 new jobs. More broadly, the lakes provide

- jobs for more than 800,000 Michigan residents;
- a world-renown commercial and sport fishery with an annual value of more than \$4 billion;
- the foundation for a \$12.8 billion travel industry;
- water resources for manufacturing industries, which produce 60 percent of our nation's steel and 60 percent of our automobiles;
- a maritime transportation network linking our nation's heartland to world; and
- harbors and marinas that support a \$2 billion annual recreational boating industry.

As these figures show, cleaning up the Great Lakes isn't just about correcting mistakes of the past but of leveraging a vital resource to build a better future.

## Investing in Michigan's Waterfront Communities

The Great Lakes Restoration Initiative (GLRI) is supporting implementation of a comprehensive cleanup plan that has been broadly endorsed by our region's governors, tribes, cities, conservation groups, and business and industry. Begun in 2009, the Initiative builds on years of work to identify solutions to key problems facing the Great Lakes:

- Shutting the door on aquatic invasive species, such as Asian carp
- Cleaning up contaminated sediments in Great Lakes "toxic hotspots"
- Controlling polluted runoff and cleaning up beach pollution
- Restoring degraded wetlands
- Conserving and enhancing valuable fish and wildlife resources

The GLRI is supported by sound science and guided by an Action Plan with detailed performance goals and clear accountability standards. An interagency task force is coordinating federal efforts and directing a majority of funding to states, cities and nongovernmental groups that are best able to address local restoration priorities.

## Economic Benefits from Restoring the Great Lakes

Restoring the Great Lakes advances the region's broader strategy to create jobs, stimulate economic development and invest in freshwater resources and waterfront communities. A detailed study by the Brookings Institution found that fully implementing the Great Lakes restoration strategy would generate \$80 billion to \$100 billion in benefits, including

- \$6.5 billion to \$11.8 billion in direct benefits from tourism, fishing and recreation;
- \$50 million to \$125 million reduced costs to municipalities; and
- \$12 billion to \$19 billion in increased property values in degraded shoreline areas, including \$7.4 billion to \$13.3 billion for the City of Detroit alone.

## Great Lakes Restoration in Michigan

The GLRI is off to a strong start in Michigan, with over \$100 million coming into the state for more than 175 restoration projects and associated activities. Michigan's citizens and coastal communities will benefit in many ways from this funding:

- Thousands of acres of Great Lakes shoreline will be improved by removing invasive plants and hardened banks
- Fish and wildlife habitat will be enhanced as local groups remove dams, restore fish passage and stop shoreline erosion
- Strengthened pollution control efforts coupled with improved monitoring will prevent beach closures due to bacterial contamination
- Cleaning up toxic sediments will facilitate economic development in waterfront areas

These actions will benefit the next generation of Michigan citizens who will look to the Great Lakes as an important resource to improve their quality of life and economic well-being.

## Solving Great Lakes Problems

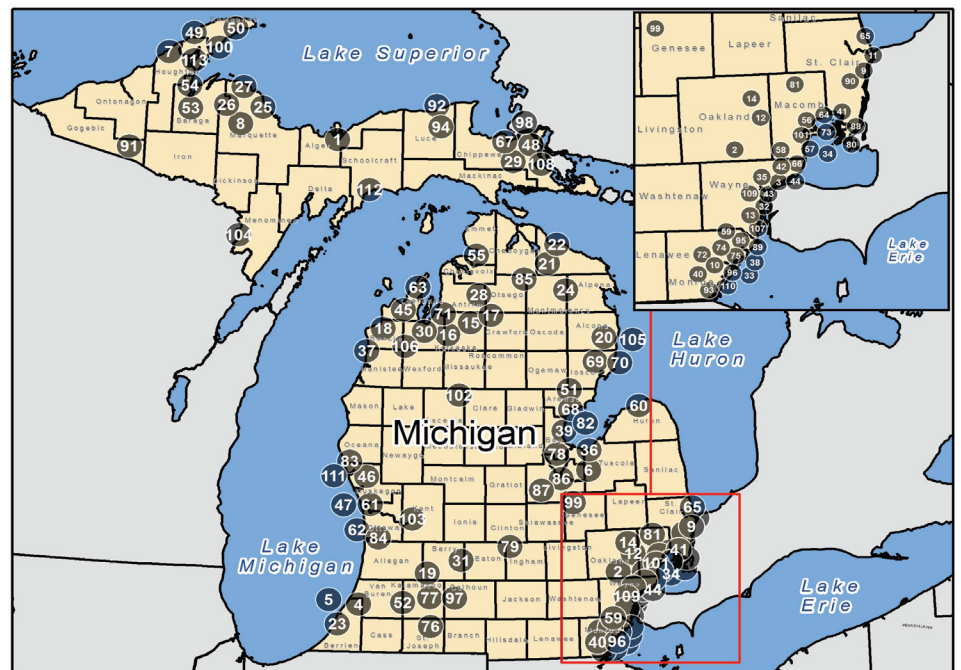
The GLRI builds on state and local efforts to solve the problems facing Michigan's Great Lakes. Michigan's restoration work is guided by the *MI Great Lakes Plan*, which translates regional restoration goals into specific actions. The plan aims to

- prevent the introduction of new aquatic invasive species;
- conserve and enhance Michigan's fish and wildlife;
- prevent the release of and exposure to toxic substances;
- clean up Michigan's 14 Areas of Concerns, or "toxic hotspots";
- control pollution from nonpoint sources;
- monitor the health of the Great Lakes ecosystem;
- establish an effective system to monitor the future health of the Great Lakes ecosystem; and
- protect and enhance Michigan's water, land, and related resources through sustainable practices.

## Great Lakes Restoration Projects in Michigan

The map shows the major restoration projects currently being implemented in Michigan; details are provided on the attached list. Other projects and activities are underway to strengthen the GLRI:

- **Public Outreach** to engage citizens in restoration efforts; improve beach health and fish consumption advisories; and keep pesticides, pharmaceuticals and other pollutants out of the Great Lakes
- **Monitoring** of mercury pollution to protect children's health; beaches to enhance swim advisories; and Great Lakes water and wildlife to detect contaminants
- **Engineering and Design** of sustainable restoration projects, new technologies to detect bacterial contamination, and techniques to monitor invasive species
- **Research** on ways to control Asian carp and eradicate Phragmites, prevent the introduction of invasive species in ballast water, enhance knowledge of the Great Lakes ecosystem, protect endangered species, and predict impacts of climate change
- **Capacity Building** to help states and local governments implement restoration projects, improve collaboration, and educate health care providers about fish consumption advisories
- **Sound Science and Accountability** to ensure that funds are spent effectively and that the GLRI reflects a strong, science-based understanding of the Great Lakes
- **Pollution Prevention** to keep the Great Lakes clean, safeguard investments in restoration, and prevent polluted runoff from agricultural land and city streets



# Great Lakes Restoration Initiative Projects Underway in Michigan

March 2011

Map Number	Project Title	Recipient Organization or Lead Agency	GLRI Funding
1	Collaborative Partnership to Restore Alger County Watersheds	Alger Conservation District	\$789,384
2	Danvers Pond Dam Removal and Stream Restoration	Alliance of Rouge Communities	\$499,254
3	Transforming the Rouge AOC from Mowed Down to Grown Up	Alliance of Rouge Communities	\$648,750
4	Watervliet Dams Removal, Paw Paw River, Michigan	Berrien County Brownfield Redevelopment Authority	\$922,759
5	AWEP Implementation in SE Lake Michigan Watershed	Calhoun Conservation District	\$793,424
6	Fish Passage at the Frankenmuth Dam	City of Frankenmuth	\$200,000
7	Hancock Beach BMPs Project	City of Hancock	\$244,000
8	Partridge Creek Diversion Benefitting the Deer Lake AOC	City of Ishpeming	\$2,000,000
9	St. Clair River AOC Living Shorelines Project	City of Marysville	\$1,500,000
10	Restoring Lake Erie Fish Passage in the River Raisin AOC	City of Monroe	\$1,266,400
11	St. Clair River AOC - Habitat and Wildlife Restoration	City of Port Huron	\$1,296,700
12	Avon Creek Restoration	City of Rochester Hills	\$192,857
13	Elias Cove Fish Habitat Native Plantings	City of Trenton	\$14,286
14	Clinton River AOC: Paint Creek Dam Removal	Clinton River Watershed Council	\$706,588
15	North Branch Manistee River Fish Passage and Habitat Restoration	Conservation Resource Alliance	\$107,143
16	Upper Great Lakes Stream Connectivity and Habitat Initiative	Conservation Resource Alliance	\$214,286
17	Upper Manistee Riparian Corridor Restoration Project	Conservation Resource Alliance	\$625,791
18	Betsie and Platte Rivers Watersheds Improvement-Phase 2	Conservation Resource Alliance	\$762,500
19	Kalamazoo River Dam Removal Feasibility Study	Department of Natural Resources and Environment	\$361,956
20	National Fish Passage Program - AuSable River Fish Passage Barrier Inventory & Assessment	Dept. of Interior-U.S. Fish and Wildlife Service	\$28,571
21	National Fish Passage Program - Silver Creek Culvert Replacement on Church Highway, Ocqueoc River	Dept. of Interior-U.S. Fish and Wildlife Service	\$28,571
22	National Fish Passage Program - Silver Creek Culvert Replacements on Beach Grove Hwy, Ocqueoc River	Dept. of Interior-U.S. Fish and Wildlife Service	\$28,571
23	National Fish Passage Program - St. Joseph River Watershed in Michigan-Fish Migration Barrier Inventory	Dept. of Interior-U.S. Fish and Wildlife Service	\$56,057
24	National Fish Passage Program-Miller Creek Dam Removal, tributary to the Thunder Bay River	Dept. of Interior-U.S. Fish and Wildlife Service	\$85,714
25	Fish Passage Program - Salmon Trout River Watershed Culvert Replacement--Crossing #21 & #22	Dept. of Interior-U.S. Fish and Wildlife Service	\$87,371
26	Fish Passage Program - Salmon Trout River Watershed Culvert Replacement--Crossings #26 Iron Creek & #27	Dept. of Interior-U.S. Fish and Wildlife Service	\$93,086
27	Fish Passage Program - Salmon Trout River Watershed Culvert Replacement--Clear Creek at Blind 35, MI	Dept. of Interior-U.S. Fish and Wildlife Service	\$107,729
28	Maintain and enhance lake trout production capabilities at Jordan River National Fish Hatchery	Dept. of Interior-U.S. Fish and Wildlife Service	\$150,000
29	Maintain and enhance lake trout production capabilities at Pendills Creek National Fish Hatchery	Dept. of Interior-U.S. Fish and Wildlife Service	\$150,000

Map Number	Project Title	Recipient Organization or Lead Agency	GLRI Funding
30	National Fish Passage Program - Upper Great Lakes Stream Connectivity and Habitat Initiative	Dept. of Interior-U.S. Fish and Wildlife Service	\$170,900
31	National Fish Passage Program - High Bank Creek culvert replacement and dam removal, Thornapple River	Dept. of Interior-U.S. Fish and Wildlife Service	\$285,714
32	Investigate & Plan Remedy for Grassy Island, Detroit River	Dept. of Interior-U.S. Fish and Wildlife Service	\$2,800,000
33	Restoration of the Common Tern Population in the Detroit River International Wildlife Refuge	Dept. of Interior-U.S. Fish and Wildlife Service	\$55,000
34	Fish Habitat Enhancement Strategies for the Huron-Erie Corridor	Dept. of Interior-U.S. Geological Survey MI	\$1,500,000
35	Fordson Island Oxbow Restoration and Debris Removal Program	Detroit Wayne County Port Authority	\$100,000
36	Van Hove Coastal Wetland Restoration, Michigan	Ducks Unlimited Inc.	\$119,199
37	Arcadia Marsh/Bowens Creek Restoration and Fish Passage	Ducks Unlimited Inc.	\$783,823
38	Pointe Aux Peaux Coastal Wetland Restoration and Fish Passage	Ducks Unlimited, Inc.	\$192,653
39	Nayanquing Point State Wildlife Area Coastal Wetland Project	Ducks Unlimited, Inc.	\$192,862
40	Dusseau Wetland & Lakeplain Prairie Restoration, Erie	Ducks Unlimited, Inc.	\$284,477
41	Anchor Bay/St. Clair Flats Phragmites Control and Education	Ducks Unlimited, Inc.	\$974,037
42	Detroit River Habitat Enhancement - South Fishing Pier	Friends of the Detroit River	\$497,634
43	Detroit River AOC Habitat Restoration - US Steel Site	Friends of the Detroit River	\$1,200,000
44	Detroit River AOC Habitat Restoration - Blue Heron Lagoon	Friends of the Detroit River	\$1,428,994
45	Grand Traverse Regional Invasive Species Network	Grand Traverse Conservation District	\$935,184
46	Studies to Support Ruddiman Creek Implementation-Ready TMDL	Grand Valley State University	\$247,212
47	Observatory for Ecosystem Changes in Muskegon Lake	Grand Valley State University	\$568,449
48	Enhanced St. Marys River Sea Lamprey Control	Great Lakes Fishery Commission	\$228,000
49	Hills Creek Stamp Sand Stabilization	Houghton Keweenaw Conservation District	\$415,000
50	Bete Grise Wetlands Acquisition	Houghton-Keeweenaw Conservation District	\$1,719,500
51	Rifle River Watershed Nonpoint Implementation Project	Huron Pines	\$382,000
52	Restoring habitats of southwest Michigan endangered species	Kalamazoo Nature Center	\$196,413
53	Habitat Restoration of Sand Point Brownfield Site	Keweenaw Bay Indian Community	\$360,960
54	KBIC Sustainable Hazardous Waste Collection Program	Keweenaw Bay Indian Community Natural Resources Department	\$295,000
55	LTBB Bear River Habitat Restoration	Little Traverse Bay Bands of Odawa Indians	\$196,148
56	Clinton River AOC - Lake St. Clair Coastal Marshland Restoration	Macomb County Dept. of Planning & Economic Development	\$1,492,500
57	Household Hazardous Waste Great Lakes Shoreline Collection	Macomb County Health Department	\$250,000
58	Illicit Discharge Elimination Program Facility Dye Testing	Macomb County Health Department	\$250,000
59	Targeted Efforts for Reducing Sedimentation in the River Raisin Watershed Using BMP Auctions	Michigan Department of Agriculture	\$438,033
60	Targeted Efforts for Reducing Sedimentation in the Pinnebog River Watershed Using BMP Auctions	Michigan Department of Agriculture	\$745,373



Map Number	Project Title	Recipient Organization or Lead Agency	GLRI Funding
61	Michigan Beaches-Ottawa County Health Department	Michigan Department of Natural Resource and Environment	\$97,025
62	Michigan Beaches-Bay County Health Department	Michigan Department of Natural Resource and Environment	\$135,025
63	Michigan Beaches-Health Department of Northwest Michigan	Michigan Department of Natural Resource and Environment	\$150,405
64	Michigan Beaches-Macomb County Health Department	Michigan Department of Natural Resource and Environment	\$162,874
65	Michigan Beaches-St. Clair County Health Department	Michigan Department of Natural Resource and Environment	\$162,874
66	Michigan-Expanded Lake St. Clair-Erie Beach Testing-Source Tracking	Michigan Department of Natural Resource and Environment	\$171,025
67	Michigan Beaches-Chippewa County Health Department	Michigan Department of Natural Resource and Environment	\$230,025
68	Michigan-Restoring Three Arenac County Beaches	Michigan Department of Natural Resource and Environment	\$250,000
69	Michigan-Expanded Lake Huron Beach Testing-Source Tracking	Michigan Department of Natural Resource and Environment	\$254,025
70	Michigan-Expanded Lake Superior Beach Testing-Source Tracking	Michigan Department of Natural Resource and Environment	\$258,010
71	Michigan-Watershed Center-Bryant Park Remediation	Michigan Department of Natural Resource and Environment	\$267,775
72	The River Raisin Nitrate TMDL Reduction Project	Michigan Department of Natural Resource and Environment	\$741,857
73	Black Creek Sedimentation and Phosphorus Reductions	Michigan Department of Natural Resource and Environment	\$947,000
74	River Raisin Wetland Enhancement and Habitat Evaluation	Michigan Department of Natural Resource and Environment	\$1,350,000
75	William C. Sterling State Park Marsh and Prairie Restoration	Michigan Department of Natural Resource and Environment	\$1,500,000
76	Portage Creek Toxic Substance Source Reduction-Upper Reach	Michigan Department of Natural Resource and Environment	\$1,645,945
77	Portage Creek Toxic Substance Source Reduction-Lower Reach	Michigan Department of Natural Resource and Environment	\$1,701,417
78	Shiawassee Flats Wildlife and Fish Habitat Restoration - Michigan	Michigan Dept. of Natural Resources & Environment	\$589,119
79	Implementing Michigan's State Management Plan for Non-indigenous Aquatic Nuisance Species	Michigan Dept. of Natural Resources & Environment	\$792,000
80	Restoring native fish spawning habitat in the St. Clair River Delta in the St Clair River Area of Concern	Michigan Sea Grant	\$890,232
81	Developing TMDL Implementation Plan for Coon Creek Michigan	Michigan State University	\$202,628
82	Saginaw Bay/Lake Huron Land Policy Program	Michigan State University Land Policy Institute	\$399,287
83	White Lake AOC Habitat Restoration Initiative for Delisting	Muskegon Conservation District	\$2,160,765
84	Golf Course to Wetlands: Holland Country Club Restoration	Ottawa County Parks & Recreation Commission	\$646,800
85	Pigeon River Corridor Sediment Reduction Project	Pigeon River Intercounty Drain Drainage Board	\$800,000
86	Shiawassee River Watershed	Shiawassee Conservation District	\$536,000
87	Joint Venture: Shiawassee Flats Floodplain Wetland Restoration Project	Shiawassee National Wildlife Refuge	\$99,750

Map Number	Project Title	Recipient Organization or Lead Agency	GLRI Funding
88	Lake St. Clair Partners are Ready to Implement	Southeast Michigan Council of Governments	\$279,806
89	Restoring the Lake Erie Corridor through Green Streets	Southeast Michigan Council of Governments	\$500,000
90	Howe-Brandymore Stream Restoration Project	St. Clair County Drain Commissioner	\$121,429
91	Stewardship Network - Lac Vieux Desert Wild Rice Restoration	Stewardship Network	\$213,644
92	Two Hearted River Watershed Sedimentation Reduction	The Nature Conservancy	\$480,726
93	Erie Marsh Preserve Coastal Wetland Restoration Project	The Nature Conservancy	\$2,581,696
94	Joint Venture: Completing the Swamp Lakes Wetland Project	The Nature Conservancy-MI	\$103,400
95	Estral Beach, MI	U.S. Army Corps of Engineers	\$50,000
96	Monroe Harbor, Raisin River, Monroe, MI	U.S. Army Corps of Engineers	\$75,000
97	Kalamazoo River, Battle Creek, MI	U.S. Army Corps of Engineers	\$80,000
98	St. Marys River, MI	U.S. Army Corps of Engineers	\$80,000
99	Flint River Sec 216	U.S. Army Corps of Engineers	\$100,000
100	Keweenaw Stamp Sands	U.S. Army Corps of Engineers	\$150,000
101	Clinton River/Anchor Bay	U.S. Army Corps of Engineers	\$325,000
102	Marion Mill Pond, MI	U.S. Army Corps of Engineers	\$350,000
103	Grand Rapids Dam Fishway, MI	U.S. Army Corps of Engineers	\$380,000
104	White Rapids/Chalk Hill Dam Fishway	U.S. Army Corps of Engineers	\$380,000
105	Western Lake Huron, MI	U.S. Army Corps of Engineers	\$600,000
106	Boardman River Dams, MI	U.S. Army Corps of Engineers	\$1,100,000
107	Detroit River Area of Concern-Trenton Channel Contaminated Sediment Remedial Investigation and Feasibility Study	U.S. EPA-Great Lakes Legacy Act and BASF Corp. and Arkema Corp.	\$200,000
108	St. Marys River Area of Concern Contaminated Sediment Remedial Design	U.S. EPA-Great Lakes Legacy Act and Consumers Energy	\$231,000
109	Rouge River Area of Concern Contaminated Sediment Site Characterization	U.S. EPA-Great Lakes Legacy Act and State of Michigan	\$50,000
110	River Raisin Area of Concern Contaminated Sediment Site Characterization	U.S. EPA-Great Lakes Legacy Act and State of Michigan	\$60,000
111	Muskegon Lake Area of Concern-Division St. Outfall Remedial Design	U.S. EPA-Great Lakes Legacy Act and State of Michigan	\$100,000
112	Manistique River Area of Concern Contaminated Sediment Site Characterization	U.S. EPA-Great Lakes Legacy Act and State of Michigan	\$282,000
113	Village of Lake Linden Torch Lake NPS Pollution Reduction	Village of Lake Linden	\$243,000