

Frequently Asked Questions about Michigan's Great Lakes Areas of Concern Program

Prepared by the Statewide Public Advisory Council for Michigan's Areas of Concern Program

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Introduction

This document provides answers to a number of basic questions about Michigan's Great Lakes Areas of Concern program. The answers are brief and general in nature. Additional details about the overall program as well as individual Areas of Concern are available online from a number of sources. Web sites relevant for specific questions are noted, and a comprehensive list is provided at the end of the document along with contacts for each of Michigan's Areas of Concern. This document was prepared by the Statewide Public Advisory Council for Michigan's Great Lakes Areas of Concern Program in consultation with the Department of Environmental Quality. For more information on the Council and Michigan's Great Lakes Areas of Concern, visit the Council's web site at www.glc.org/spac/ or contact the Council support staff at the Great Lakes Commission at 734-971-9135, SPAC@glc.org.

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How did the Great Lakes Areas of Concern program come about?

The Areas of Concern program is an outgrowth of 1987 amendments to the Great Lakes Water Quality Agreement, a U.S.-Canadian agreement originally signed in 1972 under which the two countries agreed to cooperate in protecting and restoring the Great Lakes. As part of the 1987 amendments, the United States and Canada agreed to cooperate with state and provincial governments in identifying and cleaning up the most polluted areas in the Great Lakes. In response, 43 Areas of Concern were formally designated: 27 in the United States, 13 in Canada, and three that are shared by both countries. The Areas of Concern were identified based on specific beneficial use impairments (see box on next page). Each area is impacted by one or more of these impairments, which are the focus of cleanup plans. The text of the agreement, including the Annex that created the Areas of Concern program, is available online at <http://www.epa.gov/glnpo/glwqa/>.

What are Remedial Action Plans?

Remedial Action Plans are documents that guide cleanup efforts in the Areas of Concern. The plans take a comprehensive, ecosystem approach to restoring and protecting beneficial uses that have been impaired by pollution. They are typically created in three stages: 1) identify and assess environmental problems; 2) develop solutions to the problems and strategies for implementing them; and 3) document that the problems have been solved and beneficial uses restored. In practice, these stages often overlap and the states have taken different approaches to developing the plans. After developing the initial documents for its Areas of Concern, Michigan now prepares periodic updates rather than following the three-stage process. The Areas of Concern program emphasizes broad public involvement and participation from stakeholders in affected communities. The Areas of Concern are unique in the range and severity of environmental problems they face and how they are addressed. A list of Remedial Action Plan documents for Michigan's Areas of Concern is available online at www.glc.org/spac/rapdocs.html. The documents also are available on CD from the Great Lakes Commission at 734-971-9135, SPAC@glc.org.

Beneficial Use Impairments in the Areas of Concern

- Loss of fish and wildlife habitat
- Degradation of aesthetics
- Restrictions on dredging activities
- Degradation of benthos
- Restrictions on fish and wildlife consumption
- Beach closures
- Fish tumors or other deformities
- Degradation of fish and wildlife populations
- Tainting of fish and wildlife flavor
- Eutrophication or undesirable algae
- Bird or animal deformities or reproduction problems
- Restrictions on drinking water consumption, or taste and odor problems
- Added costs to agriculture or industry
- Degradation of phytoplankton and zooplankton populations

Where are the Areas of Concern in Michigan?

Michigan has 14 Areas of Concern across the state, from southeast Michigan, to west Michigan to the Upper Peninsula (see map on page 1). The areas include rivers, bays and lakes. Some are in heavily industrialized areas, such as the Rouge and Saginaw rivers. Others are in more rural areas, such as those in the Upper Peninsula. In some cases, a single industry or facility is responsible for the major pollution problems. In most cases the pollution stems from a number of sources.

How were the Areas of Concern designated?

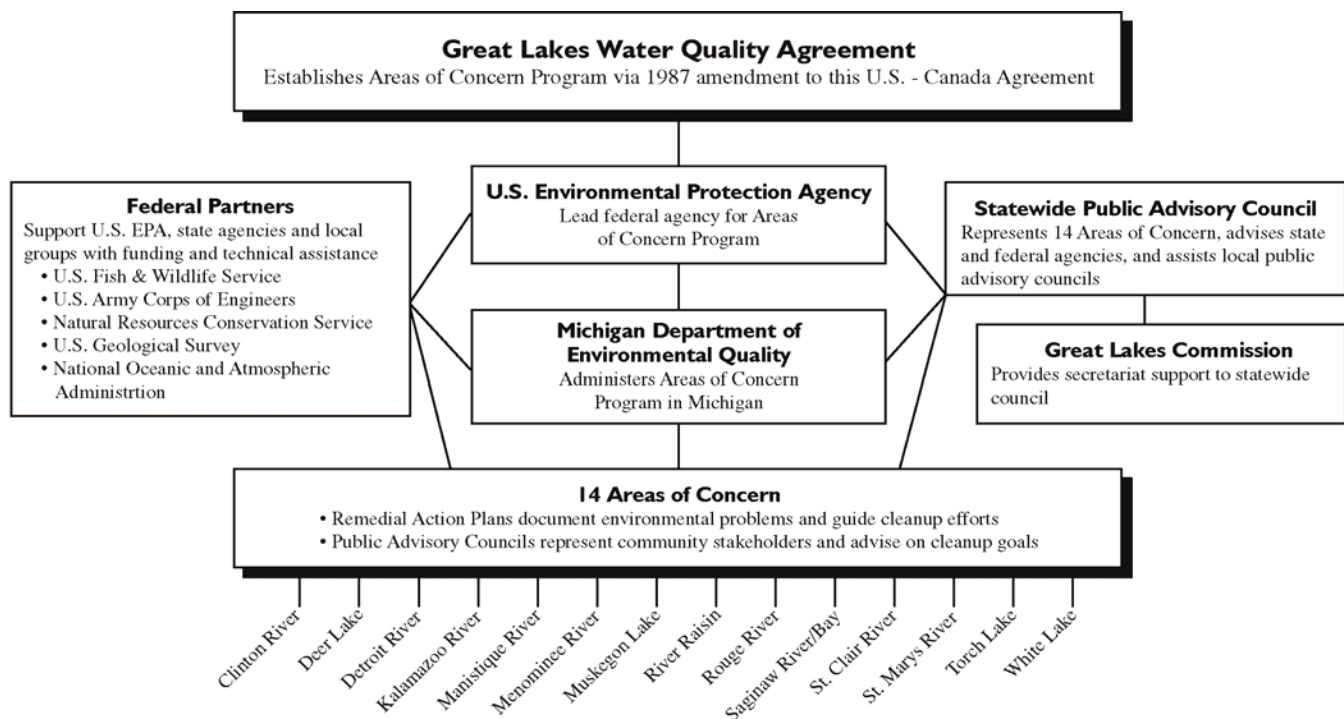
The U.S. Areas of Concern were formally designated by the U.S. Environmental Protection Agency (EPA), the federal agency with lead responsibility for the program. The areas designated in Michigan were based on work conducted by the State of Michigan in the late 1970s and early 1980s that identified polluted water bodies in the state. State and federal personnel contributed to the work of the International Joint Commission, which led to the 1987 amendments to the Great Lakes Water Quality Agreement under which the Areas of Concern and Lakewide Management Plan programs were formed. The U.S. EPA ultimately relied on input from both the International Joint Commission and the Great Lakes states in designating the Areas of Concern.

What is the U.S. Environmental Protection Agency's role in the Areas of Concern program?

The U.S. EPA is the lead federal agency for the Areas of Concern program in the United States. Specifically, U.S. EPA's Great Lakes National Program Office is responsible for overseeing its implementation and reporting to Congress and the International Joint Commission (the U.S.-Canadian body that oversees the Great Lakes Water Quality Agreement). The U.S. EPA establishes regional policies for the program and administers technical and financial support to the states and local groups for developing and implementing cleanup plans known as Remedial Action Plans. The agency is also involved in numerous programs, either directly or via delegated authority to the states, that support cleanup efforts in the Areas of Concern. U.S. EPA staff serve as liaisons to each Area of Concern to provide technical assistance, coordinate with other federal programs, and help identify funding sources for cleanup activities. Background on the U.S. EPA Areas of Concern activities is available online at www.epa.gov/glnpo/aoc/index.html.

How are the states involved in the Areas of Concern Program?

The U.S. EPA has delegated authority for implementing the Areas of Concern program to the states, including developing Remedial Action Plans, coordinating with local public advisory councils, and implementing cleanup activities (see organizational chart on the following page). Federal support to the states declined in the late 1990s and resulted in a reduction in dedicated state support for the Areas of Concern (although indirect support is provided through many state programs). The states generally view the Areas of Concern program as a federal responsibility that should be supported with federal resources.



How is Michigan’s Areas of Concern program administered and funded?

Michigan’s Areas of Concern program is administered by the Department of Environmental Quality (DEQ). Staff in the DEQ implement the Areas of Concern program for the 14 sites in Michigan. The majority of program funding is provided by the U.S. EPA. DEQ staff also assist U.S. EPA in developing Lakewide Management Plans for the Great Lakes that border Michigan. In addition to dedicated staff support, other state programs address environmental problems in the Areas of Concern, such as nonpoint source pollution and cleanup of contaminated sediments.

What are public advisory councils and what role do they play?

Public advisory councils were established in the Areas of Concern to facilitate public involvement in cleanup efforts, provide advice to state and federal agencies on issues of concern to local communities, and review and help write the Remedial Action Plans. They are intended to be broadly representative of stakeholders in each Area of Concern. As state support for the Areas of Concern declined, the councils have been called upon to assume greater leadership in the overall process. Direct funding to support this expanded role has been limited and the capacity of the groups has varied widely. Generally, the groups are well suited to manage public involvement activities and small-scale cleanup or pollution prevention projects. Costly and technically complex remediation work, such as cleaning up contaminated sediments, is beyond the capability of most local groups.

What is the Statewide Public Advisory Council?

The Statewide Public Advisory Council is a coalition of representatives from the 14 community-based public advisory councils that are guiding cleanup efforts in Michigan’s 14 Areas of Concern. The Council was established in 1991 to provide advice and input to the State of Michigan on program priorities, policies, public participation strategies and technical issues of common interest to the state’s Areas of Concern. The Council also acts as a forum for information-sharing among the many groups and individuals involved in Area of Concern cleanup efforts. Funding for the Council has been provided by the U.S. EPA, the DEQ and local sources in the Areas of Concern, with significant volunteer support from members of local public advisory councils. The Council is supported by the Great Lakes Commission. More information about the Council, a list of its members, its newsletter, and information on Michigan’s Areas of Concern is available from the Council’s website at www.glc.org/spac.

What are the major environmental problems in the Areas of Concern? How are they being addressed?

The Areas of Concern face a wide range of environmental problems. The most common include contaminated sediments from past industrial practices; polluted runoff from streets, parking lots and agricultural operations; bacterial contamination from sewer overflows and leaking septic tanks; soil erosion and sedimentation from poor land use practices; destruction of fish and wildlife habitat by development, pollution and other causes; and excessive levels of contamination in fish and wildlife. The range and severity of environmental problems differ among the Areas of Concern. Some face a wide variety

of problems, while others have just a few significant pollution sources. A multitude of federal, state and local programs are addressing these problems. A key challenge for the Areas of Concern program is coordinating and focusing the resources of these programs on critical environmental restoration needs. For a detailed summary of environmental problems and restoration activities in each area, see the U.S. EPA Areas of Concern website at www.epa.gov/glnpo/aoc/index.html.

How much progress has been made in improving environmental conditions in the Areas of Concern?

A great deal of progress has been made in recent decades to control both point source and nonpoint source pollution in the Great Lakes region. Stormwater regulations are being implemented to control polluted runoff in urban areas. All urban and most rural communities are making substantial investments in wastewater infrastructure to minimize discharges of inadequately treated sewage. Finally, the Superfund program, the Clean Michigan Initiative and the Great Lakes Legacy Act are supporting costly cleanup work at a number of contaminated sediment sites. Restoration efforts have accelerated significantly since the start of the Great Lakes Restoration Initiative in 2009, which has a major focus on the Areas of Concern (see p. 7). More detailed progress reports are provided in Remedial Action Plan documents and from the U.S. EPA Areas of Concern website (www.epa.gov/glnpo/aoc/index.html).

How is this progress being monitored?

Environmental monitoring is usually conducted under specific implementation programs, such as the Nonpoint Source Pollution control program, and for site-specific cleanup projects, such as those supported by the Superfund program. Unfortunately, monitoring programs often do not assess environmental conditions in the same way they are being addressed in the Areas of Concern program. Thus, a key challenge is to compile and analyze monitoring information in a manner that illustrates the status of specific beneficial use impairments that form the basis of the Areas of Concern program. The DEQ has developed guidance with restoration goals for the Areas of Concern and the process the state will follow to assess progress in achieving those goals. Additional details are provided below under the question “How will individual Areas of Concern be delisted?”

What will it take to clean up the Areas of Concern?

The Areas of Concern will be considered “cleaned up” when beneficial uses have been restored based on cleanup goals established by the DEQ and local Public Advisory Councils. For some impairments, state laws establish clear cleanup standards that must be met. In some cases, however, there may be no legally-mandated cleanup goal. When this occurs, stakeholders in the Area of Concern must establish cleanup goals that reflect community values and reasonable and achievable levels of restoration. For example, most Areas of Concern will not be able to restore fish and wildlife habitat to levels that existed before human settlement. Thus, stakeholders must determine how much fish and wildlife habitat, and of what quality, they desire for their individual Area of Concern, and how this will be measured. When this restoration “target” is achieved, and federal and state agencies concur, the beneficial use will be considered restored. When all beneficial uses are restored, the Area of Concern can be formally “delisted,” or removed from the list of Areas of Concern.

Will there be economic benefits from cleaning up the Areas of Concern?

Yes! The Brookings Institution, based in Washington, DC, has documented the economic benefits that would be gained from implementing a comprehensive restoration plan for the Great Lakes, including cleaning up the Areas of Concern. The report, *Healthy Waters, Strong Economy: The Benefits of Restoring the Great Lakes Ecosystem*, estimated over \$50 billion in quantifiable, long-term benefits. Cleaning up contaminated sediments in Areas of Concern is estimated to raise coastal property values by \$12-\$19 billion. This is only a portion of the long-term economic benefits projected by The Brookings Institution. See the complete report online at www.brookings.edu/projects/great-lakes.aspx. In 2008 a coalition of Chambers of Commerce in the Great Lakes – including those for Detroit and Grand Rapids – released a business agenda for restoring economic competitiveness in the Great Lakes region. The report highlights the importance of restoring the Great Lakes as part of a broader economic development strategy. The complete report, *An Agenda for Jobs and Economic Transformation in the Great Lakes Region*, is available http://www.glc.org/rap/docs/Great%20Lakes%20Business%20Agenda_021209.pdf.

How will individual Areas of Concern be delisted?

The U.S. State Department, at the U.S. EPA's recommendation, is responsible for formally "delisting" the Areas of Concern, or removing them from the list of Great Lakes "toxic hot spots." In 2002 the U.S. EPA published guidelines for delisting Areas of Concern and a process for reaching that goal. The guidelines require each area to establish measurable delisting targets, consistent with existing legal requirements and community values, that provide an objective mechanism for gaging progress in restoring beneficial uses. The U.S. EPA will look to the states to prepare final reports documenting that restoration targets have been met. After reviewing them and consulting with state agencies, the International Joint Commission and the public, the U.S. EPA will formally recommend delisting to the State Department. To date, two U.S. Areas of Concern has been formally delisted (Oswego River in New York and Presque Isle Bay in Pennsylvania). The U.S. EPA delisting guidelines are available online at www.epa.gov/glnpo/aoc/delist.html.

In Michigan delisting the Areas of Concern will follow the DEQ's guidance. The document, *Guidance for Delisting Michigan's Great Lakes Areas of Concern*, provides a consistent, statewide approach for measuring progress in cleaning up the Areas of Concern, as well as a clear process for formally delisting the areas. The core of the guidance is specific restoration criteria for the 14 beneficial use impairments being assessed in the Areas of Concern. These criteria represent Michigan's position on what constitutes restoration of the impairments. Once an area has met these criteria for each of its impairments, it will be considered restored by the State of Michigan. Local public advisory councils may use alternate criteria as long as they are functionally equivalent to, or more protective than, Michigan's statewide criteria. The delisting guidance also outlines how the U.S. EPA's delisting process, discussed above, will be applied in Michigan. The complete DEQ delisting guidance is available online at www.deq.state.mi.us/documents/deq-wb-aoc-delistguide.pdf.

To provide more detail, the DEQ has established a *Strategy for Delisting Michigan's Great Lakes Areas of Concern*. The strategy identifies actions needed to restore beneficial uses and delist AOCs, establishes program priorities, and determines resource allocations in Michigan's AOC program. It uses a three-tiered approach that looks across AOCs, BUIs, and actions to determine priorities regarding where funds and other resources can best be used, are most needed, or are most likely to achieve success. The strategy will be updated as progress is made and new needs are identified. The strategy is available online at www.michigan.gov/documents/deq/wb-AOC-delisting-strategy_306163_7.pdf.

The DEQ has formally removed 25 beneficial use impairments to date. DEQ staff are assessing other impairments and expect several more to be formally removed in coming years.

How has the Clean Michigan Initiative supported cleanup efforts in the Areas of Concern?

The Clean Michigan Initiative (CMI) environmental bond program, approved in 1998, authorized \$675 million for a variety of environmental, parks, and brownfield/waterfront redevelopment initiatives. Many of the activities being pursued under the CMI will address problems in the Areas of Concern in some way. Two components of the CMI program were directed specifically at the Areas of Concern: \$25 million for cleaning up contaminated sediments; and \$8 million for implementing water quality recommendations from Remedial Action Plans and Lakewide Management Plans. Below is a status report on how these funds are being spent, including a brief review of specific cleanup projects underway or planned. More information on the CMI is available online at http://www.michigan.gov/deq/0,1607,7-135-3307_31116---,00.html.

Contaminated Sediment Projects: The CMI provided \$25 million for removing contaminated sediments from rivers and lakes, most of which are in the Areas of Concern. Of this, approximately \$14.5 million has been expended for specific cleanup work. The remaining funds are expected to be allocated for contaminated sediment cleanups in the Muskegon Lake, River Raisin, and Detroit River Areas of Concern. The table below summarizes how CMI funding for contaminated sediments has been allocated. It also shows how funding from the federal Great Lakes Legacy Act Program (described below) and other funding sources has been used to clean up contaminated sediments in Michigan's Areas of Concern.

Area of Concern	State of Michigan CMI Funds	Federal Great Lakes Legacy Act Funds	Other Funding Sources	Description	Status
Detroit River	\$3.3 million	\$5.6 million		Black Lagoon contaminated sediment cleanup: \$5.6 million secured under the federal Great Lakes Legacy Act to match the state's contribution of \$3.3 million. Removal of 115,000 cubic yards of contaminated sediments completed in September 2005.	Complete
Detroit River	\$165,000	\$325,000		Remedial investigation of the Riverview site on the Trenton Channel to evaluate the magnitude and extent of contamination.	Complete
Muskegon Lake	\$5.5 million	\$8.9 million		\$5.5 million (CMI) \$8.9 million (GLLA) – Ruddiman Creek contaminated sediment cleanup: \$8.9 million secured under the federal Great Lakes Legacy Act to match \$5.5 million from the state. Remediation of 90,000 cubic yards of contaminated sediments was completed in 2006.	Complete
Muskegon Lake	\$3.9 million	\$8 million		\$3.9 million (CMI) \$8 million (GLLA) – Ryerson Creek assessment and Division Street outfall remediation: \$8 million secured under the federal Great Lakes Legacy Act to match the state's contribution of \$3.9 million. Sampling and analysis were completed in 2006 with remediation at the Division Street outfall completed in 2011.	Complete
Muskegon Lake	\$525,000	\$975,000		Division Street Outfall Project: Remedial investigations completed in Summer 2007. The feasibility study was completed in fall 2009. DEQ signed a GLLA Project Agreement with the Great Lakes National Program Office to develop the remedial design for the Division Street Outfall project. Remedial implementation is scheduled for 2010 or 2011.	Ongoing
River Raisin	\$359,000	\$390,000		Remedial alternative report completed in 2003. Great Lakes Legacy Act funds applied for in 2004. Project was placed under U.S. EPA Superfund lead until 2008. DEQ signed a Great Lakes Legacy Act Project Agreement with U.S. EPA to develop the remedial design for the project. Remedial implementation is scheduled for 2010 or 2011.	Ongoing
Rouge River	\$53,000			Remedial investigation conducted in summer 2007 and report completed in September 2007. The Great Lakes National Program Office conducted some additional remedial investigations in fall 2008. The report of the investigation is expected in 2010.	Complete
Saginaw River/Bay	\$1.7 million			Pine River: 150,000 cubic yards of DDT-contaminated sediment removed; additional 200,000 cubic yards to be removed and slurry wall repairs completed by 2006.	Ongoing
Saginaw River/Bay	\$35,000			Unnamed Tributary to Wolf Creek: Remediation of mercury-contaminated sediments completed.	Complete
St. Marys River	\$600,000	\$4.8 million	\$2.6 million (Phelps Dodge Corp.)	Remediation of 41,000 cubic yards of contaminated sediments at the Tannery Bay site. Project is an enhancement to the Record of Decision.	Complete
St. Marys River		\$2.6 million	\$1.4 million (Consumers Energy)	Proposal signed in February 2010 calls for a phased approach with 10,000 cubic yards of contaminated sediment dredged in 2010 and approx. 20,000 more in 2010/2011.	Complete
White Lake	\$2.6 million			Tannery Bay contaminated sediment cleanup: Dredging and site restoration activities completed in 2003. Currently implementing post-remedial monitoring activities.	Complete

Remedial Action Plan/Lakewide Management Plan Water Quality Improvement Projects: The DEQ was appropriated nearly \$8 million for this category from the CMI Bond Fund. The first Grant Application Package (GAP) was made available in August 2000. Grants were awarded in July 2001 to six projects totaling \$1.3 million. The second GAP was made available in November 2001; the DEQ awarded eight grants totaling \$6.24 million in December 2003. A third round of funding was awarded in August 2005 to three projects totaling \$694,377. The DEQ does not anticipate any additional appropriations for future rounds of funding in the category. A summary of these projects is available in the DEQ's FY 2010 consolidated report online at http://www.michigan.gov/documents/deq/deq-rd-fy10ConsolidatedReportAppendices_354204_7.pdf.

What is the Great Lakes Legacy Act? Is funding under the Legacy Act being used in any of Michigan's Areas of Concern?

The Great Lakes Legacy Act, passed by Congress in 2002 and reauthorized in 2008, authorizes \$270 million over five years for cleaning up contaminated sediments in Areas of Concern, conducting research on innovative technologies for treating and disposing of contaminated sediments, and for public outreach on sediment cleanup projects. The act requires that 35 percent of project costs come from nonfederal sources. Congressional appropriations for the Legacy Act have grown from \$9.9 million in FY 2004 to \$37 million in FY 2009. In 2009 President Obama initiated the Great Lakes Restoration

Initiative (GLRI), a five-year, \$2.2 billion program to restore the Great Lakes. The GLRI will increase funding for the Legacy Act and a wide array of other programs directed at restoring the Areas of Concern and the Great Lakes in general. The Legacy Act is administered by the U.S. EPA Great Lakes National Program Office. More information on the Great Lakes Legacy Act is available online at <http://www.epa.gov/greatlakes/sediment/legacy/index.html>.

Beginning in 2004 the DEQ began seeking funding under the Legacy Act for contaminated sediment projects in Michigan, using Clean Michigan Initiative as the nonfederal cost share. Since that time the state has used approximately \$15 million in CMI funds to leverage over \$21 million in Legacy Act funds for contaminated sediment cleanups and assessments in Michigan's Areas of Concern. The Phelps Dodge Corporation contributed funding for the nonfederal cost share along with funding from the CMI for the Tannery Bay cleanup on the St. Marys River, and the Consumers Energy Corp. is providing the nonfederal cost share for another site cleanup on the river. The DEQ plans to use the remaining CMI funds to leverage funding under the Legacy Act for contaminated sediment cleanups on Muskegon Lake, River Raisin, and the Detroit River. See the table above for a complete summary of contaminated sediment cleanups in Michigan's Areas of Concern.

Are other federal agencies providing support to cleanup efforts in Michigan's Areas of Concern? What is the Great Lakes Restoration Initiative?

Numerous federal programs have supported cleanup work in Michigan's Areas of Concern. The most significant is the Superfund program, which is funding cleanups in several areas. The U.S. EPA's Great Lakes National Program Office, the Natural Resource Damage Assessment program and the U.S. Army Corps of Engineers have provided funding or technical assistance for Areas of Concern work. There is potential to utilize greater financial and technical assistance from federal agencies; however, this requires substantial planning and coordination. Insufficient staff in the DEQ's Areas of Concern program has historically limited the department's ability to leverage support from federal agencies.

In 2009 President Obama initiated and Congress approved first year's funding for the Great Lakes Restoration Initiative (GLRI), a five-year, \$2.2 billion program to restore the Great Lakes. The GLRI will strategically complement existing federal programs and strengthen collaboration with state, local and nongovernmental partners. The GLRI will increase funding for the successful Great Lakes Legacy Act and a wide array of other programs that support the work of state and local agencies that are implementing comprehensive restoration plans for the Areas of Concern. The GLRI is being led by the U.S. EPA and coordinated through the Great Lakes Interagency Task Force, which is improving coordination of federal programs. The GLRI leverages contributions and expertise from state, local and nongovernmental partners. It is guided by a five-year action plan that sets outcome-oriented performance goals, criteria for measuring progress, and clear standards of accountability. The GLRI will also engage an independent scientific review panel to ensure the best available science is used to guide Great Lakes restoration efforts. Background on the GLRI is available online at <http://glri.us/>. An interactive map prepared by the Great Lakes Commission can be used to see where GLRI-funded projects are underway in Michigan (<http://glc.org/restore/glrimap/>).

What are the critical needs facing Michigan's Areas of Concern program?

Michigan's Areas of Concern program would benefit from additional technical and financial assistance in a number of areas. Specific needs will vary depending on local cleanup priorities. Specific priorities for Michigan's Areas of Concern program are included in the Statewide Public Advisory Council's annual *Status Report and Legislative Agenda*. This document is available from the Council's website at www.glc.org/spac. In addition, the *Strategy for Delisting Michigan's Great Lakes Areas of Concern* identifies the actions needed to restore beneficial uses and delist AOCs, establishes program priorities, and determines resource allocations in Michigan's AOC program. The strategy is available online at www.michigan.gov/documents/deq/wb-AOC-delisting-strategy_306163_7.pdf.

What can I do to help?

First and foremost, you can do your part to care for the environment and support local efforts to protect and restore the natural resources in your community. Participate on the local public advisory councils that are guiding cleanup efforts in the Areas of Concern and learn what you can do to help. Contact your state, federal and local elected officials and urge them to support programs that are helping to clean up and protect the Areas of Concern. Finally, support conservation groups in your community and volunteer your time for stream cleanups, volunteer monitoring activities, wildlife surveys, and other activities. Most of the public advisory councils are supported by watershed councils, conservation districts, or other groups that organize members of the community to help protect the local environment. Contact the individuals listed on the next page for your Area of Concern and find out what you can do to help.

Contacts and Information Sources on Michigan's Great Lakes Areas of Concern Program

Area of Concern	Statewide Public Advisory Council Representative	Public Advisory Council Chair	State Contact	Federal Contact	Local Support Group
Clinton River	Anne Vaara 248-601-0606 anne@crwc.org	Mark Richardson, 586-469-5593, Mark.Richardson@macombgov.org	Jennifer Tewkesbury Michigan DEQ, 586-753-3863, tewkesburyj@michigan.gov	Sue Virgilio, U.S. EPA (312) 886-4244 virgilio.susan@epa.gov	Clinton River Watershed Council 248-601-0606
Deer Lake	Pete Nault 906-486-8990 naultpa@att.net	Diane Feller 906-486-9967 dkfeller@aol.com	Stephanie Swart, Michigan DEQ, 517-284-5046, swarts@michigan.gov	Mark Loomis, U.S. EPA loomis.mark@epa.gov 312-886-0406	Contact public advisory council chair
Detroit River	Mary Bohling, 313-410-9431 bohling@msu.edu	Mary Bohling, 313-410-9431 bohling@msu.edu	Melanie Foose Michigan DEQ 586-753-3866 foosem@michigan.gov	Rose Ellison, U.S. EPA 734-692-7689 ellison.rosanne@epa.gov	Friends of the Detroit River, 734-675-0141
Kalamazoo River	Jamie McCarthy krwc@kalamazoosriver.org 269-978-4606	Stephen K. Hamilton 269-671-2231 hamilton@kbs.msu.edu	John Riley, Michigan DEQ, 517-284-5045 rileyj2@michigan.gov	Sue Virgilio, U.S. EPA (312) 886-4244 virgilio.susan@epa.gov	Kalamazoo River Watershed Council 269-978-4606
Manistique River	Corey Barr 906-341-2281 water@mstq-water.com	Corey Barr 906-341-2281 water@mstq-water.com	Stephanie Swart, Michigan DEQ, 517-284-5046, swarts@michigan.gov	Amy P. Mucha, PhD, U.S. EPA 312-886-6785, Mucha.Amy@epa.gov	Contact public advisory council chair
Menominee River	Mark Erickson Michigan Co-Chair Steve Zander Wisconsin Co-Chair	Mark Erickson Michigan Co-Chair Steve Zander Wisconsin Co-Chair	Sharon Baker, Michigan DEQ, 517-284-5044 BakerS9@michigan.gov	Mike Bryant, U.S. EPA 312-886-5266 bryant.michael@epa.gov	Ben Uvaas, Wisconsin DNR, 920-662-5465, Benjamin.Uvaas@wi.gov
Muskegon Lake	Kathy Evans 231-903-7442 kevans@wmsrdc.org	Cynthia Price, 231-670-6059, skyprice@gmail.com	Stephanie Swart, Michigan DEQ, 517-284-5046, swarts@michigan.gov	Mark Loomis, U.S. EPA loomis.mark@epa.gov 312-886-0406	Muskegon Lake Watershed Partnership, Kathy Evans, 231-903-7442
River Raisin	Richard Micka 734-242-0909 rgm@core.com	Dan Stefanski 734-216-6855 Danski@ameritech.net	Melanie Foose Michigan DEQ 586-753-3866 foosem@michigan.gov	Scott Cieniawski, U.S. EPA 312-353-9184 cieniawski.scott@epa.gov	Monroe Commission on the Environment, Maureen Pfund, Chair 734-240-7916
Rouge River	Bill Craig 248-476-5127 envirowhc@sbcglobal.net	Dan Ballnik 313-359-2967 dballni1@wowway.com	Jennifer Tewkesbury Michigan DEQ, 586-753-3863, tewkesburyj@michigan.gov	Rose Ellison, U.S. EPA 734-692-7689, ellison.rosanne@epa.gov	Friends of the Rouge 313-792-9627
Saginaw River/Bay	Dennis Zimmerman 989-588-9343	Warren Smith, 989-892-5649 wfsmith@sbcglobal.net	Bretton Joldersma Michigan DEQ 517-284-5048 joldersmab@michigan.gov	Diana Mally U.S. EPA 312-886-7275 mally.diana@epa.gov	Contact the public advisory council vice chair.
St. Clair River	Patty Troy, 810-984-5736, ptroy2004@yahoo.com	Patty Troy, 810-984-5736, ptroy2004@yahoo.com	Melanie Foose Michigan DEQ 586-753-3866 foosem@michigan.gov	Rose Ellison, U.S. EPA 734-692-7689 ellison.rosanne@epa.gov	Friends of the St. Clair River 810-984-9730
St. Marys River	Greg Zimmerman 906-635-2470 gzimmerman@gw.issu.edu	Mike Ripley 906-632-0072 mripley@sault.com	Bretton Joldersma Michigan DEQ 517-284-5048 joldersmab@michigan.gov	Ted Smith, U.S. EPA 312-353-6571 smith.edwin@epa.gov	Lake Superior State University BPAC Resource Office, 906-635-2136
Torch Lake	Jim Trevethan 906-482-4951	Dave Jukuri, 906-482-0001 Dave.Jukuri@Century21NorthCountry.com	Sharon Baker, Michigan DEQ, 517-284-5044 BakerS9@michigan.gov	Brenda Jones, U.S. EPA 312-886-7188 jones.brenda@epa.gov	Contact public advisory council chair
White Lake	Tanya Cabala, 231-981-0016 tcabala@charter.net	Jeff Auch, 231-773-0008 jeff.auch@macd.org	John Riley, Michigan DEQ, 517-284-5045 rileyj2@michigan.gov	John Perrecone, U.S. EPA 312-353-1149 perrecone.john@epa.gov	Muskegon Conservation Dist. 231-773-0008

Federal & State Agencies

U.S. Environmental Protection Agency
www.epa.gov

U.S. EPA, Great Lakes National Program Office
www.epa.gov/glnpo

U.S. EPA, Region 5
www.epa.gov/region5

U.S. EPA, Great Lakes Restoration Initiative
<http://glri.us/>

Michigan Dept. of Environmental Quality
<http://www.michigan.gov/deq> (Select "Water," then "Great Lakes," and then "Areas of Concern" for DEQ's Areas of Concern web page.)

Regional & Binational Agencies

International Joint Commission
www.ijc.org

Great Lakes Fishery Commission
www.glfsc.org

Great Lakes Commission
www.glc.org

Michigan's Areas of Concern

Statewide Public Advisory Council
www.glc.org/spac

Guidance for Delisting Michigan's Great Lakes Areas of Concern
<http://www.deq.state.mi.us/documents/deq-wb-aoc-delistguide.pdf>

MI-Great Lakes Plan: Our Path to Protect, Restore, and Sustain Michigan's Natural Treasures
http://www.michigan.gov/documents/deq/MI-GLPlan_262388_7.pdf

Strategy for Delisting Michigan's Great Lakes Areas of Concern
http://www.michigan.gov/documents/deq/wb-AOC-delisting-strategy_306163_7.pdf

Information Resources

Great Lakes Information Network
www.great-lakes.net

Areas of Concern in the Great Lakes
www.great-lakes.net/envt/pollution/aoc.html

Summaries of U.S. Great Lakes Areas of Concern
www.epa.gov/glnpo/aoc

Restoring U.S. Great Lakes Areas of Concern: Delisting Principles and Guidelines
www.glc.org/spac/pdf/delisting.pdf

Great Lakes Water Quality Agreement
<http://www.epa.gov/glnpo/glwqa/>

The Great Lakes Atlas
www.epa.gov/glnpo/atlas