

# Michigan Water Strategy

## Additional Recommendations Identified During the Strategy Development Process

**Goal: Michigan Citizens are Stewards of Clean Water and Healthy Aquatic Ecosystems.**

**Outcome: Individuals and Communities Understand Their Responsibility for and make Informed and Responsible Decisions Regarding Water Resources.**

#	Recommendation	Lead Actor
1	Convene statewide seminars and workshops for Michigan K-12 educators where best practices in teaching core environmental education concepts can be refined and shared.	Nonprofit organizations

**Goal: Michigan's Aquatic Ecosystems are Healthy and Functional.**

**Outcome: Aquatic Ecosystems are Resilient and Diverse.**

#	Recommendation	Lead Actor
1	Conduct research to assess natural and social systems that comprise Michigan's Great Lakes shorelands. Include patterns of shoreline development, coastal wetland habitats, beach structures, local revenues generated from shoreland development and use and costs incurred from development. Determine the taxpayer (public) versus insurance (private) burden of coastal damage and flooding scenarios.	Universities
2	Develop a detailed toolbox of options to provide long-term funding for storm water management including providing support for the creation of storm water utilities.	Michigan Municipal League
3	Develop a database and conduct a statewide inventory of county and inter-county drains as well as public road and highway-dedicated drainage including maintenance intervals and associated costs.	MDARD, drain commissioners, county road agencies, MDOT, MDEQ
4	Enhance the efforts initiated by the state parks system to incorporate green infrastructure within design and operations plans for state-owned properties like parks, roadways, prisons and schools.	DTMB
5	Develop the "Healthy Waters, Working Farms: For Future Generation Initiative," a pilot public-private partnership and locally led effort to protect farmland and address water quality, farmland preservation, and fish and wildlife habitat through a system of permanent easements and a network of conservation practices on private working lands in areas with high-priority water quality concerns.	MDEQ, MDARD, NGOs

**Goal: Michigan's Water Resources are Clean and Safe.**

**Outcome: Surface and Groundwater are Managed to Support Sustainable Human Uses and Ecological Function.**

#	Recommendation	Lead Actor
1	Promote USDA rural development funding to high-priority areas with high rates of septic system failure to replace or maintain old septic systems or provide resources to connect to public wastewater treatment systems, if available.	Local Health Departments, MDEQ
2	Establish a non-federal funding mechanism to leverage federal Great Lakes Legacy Act funds to continue the remediation of contaminated sediments in Areas of Concern by 2018.	Legislature
3	Provide water supply intake locations and information to environmental response companies upon request, and notify communities and drinking water plants that may be impacted by spills.	Legislature, MDEQ
4	Require that decentralized wastewater treatment systems be included in planning for state funding of wastewater infrastructure improvements and extensions.	MDEQ, Legislature

**Goal: Michigan Communities Use Water as a Strategic Asset for Community and Economic Development.**

**Outcome: Economic and Community Development Plans and Efforts Fully Leverage Water Assets to Create Great Places to Live, Work and Play.**

#	Recommendation	Lead Actor
1	Ensure that common water resources and adjacent land resources are managed in harmonious ways in communities and regions through coordination and collaboration to protect water resources while facilitating waterway-appropriate public use, commercial and amenity development and recreation.	Local units of government, Regional governmental entities

**Goal: Michigan's Water Resources Support Quality Natural Resources, Recreation, and Cultural Opportunities.**

**Outcome: Waters of the State are World Renowned for Recreational Pursuits such as Hunting, Fishing, Boating, and Swimming.**

#	Recommendation	Lead Actor
1	Implement recommendations developed in partnership with Michigan Sea Grant, National Weather Service, the Great Lakes Research Center at Michigan Technological University and others to improve information for beachgoers on wave conditions and dangerous near-shore currents. Information should be available and accessible at beaches through a variety of media, including smart devices.	MDNR, MDEQ, Local units of government
2	Complete the state's harbor of refuge system.	MDNR
3	Invest in innovative and technological advancements to lower the cost and frequency of dredging.	U.S. Army Corps of Engineers, State, Local communities, Technical Committee Great Lakes Dredging

**Goal: Michigan has a Strategic Focus on Water Technology and Innovation to Grow Sustainable Water-Based Economies.**

**Outcome: Policy, Innovative Practices, and Technologies are Developed and Adopted to Grow Sustainable Water-Based Economies.**

#	Recommendation	Lead Actor
1	Researchers should seek funding to extend research and quantification of the risk profile water plays in corporate profitability and performance volatility. Differentiate the State and the Great Lakes from other regions of the country for financial managers and investors.	Universities
2	Expand the University Research Corridor's inventory of Michigan's water-related industries to include other water-related sectors, such as tourism and recreation, and conduct an inventory of water research projects at Michigan universities to further define and identify the scope of Michigan's water sector.	Universities
3	Direct funding of studies conducted through the Agriculture Partnership Wastewater Workgroup to develop new technologies and best management practices to address tile lines and water management, and pilot and evaluate the adoption of innovative methods for nutrient management from tile line discharges. Existing institutional structures should be used to connect end users with technologies to ensure implementation of effective water management techniques and technologies.	MDARD

#	Recommendation	Lead Actor
4	Create a coordinated public-private program of education and incentives to promote efficient use and conservation of water.	MDEQ, MDARD, MDHHS
5	Collaborate with the National Sanitation Foundation International to set a framework for gray water and water reuse applications to protect public health and minimize risk. Modify applicable building and plumbing codes to allow for the adoption of water reuse strategies.	MDEQ, MDARD, MDNR
6	Use all available tools and create new ones, including existing and new funding opportunities, to attract technology providers to address specific water quality and quantity issues, and develop strategies to connect end users with technologies. Incentivize and invest in areas including, but not limited to: <ul style="list-style-type: none"> <li>• Increasing technology innovation capacity in the application of rapid response E. coli testing for surface waters</li> <li>• Developing a market to attract innovative technology developers for low-cost, environmentally sound sediment remediation, sediment removal, reuse and disposal</li> <li>• Developing low-cost methods of remediating pollutants that falls outside of traditional regulatory system</li> <li>• Researching treatment technologies to prevent introduction and spread of invasive species by ballast water</li> <li>• Developing technology to address special challenges facing food processors</li> <li>• Developing technology to address water issues associated with fracking</li> <li>• Developing technology to further improve green infrastructure design and maximize infiltration capacity and/or water retention</li> <li>• Increasing technology innovation capacity in treatment technologies to reduce phosphorus loading from municipal systems</li> <li>• Developing efficient technologies to remove and separate nitrogen and phosphorus through permeable membranes for use in anaerobic digestion</li> <li>• Increasing technology and innovation that addresses the intersection of energy, water and food systems</li> <li>• Increasing energy efficiency and water quality recirculation systems for aquaculture and aquaponics for urban, closed-cycle food production systems</li> <li>• Developing technologies to enable higher efficiency water delivery systems and water conservation, including work on advanced drain tile management systems</li> </ul>	MDEQ, MDARD, MDHHS, MEDC

**Goal: Michigan has Integrated Outcome-Based Monitoring Systems that Support Critical Water-Based Decisions.**

**Outcome: Monitoring Systems are in Place at a Scale and Frequency to Ensure Water Quality and Quantity are Maintained to Support Diverse Uses and Values.**

#	Recommendation	Lead Actor
1	Continue to advocate for Great Lakes Restoration Initiative funding and other federal programs that support the Great Lakes.	State agencies, NGOs, Local units of government

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STATE OF MICHIGAN



DEPARTMENT OF ENVIRONMENTAL QUALITY



MICHIGAN OFFICE OF THE GREAT LAKES