Restoring Lake Erie in Ohio

Controlling Water Pollution

August 2012 *lakeerie.ohio.gov/GLRI*

Sea Grant staff and law enforcement personnel collecting unwanted medications for proper disposal.

Selected Accomplishments:

Researchers mapped fields permitted for biosolids application in Lucas, Erie, Ottawa and Sandusky Counties. They also constructed experiments to mimic field conditions for testing.

A rebate program in Cuyahoga County encouraged the dental community to install mercury removing equipment in 326 dentist offices within 6 months.

Ohio Sea Grant partnered with the U.S. Drug Enforcement Administration and local law enforcement and collected 1,311 pounds (more than half a ton!) of unwanted medications in Lorain County. More than 2 million pills were collected throughout Great Lakes states.

Twelve marinas pledged to become Green Marinas, 8 were certified, and 173 have completed training.

The Toledo Harbor Sediment Management Plan project held a Public Workshop where participants shared ideas for beneficial use of dredged sediment.

Fixing storm water systems in the Cuyahoga River watershed demonstrates how green infrastructure can improve the environment and quality of life for citizens in urban watersheds. Projects will reduce the amount of water and pollutants, restoring approximately 6,405 feet of streams and 7.86 acres of wetlands, and installing 49,934 square feet of rain gardens, bioswales, and pervious pavement.

Ohio EPA started a long-term monitoring program of Lake Erie nearshore waters that will result in consistent sampling and data collection, enhancing state decision making and long-term assessment programs. Other researchers examined the balance of Lake Erie nutrients, including water and sediment chemistry and data on microscopic animals.

Pollution Control Projects

There are many ways to track and reduce water pollution. Many projects are using technologies and constructed habitats that keep water cleaner and significantly reduce overall pollution. Research will also examine which practices are the most cost-effective to promote, and how to communicate that information and encourage technology sharing.

Public Benefits

Studying nutrients in the water results in better tracking and reduction of Harmful Algae Blooms. Water testing also links land and lakeshore impacts, allowing state and local leaders to develop effective policies and ways for people to help keep waters and beaches clean.

Installing technologies for reducing polluted runoff on public property allows developers to see the success of the technologies before installation on private developments, implementers to gain first-hand experience before helping others adopt them, and community members to learn about them in their local area.

Green Marina Programs reduce water pollution from boats and marinas.

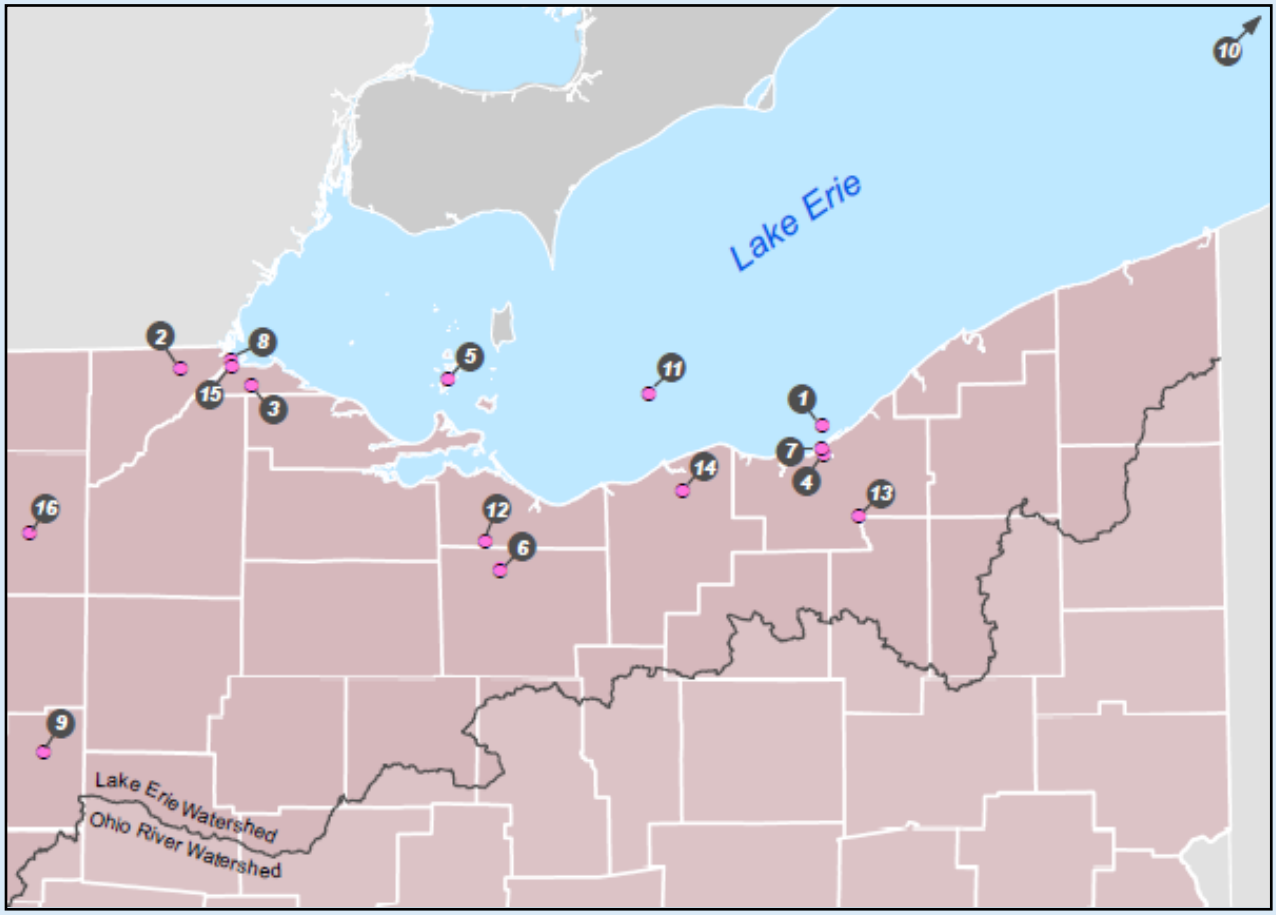
Collection and proper disposal of unwanted medications reduces law enforcement costs by making it less likely that unused medication goes into illegal traffic. It also reduces human and wildlife exposure.

Communities that need to fix aging pipes can add improved pollution control to existing or future projects. Wetland and stream restorations increase native plant and wildlife habitat.

Economic Benefits

Technologies for reducing polluted runoff can remedy local polluted water and flooding problems, reducing costs for cleaning the water and maintaining pipes. It also improves the appearance of existing facilities through landscaping. This increases the public appeal of surrounding areas and can lead to higher property values.

A comprehensive sediment management plan for Toledo Harbor can protect human health and the environment, reduce cost of dredging, and improve recreational and commercial harbor uses.



Project Map

Projects shown on this map are identified by number and correspond to the numbered projects listed below.

For clarity, only one location is listed for each project. For some projects that occur across the basin or at multiple points (such as the Ohio Dept. of Health beach monitoring), the location shown may indicate the location of the researcher or a single point within the area covered.

Details for individual projects are located at: http://lakeerie.ohio.gov/GLRI/SynthesisTeam/SynthTeamReports.aspx.

Pollution Control Projects:

1 - Cuyahoga County Engineers Office - Cuyahoga Area of Concern Urban Habitat Restoration I & II

2 - City of Toledo – Ottawa RiverScrap Yard Pollution Prevention

3 - University of Toledo – Biosolids Application

4 - Northeast Ohio Regional Sewer District – Dental Amalgam (Mercury) Separators

5 - Ohio Sea Grant - Undo the Great Lakes Chemical Brew; Proper PPCP Disposal (with Penn State University)

6 - Huron County Soil & Water Conservation District – Sediment Reduction Project

7 - Ohio EPA – Cuyahoga County Surface Water Improvement Fund

8 - Ohio Lake Erie Commission – Toledo Harbor Sediment Management and Reuse

9 - Ohio EPA – Ottawa River (Lima) Total Maximum Daily Load

10 - Buffalo State College - Nearshore and Offshore Nutrient Study

11 - Ohio EPA – Comprehensive Nearshore Monitoring Program

12 - Delta Institute - Toxics Reduction via E-waste Management

13 - Cleveland-Cuyahoga County Port Authority - Deploying Debris Management System in Cuyahoga River Areas of Concern

14 - Ohio EPA - Fish Deformity Data Collection and Analysis

15 - University of Toledo - Wolf Creek: Passive Treatment Wetland to Improve Nearshore Health

16 - Ohio EPA – Phosphorus Reduction Variable Rate Technology

Newly installed bioswale at a Toledo scrap yard will clean polluted runoff before it enters the Ohio River.