



## Improving Nearshore Health and Reducing Nonpoint Source Pollution

**G**reat Lakes nearshore areas are a valuable ecological and economic resource. They provide drinking water for municipalities and critical habitat for numerous species of birds, fish and other aquatic life. In 2007, Great Lakes coastal counties contributed an average of 41 percent to the economies of Great Lakes states. Great Lakes-dependent economic activities (marine transportation, tourism and recreation, living marine resources, marine construction, ship and boat building, and mineral extraction) supported nearly 500,000 jobs in 2004. These resources are under increasing pressure from a variety of stressors including pollution from point and nonpoint sources; development and shoreline hardening; and agricultural practices. Degraded water quality is a persistent problem in the nearshore zone – bacterial contamination closes beaches and threatens public health; sedimentation clogs harbors and damages fishery resources; and disease outbreaks threaten valuable wildlife.

Nonpoint source pollution contributes significantly to the degradation of Great Lakes water quality, particularly in nearshore areas. Nonpoint source pollution is the diffuse, intermittent runoff of pollutants from various sources. Precipitation moving over and through the ground picks up pollutants from these sources and deposits them in lakes, rivers, wetlands, coastal waters, and even groundwater. As a result of its diffuse nature and the diversity of pollutants, nonpoint source pollution can be particularly difficult to address. Soil erosion and sedimentation are a primary source of land-based nonpoint source pollution to the Great Lakes. Beyond water quality degradation, sedimentation reduces agricultural productivity, degrades fish and wildlife habitat, limits water-based recreation, reduces harbor capacity and damages water treatment and public water supply infrastructure.



*Sediment plume from the Maumee River into Lake Erie, © NASA Landsat Program.*

**Request:** To improve nearshore health and reduce nonpoint source pollution, the Great Lakes Commission asks Congress to maintain funding for the Great Lakes Restoration Initiative at the FY 2010 level of \$475 million.

### Action under the Great Lakes Restoration Initiative

The Great Lakes Restoration Initiative (GLRI) strategically targets urgent problems facing the Great Lakes in five key areas, including improving nearshore health and reducing nonpoint source pollution. The GLRI increases support for successful programs that provide on-the-ground solutions to help ensure the safety of beaches, protect the health of coastal areas around the Great Lakes, and reduce and prevent nonpoint source pollution. The GLRI is guided by a five-year action plan that establishes outcome-oriented performance goals and criteria for measuring progress. The specific objectives for improving nearshore health and reducing nonpoint source pollution include, among others:

- Identify the highest priority watersheds for implementation of targeted nonpoint source pollution control efforts;
- Implement actions in at least five targeted watersheds to control erosion, reduce nutrient runoff from urban and agricultural sources, and improve habitat to protect nearshore aquatic resources;
- Significantly reduce the number and severity of incidences of harmful algal blooms, avian botulism, and/or excessive Cladophora growth from 2008 levels;
- Establish and implement a comprehensive nearshore monitoring program, including a publicly accessible reporting system, based on a suite of environmental indicators;
- Assess 50 percent of high priority Great Lakes beaches to identify sources of contamination;
- Control, manage or remediate pollution sources at 20 percent of high priority Great Lakes beaches;
- Employ rapid testing or predictive modeling methods to improve the accuracy of decisions on beach postings to better protect public health at 33 percent of high priority beaches;
- Increase the area of agricultural lands in conservation and/or utilizing conservation tillage practices by 50 percent over 2008 levels.

## Support for Core Federal Programs

In addition to the GLRI, the Great Lakes Commission urges Congress to provide funding for the following core programs that improve coastal and nearshore health and reduce nonpoint source pollution:

- **Coastal Zone Management Act (CZMA)** under NOAA which provides financial and technical assistance to states to develop and implement coastal management programs.
- **Coastal and Estuarine Land Conservation Program (CELCP)** under NOAA that complements CZMA by providing state and local governments with matching funds to protect valuable coastal and estuarine lands through purchasing of such lands or easements on them.
- **Beaches Environmental Assessment and Coastal Health Act (BEACH Act)** under U.S. EPA that provides grants to states to protect coastal resources as well as human health.
- **Clean Water Act Section 319 Nonpoint Source Management Program** under which states and tribes receive grant money to support activities to reduce nonpoint source pollution, including technical assistance, education, training, technology transfer, demonstration projects, and monitoring.
- **Great Lakes Basin Program for Soil Erosion and Sediment Control** to support locally-sponsored projects that prevent and control nonpoint source pollution.
- **Great Lakes Tributary Modeling** under the Army Corps of Engineers to develop models that describe erosion and sedimentation in tributaries and support soil conservation and nonpoint source pollution prevention activities.

## Progress to Date

**Balancing coastal development and environmental protection:** The CZMA and CELCP programs have enabled Great Lakes states to balance the demands of coastal development with the need to protect fragile coastal ecosystems. Dozens of on-the-ground projects are undertaken each year that provide public access, protect sensitive coastal habitats, and safeguard lives and property from the risk of coastal hazards.

**Protecting human health:** Since the BEACH Act was passed in 2000, the number of monitored beaches in the U.S. has more than tripled. New water quality standards have been set and more rapid methods for detecting threats to human health from bacterial pollution have been developed and implemented.

**Improving water quality:** The Great Lakes Basin Program has a demonstrated ability to protect and improve Great Lakes water quality. Since 1991, the program has provided nearly \$16 million to local governments and nonprofit organizations to implement more than 400 water quality improvement projects. As of September 2008 the program has prevented an estimated two million tons of soil and 3,200 tons of phosphorus from entering the Great Lakes. A goal of reducing 400,000 tons of soil and 400,000 pounds of phosphorus has been set for projects funded in 2010. In addition, each Great Lakes state has an active Section 319 program that distributes funding to projects that reduce pollution in runoff, increase awareness of nonpoint source pollution and support monitoring to track restoration progress. Section 319 has also helped leverage additional funds from other state and local programs targeted for watershed restoration, such as the Illinois Clean Lakes Program and Michigan's Clean Michigan Initiative environmental bond program.

## Economic and Environmental Benefits

Coastal tourism generates substantial revenues for states and local communities. As a result, pollution leading to beach closures can have a significant impact on local economies. Without proper management and public notification, this pollution also poses a significant human health risk. The Brookings Institution estimates that a 20 percent reduction in beach closures would result in an economic benefit of more than \$130 million per year for the Great Lakes region. Further, programs that effectively prevent nonpoint source pollution protect the water quality of the Great Lakes, mitigate the environmental and economic damages caused by nonpoint source pollution, and sustain the long-term productivity of the Great Lakes basin. The Brookings Institution has estimated that a 10-25 percent reduction in sedimentation in the Great Lakes basin would reduce drinking water treatment costs by \$3 million to \$7 million annually.

## More Information

**Great Lakes Restoration Initiative:** [www.greatlakesrestoration.us](http://www.greatlakesrestoration.us)

**Coastal Zone Management Program:** [www.coastalmanagement.noaa.gov/programs/czm.html](http://www.coastalmanagement.noaa.gov/programs/czm.html)

**Beaches Environmental Assessment and Coastal Health Act:** [www.epa.gov/beaches](http://www.epa.gov/beaches)

**Clean Water Act Section 319 Program:** [www.epa.gov/owow/nps/cwact.html](http://www.epa.gov/owow/nps/cwact.html)

**Great Lakes Basin Program for Soil Erosion and Sediment Control:** [www.glc.org/basin](http://www.glc.org/basin)

**Great Lakes Tributary Modeling:** [www.glc.org/tributary](http://www.glc.org/tributary)