



**U.S. House of Representatives**  
**Committee on Transportation and Infrastructure**

**James L. Oberstar**  
**Chairman**

**Washington, DC 20515**

**John L. Mica**  
**Ranking Republican Member**

David Heysfeld, Chief of Staff  
Ward W. McCarragher, Chief Counsel

May 19, 2008

James W. Coon II, Republican Chief of Staff

**SUMMARY OF SUBJECT MATTER**

**TO:** Members of the Subcommittee on Water Resources and Environment  
**FROM:** Subcommittee on Water Resources and Environment Staff  
**SUBJECT:** Hearing on "Reauthorization of the Great Lakes Legacy Act"

**PURPOSE OF HEARING**

On Wednesday, May 21, 2008, at 10:00 a.m., in Room 2167 of the Rayburn House Office Building, the Subcommittee on Water Resources and Environment will hear testimony from representatives from the United States Environmental Protection Agency ("EPA"), the State of Michigan, and stakeholder organizations from the Great Lakes region on the reauthorization of the Great Lakes Legacy Act.

**BACKGROUND**

This memorandum summarizes efforts to improve water quality in the Great Lakes. It provides an overview of current water quality across the Great Lakes and the use of the Great Lakes Legacy Act to remediate contaminated sediment.

**Great Lakes Basin**

The Great Lakes consist of Lakes Superior, Michigan, Huron, Erie, and Ontario. The Lakes contain around 84 percent of North America's, and 21 percent of the world's surface fresh water supplies. Outflow rates from most of the Great Lakes are very slow: Lake Superior retains water for 191 years, Lake Michigan for 62 years, and Lake Huron for 31 years. Lake Ontario has a retention time of 6 years, and Lake Erie requires 2.6 years for its waters to be exchanged. Those lakes with high retention times do not flush pollutants quickly, and are therefore particularly vulnerable to contamination.

The Great Lakes basin includes all of the state of Michigan, parts of Illinois, Indiana, Minnesota, New York, Ohio, Pennsylvania, Wisconsin, and the Canadian province of Ontario. Approximately 40 million people live within the Great Lakes basin. Water in the Lakes is used for a multitude of activities including drinking, fishing, swimming, boating, agriculture, industry, and shipping.

### Water Quality in the Great Lakes

Industrialization and development have had a significant impact on the Great Lakes ecosystem. The region's industrial development has included mining, steel production, and machine tool and automobile manufacturing. Agriculture is also a significant component of the regional economy. The Great Lakes have historically provided convenient waterways for the movement of goods. They also provide process and cooling water for industrial users, and are used to generate hydroelectric power. While industrialization, agriculture, power generation, and other activities have produced significant economic development in the region, water quality has also been adversely impacted.

In its 2002 National Water Quality Inventory, EPA reports that 91 percent of assessed Great Lakes shoreline miles were impaired – meaning that the shoreline did not meet all of its designated uses, including fishing, swimming, and suitability for aquatic wildlife habitat. (Only 520 of 5,521 total Great Lakes shoreline miles were assessed for the 2002 National Water Quality Inventory.) The leading causes of this impairment include pathogens, metals, and toxic organic compounds. EPA notes that the dominant cause of reported shoreline impairment is legacy, or historical, pollution – chiefly contaminated sediment.

In the same report, EPA reports that 99 percent of the assessed Great Lakes open waters were rated as impaired. (Of the 60,546 square miles of Great Lakes open waters in the United States, 84 percent (50,866 square miles) were assessed for the 2002 National Water Quality Inventory.) The predominant causes of impairment were priority organics,<sup>1</sup> metals (primarily mercury), and pesticides. The primary sources of these causes of impairment are atmospheric deposition, industrial sources, agriculture, and legacy, or historical pollutants.

The EPA's 2005 National Coastal Condition Report II rated the overall condition of the Great Lakes as "fair-to-poor". Water clarity, drinking water quality, and dissolved oxygen were rated as "fair-to-good" or "good". Sediment contamination had a "poor" rating.

Pursuant to the 1987 Great Lakes Water Quality Agreement ("GLWQA"), the EPA and Environment Canada have coordinated biennial assessments of the ecological health of the Great Lakes ecosystem using a consistent set of environmental and human health indicators. The results of these assessments are published in the State of the Great Lakes reports.

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<sup>1</sup> 27 organic chemicals targeted by EPA for elimination or reduction because of their persistent, bioaccumulative, and toxic characteristics.

In the 2007 State of the Great Lakes (“SOLEC”) report, the status of the Great Lakes ecosystem is assessed as mixed.<sup>2</sup> The SOLEC report characterizes one of its primary assessment categories, contamination of the Great Lakes, as mixed, but improving.<sup>3</sup> Lake Superior is rated as good, Lake Ontario as poor, and the remaining lakes as mixed for contamination. The report notes that concentrations of some chemicals have declined significantly over the past 30 years, and that the overall trend of Great Lakes water quality contamination is improving. Nevertheless, contaminants from air, wastewater, and runoff from non-point sources continue to impact water quality in the lakes. In addition, concentrations of new chemicals that have the potential to cause harm have recently been detected, and are being labeled “chemicals of emerging concern”.<sup>4</sup> Some localized toxic contamination continues to exist in high levels in Areas of Concern (“AOCs”) (*see below*).

### Great Lakes Legacy Act of 2002

In addition to other authorities, Canadian and U.S. efforts to clean up the Great Lakes are guided by the 1987 GLWQA. Through the GLWQA, both nations committed to ecosystem cleanup plans for Areas of Concern (“AOCs”).

AOCs are defined under the GLWQA as ecologically degraded geographic areas requiring remediation. An area is considered ecologically degraded if at least one of 14 beneficial use impairments is present as a result of contamination.<sup>5</sup>

AOCs can contain multiple, discrete hazardous waste sites that can include National Priorities List (“NPL”) sites under the Comprehensive Environmental Response, Compensation, and Liability Act (commonly known as Superfund), as well as other hazardous waste sites. Sites with high concentrations of toxic substances are often the historical, or legacy, remnants of former industrial pollution. While the discharge of these pollutants has largely ceased, these historical pollutants remain in contaminated sediment in those areas. Contaminants found in the AOCs include polychlorinated biphenyls (“PCBs”), heavy metals, and polycyclic aromatic hydrocarbons

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<sup>2</sup> SOLEC rates conditions according to five categories: Good – The state of the ecosystem component is presently meeting ecosystem objectives or otherwise is in acceptable condition; Fair – The ecosystem component is currently exhibiting minimally acceptable conditions, but it is not meeting established ecosystem objectives, criteria, or other characteristics of fully acceptable conditions; Poor – The ecosystem component is severely negatively impacted and it does not display even minimally acceptable conditions; Mixed – The ecosystem component displays both good and degraded features; Undetermined – Data are not available or are insufficient to masses the status of the ecosystem component.

<sup>3</sup> SOLEC rates trends according to four categories: Improving – Information provided shows the ecosystem component to be changing toward more acceptable conditions; Unchanging – Information provided shows the ecosystem component to be neither getting better nor worse; Deteriorating – Information provided shows the ecosystem component to be departing from acceptable conditions; Undetermined – Data are not available over time, so no trend can be identified.

<sup>4</sup> According to Environment Canada, some 70,000 commercial and industrial compounds are currently in use, and 1,000 new chemicals are produced every year. EPA and Environment Canada have categorized some of these chemical categories as ‘chemicals of emerging concerns.’ These include polybrominated diphenyl ethers (flame retardants), various pharmaceutical and personal care products, and approximately 20 currently-used pesticides.

<sup>5</sup> The GLWQA includes the following 14 beneficial use impairments: Restrictions on fish and wildlife consumption; Tainting of fish and wildlife flavor; Degradation of fish and wildlife populations; Fish tumors or other deformities; Bird or animal deformities or reproduction problems; Degradation of benthos; Restrictions on dredging activities; Eutrophication or undesirable algae; Restrictions on drinking water consumption, or taste and odor problems; Beach closings; Degradation of aesthetics; Added costs to agriculture or industry; Degradation of phytoplankton and zooplankton populations; Loss of fish and wildlife habitat.



Under the GLLA, the EPA's Great Lakes National Program Office ("GLNPO") was designated to implement the GLLA. Projects and AOCs that are addressed through the GLLA must be located in the United States, and will monitor or evaluate contaminated sediment, implement a plan to remediate contaminated sediment; or prevent further or renewed contaminated sediment.

Projects are prioritized and chosen by GLNPO based on a number of factors. These factors include:

- Remedial action for contaminated sediments;
- Projects that have been identified in a Remedial Action Plan (RAP);
- Projects that are ready to be implemented;
- Projects that will use an innovative approach, technology, or technique that may provide greater environmental benefits, or equivalent environmental benefits at a reduced cost; or
- Projects that include remediation to be commenced not later than one year after the date of receipt of funds.

GLLA cleanup projects are negotiated agreements between EPA (through GLNPO) and a non-Federal sponsor. Cleanup projects have a Federal share of 65 percent and the non-Federal sponsor is responsible for 100 percent of the operation and maintenance costs. These contributions may include in-kind services.

### Implementation of the Great Lakes Legacy Act of 2002

The following table indicates delisted AOC sites.

<b>Delisted U.S. AOC</b>
Oswego River, New York (2006)

Source: US EPA

The following table indicates progress on GLLA projects to date at individual projects within AOCs. Each AOC can have multiple hazardous waste sites within it. Projects are first monitored and evaluated by EPA to determine the nature and extent of contamination. After this evaluation and only after parties have entered into a cost-share agreement with the Federal Government, remediation will begin. Only when remediation is complete at each of the sites, or projects, in a given AOC and beneficial uses are no longer impaired, will an AOC be delisted.

<b>Projects being Monitored and Evaluated</b>
Waukegon Harbor, Illinois (AOC: Waukegon Harbor, Illinois)
Grand Calumet, Indiana (AOC: Grand Calumet River, Illinois)
Riverview, Michigan (AOC: Detroit River, Michigan)
Ryerson Creek, Michigan (AOC: Muskegon Lake, Michigan)
Buffalo River, New York (AOC: Buffalo River, New York)
Kinnickinnic River, Wisconsin (AOC: Milwaukee Estuary, Wisc.)
<b>Remediation Projects Underway</b>
Ashtabula, Ohio (AOC: Ashtabula River, Ohio)
<b>Remediation Projects Completed</b>
Black Lagoon, Michigan (AOC: Detroit River, Michigan)
Ruddiman Creek, Michigan (AOC: Muskegon Lake, Michigan)
Sault Ste. Marie, Michigan (AOC: St. Mary's River, Michigan)
Hog Island, Wisconsin (AOC: St. Louis River and Bay, Minnesota and Wisconsin)

Source: US EPA

Since the GLLA was enacted in 2002, nearly 800,000 cubic yards of contaminated sediments have been removed from these sites.

### **Current Issues in Great Lakes Contaminated Sediment Cleanup**

In 2005, the Great Lakes Regional Collaboration<sup>6</sup> made a number of recommendations, including changes to the GLLA, to speed and improve the cleanup and delisting of AOCs.<sup>7</sup> These recommendations include:

- Amending the GLLA to increase funding to \$150 million per year, to clean up all contaminated sediment in the Great Lakes region by 2020;
- Streamline the GLLA cost-share provision process by dropping the maintenance of effort provisions,<sup>8</sup> extending the “life” of appropriated GLLA funds beyond two years, reducing

<sup>6</sup> The Great Lakes Regional Collaboration (“GLRC”) is comprised of a number of organizations to design and implement a strategy for the restoration, protection and sustainable use of the Great Lakes. GLRC partners include the Council of Great Lakes Governors, the Great Lakes and St. Lawrence Cities Initiative, the Great Lakes Congressional Taskforce, the Great Lakes Indian Fish and Wildlife Commission, and GLNPO.

<sup>7</sup> Great Lakes Regional Collaboration. 2005. *Strategy to Restore and Protect the Great Lakes*.

<sup>8</sup> Maintenance of effort language was originally included in the GLLA in order to ensure that new federal appropriations for sediment remediation do not displace existing funding from non-Federal sponsors. In order to carry out qualified projects, the Administrator is to enter into agreements with the non-Federal sponsors to ensure that the non-Federal

the cost-share for “orphan sites”, and increasing administrative discretion to allow GLNPO to disburse project implementation funds.

- Improve Federal, state, and local capacity to manage AOC cleanups;
- Create a Federal-state coordinating committee to work with local and tribal interests to speed cleanups; and
- Promote clean treatment and disposal technologies, as well as better beneficial use and disposal options.

In 2006, in a briefing to congressional staff, EPA identified a number of potential impediments to successful cleanup of GLLA projects. These impediments include lack of availability of non-federal partner cost-share funds, a lack of sediment disposal sites, and, in some locations, a lack of support from the public or other impacted parties.

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sponsors maintain expenditures for sediment remediation programs in the area of concern in which the qualified project is located.

WITNESSES

PANEL I

**Lieutenant Governor John D. Cherry**  
State of Michigan  
Lansing, Michigan

**The Honorable Benjamin H. Grumbles**  
United States Environmental Protection Agency  
Assistant Administrator for Water  
Washington, D.C.

*Accompanied by:*

**Mr. Gary Gulezian**  
Director  
Great Lakes National Program Office  
United States Environmental Protection Agency  
Chicago, Illinois

PANEL II

**Mr. Cameron Davis**  
President & CEO  
Alliance for the Great Lakes  
Chicago, Illinois

**Ms. Emily Green**  
Director, Great Lakes Program  
Sierra Club  
Madison, Wisconsin

**Mr. George H. Kuper**  
President  
Council of Great Lakes Industries  
Ann Arbor, Michigan