The Great Lakes: Threats and Opportunities

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Vice President, Policy
Agenda

• Alliance for the Great Lakes
• Importance of the Great Lakes
• Great Lakes Restoration Initiative
• Aquatic Invasive Species
  – Ballast water
  – Asian carp
• Agricultural Runoff and Algal Blooms
  – Lake Erie
THE GREAT LAKES
by the numbers
THE GREAT LAKES ARE THE LARGEST SURFACE FRESHWATER SYSTEM IN THE WORLD

...including 18% of the world’s supply.

THE GREAT LAKES HOLD 5,500 CUBIC MILES

...including 90% of North America’s supply.

THE GREAT LAKES PROVIDE DRINKING WATER TO OVER 40 MILLION PEOPLE

...including 1 in 10 Americans

...and 1 in 4 Canadians.
Great Lakes Restoration
Great Lakes Regional Collaboration Strategy
Place-Specific Benefits of Great Lakes Restoration: A Supplement to the ‘Healthy Waters’ Report

by John C. Austin, Soren Anderson, Paul N. Courant, Robert Litan

An analysis of projected property value increases created by the implementation of the federal-state Great Lakes Regional Collaboration (GLRC) Restoration Strategy shows estimated total benefits for the region’s metropolitan areas on the order of $16.1 billion to $26.5 billion. The largest benefits are likely to be reaped by residents of the most populated cities along the Great Lakes: Chicago, Cleveland, Detroit, and Milwaukee. Additional benefits will be experienced by those living outside these metropolitan areas.

Introduction


Under the first approach, we summed the best available estimates of the various individual benefits the GLRC Restoration Strategy could be expected to generate—additional tourism, fishing and recreation, benefits to property owners from cleaning up abandoned sites at the shoreline, and so forth. This approach yielded a total benefit estimate of $16.1 billion (2005 dollars).

Under the second approach, we performed a systematic literature search to find the best estimates of each of these individual categories. We then applied a benefit transfer framework that includes a discount factor to reflect the time value of money. This approach yielded a total benefit estimate of $26.5 billion (2005 dollars).
Great Lakes Restoration Initiative
Great Lakes Restoration Initiative (GLRI)

GLRI Funding History

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Millions of Dollars</th>
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Great Lakes Restoration Initiative

Credit: USEPA, 2015
Great Lakes Restoration Initiative

Five Focus Areas

Cleaning up Areas of Concern
Preventing and controlling invasive species
Reducing runoff that contributes to algal blooms
Restoring habitat to protect native species
Science based adaptive management

Source: GLRI Action Plan II (available at www.glri.us)
GLRI at Work in Illinois

• Illinois enjoys a 63-mile stretch of Lake Michigan shoreline

• $267 million in GLRI funds to 193 projects through FY17

www.glrimap.glc.org
GLRI in Illinois: Northerly Island

- $4.7 million invested to date
- Creation of 40 acres of coastal habitat
- Ecological + economic benefits
GLRI in Illinois: Waukegan Harbor

- $4.6 million invested to date (2010-2015)
- Clean up of toxic waste and sediments
- Supports delisting of Dredging Restrictions Beneficial Use Impairment
Support the GLRI

- FY18 – President Trump proposed $0 for GLRI
- FY19 – President Trump proposed $30 million for GLRI
- Continue to fund it at $300 million

“Trump budget slashes funding for Great Lakes cleanup”
– The Detroit News, February 12, 2018
Aquatic Invasive Species and the Great Lakes

Aquatic Invasive Species are one of the biggest threats to the Great Lakes

- Environmental Impacts
- Economic Impacts
- Ballast Water
- Asian Carp

Photo: Great Lakes Fishery Commission
Zebra and Quagga Mussel Sightings Distribution

Dreissena polymorpha and D. rostriformis bugensis

Map produced by the U.S. Geological Survey, Nonindigenous Aquatic Species Database, July 8, 2016.
Environmental Impacts

ECOLOGICAL HAVOC
DIPOREIA’S VANISHING ACT

The decline of diporeia is a lake-wide phenomenon. Over the entire 307-mile lake, scientists estimate the population has declined by 68% between 1994 and 2000. Diporeia, a high-fat food source, historically were responsible for up to 60% of the body weight of lake whitefish. While numbers of whitefish in the lake remain healthy, their average size has shrunk alarmingly.

1994 & 1995

2000

GREEN BAY
WIS.

MILWAUKEE
ILL.

CHICAGO
IND.

GREEN BAY
WIS.

MILWAUKEE
ILL.

CHICAGO
IND.

DENSITY: Thousands per square meter

Altered food Web
Lake Michigan

Source: National Oceanic and Atmospheric Administration

Altered Nutrient Cycling – Lake Erie

Avian Botulism
Economic Impact of Aquatic Invasive Species

• ~$200 million in losses annually due to invasions caused by shipping – University of Notre Dame

• Annual impact from invasions include costs to water treatment facilities, tourism industries, and energy production

• 2014 Michigan State University study revealed that the greatest threat to Michigan’s tourism industry was the spread of aquatic and terrestrial invasive species
Preventing New Invasions Is Possible and Critical

Controlling An Existing Invasion Is Usually Impossible
Ballast Water
Vessel Incidental Discharge Act

• Discharges of ballast water pollution are exempt from the Clean Water Act
• States are precluded from enacting any authority of their own to address unique regional threats of aquatic invasive species from ballast water
• Citizens lose their right to petition courts
• The EPA is precluded from administering any part of this new authority, and has a mere review or consultation role. The Coast Guard has sole discretion to make determinations and promulgate requirements
• Lakers are exempt from any ballast water standards
OPPOSE

• Senate – Oppose S. 168 - Vessel Incidental Discharge Act
• Senate - Oppose moving any legislation containing VIDA
  – US Coast Guard Authorization Act has VIDA attached to it
• House – Oppose H.R. 1154
Asian carp and the threat to the Great Lakes

- Current problems in Illinois and Mississippi river
- Threat to Great Lakes fishing and boating industry – worth more than 7 billion

[Source: Toledo Blade]
Asian carp and the threat to the Great Lakes

“’Cause For Serious Concern’: Invasive Carp Caught 9 Miles From Great Lakes”
--NPR news, June 23, 2017

“Plan to block Asian carp from Great Lakes opposed by Illinois governor”
--WQAD News 8, August 7, 2017
Map showing locations of key features, or measures, of the tentatively selected plan at Brandon Road Lock and Dam. [Source: USACE]
SUPPORT

1. Full funding for the Asian Carp Action Plan
2. Completion of the Brandon Road Integrated Feasibility Study Chief’s Report ASAP
3. Full federal funding for construction of new structural measures at Brandon Road Lock and Dam
4. Implementation of navigation protocols to dislodge entrained fish between barge tows
5. Continued study of 2-way control technologies to protect the Great Lakes and Mississippi River basins
ALGAL BLOOMS
Lake Erie

- Drinking Water - 11 million people, 3 million in Ohio

- Tourism and Travel - $11.5 billion in revenue per year
Beach Advisories

WARNING: OVERFLOW EVENT
PUBLIC ADVISORY

As a result, the beach area and water may have been affected. Visitors - particularly children, the elderly, and those in ill health - are advised to avoid contact with the water and debris.

SWIMMING ADVISORY OFF EDGEWATER BEACH
RAW SEWAGE DUMPED INTO LAKE ERIE BECAUSE OF HEAVY RAIN
Could we be Toledo'd in Wisconsin?

A sample glass of Lake Erie water is photographed near the City of Toledo water intake crib on Aug. 3 in Lake Erie, Ohio.
Binational Commitment to Reduce Harmful Algal Blooms
What’s Missing?

• Legal drivers + market drivers
• No numeric nutrient water quality standards for phosphorus or nitrogen
• Western Lake Erie is listed as impaired under the Clean Water Act in Michigan but not in Ohio (possibly changing)
• No TMDL for open waters of western Lake Erie – complicated by multiple states and countries
• Largest source of the problem – agriculture – unregulated
  – Reliance on voluntary and incentive based conservation practices, not enough funding
• Lack of **accountability** for achieving 40% reduction in phosphorus entering western Lake Erie
What can be done

• Increase funding for the Conservation Title in the next Farm Bill

• Give higher priority to funding projects and practices on agricultural lands that reduce water pollution from farming operations
  – Pay for water quality performance

• Improve public monitoring and reporting mechanisms to increase accountability and ensure we are moving toward the 40% reduction in phosphorus in Lake Erie

• Increase accountability for the states
Questions and Comments