

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



ALLIANCE *for the*
GREAT LAKES



THE GREAT LAKES

by the numbers

The Great Lakes Basin



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.*



CREDIT: THE NATURE CONSERVANCY

THE GREAT LAKES PROVIDE DRINKING WATER TO OVER **40 MILLION** PEOPLE



...including 1 in 10 Americans



...and 1 in 4 Canadians. 6

Great Lakes Restoration



Great Lakes Areas of Concern

Great Lakes Basin Boundary





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 Litan¹

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

Previously, “Healthy Waters, Strong Economy: The Benefits of Restoring the Great Lakes Ecosystem,” provided a benefit-cost analysis of a major infrastructure program to improve water quality in and around the Great Lakes: the federal-state Great Lakes Regional Collaboration (GLRC) Restoration Strategy. Benefits were estimated in two ways, giving roughly equivalent answers.

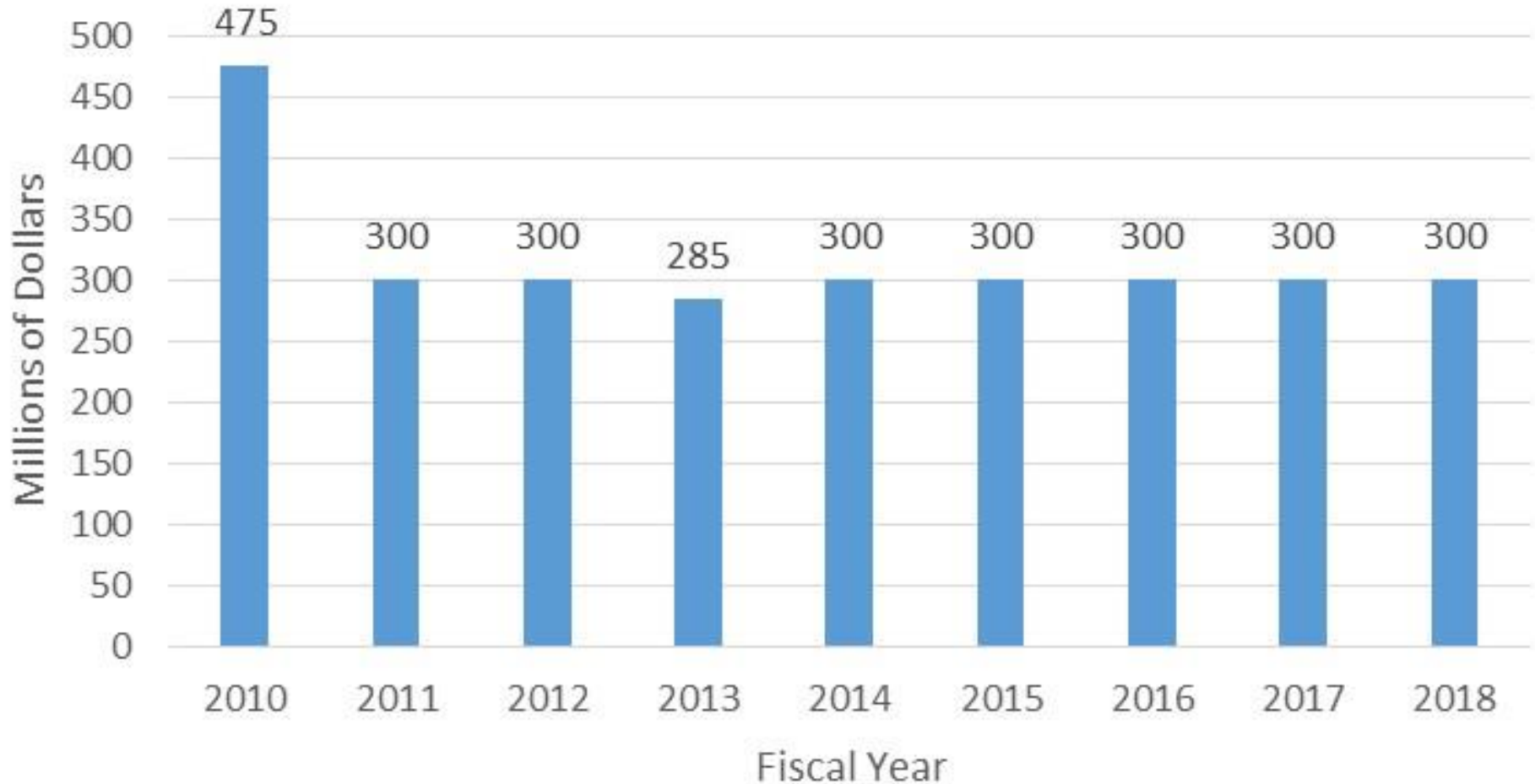
Under the first approach, we summed the best available estimates of the various individual benefits the GLRC Restoration Strategy could be expected to generate—additional tourism, fishing and recreation, benefits to property owners from cleaning up

Great Lakes Restoration Initiative

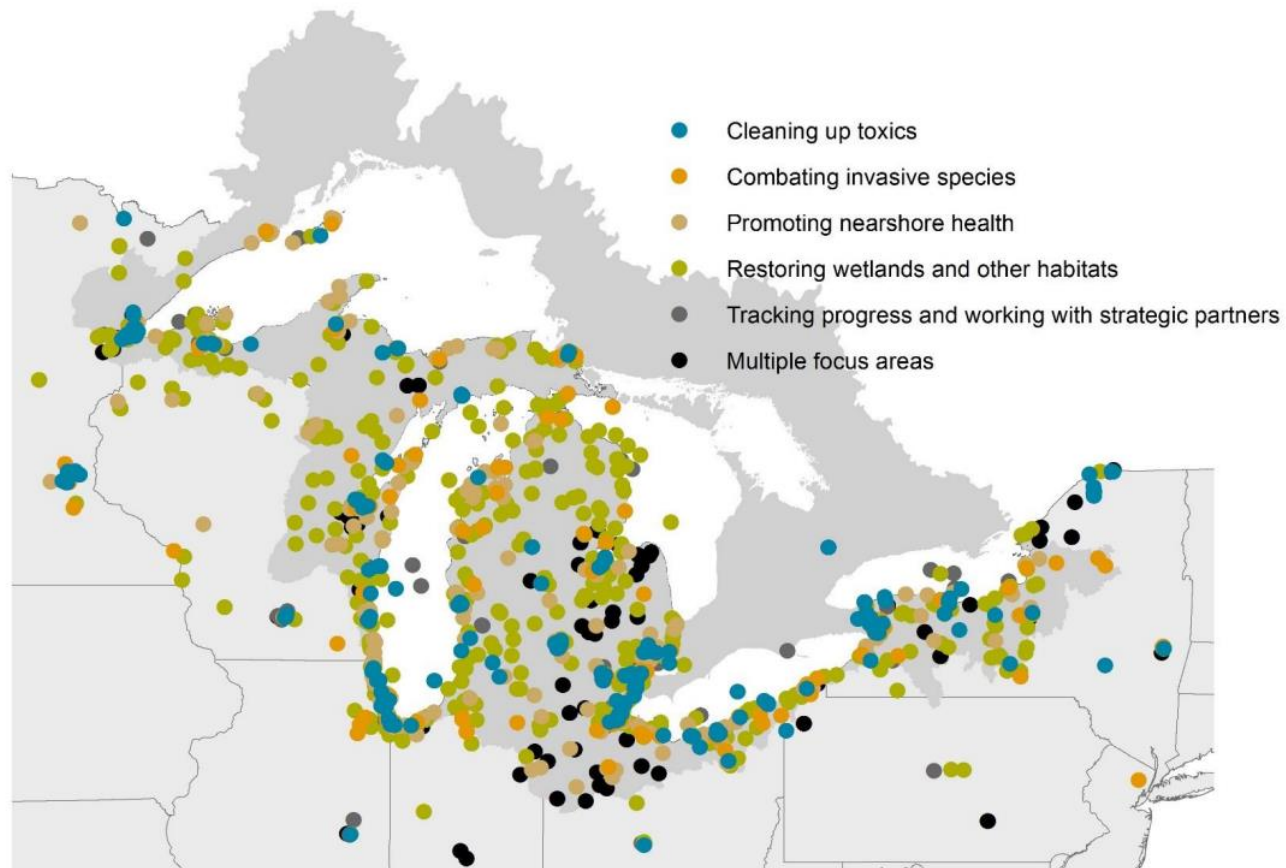


Great Lakes Restoration Initiative (GLRI)

GLRI Funding History



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

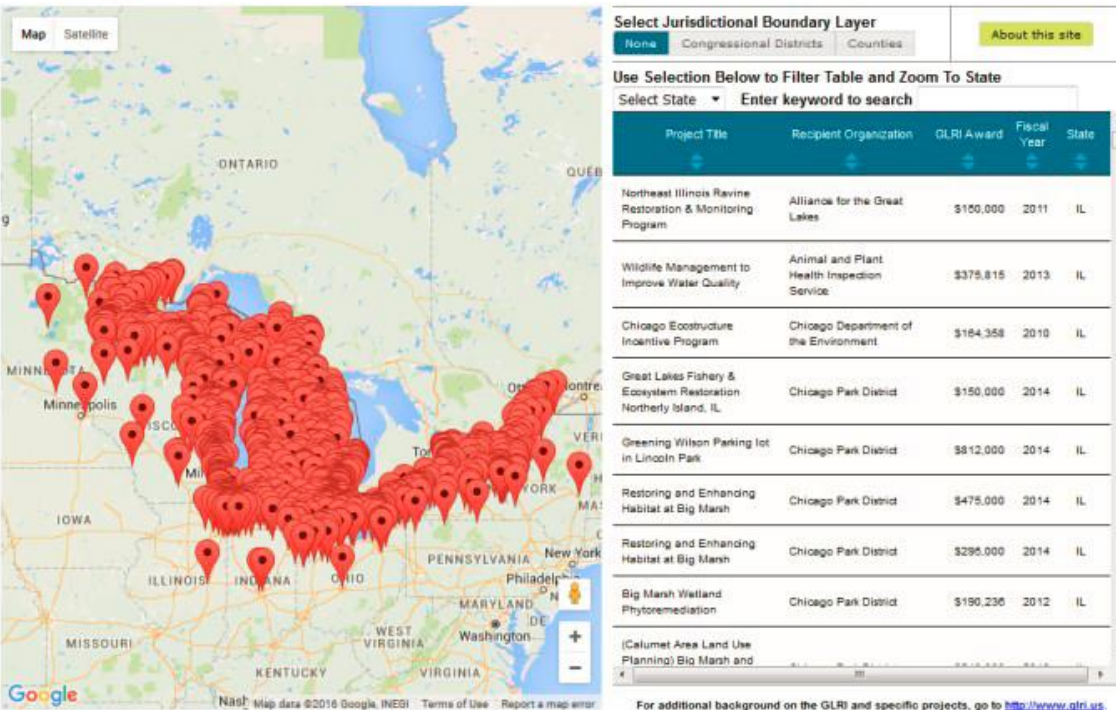
Source: GLRI Action Plan II (available at www.glri.us)

GLRI at Work in Illinois

Great Lakes Restoration At Work

Great Lakes Restoration Initiative Projects, FY 2010-2017

- Illinois enjoys a **63-mile** stretch of Lake Michigan shoreline
- **\$267 million** in GLRI funds to **193 projects** through FY17



For additional background on the GLRI and specific projects, go to <http://www.glrmap.org>

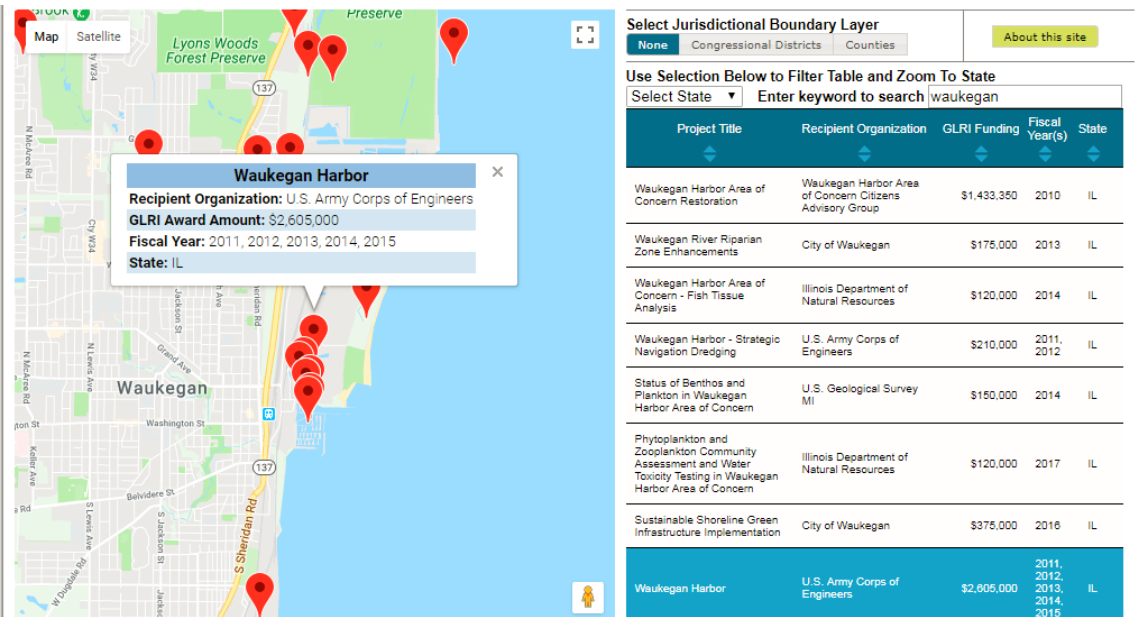
www.glrmap.glc.org

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 MUSSELS

"THE SILENT STRANGLER"

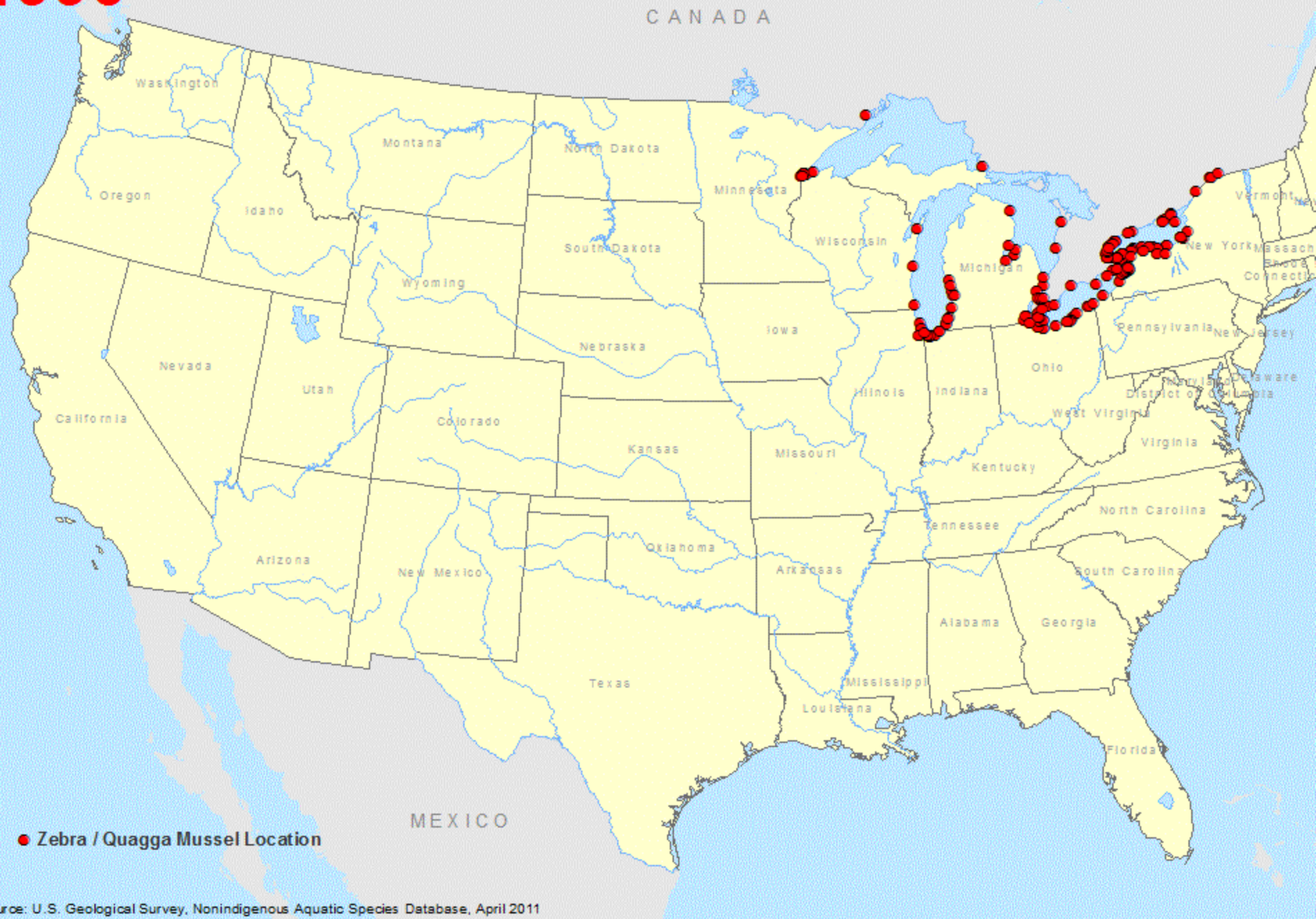


Image: The Nature Conservancy

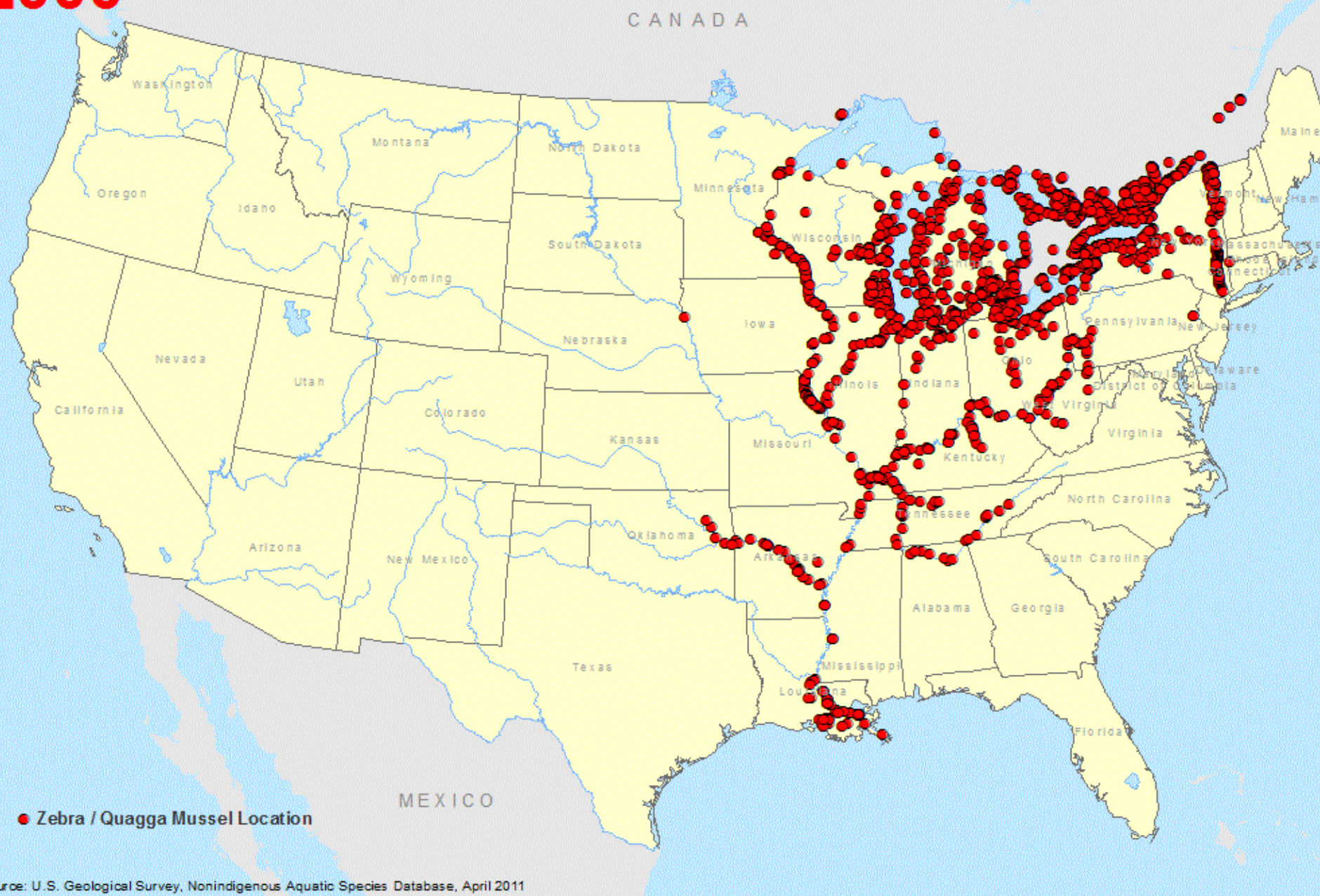
1986



1990



2000



Source: U.S. Geological Survey, Nonindigenous Aquatic Species Database, April 2011

Zebra and Quagga Mussel Sightings Distribution

Dreissena polymorpha and *D. rostriformis bugensis*



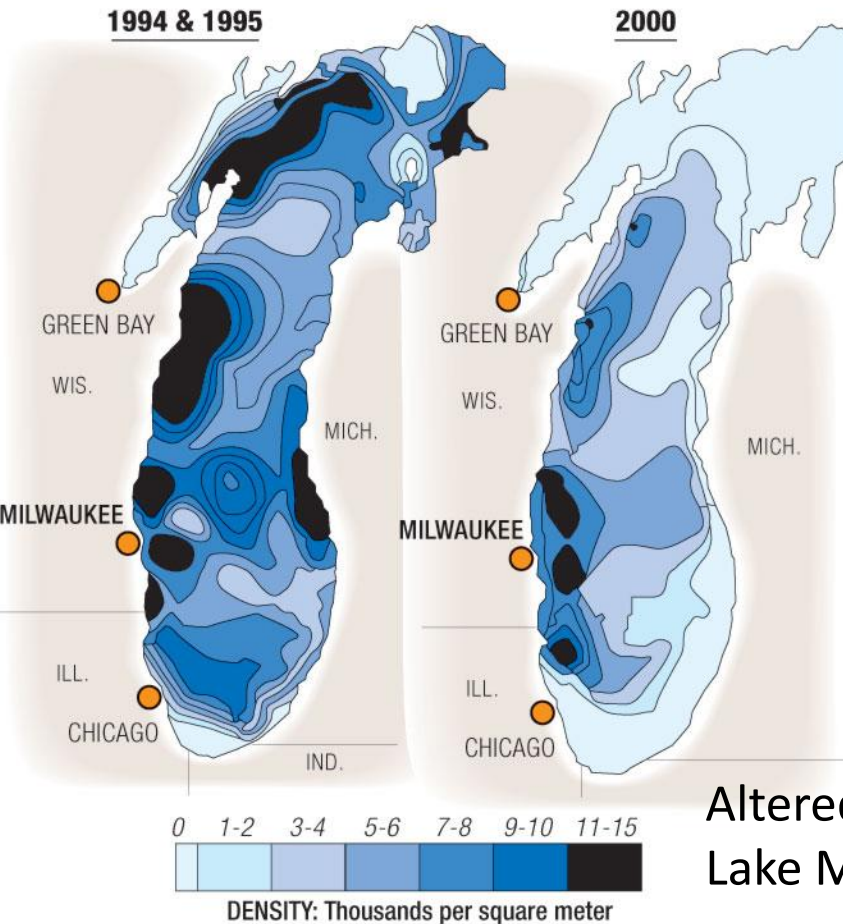
- Zebra mussel occurrences
- Quagga mussel occurrences
- Both species occurrences
- Zebra/Quagga mussels eradicated
- Zebra/Quagga mussels failed

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.



Altered food Web
Lake Michigan



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



[Source: Toledo Blade]

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



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

Brandon Rd Lock and Dam and the USACE Tentatively Selected Plan (TSP)



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

A scenic view of Lake Erie at sunset or sunrise. The sky is a mix of soft pinks, purples, and blues. The water is calm and reflects the colors of the sky. In the foreground, there are large, dark rocks that appear to be part of a shoreline. The overall mood is peaceful and serene.

- Drinking Water -
11 million people,
3 million in Ohio
- Tourism and
Travel - \$11.5
billion in revenue
per year



Beach Advisories



LIVE
ON FIVE

SWIMMING ADVISORY OFF EDGEWATER BEACH
RAW SEWAGE DUMPED INTO LAKE ERIE BECAUSE OF HEAVY RAIN



5:48 75°



Opinion

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Could we be Toledo'd in Wisconsin?



Associated Press

A sample glass of Lake Erie water is photographed near the City of Toledo water intake crib on Aug. 3 in Lake Erie,

ACROSS THE BOARD



The Journal Sentinel Editorial Board's blog on the day's happenings as they happen.

- > Court of Appeals gets it right in resident ruling (30)
- > Chat with Christian Schneider - today a.m.
- > Alberta Darling's crocodile tears over state budget (15)

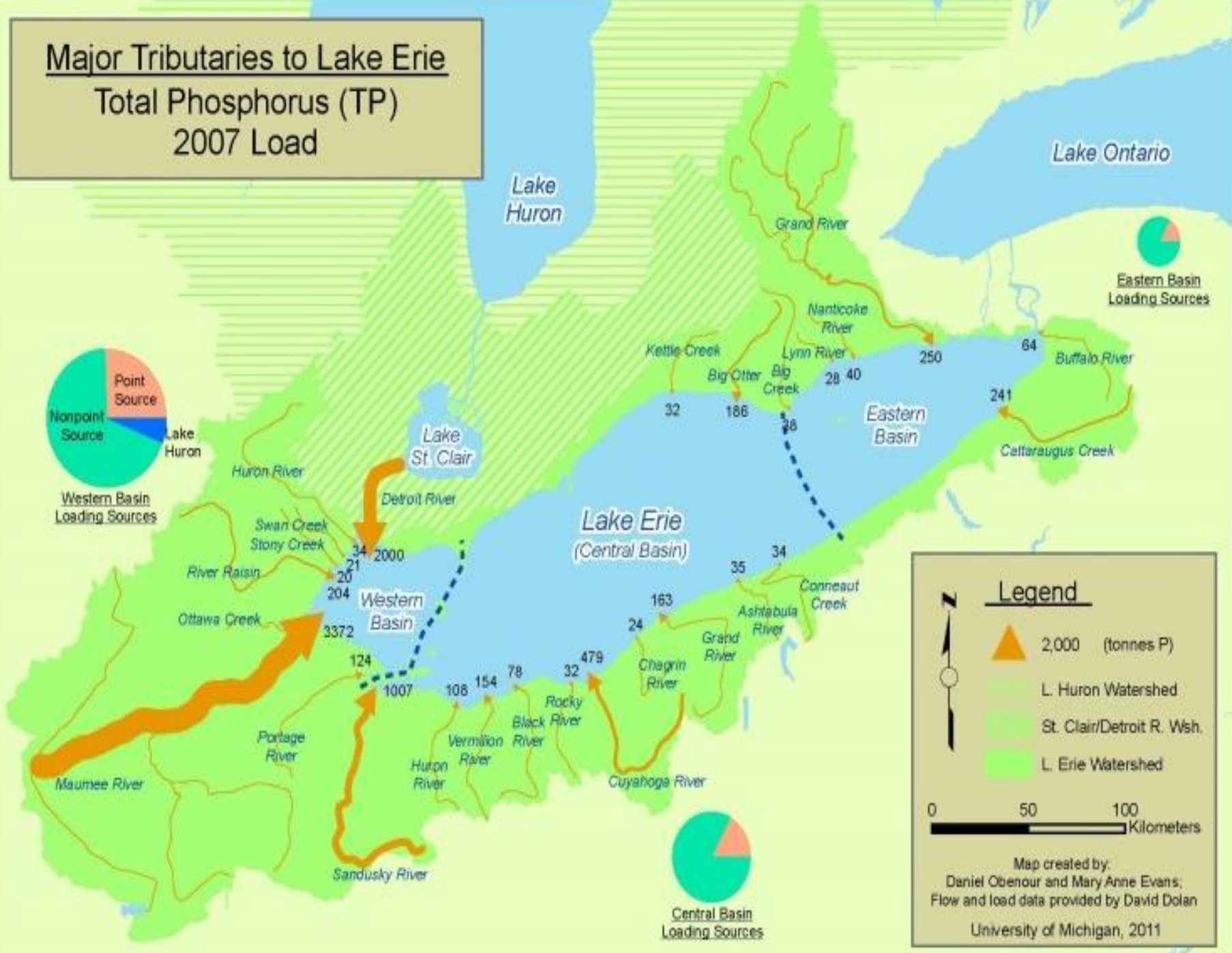
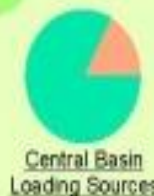
[View All Blog Posts](#)



Boomers Next Step Ranch

[Click to take a New Home Tour](#)

Major Tributaries to Lake Erie Total Phosphorus (TP) 2007 Load



Legend

- ▲ 2,000 (tonnes P)
- L. Huron Watershed
- St. Clair/Detroit R. Wsh.
- L. Erie Watershed

0 50 100 Kilometers

Map created by:
Daniel Obenour and Mary Anne Evans;
Flow and load data provided by David Dolan
University of Michigan, 2011

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