

A satellite map of the Great Lakes region in North America. The five Great Lakes (Superior, Michigan, Huron, Erie, and Ontario) are visible as dark blue bodies of water. The surrounding land is covered in green vegetation, with some areas showing brownish-orange, possibly indicating autumn foliage or bare ground. The text is overlaid in the upper right corner.

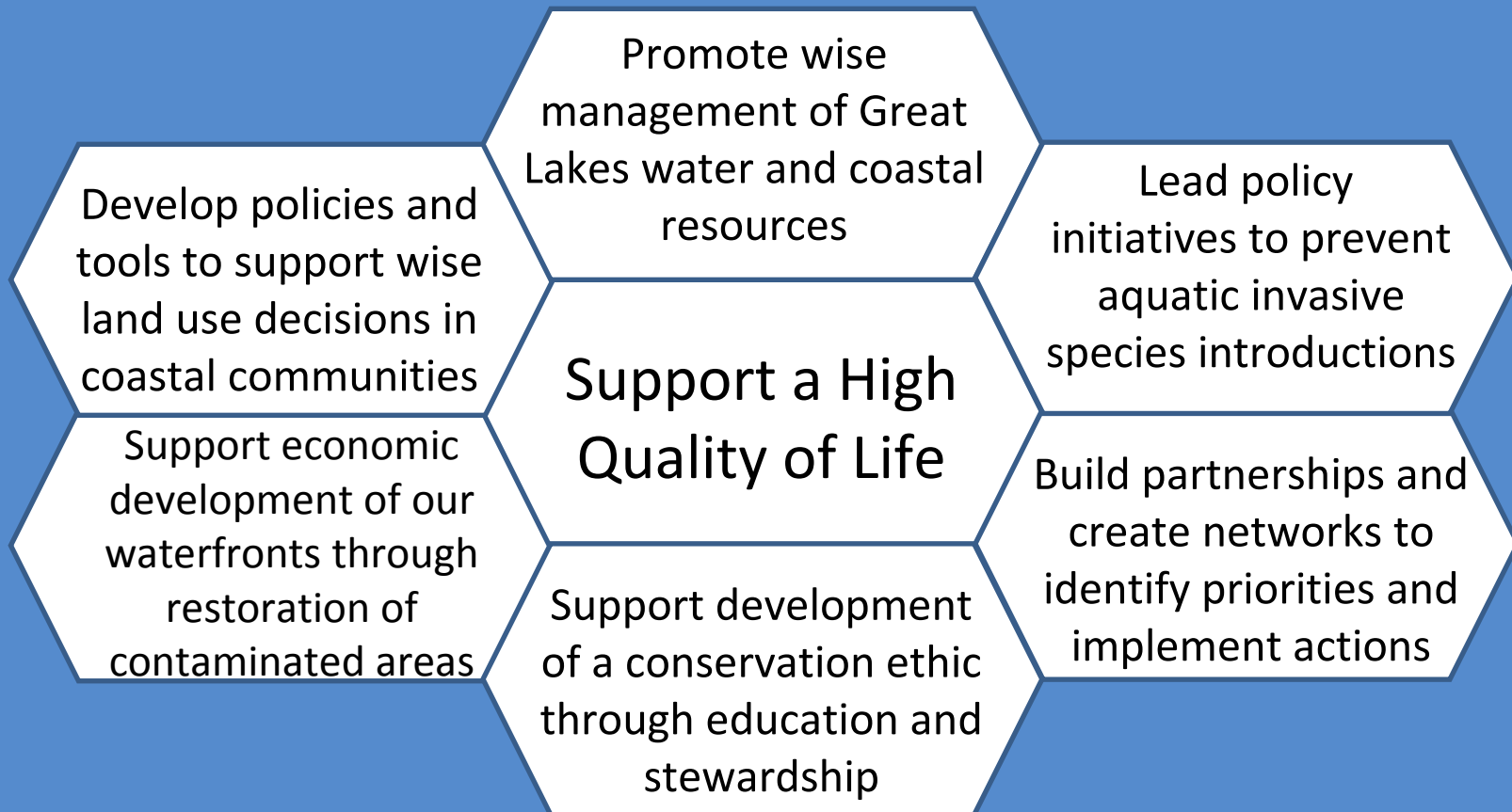
Patty Birkholz
Director
Office of the Great Lakes

Office of the Great Lakes



- Great Lakes Restoration and Protection Policies
 - Lakewide Management Plans
 - Review Diversion Proposals
 - Regional Great Lakes Forum
- Coordinating Restoration for Areas of Concern
- Aquatic Invasive Species Prevention Policy
- Coastal Management Program Grants





➤ **Participates in Great Lakes regional and international policy forums:**

- Great Lakes Commission, Executive Committee
- International Joint Commission
- Council of Great Lakes Governors
- Binational Executive Committee
- Asian Carp Regional Coordinating Committee

➤ **Great Lakes Water Use:**

- Great Lakes Compact
 - Consider proposals to divert water outside the Basin
 - In state water withdrawals
 - Water Withdrawal Assessment Tool National Awards: ECOS, CSG, Renewable National Resources Foundation



Michigan Coastal Management Program

- National Coastal Program authorized by the federal Coastal Zone Management Act in 1972
- Administered by the NOAA, in partnership with coastal states
- Michigan's appropriation \$2.5 million
- Competitive grants: \$1 million
- Environmental protection: \$1.5 million



Coastal Management Program

Preserving maritime heritage - \$1m in lighthouse restoration



Developed 7 regional Greenway and Blueway plans



Over \$1m invested to revitalize Detroit's waterfront



Protecting coastal resources by acquiring over 3100 acres with 25,000 feet of shoreline



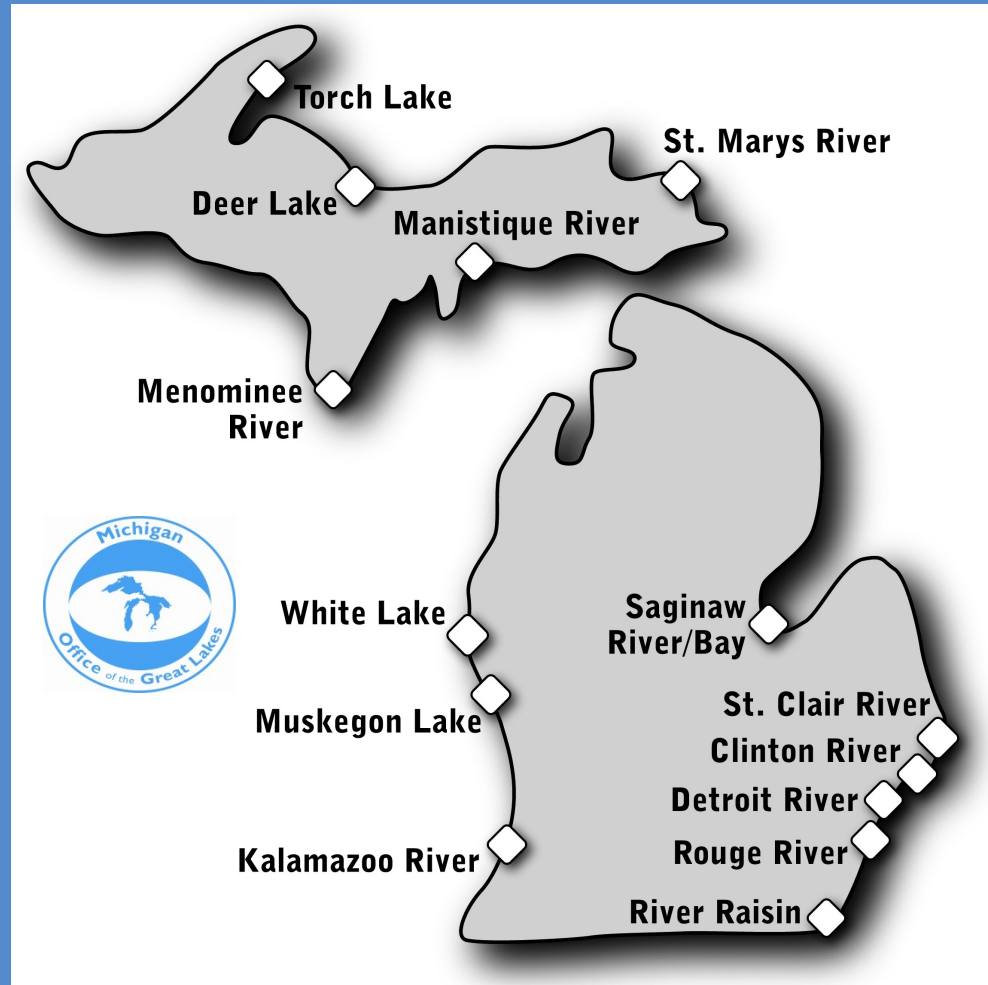
Oversee Ballast Water Reporting:

- The DEQ requires vessels operating on the Great Lakes and the St. Lawrence River to report on use of ballast water management practices to prevent the introduction of aquatic invasive species

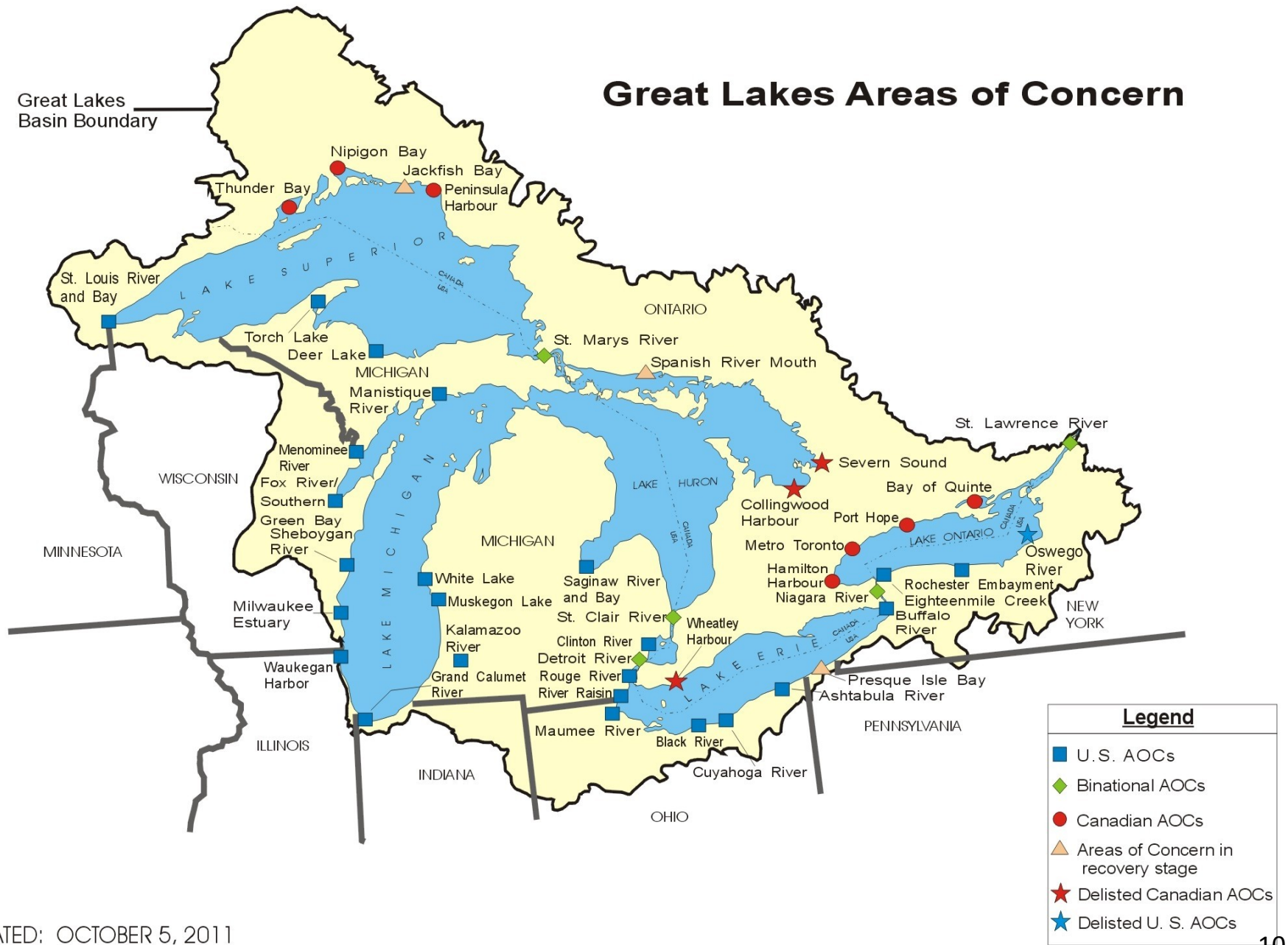


- The Office of the Great Lakes maintains the list of vessels reporting

Michigan's 14 Areas of Concern



Great Lakes Areas of Concern



UPDATED: OCTOBER 5, 2011

Muskegon Lake Area of Concern Restoration



- Transforming from “toxic hotspot” to natural resource focused, recreation and tourism hotspot.
 - Improve and increase habitat for native fish and wildlife
 - Act as catalyst for local investment and economic recovery
 - Enhance tourism through natural resource based recreational opportunities such as fishing, hunting, kayaking
 - Improve overall quality of life for area residents
- 6 to 1 investment return over 10 years

Great Lakes Restoration Initiative

- Just over \$1 billion appropriated since 2010
- \$300 million for 2012 GLRI
 - Distributed among 16 Federal Agencies
 - Cleaning up toxics and Areas of Concern
 - Combating invasive species
 - Promoting nearshore health
 - Restoring wetlands and other habitats

GLRI Funding

Since 2010 –

- More than 700 GLRI projects underway
- Michigan received over \$153 million in GLRI funding for more than 280 projects and programs
- State Agencies received \$31.5 million for 52 projects and programs.
- DEQ received over \$21 million for 32 projects and programs

Asian carp





Economics – A Macro View

- 1.37 million anglers and hunters in Michigan spend \$9.4 million per day
- Total spending \$3.4 billion
- Anglers and hunters:
 - Support more jobs than U of M (46,000 vs. 38,000)
 - Annual spending double that of La-Z-Boy (\$3.4 billion vs. \$1.9 billion)
 - Annual spending greater than top five agricultural commodities (\$3.4 billion vs. \$2.9 billion)
 - More residents fish and hunt in Michigan than attend Detroit Pistons games (1.37 million vs. 905,000)

Economics – A Macro View

➤ What does it all mean?

➤ Jobs	46,000
➤ Salaries and wages	\$1.7 billion
➤ Federal taxes	\$406 million
➤ State and local taxes	\$378 million
➤ Ripple effect	\$5.9 billion

➤ Fisheries Division:

➤ Game and Fish Fund	\$16 million
➤ Federal D-J dollars	\$9 million

Bighead carp and Silver carp

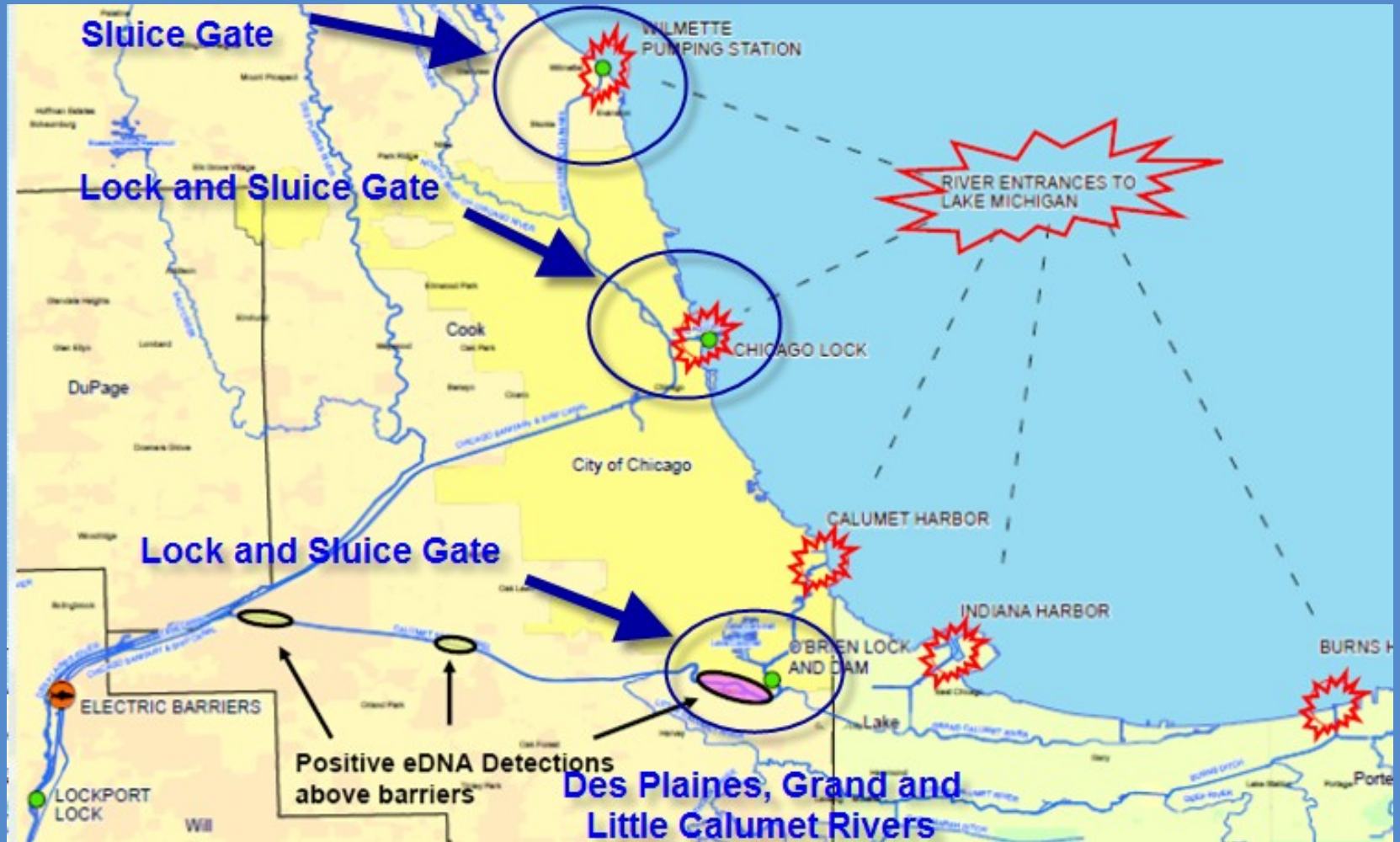


Bighead carp grow up to five feet long and 110 pounds; can eat 40% of their body weight daily



Silver carp grow up to three feet long and 60 pounds; are known for leaping from the water and severely injuring boaters

Chicago Waterway System

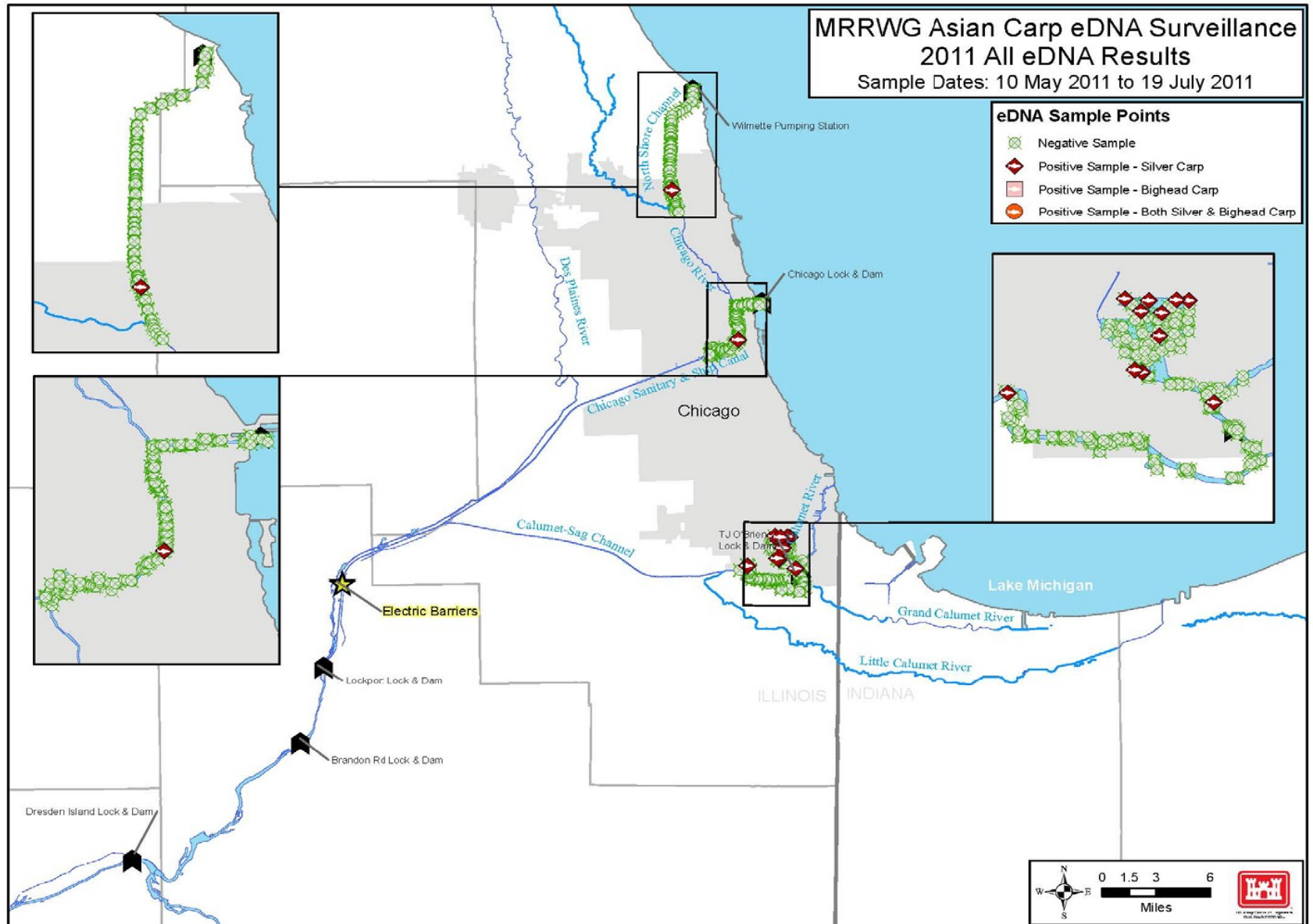


MRRWG Asian Carp eDNA Surveillance 2011 All eDNA Results

Sample Dates: 10 May 2011 to 19 July 2011

eDNA Sample Points

-  Negative Sample
-  Positive Sample - Silver Carp
-  Positive Sample - Bighead Carp
-  Positive Sample - Both Silver & Bighead Carp



On May 24, 2011, a Missouri man on a paddlefish snagging trip at Lake O' the Ozarks snagged and landed a record 106-pound bighead carp.



RESTORING THE NATURAL DIVIDE

SEPARATING THE
GREAT LAKES AND
MISSISSIPPI RIVER BASINS
IN THE CHICAGO AREA
WATERWAY SYSTEM

JANUARY 2012 // GREAT LAKES COMMISSION
GREAT LAKES AND ST. LAWRENCE CITIES INITIATIVE



Purpose and Goals

Develop options to separate the Great Lakes from the Mississippi River watershed that will

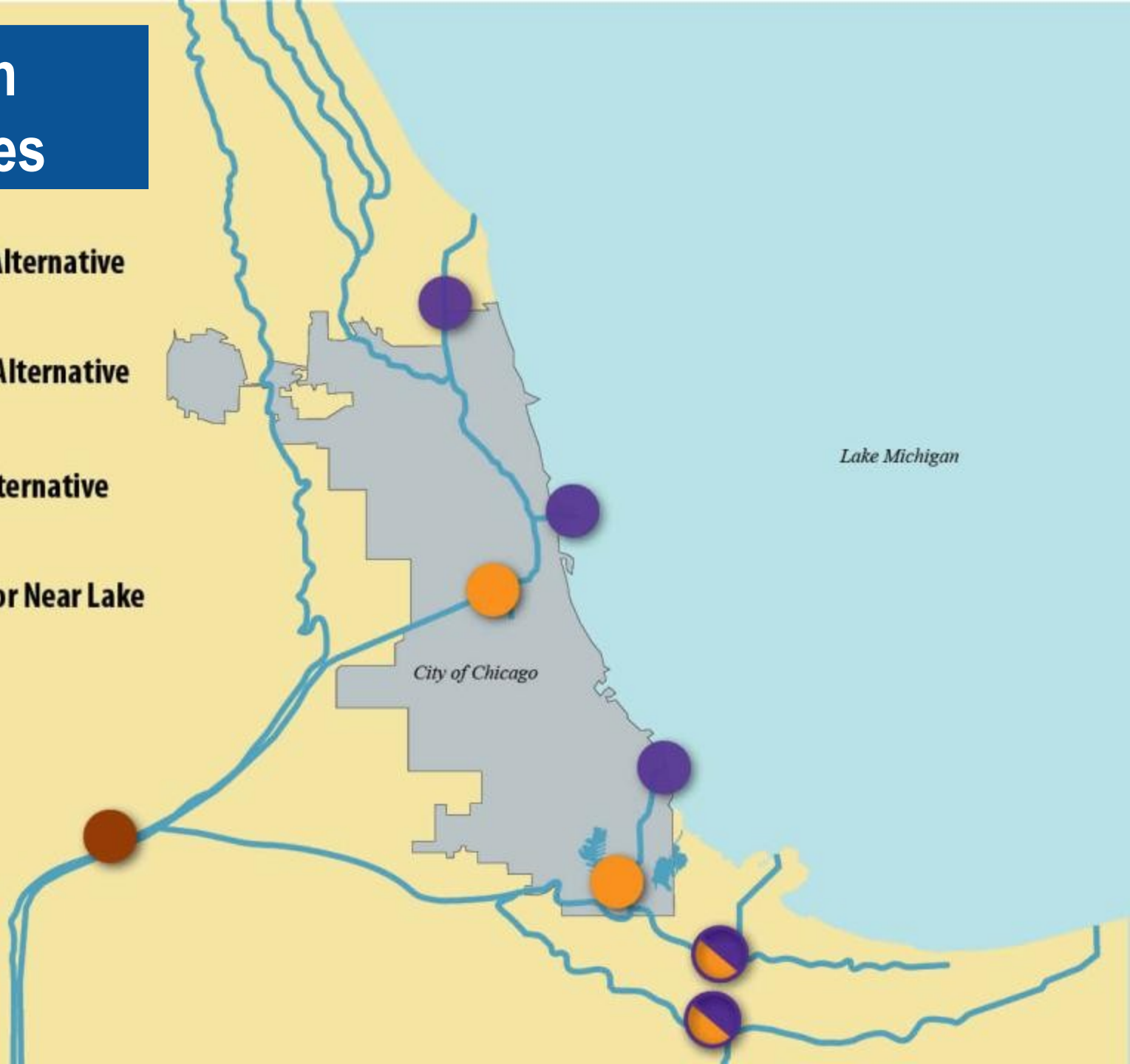
- PREVENT movement of Asian carp and other AIS
- IMPROVE transportation
- IMPROVE water quality
- IMPROVE stormwater, flood management

...in the Chicago area

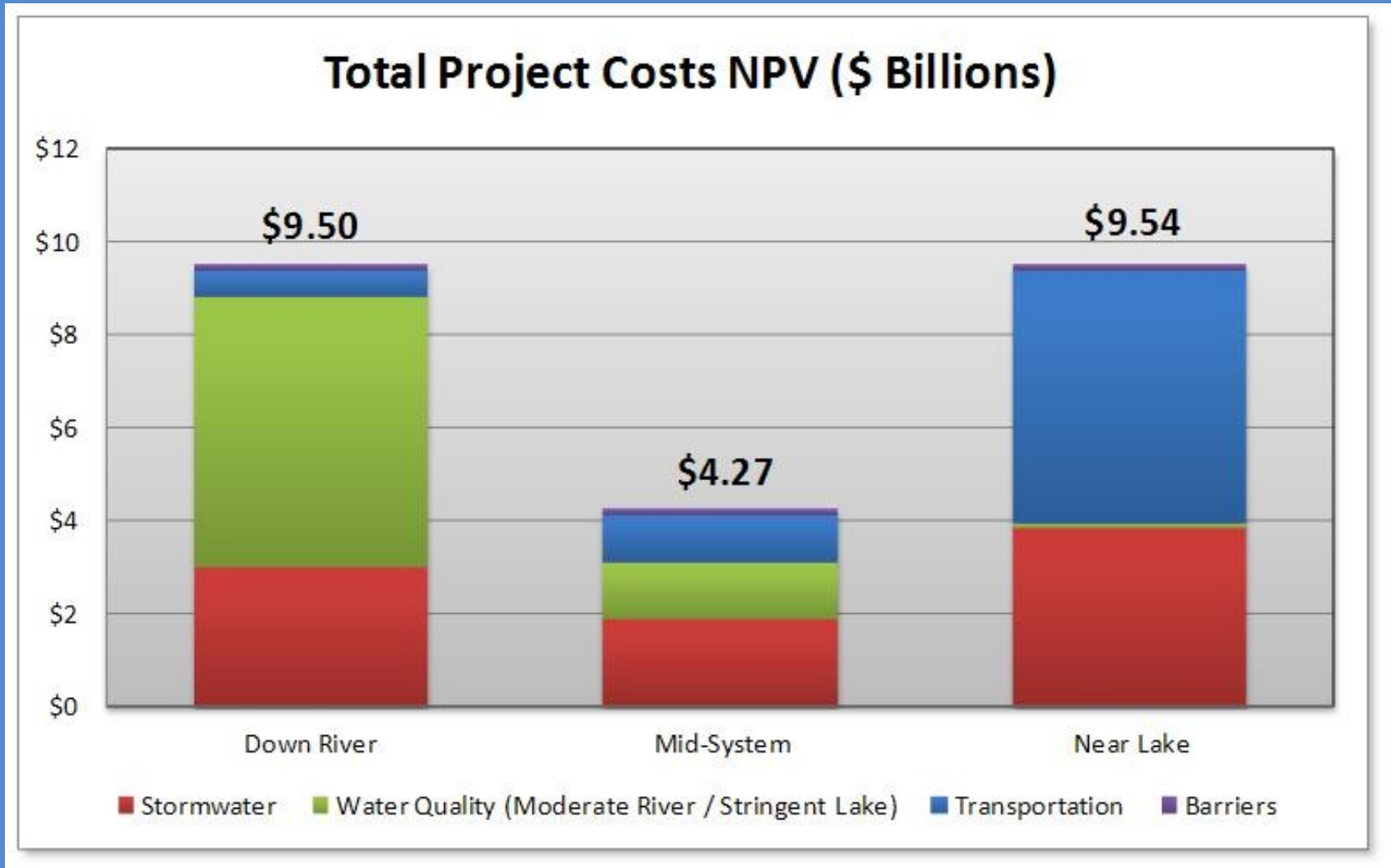


Separation Alternatives

-  **Down River Alternative**
-  **Mid-System Alternative**
-  **Near Lake Alternative**
-  **Mid-System or Near Lake Alternative**



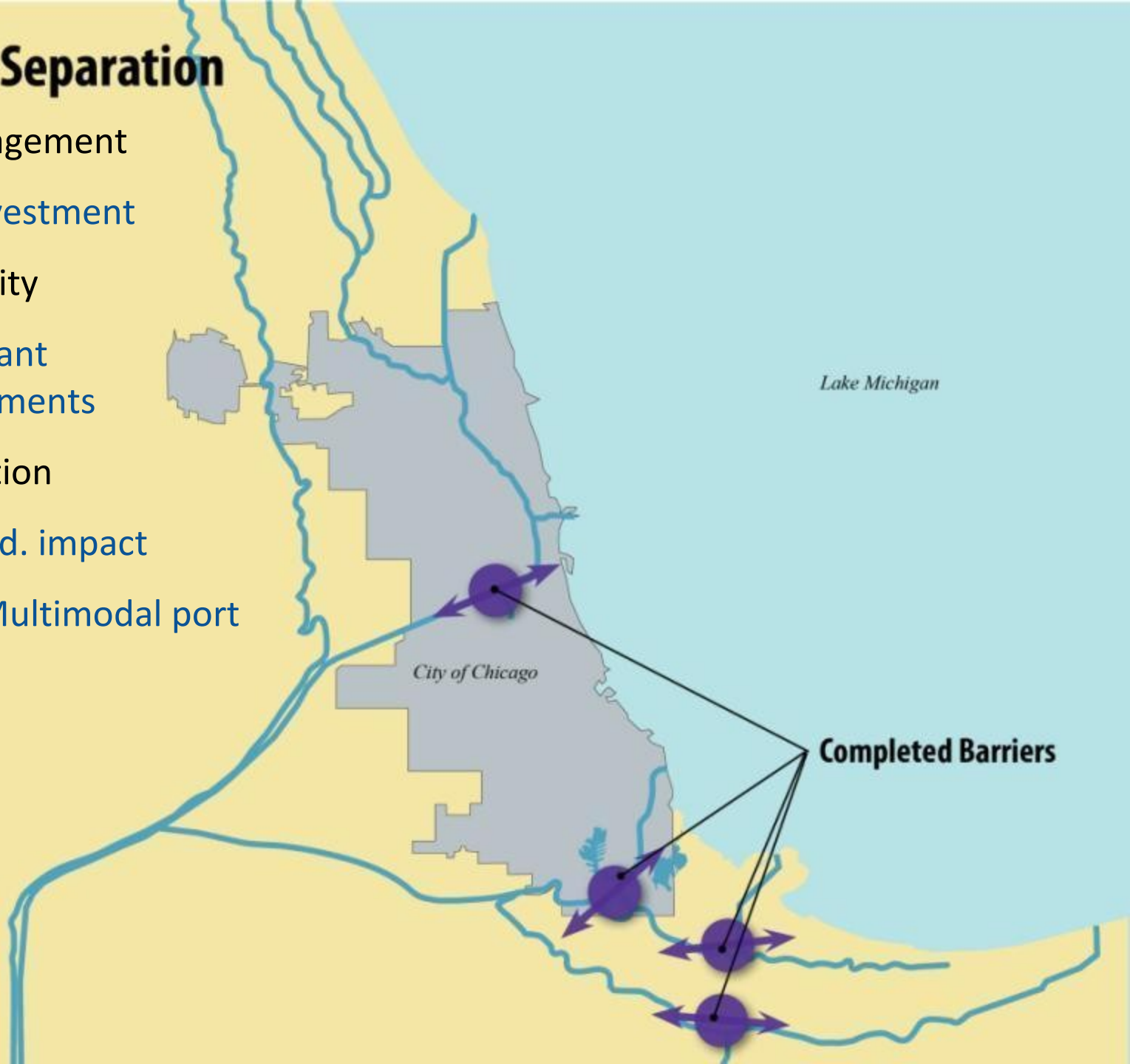
Total Project Investments* by Alternative



*Median Values with 3% Discount Rate

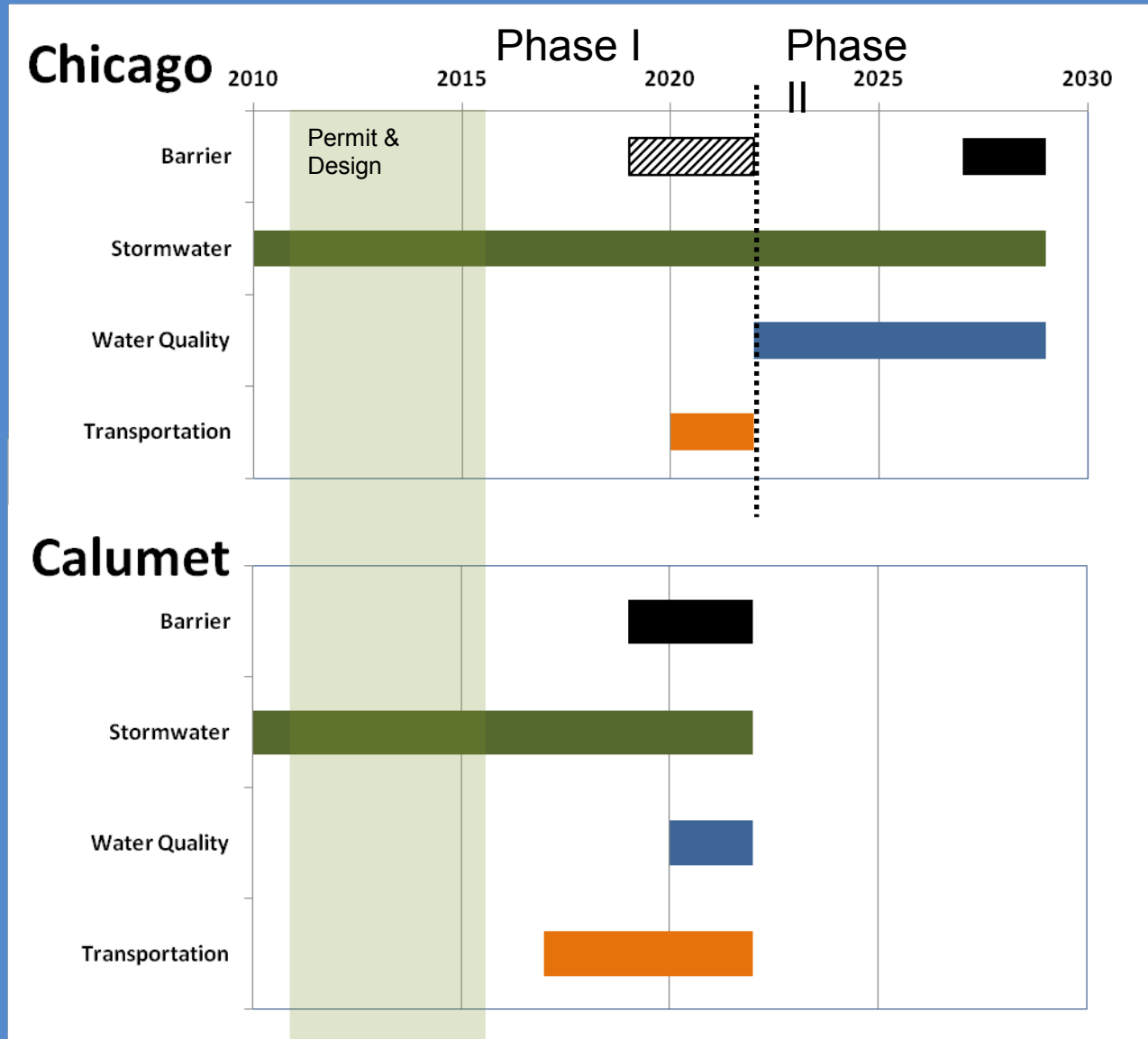
Mid System Separation

- Flood Management
 - Least investment
- Water Quality
 - North plant improvements
- Transportation
 - North: ltd. impact
 - South: Multimodal port



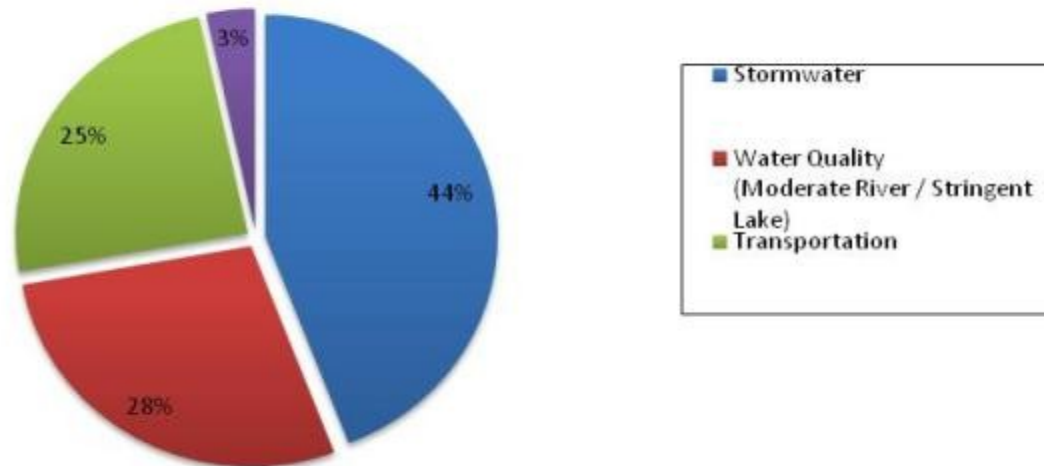


Mid-System Alternative Timeline



Mid-System Alternative Project

Mid-System Project Cost Breakdown
3% Discount Rate



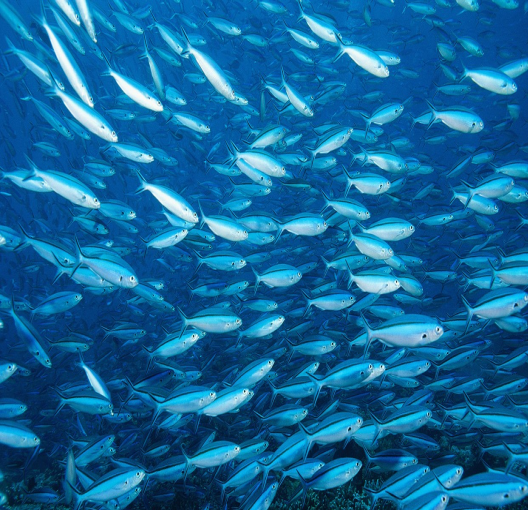
Flood Management	\$1.89 billion
Water Quality	\$1.20 billion
Transportation	\$1.04 billion
Barrier	\$140 million
Total	\$4.27 billion

Project Benefits

- **Almost no risk of AIS transfer through the CAWS**
- **Transportation**
 - new cargo potential, reduced train and automobile delay
- **Water quality**
 - Boyle (2008): The value of disinfection at all three WWTPs in the CAWS was found to be about \$47 per household per year, or about \$1 billion over 20 years
- **Improved Flood Protection**
- **Costs Avoided**
 - Annual Lock O&M Costs
 - AIS-Related Research/Prevention Costs
- **Employment impact**
 - Between 140,000 and 360,000 person-years over the full project lifecycle, or on average about 2,900 to 7,500 person-years annually (depending on the alternative)

What Next?

- Briefings for Decision makers
- Mayor Emanuel's plans – “recreational frontier”
- Corps (GLMRIS) and MWRD
- Millennium Reserve and Port of Illinois



"My Great Lakes
Bucket List"



Office of the Great Lakes Priorities



- Issues facing the lakes are increasingly complex, have broad economic, social, and environmental effects and will require persistence and collaboration
- Continued support for match funds for ecosystem based restoration of our Great Lakes and coastal resources
- Support for continued protection of our Great Lakes water resources





