GREAT LAKES COMMISSION SEMIANNUAL MEETING

March 4-5, 2014 • Washington, D.C. • Hamilton Crowne Plaza
1- Agenda – p. 3

2- Minutes – p. 6

3- Action Items – p. 32

4- Legislative Priorities – p. 42

5- Speaker Topics – p. 47

6- Workplan Update – p. 78

7- Reference – p. 95
DRAFT AGENDA (Updated 2/21/14)

Great Lakes Commission 2014 Semiannual Meeting

March 4-5, 2014
The Hamilton Crowne Plaza Hotel • 14th and K Street NW; Washington, D.C. 20005

Tuesday, March 4

All times are EST

11:00 a.m.  Registration  Hamilton Ballroom

1:00 p.m.  Call to Order, Opening Remarks  Ken Johnson (WI), Chair

1:10 p.m.  Roll Call  Tim Eder, Executive Director

1:20 p.m.  Report of the Chair and Executive Director  Ken Johnson, Chair
  - Approval of final agenda
  - Approval of minutes from 2013 Annual Meeting

Tim Eder, Executive Director

2:00 p.m.  Invasive Species and Chicago Waterways – the Path Forward  Moderator: Marc Miller, Illinois DNR
  - John Goss, White House Council on Environmental Quality
  - Joel Brammeier, Alliance for the Great Lakes
  - Kay Nelson, Northwest Indiana Forum

3:30 p.m.  Break

3:45 p.m.  Business of the Great Lakes Commission  Ken Johnson, Chair

Presentation of resolutions and action items

4:15 p.m.  Observer Comments  Great Lakes Commission’s Official Observers

5:15 p.m.  Adjourn

5:30 – 7:30 p.m.  Reception  Hamilton Ballroom Foyer

Sponsored by:
- PROJECT: ICE
- Environmental Consulting & Technology, Inc.
Wednesday, March 5

7:00 a.m.  Continental Breakfast
           Hamilton Ballroom

8:00 a.m.  Call to Order
           Ken Johnson, Chair

8:00 a.m.  Keynote
           Dr. Mark Schaefer, NOAA Assistant Secretary for Conservation and Management

8:30 a.m.  Progress report: Monitoring and Accounting of the Great Lakes Water System
           Paul Seelbach, Senior Science Adviser

8:45 a.m.  Oil Transportation in and through the Great Lakes – St. Lawrence River Region
           Moderator: Eric Marquis, Government of Québec
           - Susan Christopherson, Cornell University
           - John Felmy, American Petroleum Institute

10:00 a.m. Break

10:15 a.m. Keynote Address
           “Bipartisanship and Great Lakes priorities”
           Steven LaTourette, former Member of Congress (R-OH) and Chair, Northeast Midwest Institute

11:00 a.m. Business of the Great Lakes Commission
           Ken Johnson, Chair
           Tim Eder, Executive Director
           Resolutions
           - Interbasin transfer of Asian carp
           - Sustaining GLRI
           - Import/trade of invasive species
           - Federal priorities for 2014

11:45 a.m. Great Lakes Federal Priorities Update
           Matt Doss, Erika Jensen
           Preparation for Great Lakes Day and Hill meetings

11:55 a.m. Invitation to 2014 Annual Meeting
           New York Delegation
           Sept. 29-30 in Buffalo, NY

12:00 p.m. Adjourn for Great Lakes Day Lunch
           Ken Johnson, Chair
Great Lakes Day
Draft Agenda: February 21, 2014

All times are EST

Wednesday, March 5

8:00 a.m.  Great Lakes Commission (GLC) Semiannual Meeting
Hamilton Ballroom, Hamilton Crowne Plaza Hotel

10:00 a.m.  Healing Our Waters® - Great Lakes Coalition (HOW) Issue Briefings
Sphinx Grand Ballroom, Almas Temple (Adjoining the Hamilton Crowne Plaza Hotel)

12:45 p.m.  GLC and HOW Joint Lunch
Sphinx Grand Ballroom

1:15 p.m.  GLC and HOW Joint Session: Working Together to Protect the Great Lakes
Sphinx Grand Ballroom
  •  Welcome from GLC and HOW
  •  Partnership-based Solutions to Improve Water Quality and Enhance Conservation
    o  Introduction
      Moderator: Gildo Tori, Ducks Unlimited
    o  Implementation of the new Farm Bill Regional Conservation Partnership Program
      Tina May, Chief of Staff to Deputy Secretary Krysta Harden, U.S. Department of Agriculture
    o  Reducing runoff to Green Bay and the Fox River phosphorus trading program
      Speakers TBA

2:15 p.m.  Keynote Speaker: Gina McCarthy, Administrator, U.S. Environmental Protection Agency
Sphinx Grand Ballroom

3:00 p.m.  HOW Preparation for Congressional Office Visits
Almas Temple

GLC and HOW Congressional Office Visits
Capitol Hill

6:00 – 8:00 p.m.  Reception Sponsored by Government of Canada and HOW
Canadian Embassy
Advanced registration required: no on-site registration or walk-ins will be accepted. Please bring a government issued photo ID. Please register through the HOW website at http://events.signup4.com/canadianembassyreception2014

Thursday, March 6 – Great Lakes Day

8:15 – 9:45 a.m.  Congressional Breakfast Reception Sponsored by GLC and Northeast-Midwest Institute
Room 902, Hart Senate Office Building
  •  Welcome
  •  Presentation of award to Senator Carl Levin (MI)
  •  Remarks by Members of Congress
Advanced registration required: Please register at http://projects.glc.org/greatlakesday

10:00 a.m. – 5:00 p.m.  Congressional Office Visits
Capitol Hill
Minutes

Attached, for review and approval, are minutes from the Commission’s 2013 Annual Meeting, held Sept. 9, 2013, in Milwaukee, Wis.

Included for your information are minutes of the Board of Directors’ meetings on Aug. 19, Nov. 14 and Dec. 19, 2013; and Jan. 28 and Feb. 13, 2014.
Summary of Actions

1. Approved minutes of the 2013 Semiannual Meeting, held March 5-7, 2013, in Washington, D.C.
2. Approved four resolutions and one action item:
   • Resolution: Priorities for the Great Lakes navigation system in the federal Water Resources Development Act
   • Resolution: Support for Great Lakes offshore wind demonstration (pilot) projects
   • Resolution: Preventing pollution from persistent, bioaccumulative and toxic chemicals in the Great Lakes ecosystem
   • Resolution: Recognizing rivermouths: Places vital to the Great Lakes basin that deserve focused restoration and conservation
   • Action Item: Preparation of an issue brief on the transportation of crude oil in the Great Lakes-St. Lawrence River region
3. Announced dates for the Commission’s Semiannual Meeting and Great Lakes Day in Washington events, March 4-6, 2014, in Washington, D.C.

Minutes

1) Chairman Ken Johnson (WI) called the meeting to order at 8 a.m. on Sept. 9. Johnson welcomed everyone.

2) Senior officials in attendance were recognized including International Joint Commission Commissioners Lana Pollack, Dereth Glance and Gordon Walker. New GLC Commissioners were introduced: Karen May (IL), Sen. Carrie Ruud (MN) and Dean Haen (WI). Tim Eder called the roll and confirmed a quorum. Commissioners present were:

- **Illinois**
  - Todd Main
  - Karen May
  - Stephanie Comer

- **Indiana**
  - Not present

- **Michigan**
  - Jon Allan, Delegation Chair
  - Helen Taylor
  - Peter Manning
  - Sen. Rebekah Warren

- **Minnesota**
  - Lt. Gov. Yvonne Prettner Solon, Delegation Chair
  - Sen. Carrie Ruud
New York  Jim Tierney (via phone)  
          Don Zelazny (via phone)

Ohio  James Zehringer, Delegation Chair  
       Karl Gebhardt  
       Gail Hesse  
       Sen. John Ecklund  
       Jim Weakley

Ontario  Bill Carr, Delegation Chair  
         Sharon Bailey  
         Eric Boysen  
         Sarah Rang

Pennsylvania  Kelly Burch, Delegation Chair  
          Pat Lupo  
          Herb Packer

Québec  Eric Marquis, Delegation Chair  
      Marc Gagnon  
      Louise Lapierre  
      Eve Joseph

Wisconsin  Ken Johnson, Delegation Chair  
         Steve Galarneau  
         Dean Haen

3) Chairman Johnson called for approval of the agenda. A motion to approve was made by Commissioner Prettner Solon (MN), seconded by Commissioner Weakley (OH). The agenda was unanimously approved.

4) Chairman Johnson called for approval of the Semiannual Meeting minutes from March 2013. A motion to approve was made by Commissioner Taylor (MI), seconded by Commissioner Lupo (PA). Commissioner Weakley (OH) had an amendment on page 10: stipulate that approximately $90 million is spent annually on dredging O&M. The minutes, as corrected, were unanimously approved.

5) Chairman Johnson introduced the various action items that will be acted upon by the Commission in the afternoon session.

- **Resolution – Priorities for the Great Lakes navigation system in the federal Water Resources Development Act:** This resolution recognizes the growing dredging backlog on the Great Lakes which is impeding commercial and recreational navigation, causing economic hardship, and increasing risks to human health and safety. The resolution calls on the Great Lakes Congressional Delegation to ensure new WRDA legislation includes provisions that restore, maintain and strengthen the economic vitality of the Great Lakes-St. Lawrence River Navigation System for commercial and recreational transportation, including designation of the Great Lakes Navigation System as a single, integrated system; providing a dedicated authorization for Great Lakes maritime infrastructure; and creating a cost share program for recreational harbors.

  Commissioner Zelazny offered an amendment. In the sixth whereas clause, it should be noted that the Port of Dunkirk, N.Y., is not closed. Zelazny suggests striking this language.

- **Resolution – Support for Great Lakes offshore wind demonstration (pilot) projects:** This resolution recognizes that deployment and operation of wind turbines in the Great Lakes presents unique circumstances that require study and evaluation and research, and a demonstration (pilot) project is the most direct means of assessing potential environmental
impacts, and evaluating economic viability and opportunities for job creation involving offshore wind projects.

- **Resolution – Preventing pollution from persistent, bioaccumulative and toxic chemicals in the Great Lakes ecosystem:** This resolution urges the U.S. Congress to adopt comprehensive national legislation aimed at minimizing human and ecosystem exposure to PBTs through reform of the Toxic Substances Control Act, and urges the U.S. and Canadian federal governments to develop, in consultation with states and provinces, effective programs to prevent pollution from PBTs through Annex 3 of the Great Lakes Water Quality Protocol of 2012 (Chemicals of Mutual Concern).

- **Resolution – Recognizing rivermouths: Places vital to the Great Lakes basin that deserve focused restoration and conservation:** This resolution urges the U.S. Congress and U.S. and Canadian federal agencies to explicitly recognize the ecological importance of rivermouths when funding and administering existing environmental restoration programs and when designing and implementing environmental conservation programs; and urges the Parties to the Great Lakes Water Quality Agreement and the International Joint Commission to explicitly address rivermouths and the future of rivermouth ecosystems and the communities that depend on them as part of implementation of Annex 1 (Areas of Concern) and Annex 2 (Lakewide Management) of the Agreement.

  Quebec proposed an additional whereas clause. The amendment reads as follows: “Whereas, rivermouths are of considerable importance to the maritime economy and contribute to vitality of communities throughout the Great Lakes-St. Lawrence region.” Commissioner Allan suggested a revision of the 7th whereas clause (whereas the health and condition of rivermouth zones…”). Staff will make these edits.

- **Action Item – Preparation of an issue brief on the transportation of crude oil in the Great Lakes-St. Lawrence River region:** The rapid development of the Bakken oil reserves and the Alberta oil sands have created some challenges in areas related to protection of water supplies, the need to maintain and upgrade infrastructure and sewage systems, stresses on government services and especially impacts related to the transportation of crude oil and tar sands from the western fields to the eastern part of the continent. This action item directs Great Lakes Commission staff to prepare an issue brief evaluating the potential economic benefits, risks and options for mitigating risks surrounding the transportation of crude oil in the Great Lakes-St. Lawrence River region.

  6) The report of the Nominating Committee was delivered by Commissioner Main (IL). A call for nominations for chair and vice chair was opened to the floor. No nominations were made. Thus the Nominating Committee nominated Ken Johnson (WI) and Kelly Burch (PA) to serve another year as chair and vice chair, respectively. The motion was made by Commissioner May (IL), seconded by Commissioner Prettner Solon (MN). The motion passed unanimously.

  7) Chairman Johnson delivered his chairman’s remarks. He said that preserving our Great Lakes is truly a national and international issue. GLRI has moved us toward that vision. Wisconsin has made great progress under GLRI. Cleanup of the Sheboygan River AOC and the Kinnickinnic River in Milwaukee would not have been possible with the money flowing through GLRI. The Fox River, the largest freshwater estuary in the world, is another example of a great success story. But we’re not done yet. Green Bay is home to the largest PCB cleanup in the world. Nutrient loading is a huge issue. Partnerships are critically important: federal/state/local. The Great Lakes Commission is a very effective body with an active and engaged Board of Directors.

  8) Tim Eder delivered the executive director’s report. Eder introduced the GLC’s new Sea Grant fellows: Elizabeth Lillard and Margaux Valenti. He discussed the GLC’s federal policy agenda, including funding GLRI, passing comprehensive Great Lakes legislation to authorize GLRI, addressing low water levels by funding dredging, funding waste and drinking water infrastructure,
passing a new Farm Bill, and stopping Asian carp and other aquatic invasive species. GLRI funding for FY14 is expected to be between $210-300M. The GLC is leading efforts to get the states and provinces to speak with a united voice, as well as partnering with business and industry, and nongovernmental partners. Water Resources Development Act (WRDA) issues include: designating the Great Lakes navigation as a single “system”; Harbor Maintenance Trust Fund reform; and maintenance and dredging of recreational harbors. Key invasive species issues include Lacey Act reform, Internet sales of AIS, ballast water collaboration, and Asian carp threatening to migrate into the Great Lakes via the Chicago Area Waterway System. The GLC continues to push for physical separation of the Great Lakes and Mississippi watershed to prevent the Asian carp invasion. The USACE Great Lakes and Mississippi River Intrabasin Study (GLMRIS) report is expected to present separation as a viable alternative. Tim discussed the Fox P Trade project, which is an innovative demonstration project applying water quality trading in the Lower Fox River in Wisconsin. This project is a partnership between the GLC, USDA and the Wisconsin Dept. of Natural Resources. Tim discussed the Great Lakes rivermouths primer and the distinct ecosystem function of Great Lakes rivermouths. Rivermouth ecosystem services have changed considerably over the past several hundred years. Lastly, the GLC is organizing a “Great Lakes Ports and Regional Growth” conference, to be held Nov. 18-19, 2013, in Chicago.

Chairman Johnson introduced Dan Duchniak, general manager of the Waukesha Water Utility. Mr. Duchniak provided background on Waukesha, Wis., and the city’s water needs. Waukesha is a community that straddles the Great Lakes basin boundary. The city is within the ground water divide but outside of the surface water divide. Waukesha is growing in diversity; the current population is about 71,000 people. Waukesha water supplies have exceedances of radium. The deep-water wells are 30-80 years old; pumping shallow wells will adversely impact wetland and streams. Waukesha is promoting water conservation efforts. Waukesha’s groundwater supply is not sustainable. Waukesha is requesting 10.1mgd in water withdrawal from Lake Michigan. All water will be returned to the Great Lakes so there would be no impact on water levels. The Waukesha request amounts to 1-millionth of 1 percent of the volume of water in the Great Lakes. Criteria (developed in conjunction with Wisconsin DNR) include environmental impact, public health, implementability, long-term sustainability. The Root River would be the discharge vehicle, which would augment fish passage. Duchniak reported that none of the other water supply alternatives are feasible for Waukesha. The Waukesha proposal will test the Great Lakes Compact and will be precedent-setting. It will set a high standard for other straddling communities to follow.

Q (Zelazny): How does infiltration and inflow (I&I) and consumptive use factor into the return flow to the Great Lakes?
A: Treated water will be part of the returned water to the basin. 16.7mgd is the max water that would be taken on max-demand days. Due to the I&I, there would always be 100 percent return flow to the Great Lakes.

Q (Allan): What does the rehydration of the system look like over time?
A: Extensive modeling has been done and potential benefits to the aquifer. Northern Illinois has similar aquifers that have seen significant rebounds. Once you start getting off the aquifer, the rebounding begins.

Q (Prettner Solon): There are concerns about precedence and the declining water levels on the Great Lakes. Other straddling communities will likely follow with similar proposals. How can Waukesha ensure that it will return 100 percent of the water?
A: Very sensitive to this. Historical data has been examined and extensive modeling has backed up Waukesha’s projections of being able to return 100% return flow.

Q (May): This appears to be the best solution for Waukesha but what is the best solution for the Great Lakes? Who’s looking at the total picture of potential water withdrawals from other straddling communities? Also, what percentage of Waukesha’s water is for drinking water versus industrial use?
A: Does not know what percentage of Waukesha’s water is for drinking versus industrial use.
Q (Gebhardt): Are there any other water intakes along the Root River?
A: No.

Q (Boysen): How many people would be converted to the supplied system?
A: Current service area is 7.8mgd. About 1.1mgd will be added under the new proposal.

Q (Taylor): What are your harshest critics still focused on? What are the sticking points?
A: Service area is still a big issue. Some people believe Waukesha is requesting more water to support sprawl. Return flow: Waukesha will be returning water to the Root River (a tributary), rather than directly to Lake Michigan. There are some flooding concerns. Declining lake levels on Lake Michigan is a continuing concern.

10) Vice Chair Kelly Burch (PA) introduced the state/provincial roundtable, which will focus on innovative programs and experiences in clean water and nutrient management.

**Illinois** (Todd Main): Gov. Quinn announced a Clean Water Initiative in 2012, which takes state revolving loan funds to finance a bond fund. 33 loans have been made thus far to 26 communities. This program has created new jobs. Modernization of the Chicago water system is underway; $40M in new investments. Chicago has a leaky system and currently replaces 42 miles/year. The state would like to increase this to 75 miles/year. Chicago’s water use is decreasing, largely due to water conservation efforts.

**Michigan** (Jon Allan): Michigan instituted a phosphorus ban in fertilizers. This has contributed significantly to reducing P loadings from Michigan tributaries. Michigan’s agricultural environmental assistance programs are increasing. Deriving P reductions from improved farming practices is being successful. In Detroit, a new NPDS permitting process will take effect in 2015. Detroit has performed at or better than its NPDS limits.

**New York** (Don Zelazny): Agricultural and urban sources are being targeted. Hold, slow, reuse. ARRA funds were used to provide innovative grant funding for green infrastructure demonstration projects. NY now allocates a portion of its Clean Water SRF funds for this. This year NY is offering $18M for projects to address impaired streams on its priority list. Part of this funding also goes to educate people how to repair a stream after a major storm event. A Trees for Tribs program is being implemented. This is a simple approach to restore wooded vegetation buffers along NY waterways. NY State passed a law that restricts the use of laundry and dishwasher detergents and lawn fertilizers that have excessive P levels. Rotational grazing and other practices are being implemented.

Q (Johnson): Michigan’s new regulatory limit is .6.
A (Allan): Yes, Detroit is performing better than .6 currently but even a better performance is expected – and for longer time durations – in the future.

Q (Zehringer): Are any sub-surface drainage studies being done to examine how dissolved P is moving through drainage tiles?
A (Main): Illinois does not have any plans at this time, as there’s not a lot of ag operations with these concerns. Michigan and New York will need to confirm.

Q (Bailey): Regarding New York’s report, lessons learned from demonstration projects should be shared so the best practices can be identified. Could the GLC staff assist with this?
A (Zelazny): NY has prepared a detailed guidance manual for the Susquehanna watershed. Zelazny will make this available to the GLC staff to share with other jurisdictions.

Comment (Eder): On the rural side, the Board and staff have talked about pulling together a workshop to share best practices. The GLC also produced a P report in fall 2012, which summarizes many current programs and projects that are being implemented by the states and provinces.
Comment (Allan): The GLWQA Annex 4 workgroup is beginning to move ahead.

11) Commissioner Allan (MI) introduced the panel discussion on “Water Levels and Living With the Lakes.” This session will explore the causes of fluctuating water levels and the various impacts that the levels changes are having on Great Lakes environments and economies. The panel will also explore the Great Lakes as a “managed” system.

Scudder Mackey, Ohio DNR Office of Coastal Management, explained that currently only two of the Great Lakes are regulated (Superior and Ontario). Water level change is driven by climate, inflows and outflows, diversions, consumptive uses, and wind and storm events (short-term). We see seasonal changes in water levels. Lake water levels are climatically driven by seasonal changes in precipitation and evaporation. Evaporation is affected by surface water temperature, wind speed and presence/absence of ice cover. There is more water coming into the lakes from diversions (Long Lac Okoki) than leaving the lakes (Chicago). Glacial isostatic adjustment is also affecting water levels. So essentially, any changes in water levels will be exacerbated in the Georgian Bay area and northern shore of Lake Superior. The International Upper Great Lakes Study examined Lake Michigan-Huron water levels. Possible erosion and increased conveyance in the St. Clair River may be due to dredging and sand mining. No compensating structures have ever been installed in the St. Clair River. The IJC has recommended that further investigation be done to restore Lake Michigan-Huron water levels. The IJC also endorses implementation of a comprehensive adaptive management approach supported by science and monitoring. Climate change is expected to bring increases in storm severity and evaporation.

Panelists included Deborah Lee, U.S. Army Corps of Engineers; Roger Gauthier, Restore Our Water International; and Dan Injerd, Illinois Dept. of Natural Resources.

Q: What is adaptive management?
A (Lee): Adaptive management is a process for adapting to changing conditions based on lessons learned from previous management choices.
(Gauthier): Some of us believe structural options are needed to withstand crisis-response caused by climate change and other factors. More dredging is needed to make up for a significant dredging backlog in the Great Lakes. These are immediate adaptive approaches that are needed.
(Injerd): It’s extraordinarily difficult to address varying and constantly changing needs of the basin and come up with comprehensive regulation plans to manage the system. Lake Michigan is an unregulated lake. Back in the 1980s, high water levels on Lake Michigan were much more problematic. Climate change impacts are potentially much larger than we are even foreseeing.
(Gauthier): When you look at the water balance of the lakes, Michigan-Huron is significantly out of whack. There’s been a continual “below chart datum” for Michigan-Huron. This substantiates that the outlet is increasing (i.e., the conveyance of the St. Clair River has increased 16 percent). Erosion in the riverbed has likely been exacerbated by removing cobble from the St. Clair River bottom, exposing clay. Gauthier applauded the IJC for suggesting that a study of the St. Clair River is needed.
(Lee): Installing compensating works in the St. Clair River would be a long process. Both countries would need to agree that compensating works are necessary. Lee said the Upper Great Lakes Study suggested that this process could take 10-15 years, and perhaps as long as 25 years.
(Gauthier): Adaptive structures would be optimal so as not to increase flooding upstream. Gauthier thinks the work could be done in 5-7 years. Initial relief would happen in 3-5 years. Further relief would occur in 7-10 years. Just as a benchmark, Lee said it has taken 7-10 years for a Lake Ontario regulation plan to reach the public comment period stage so a similar plan for the St. Clair River would take this long or longer.

Q: How do you think lower lake communities (St. Lawrence River, etc) would respond to a regulation plan for the St. Clair River to hold some of the water back?
A (Injerd): This dredging activity in the St. Clair River happened over 50 years ago. If compensation had happened back in the 1960s, the flooding in the 1980s on Lake Michigan might have been much worse. The uncertainty of how climate change will impact the future is a big question mark. Do we want someone to control the water levels on Lakes Michigan-Huron? We also have to look at ecosystem impacts. Do we think we know what the optimal water levels are?

(Gauthier): For the last 4,600 years, the lake levels have been relatively stable. The outlet through the St. Clair River, however, has changed.

(Mackey): Fixed water levels are not helpful because they limit biodiversity and productivity.

Q: Is maintaining inherent fluctuations a good process for the Great Lakes?
A: The panel concurs.
(Gauthier): Through structural options, we want to eliminate extremes.
(Allan): We want to get to a point where we’re comfortable living within the range of water level fluctuations.

Questions from Commissioners:

Q (Taylor): What is the status of the IJC recommendations and what are the next steps?
A: The St. Clair River options are on the table awaiting government action.

Q (Johnson): There seems to be the structural vs. non-structural approach. With regard to climate, we don’t know what’s going to happen. But regardless, wouldn’t we want a more active control vs. a more passive control of the lakes?
A: The panel concurs. But do the benefits of lakewide regulation outweigh the costs? Multi-lake regulation has been discounted entirely. Compensation is different than multi-lake FULL regulation.
(Gauthier): Alert levels and Action levels would be needed so the compensating works could be turned on or off to deal with various scenarios.

Comment (Boysen): We need to consider where the water goes if it’s stopped at the Detroit River. It may cause detrimental flooding consequences upstream.

Comment (Mackey): We must consider that these compensating works, if any, must not cause harm, ecological or other. Managers will need to be convinced of this.

(Gauthier): 14 years of protracted lake levels are having huge consequences in upper Lake Huron and Georgian Bay.

Comment (Taylor): With the variety of issues facing our lakes, a comprehensive assessment/study needs to be undertaken by the IJC.

Comment (Injerd): For comparison purposes, Lakes Powell and Mead are over 112 feet below normal and in continuing drought conditions. Injerd reminded the audience that the Great Lakes are not in this amount of peril.

Comment (Weakley): There’s a $521M infrastructure repair backlog on the Great Lakes. There are a lot of needs in the basin that have to be weighed when considering if compensation works in the St. Clair River are necessary.

Q (Marquis): How do you see the upstream and downstream impacts and how would we address them?
A (Gauthier): If compensating works were installed in the St. Clair River tomorrow, it’s projected that there will be a 2-inch effect (decrease in levels) on the St. Lawrence River and other upstream communities.

Q (Allan): Does USACE have authorization to research the St. Clair River issue?
A (Lee): Yes, but only for a piece of the topic that we’re discussing today. At this point in time, USACE is waiting for future direction from the governments (i.e., the Parties).

12) The meeting adjourned for lunch, which included a keynote presentation by former Congresswoman Betty Sutton, administrator of the Saint Lawrence Seaway Development Corporation.

13) The state/provincial roundtable continued.

Wisconsin: Russ Rasmussen presented on behalf of Wisconsin DNR. About 20 percent of phosphorus discharges in Wisconsin are from point sources; 80 percent from nonpoint sources. Adaptive management and nutrient trading are being explored. There’s a reassessment after 10 years to see if limits are being met. Water quality effluent limits must be met. There’s a 15-year timeline to meet the limits. Wisconsin DNR is engaged with the GLC on a new phosphorus trading program for the lower Fox watershed. Guidance on both adaptive management planning and nutrient trading are available on the Wisconsin DNR website.

Ohio (Jim Zehringer, Karl Gebhardt): The governor has created a task force on nutrient reduction. Grand Lake St. Marys is Ohio’s largest lake. Many nutrient challenges; eastern edge of the watershed goes into Lake Erie. Grand Lake St. Marys was labeled as a “distressed” watershed and ag operators were required to get a nutrient management plan. The Maumee watershed covers 4.2M miles. Sen. Randy Gardner pushed for more federal money to assist the western Lake Erie basin. $2.4M has been used to date for controlled drainage, etc. Over 41,000 acres of new conservation treated land is the result. Heidelberg University has been doing monitoring for the past four years. Seven new monitoring stations are being put in by USGS to better monitor water quality in the Maumee. A fertilizer application certification process is also being explored.

Ontario (Boysen): There have been recent extreme rainfall events in Ontario. Hurricane Hazel brought 12 inches in a 24-hour period in 1954. In 2013, Toronto experienced five inches of rain in a three-hour period. Preventing flooding is being pursued, including extensive floodplain mapping. Unlike in the United States, the province has retained the rights to do such planning. The province also takes an emergency management response and manages a provincial flood and forecast system. A disaster assistance program is administered by the municipalities. There is alot of runoff due to an increase in impervious surfaces. Source water protection plans have been developed, especially to minimize risks to drinking water supplies. A Great Lakes Protection Act is being debated. The Showcasing Water Innovation program is developing innovative and cost-effective solutions for managing drinking-, waste- and storm-water.

Minnesota (Prettner Solon): Minnesota means “sky-tinted waters.” Minnesota cares deeply about its rivers, lakes and other waters. In 2006, Minnesota passed a Water Legacy Act. In 2008, Minnesota voters passed an increased sales tax. Extra funds are used to support environmental and arts-related programming. Over $85M/year will be invested in water projects. The St. Louis River Area of Concern is one of the largest on the Great Lakes (over 3,100 square miles). All damage to the St. Louis River AOC is hoped to be repaired by 2025. In 1967, the Minnesota Pollution Control Agency was formed (even before U.S. EPA was created).

Pennsylvania (Burch): Walnut Creek was named a priority watershed, which spans about 38 square miles in Erie County. 52,000 people get their drinking water from Walnut Creek. A comprehensive watershed assessment was conducted. A restoration plan has been completed. PennVest was formed in 1988 to provide financial aid to help solve water issues in Pennsylvania. There’s about a 10:1 ratio loans to grants. Results have been favorable. PA hopes to duplicate the efforts for other tributaries in PA that drain to Lake Erie.

Q (Johnson): In response to Ohio’s report, how did you work with farmers?
A (Gebhardt): P levels were exceedingly high on some fields. There’s a manure management component of each nutrient management plan. Physical transport of the manure out of the watershed was often necessary. Point sources were also a challenge. A blitz analysis would be helpful before nutrient management plans were adopted.

Q (Bailey): Was there a size threshold on the farms chosen?
A (Gebhardt): Farms with an excess of 350 tons of manure onsite were targeted. Effectiveness will continue to be monitored.

Q (Allan): Is the corpus growing in MN from the increased sales tax revenue?
A (Prettner Solon): Approximately $320M per year is being collected and dispersed. The lottery contributes to a trust fund.

14) Observer Comments:

Cameron Davis, Senior Advisor to the Administrator, U.S. Environmental Protection Agency:
In March, CEQ Director Nancy Sutley announced the Obama Administration’s commitment to another five years of the GLRI, through 2019. A new GLRI Action Plan is under development. The states will have an opportunity for dialogue with EPA throughout this process. Chairman Johnson thanked Mr. Davis for his support in acknowledging the GLC’s requests on behalf of the states.

Dereth Glance, International Joint Commission: The adaptive management approach is essential; regulation alone cannot address extreme water levels. Glance reiterated that it was not a consensus opinion of the IJC. Lana Pollack provided a minority opinion. On Plan 2014 for Lake Ontario and the St. Lawrence River, the comment period just concluded and the IJC hopes to issue a consensus opinion by early 2014. Implementing the GLWQA is a priority of the IJC. Regional adaptive management pilot projects are being pursued. IJC would like the states’ input on what they hope the GLWQA annexes will deliver.

Mike Piskur, Council of Great Lakes Governors: Mr. Piskur discussed the Cumulative Impact Assessment project, which examines impacts on water quantity from withdrawals, consumptive uses and diversions. Key recommendations: more partnerships and better data collection is needed. The full draft report is available on the Compact Council’s website.

John Bratton, NOAA Great Lakes Environmental Research Lab: In the area of navigation, NOAA maintains a system of water level gauges. NOAA GLERL works to depict over-lake precipitation, a critical component of the water balance. In the area of wind, NOAA deploys buoys to evaluate winds and currents, important variables for siting turbines. NOAA works on HAB monitoring in western Lake Erie and is active in beach monitoring and human health research. NOAA is active in current modeling in the connecting channels, which is helpful for oil spill monitoring and response.

Michelle Parker, Shedd Aquarium: Storytelling is important, and getting these stories out to the public is Shedd’s goal. The Great Lakes Network is a newly formed coalition of eight science education centers around the Great Lakes region. Shedd is leading an effort to get these organizations to work together to deliver a coherent message to their visitors. 6.5 million people walk through the doors of these eight centers each year.

Todd Turner, U.S. Fish and Wildlife Service: This spring an environment DNA facility was completed in LaCrosse, Wis. Extensive sampling around the Great Lakes is proceeding to test for Asian carp eDNA.

Fred Midgett, U.S. Coast Guard: USCG is the regional lead for National Ocean Policy. Several offshore wind proposals are being considered, in addition to LeedCo: Two in St. Clair River and one in St. Lawrence River.
**Gildo Tori, Ducks Unlimited:** Ducks Unlimited Canada and Ducks Unlimited U.S. today issued a joint news release in support of ecological separation of the Great Lakes and Mississippi watersheds to prevent the movement of Asian carp. Grass carp and black carp are of great concern to DU. The effects of Asian carp on aquatic vegetation are of concern. DU pledges its support to the GLC and its partners to make separation a reality.

**Debbie Lee, U.S. Army Corps of Engineers:** General Burcham remains as the district commander. Debbie Lee is interim director. The Great Lakes and Mississippi River Interbasin Study (GLMRIS) report is on schedule to be released by January 2014. The options that will be presented were developed at the conceptual level of design. A detailed briefing will be provided to the GLC. Lee acknowledged the GLC’s support for the Great Lakes Dredging Team. Commissioner Galarneau (WI) acknowledged his role as state co-chair of the Dredging Team, along with federal co-chair Ernie Drott (USACE). The Cat Island project will be profiled; a regional dredging summit is being planned.

**Norm Grannemann, U.S. Geological Survey:** New work is focusing on the invasive plant, phragmites, and the Rivermouth Collaboratory. An MOA is in place between USGS and the GLC to promote and expand these collaborations. A new science strategy is now being developed. Edge-of-field monitoring is proceeding in the Maumee watershed and others.

**Kathryn Buckner, Council of Great Lakes Industries:** Buckner cited her appreciation for the GLC and partnerships; the importance of having one voice as well as more individual voices; and provided an update on CGLI activities. CGLI has a new strategic plan focused on activating industry around Great Lakes issues. CGLI is looking to expand its membership and contribute to the conversation.

**Lyman Welch, Alliance for the Great Lakes:** A coalition of stakeholders is being built in the Lower Fox River area and the Alliance is evaluating phosphorus control mechanisms in that area. The Alliance supports 100 percent separation of the Great Lakes and Mississippi watersheds to prevent the movement of Asian carp. Carp spawning has been confirmed within 60 miles of the Great Lakes. Studying the transport of tar sands on the Great Lakes is a priority and the Alliance supports the GLC’s proposal to develop a briefing paper on oil transportation issues.

**Andy Buchsbaum, National Wildlife Federation:** A new report “After the Storm” is looking at connections between heavy rainfall events and harmful algal blooms, size and prevalence. NWF is tracking the Waukesha water withdrawal proposal. NWF is supportive of the GLC’s proposal to develop a briefing paper on oil infrastructure and transport in the region.

15) Chairman Johnson opened the business section of the meeting. Four resolutions were considered:

**Resolution – Priorities for the Great Lakes navigation system in the federal Water Resources Development Act:** This resolution recognizes the growing dredging backlog on the Great Lakes which is impeding commercial and recreational navigation, causing economic hardship, and increasing risks to human health and safety.

A motion to approve the resolution was made by Commissioner Weakley (OH), seconded by Associate Commissioner Carr (ON). Commissioner Zelazny’s proposed amendment was projected on the screen and discussed. A motion to approve the amendment was made by Associate Commissioner Carr (ON), seconded by Commissioner Zelazny (NY). The amendment was approved. A motion to approve the amended resolution was made by Commissioner Lupo (PA), seconded by Commissioner Gebhardt (OH). The resolution, as amended, passed unanimously.

**Resolution – Support for Great Lakes offshore wind demonstration (pilot) projects:** This resolution recognizes that deployment and operation of wind turbines in the Great Lakes presents unique circumstances that require study and evaluation and research, and a demonstration (pilot) project is the most direct means of assessing potential environmental impacts, and evaluating economic viability and opportunities for job creation involving offshore wind projects.
A motion to approve the resolution was made by Commissioner Main (IL), seconded by Commissioner Gebhardt (OH). Gebhardt clarified that LeedCo will be going through a strenuous review process, if/when their project is funded. Ontario suggested a friendly amendment. In the last THEREFORE, Ontario suggested this wording be added: the Commission believes a “small-scale” demonstration project...” A motion to approve the amendment was made by Commissioner Ecklund (OH), seconded by Commissioner Main (IL). The amendment was approved. A motion to approve the amended resolution was made by Commissioner Main (IL), seconded by Commissioner Gebhardt (OH). The resolution, as amended, passed unanimously.

Resolution – Preventing pollution from persistent, bioaccumulative and toxic chemicals in the Great Lakes ecosystem: This resolution urges the U.S. Congress to adopt comprehensive national legislation aimed at minimizing human and ecosystem exposure to PBTs through reform of the Toxic Substances Control Act, and urges the U.S. and Canadian federal governments to develop, in consultation with states and provinces, effective programs to prevent pollution from PBTs through Annex 3 of the Great Lakes Water Quality Protocol of 2012 (Chemicals of Mutual Concern).

A motion to approve the resolution was made by Commissioner May (IL), seconded by Commissioner Zelazny (NY). The resolution passed unanimously.

Resolution – Recognizing rivermouths: Places vital to the Great Lakes basin that deserve focused restoration and conservation: This resolution urges the U.S. Congress and U.S and Canadian federal agencies to explicitly recognize the ecological importance of rivermouths when funding and administering existing environmental restoration programs and when designing and implementing environmental conservation programs; and urges the Parties to the Great Lakes Water Quality Agreement and the International Joint Commission to explicitly address rivermouths and the future of rivermouth ecosystems and the communities that depend on them as part of implementation of Annex 1 (Areas of Concern) and Annex 2 (Lakewide Management) of the Agreement.

A motion to approve the resolution was made by Commissioner Burch (PA), seconded by Associate Commissioner Carr (ON). Two grammatical amendments were offered. A motion to approve the amendments was made by Associate Commissioner Carr (ON), seconded by Commissioner Allan (MI). The amendments were approved. A motion to approve the amended resolution was made by Associate Commissioner Carr (ON), seconded by Commissioner Allan (MI). The resolution, as amended, passed unanimously.

Action Item – Preparation of an issue brief on the transportation of crude oil in the Great Lakes-St. Lawrence River region: The rapid development of the Bakken oil reserves and the Alberta oil sands have created some challenges in areas related to protection of water supplies, the need to maintain and upgrade infrastructure and sewage systems, stresses on government services and especially impacts related to the transportation of crude oil and tar sands from the western fields to the eastern part of the continent. This action item directs Great Lakes Commission staff to prepare an issue brief evaluating the potential economic benefits, risks and options for mitigating risks surrounding the transportation of crude oil in the Great Lakes-St. Lawrence River region.

A motion to approve the resolution was made by Associate Commissioner Lapierre (QC), seconded by Commissioner Prettner Solon (MN). Commissioner May asked for a point of clarification about who has jurisdiction over interprovincial, interstate crude oil transportation. Commissioner Allan suggested that we be more specific in saying that the briefing paper include a comprehensive summary and review of federal and state jurisdictional policies. Eder suggested that this text be added at the end of the first sentence: “including an assessment of the regulatory framework in the two countries, states and provinces.” A motion to approve the amendment was made by Commissioner Prettner Solon (MN), seconded by Commissioner Allan (MI). The amendment was approved. Commissioner Taylor would like to hear reports from the agencies that are responsible for executing these programs to protect the Great Lakes. Chairman Johnson suggested that this issue brief might
open the dialogue with these agencies. Eder suggested a panel discussion on this topic at the GLC’s 2014 Semiannual Meeting. Associate Commissioner Gagnon suggested that the benefits of crude oil transport on the lakes should also be considered. Commissioner May suggested that input be incorporated from rail and other interests. Commissioner Weakley summarized an Economic Committee discussion on this issue. This will be a multi-modal report, and will not come with a pre-conceived endpoint. The report should balance economic opportunities in the region, noting the benefits of crude oil transport as well as the risks. Associate Commissioner Marquis noted that this week there’s a conference of the New England governors and premiers. They are discussing a resolution on transportation security (primarily rail), as well. Commissioner May suggested adding “environmental assessment…and economic development and commercial interests” in the final sentence of the Action Item. A motion to approve the amendment was made by Commissioner May (IL), seconded by Commissioner Weakley (OH). The amendment was approved. Commissioner Burch noted that he looks forward to a balanced report. A motion to approve the resolution, as amended, was made by Commissioner Gebhardt (OH), seconded by Commissioner Burch (PA). The resolution, as amended, passed unanimously.

16) Chairman Johnson reported that he has been invited to participate in the Interagency Task Force Meeting being held this week in Milwaukee. Chairman Johnson invited the Commission family to Washington, D.C., for the 2014 Semiannual Meeting of the Great Lakes Commission, to be held March 4-6, in conjunction with Great Lakes Day in Washington events.

17) The meeting adjourned at 4:45 p.m.

Respectfully submitted,

Tim Eder

/cm
The meeting was called to order at 10:05 a.m. EST by Ken Johnson, chair. The following members were present:

- Todd Main - Illinois
- Jon Allan - Michigan
- Lt. Gov. Yvonne Prettner Solon, Barb Naramore (DNR), John Stine (MPCA) - Minnesota
- Jim Tierney, Don Zelazny - New York
- Jim Zehringer, Karl Gebhardt - Ohio
- Bill Carr - Ontario
- Kerith Iverson-Vosters (for Eric Marquis) - Québec
- Ken Johnson, Steve Galarneau - Wisconsin

Staff present: Tim Eder, Christine Manninen, Matt Doss, Erika Jensen.

1) Chairman Johnson welcomed everyone to this special call to discuss the Asian carp resolution.

2) The draft resolution was reviewed along with suggested edits that the Minnesota Delegation provided. Various edits were discussed in the Whereas and Resolved clauses.

   Commissioner Galarneau and Associate Commissioner Carr will email additional edits to Eder.

   The title of the resolution was changed to: Preventing Asian carp and other invasive species from interbasin transfer.

3) Other Business: Eder reported that he and Policy Director Matt Doss were in Washington, D.C., Feb. 4-5. Congress is seeking help from the GLC in bringing specific carp/CAWS recommendations forward for Congress to act on.

4) Upcoming Meetings:
   - February 20, 10:00 AM EST – Board call
   - March 4-5, 1:00 PM EST – Semiannual Meeting, D.C.
   - March 6, 8:00 AM EST – Breakfast reception and Hill visits, D.C.

The meeting adjourned at 11:10 a.m.

Respectfully submitted,

Tim A. Eder
Executive Director
/cm
The meeting was called to order at 8:45 a.m. CST by Ken Johnson, chair. The following members were present:

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<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Todd Main, Marc Miller, Carmen Lonstein</td>
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<td>John Davis</td>
<td>Indiana</td>
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<td>Jon Allan</td>
<td>Michigan</td>
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<td>Yvonne Prettner Solon</td>
<td>Minnesota</td>
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<td>Jim Tierney, Don Zelazny (via phone)</td>
<td>New York</td>
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<td>Jim Zehringer, Karl Gebhardt</td>
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<td>Bill Carr, Ranissah Samah (via phone)</td>
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<td>Kelly Burch</td>
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<td>Eric Marquis</td>
<td>Québec</td>
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<td>Ken Johnson, Steve Garlarneau</td>
<td>Wisconsin</td>
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Staff present: Tim Eder, Christine Manninen, Victoria Pebbles, Matt Doss, Paul Seelbach, Erika Jensen.

1) **Introductions and Meeting Objectives:** Chairman Johnson welcomed everyone to the meeting and reviewed the agenda.

2) **Minutes:** Chairman Johnson called for approval of the minutes from the Board’s Dec. 19, 2013, conference call.

   *Action:* A motion to approve the minutes was made by Commissioner Allan (MI), seconded by Jim Zehringer (OH). The minutes were unanimously approved.

3) **Review of Great Lakes and Mississippi River Interbasin Study (GLMRIS) report, separation alternatives and next steps:** Tim Eder provided background on the GLC’s Chicago Area Waterway System (CAWS) study.

   Col. Drummond introduced the Corps’ GLMRIS Study and referenced a related informational brochure.

   Dave Wethington provided an overview presentation of GLMRIS, including the history and scope of the study. USACE conducted its seventh public meeting on Jan. 27. Additional meetings are being added including a second meeting in the Chicago area, and meetings in Buffalo, N.Y., among others.

   Paul Dierking from HDR Engineering provided a refresher of the “Restoring the Natural Divide” (CAWS) report, which was released by the GLC and the Great Lakes and St. Lawrence Cities Initiative in January 2012.

4) **Perspectives on the path forward:** Panelists included John Goss, White House CEQ; Aaron Koch, City of Chicago; David St. Pierre, Metropolitan Water Reclamation District; Dan Cornillie, Arcelor Mittal; and David Ullrich, Great Lakes and St. Lawrence Cities Initiative.
Goss thanked all in attendance and the GLC and USACE for their respective reports. CEQ and the federal agencies would like to hear a consensus from the region about what short- and long-term steps need to be taken to prevent the movement of the Asian carp. Specific comments from interested parties are still encouraged through early March. Additional meetings will be held with the Upper Mississippi River Basin Commission and other groups. Getting additional funding into the federal base budgets (primarily USFWS) is also very important. The Obama Administration is supporting Asian carp prevention/control efforts in its budget.

Koch, representing Mayor Emanuel’s office, voiced concern about this issue but also the impacts that alternative solutions may have on the City of Chicago and its residents.

St. Pierre noted that the engineering part of this issue is really the simple part. Getting everyone on the same page, identifying the best solution, and finding a shared monetary responsibility are the tough parts. He outlined the priorities and concerns of MWRD.

Cornillie explained that steel production is of critical importance to the region and discussed potential effects that physical separation of the Great Lakes and CAWS could have on the steelmaking and export business.

Ullrich focused on four issues: time, forum, structure and process. He explained that an array of alternatives is now on the table and we are to a point where we need to get to a decision on this. Looking beyond invasive species, this is really a once-in-a-century opportunity to take a look at the Chicago Waterway System.

Q/A and discussion followed. Chairman Johnson thanked the speakers for their time and contributions.

5) The Board meeting recessed for a private lunch.

6) Discuss next steps and Commission policy resolution on the Chicago Area Waterway System:
Discussion ensued on the various alternatives that were presented by the morning panels. Eder suggested that the Board focus its discussion on the draft resolution related to the GLMRIS report and next steps. The governors will reconvene in April 2014 so the GLC should be prepared to offer guidance to the governors on a position forward.

ACTION: The GLC staff will get a revised resolution to the Board by Feb. 6. A next call was scheduled for Thursday, Feb. 13, 10 a.m. EST.

7) Review draft resolutions and agenda, semiannual meeting:
Eder outlined the three additional resolutions. The first focuses on endorsement of the GLC’s 2014 federal appropriations priorities. The second resolution pertains to suggested reforms of the Lacey Act. The third resolution pertains to the GLRI and advocates that U.S. EPA carry out its plan to complete an update of the GLRI Action Plan. All were approved for the next stage of review, with minor suggestions for amendments.

8) Review GLC 2014 federal priorities:
Eder introduced the draft text of the GLC’s 2014 federal appropriations priorities and the Board offered suggestions.

Action: The staff will go through the Legislative Priorities document and the companion resolution and ensure that all edits have been captured.
9) **Review status of GLRI and new Action Plan:** Commissioner Galarneau made a brief presentation on GLRI status and recent actions of the Great Lakes Advisory Board (GLAB). He provided a list of the GLAB's recommendations.

10) **Dredging:** Tom Crane presented a memo to the Board related to plans to convene a summit meeting on open water placement of dredged material. The summit will likely be held in Ohio, tentatively at Maumee Bay State Park near Toledo. Crane appealed to the Board to encourage participation from all the states.

11) **Nutrient issues:** Victoria Pebbles briefed the Board on the GLC's phosphorus trading (Fox P Trade) project in the lower Fox River watershed near Green Bay, Wis. Eder reported that the GLC is also pursuing, in partnership with USDA NRCS, a demonstration farms project. The Board suggested that video documentation of the demonstration farms project would be useful.

12) **GLC work in support of governors’ water monitoring initiative:** Paul Seelbach, on loan to the GLC from USGS, provided an update on this project, which is a charge that came to the GLC from the Great Lakes governors after their 2013 summit on Mackinac Island. A regional workgroup has been formed, which includes Seelbach, Jen Read and Kathryn Buckner. An Executive team including Jon Allan, Eder and Manninen is in place. A report is due to the governors by March 2014. The Board suggested that regular updates be provided to the Board to allow for some dialogue from the states and provinces prior to review of the final report.

13) **Approval of GLC FY2013 financial audit:** Commissioners Tierney/Zelazny, Main and Carr/Samah served on the Audit Committee. Eder reported that the external audit firm provided its highest, unqualified opinion.

   *Action*: A motion to approve the audit was made by Commissioner Allan (MI), seconded by Associate Commissioner Marquis (QC). The motion was unanimously approved.

14) **Other items:** Several board members said they are getting a lot of aquaculture requests (open pen, etc). The Board suggested that the staff investigate further and consider an issue brief in the future.

   Eder thanked all the jurisdictions for being present and contributing to a successful all day meeting.

15) **Upcoming Meetings:**
   - February 13, 10:00 AM EST – Special board call -- carp resolution
   - February 20, 10:00 AM EST – Board call
   - March 4-5 – Semiannual Meeting, D.C.
   - March 6 – Congressional breakfast reception and Great Lakes Day, D.C.

The meeting adjourned at 3:55 p.m.

Respectfully submitted,

Tim A. Eder
Executive Director
The meeting was called to order at 10:05 a.m. EST by Kelly Burch, vice chair. The following members were present:

- Todd Main - Illinois
- Jon Allan - Michigan
- Jim Zehringer, Karl Gebhardt - Ohio
- Kelly Burch - Pennsylvania
- Eric Marquis - Québec

Staff present: Tim Eder, Tom Crane, Christine Manninen, Victoria Pebbles, Matt Doss.

1) Tim Eder made several initial announcements. Dr. Paul Seelbach will join the GLC on Jan. 13. Seelbach is part of an interagency swap with USGS, which will place GLC Program Director Victoria Pebbles at the USGS Great Lakes Science Center for a four-month period beginning in January. Paul will be in Chicago for the Board meeting in January. In addition, the GLC will hire another full-time mid-level employee in January. This position will help to alleviate some workload for senior staff, such as meeting planning, teleconference/webinar coordination, etc. This hire is for a limited term and will not affect the GLC’s reserve budget.

2) Vice Chair Burch welcomed everyone to the call and reviewed the agenda.

3) Minutes: Vice Chair Burch called for approval of the minutes from the Board’s Nov. 14, 2013, conference call. A motion to approve the minutes was made by Commissioner Gebhardt (OH). The minutes were unanimously approved.

Asian carp, GLMRIS and GLC response: Eder reported that the GLMRIS report, which will be released on Jan. 6, will provide options but not recommend a way forward. Given this, it’s important that the GLC and the states and provinces discuss and agree on a consensus policy recommendation that can be presented to Congress and presented as a resolution at its Semiannual Meeting in D.C. The governors are meeting in April and could take subsequent actions. The White House Council on Environmental Quality (CEQ) may ask the GLC and the Council of Great Lakes Governors to assist with developing a recommendation to Congress. The GLC, however, doesn’t want to accept full responsibility for solving the Asian carp issue. Eder referenced a memo for the Board, which outlines the GLC’s planned work and meetings on this issue over the next 60 days. The GLMRIS report is expected to be released on Jan. 6 but OMB is still approving it. The GLMRIS series of public events is likely not going to visit PA, NY and IN. Commissioner Zehringer asked why there can’t be an all-out ban on the unwanted/invasive types of Asian carp in the United States. Eder explained that Bighead and Silver Carp are banned under the Lacey Act. They aren’t allowed to be brought into or kept (even in confinement) in the United States. Eder explained that reforming the Lacey Act has also been a priority of the GLC to make it more effective and allow for species to be added to the list in a more timely fashion. Commissioner Allan asked what actions the GLC is taking to get involved in the media coverage of the GLMRIS report release. Eder explained that the GLC will be sending out a media advisory several weeks ahead, which will alert media that the GLC and the Great Lakes and
St. Lawrence Cities Initiative are available to provide a response to the GLMRIS report and remind them about the CAWS report and its findings, released in January 2012. The CAWS team has also put together talking points and a Q&A sheet so the GLC and the Cities Initiative will have a consistent response.

Commissioner Main said that a new USACE report will be released on Dec. 20 regarding the effectiveness of the electric barriers in the Chicago Sanitary and Ship Canal. The barriers may not be as effective as previously thought. Illinois DNR has put together some talking points and is prepared to respond.

ACTION: Eder will add an update on the Lacey Act to the Board meeting agenda in January.

4) GLC Board meeting, January in Chicago: A reception will be held on the evening of Jan. 27, followed by the Board meeting 8 a.m.-4 p.m. CST on Jan. 28. All events will be held at the Westin River North. Eder referenced the draft agenda and invited Board comments and additional suggestions. Eder reported that most Board members will be attending the meeting in Chicago. The GLC budget will be reviewed in Chicago but an amendment is not expected to be necessary.

ACTION: Eder will distribute the hotel information via email so Board members can book their rooms in the hotel block as soon as possible.

5) 2014 federal priorities: Eder referenced a memo in the Board meeting materials. As in past years, a four-page publication will be put together to summarize the GLC’s federal priorities. The one-pager of shared priorities with other regional organizations will again be published, as well. Top priorities include Asian carp and reform of the Lacey Act, GLRI funding, GLEEPA which authorizes the GLRI, storm/wastewater infrastructure, and dredging needs. Commissioner Gebhardt suggested that other dredged material disposal methods be explored. Tom Crane explained that the Dredging Team is working on these issues. An Open Water Placement Summit is planned for the first quarter of 2014. The Dredging Team’s Legislative Committee is also preparing some briefing papers on beneficial reuse and other alternative disposal methods. All the states participate with the Dredging Team and many states are sharing Ohio’s concerns. Commissioner Allan noted that there are impediments for USACE and reasons why they always choose “open water” as the least-cost option. USACE also invests in small dredging companies so the larger dredging operations do all their work in other parts of the United States. USACE needs to be incentivized to pursue other dredging disposal options.

Commissioner Allan asked if one of the GLC’s advocacy priorities should be to provide base support within the USFWS to tackle the Asian carp issue. The GLC should advocate for treating Asian carp as a national problem. There’s a policy change in WRDA that will give USFWS primary national leadership on the Asian carp issue. Ensuring that USFWS has adequate funding to work on the Asian carp issue should be a priority for the GLC since USFWS can’t advocate for itself.

ACTION: Eder will add the dredging disposal discussion to the January Board meeting agenda. Funding support for USFWS to take a leadership role on the Asian carp issue will be added to the GLC’s federal priorities.

6) Semiannual Meeting in D.C., March 4-6: Eder suggested some changes to the draft agenda, including limiting the Asian carp discussion to a single panel on March 4 and adding 30 minutes to this discussion. Former Congressman Steven LaTourette from Ohio will be invited as a keynote speaker on March 5. EPA Administrator Gina McCarthy is not available and will be invited to speak at the joint lunch with HOW, March 5.
Resolutions on Asian carp, the GLC’s federal priorities, and the new GLRI Action Plan are being considered. Implementation of the new Farm Bill might also warrant a resolution. Other ideas are welcome from the Board and Commissioners. Eder noted that a panel discussion on Oil Transportation will be included in the meeting as follow-up to the GLC’s Action Item that was passed at the 2013 Annual Meeting. As part of the Action Item, the GLC will be examining all modes of transport for oil on the Great Lakes and within the basin (via train, ships, pipelines, etc). BP or Marathon might be good speakers for this panel.

Commissioner Allan suggested another panel (for a future meeting if not in 2014) that would include large-scale, national foundations (e.g., Rockefeller Foundation). It would be interesting to hear their views about water issues and what is trend-setting for them and their funding priorities.

7) Upcoming Meetings:
   - **January 27, 5:30 PM (Central)** – Reception in Chicago
   - **January 28, 8:00 AM (Central)** – Board Meeting, Chicago
   - **February 20, 10:00 AM EST** – Board call
   - **March 4, 1:00 PM EST** – Semiannual Meeting, D.C.
   - **March 5, 2:00 PM EST** – Hill visits, D.C.
   - **March 6, 8:00 AM EST** – Breakfast reception and Hill visits, D.C.

The meeting adjorned at 11:02 a.m.

Respectfully submitted,

Tim A. Eder
Executive Director
The meeting was called to order at 10:05 a.m. EST by Ken Johnson, chair. The following members were present on the call:

- Todd Main - Illinois
- Lynelle Marolf (for Jon Allan) - Michigan
- Jim Tierney, Don Zelazny - New York
- Karl Gebhardt - Ohio
- Bill Carr - Ontario
- Lori Boughton (for Kelly Burch) - Pennsylvania
- Kerith Iverson-Vosters (for Eric Marquis) - Québec
- Ken Johnson, Steve Galarneau - Wisconsin

Staff present: Tim Eder, Tom Crane, Christine Manninen, Victoria Pebbles, Matt Doss.

1) Chairman Johnson welcomed everyone to the call and reviewed the agenda.

2) Minutes: Chairman Johnson called for approval of the minutes from the Board’s Aug. 19, 2013, conference call. Chair Johnson asked if the next Interagency Task Force meeting has been scheduled since GLC involvement was planned. Eder noted that the GLC was represented at the Interagency Task Force meeting in Milwaukee but he has not heard if a follow-up meeting has been scheduled. A motion to approve the minutes was made by Commissioner Tierney (NY), seconded by Commissioner Main (IL). The minutes were unanimously approved.

3) Discuss upcoming release of GLMRIS from Corps, state/provincial review and response: Eder reminded the Board of the importance of this issue and that the GLC should decide what actions it will support regarding the protection of the Great Lakes and Mississippi watersheds from movement of AIS. The GLC is soliciting additional support from the Joyce Foundation to continue its work on this project. The Great Lakes and Mississippi River Interbasin Study (GLMRIS) report will be released by the U.S. Army Corps of Engineers on Jan. 6, 2014, which will be followed by a series of public meetings, beginning in Chicago the week of Jan. 13. Eder serves on the GLMRIS Executive Steering Committee. He noted that the GLMRIS report will not recommend a preferred solution but, instead, will present a range of options and associated costs to Congress and wait for further direction.

4) Discuss in-person Board meeting in January: Eder suggested an in-person GLC Board meeting in Chicago in January 2014 to discuss the GLMRIS response in more detail. In order to promote swift action, the Board acknowledged that it’s critical for the GLC to think about what direction it believes Congress should provide to USACE. The Great Lakes governors are meeting in April 2014. Chairman Johnson said that the Board will need some time to digest the GLMRIS report after it’s released. Eder suggested that the Board might attend the public meetings in Chicago week of Jan. 13, followed by a GLC Board meeting. An alternative would be meeting later in January to provide the Board more review time. Commissioner Tierney asked whether, after vetting the range of options, USACE will then come forward with a preferred option. Eder said yes, that they are looking for
direction on which options they should further investigate and complete a NEPA review. Tierney noted that having a schedule for USACE will be imperative to ensure that action takes place in a timely fashion. USACE will take their direction from Congress. Congress, unfortunately, will be challenged to come up with a consensus recommendation so will be looking to the region for advice. Chairman Johnson noted that the states (through the GLC) need to come together as a unit in order to be effective in their recommendations. Commissioner Tierney noted that OMB will need to be part of the strategy. Eder said that USACE doesn’t need any more authority to be able to move forward (through WRDA or other legislation). Commissioner Zelazny asked if the HDR study that the GLC conducted has implications on these discussions. Eder responded that the idea of hydrological separation has gained a lot of traction since the GLC released its Chicago Area Waterway System (CAWS) report, “Restoring the Natural Divide,” in January 2012. Several of the USACE options will look similar to what the GLC and the GLSL Cities Initiative proposed in the CAW report, however, the USACE cost estimates will be much more expensive. Because of the price tag and time necessary to implement full separation, Eder said that the region really needs to talk about short-term actions that will prevent movement of the Asian carp but won’t cause any regrets and, ultimately, move us toward a more long-term, sustainable solution. Lynelle Marolf (MI) said that Michigan supports the idea of pursuing and advocating for a short-term/interim solution. This might be where there’s an opportunity for consensus. A governors’ task force will be meeting in Skokie, also in January. The consensus of the Board seemed to be to digest all the meetings earlier in January and then meet later in the month. Chairman Johnson would like to see USACE representatives present directly to the GLC Board. Chairman Johnson encouraged involvement from Indiana.

**ACTION:** Eder will discuss venue and date options with Commissioner Main and send a proposal to the Board via email in early December.

5) **Determine location for fall 2014 Annual meeting:** The Healing Our Waters (HOW) Great Lakes Coalition will meet in Grand Rapids, Mich., Sept. 9-11, 2014. This event will not be billed as Great Lakes Week, as in past years, since IJC, U.S. EPA and other partners will not be involved this time around. The IJC is now on a triennial meeting cycle under the new Great Lakes Water Quality Agreement so they won’t host a large, public forum again until 2016. Great Lakes Week will hopefully still occur every third year (i.e., 2016) when the groups would again have the opportunity to reconvene together at a single location. Given this, the New York delegation has invited the GLC to host its Annual Meeting in Buffalo in fall 2014. Commissioner Tierney extended the invite from New York and encouraged the GLC to engage other Great Lakes groups, as appropriate, to maximize attendance. Engaging the Great Lakes and St. Lawrence Cities Initiative was proposed as an idea.

**ACTION:** Eder will confirm dates and venue with the New York delegation and discuss possible collaborative events with GLSLCI.

6) **Update on federal legislation and plans for legislative priorities for 2014:** Eder offered the opportunity for Board members to provide feedback on the format of the 2013 Annual Meeting in Milwaukee. Chairman Johnson said he enjoyed the spirited discussion and felt that the panel discussions and the Sheboygan River AOC tour were well-received. Eder noted that the 2014 Semiannual meeting will likely include panel discussions on Asian carp and release of the GLMRIS report. The new EPA Administrator, Gina McCarthy, will be invited. Former Congressman Steven LaTourette from Ohio will also be invited to speak about bipartisanship.

Eder referenced a memo provided to the Board regarding the status of 2013 federal priorities. Congress is now back in session. Farm Bill negotiations are continuing. A conference committee is being formed to resolve WRDA differences. Eder outlined the plan for producing the GLC’s FY2015 federal priorities statement, which will be published in time for Great Lakes Day events, March 4-6 in Washington. The CAWS/GLMRIS issue will be front and center. A production
schedule was provided for Board review. A one-page summation of shared priorities will again be produced in collaboration with other regional groups, including the GLFC, Council of Great Lakes Industries, etc. Commissioner Tierney noted that the Clean/Safe Water State Revolving Funds (SRFs) are in a bit of trouble (under the House proposal) and the new GAO report recognizes that the SRFs need additional support. He suggested that this could be an issue that the GLC pushes more in 2014-15.

7) Other business: The GLC audit is in progress. Chairman Johnson will be appointing three members of the Board to serve on the Audit Committee.

The GLC is hiring a new invasive species coordinator position. This one-year position will be hired in December.

The GLC is working out an interagency personnel agreement, which will place Program Director Victoria Pebbles at the USGS Great Lakes Science Center (also in Ann Arbor) as a deputy director for a 4-month period beginning in January 2014. In exchange, Dr. Paul Seelbach, Coastal Ecosystems Branch Chief with USGS, will join the GLC during Victoria’s absence. Seelbach co-led the Michigan Groundwater Resources Advisory Council and is very familiar with Great Lakes water science and policy. While at the GLC, he’ll be assisting Eder with facilitating a workgroup to foster collaboration between the various parties involved with Great Lakes-St. Lawrence water quality and quantity monitoring, in response to a governors’ resolution from the Mackinac Island summit in June 2013.

8) Upcoming Meetings:
   - December 19, Board call
   - January 28 Board meeting, Chicago
   - February 20, Board meeting
   - March 4-5, Semiannual Meeting, Washington
   - March 6, Congressional Breakfast reception and Great Lakes Day

The meeting adjourned at 11:03 a.m.

Respectfully submitted,

Tim A. Eder
Executive Director
The meeting was called to order at 1 p.m. EDT by Kelly Burch, vice chair. The following members were present on the call:

Todd Main - Illinois
Jon Allan - Michigan
Don Zelazny - New York
Jim Zehringer, Karl Gebhardt, Mike Bailey - Ohio
Ranissah Samah (for Bill Carr) - Ontario
Kelly Burch - Pennsylvania
Eric Marquis - Québec
Kim Walz (for Ken Johnson) - Wisconsin

Staff present: Tim Eder, Tom Crane, Christine Manninen, Matt Doss, Victoria Pebbles.

1) Vice Chair Kelly Burch welcomed everyone to the call and reviewed the agenda.

2) Minutes: Vice Chair Burch called for approval of the minutes from the Board's July 18, 2013, conference call. A motion to approve the minutes was made by Commissioner Zehringer (OH), seconded by Commissioner Zelazny (NY). A minor grammatical edit was made on page 1, item #4. The minutes, as amended, were unanimously approved.

3) Report on meeting (call) with U.S. EPA regarding Great Lakes Restoration Initiative comments: Eder reported that a follow-up discussion was held with Cam Davis and Susan Hedman. Eder, Chairman Johnson, Vice Chair Burch, Commissioners Jim Tierney, Don Zelazny and Steve Galarneau participated in this call. The GLC’s comments were well-received. The relationship between the states and the federal government regarding implementation of GLRI was discussed at length. Hedman committed that a state presentation would be welcomed during a future meeting of the Regional Working Group. GLC Chair Ken Johnson will participate in a future Interagency Task Force meeting, as well. Zelazny commented that three of the GLC’s recommendations focused on invasive species. Hedman indicated her intent that USFWS become the lead on invasive species work in the future. Commissioner Allan suggested that the GLC might take a more formal stance on this issue and endorsement of USFWS to lead future invasive species efforts in the region. Action: Eder will follow up on this issue and find out what responsibilities and funding have currently been delegated to USFWS.

4) Annual Meeting 2013: Eder is still waiting on Gov. Walker confirmation for the Sept. 9 lunch keynote address. The water levels panel is shaping up nicely. Regarding the state-provincial updates, the topics of most interest seem to be nutrients/phosphorus, water quality and coastal resiliency and adaptation. The majority of Board discussion focused on the resolutions and action items.

Resolutions

Navigation: Various numbers have been verified. The final Resolve clause was removed. Commissioner Zelazny reported that NY is still trying to get feedback on the resolution from their governor’s office. There was agreement to move forward with the resolution.
Wind: References to the LeedCo project were revised to reflect Ohio views. Commissioner Gebhardt reported that Ohio is comfortable with the resolution moving forward but they have a meeting with their governor’s office this week and will make Eder aware of any remaining concerns. Pending that discussion, there was agreement to move forward with the resolution.

Persistent Bioaccumulative Toxic Chemicals: Eder shared this draft resolution with the Council of Great Lakes Industries. He made some minor edits to the resolution, based on CGLI’s comments. They voiced some concern with the resolution. Eder clarified that the GLC will not be getting involved with any national coalitions advocating for the reform of the U.S. Toxic Substances Control Act (TSCA). This resolution would put the GLC on record in support of reforming TSCA. Commissioner Zelazny noted that in the last Resolve clause we may be committing ourselves to something we don’t know much about yet (i.e., Annex 3 implementation). Change to “effective DEVELOPMENT of Annex 3.” Commissioner Allan asked how the other states/provinces read this resolution with regard to coal. Commissioner Zehringer noted that this is an important point that needs to be explored further. Eder said that this resolution would not be interpreted by staff to be anti-coal. Commissioner Gebhardt asked what the timeline is for establishment of the Annex subcommittees. Eder reported that the committees are currently being established and will meet at least semiannually. Commissioner Gebhardt suggested that this resolution might be delayed until the Annex 3 subcommittee has been established. The Board approved moving forward with the resolution now so the GLC’s position on TSCA would be on record. Action: Eder will revise the last Resolve clause.

Rivermouths: Commissioner Main noted that EPA is moving toward a post-AOC world, and perhaps in this resolution the GLC should suggest that EPA add a focus on rivermouths in their future GLRI priorities. Commissioner Allan noted that the link should be drawn between what happens upstream and how it affects the rivermouth areas. Commissioner Main added that rivermouths provide guideposts for the ecological health of a watershed. Action: Eder will add these ideas to the resolution. The resolve clauses will be revised to also reference Annex 1 (AOCs). Vice Chair Burch noted that recent PA discussions are taking a different approach, focusing on the whole watershed and not carving out the rivermouths specifically.

Action Item
Transportation of Crude Oil: Additional contextual comments on this action item were received from Québec. Associate Commissioner Marquis noted upcoming action at the federal level in Canada. Eder noted that this action item was shared with the GLC’s Economic Committee. There is some opposition in the NGO community to shipping fuels via ships on the Great Lakes. Eder clarified that the GLC is not advocating for excluding any mode of transportation for these shipments. Commissioner Allan wanted to make sure that the draft of the GLC Issue Brief on this topic be shared with interested stakeholders (i.e., external partners). He noted that the GLC is preparing a thought piece, and it’s important that we avail ourselves to other points of view. Action: Staff will revise the Action Item to reflect these comments.

State/Provincial Roundtable: Eder said he has received several suggestions for this session. He suggested Clean Water & Urban Sources and Clean Water & Rural Sources as the overarching themes on the agenda. Most of the jurisdictions will participate. Action: Eder will parse out these sessions and provide further direction to the jurisdictions, time limits, etc.

5) Federal legislation update: Eder referenced a memo that was prepared for the Board on the status of GLC 2013 Federal Priorities. Any questions should be addressed to Eder or Matt Doss, policy director.
6) **Great Lakes Wind Collaborative update:** The GLWC generally doesn't take positions on policies, however the GLWC did endorse the LeedCo project in Lake Erie. Given this, Eder and Victoria Pebbles have agreed that the officers of the GLWC will be the spokespeople for this group in the future, rather than GLC staff. The GLWC Annual Meeting will be Sept. 22-23 in Columbus, Ohio.

7) Other business: Vice Chair Burch reported that the first harmful algal bloom was detected in Presque Isle Bay recently, near Erie, Pa. There is little agriculture in this area. PA Sea Grant is working closely with Ohio Sea Grant on this issue. Commissioner Zehringer (OH) offered their assistance. Commissioner Zelazny (NY) reported that Red House Lake in Alleghany State Park also had a recent outbreak.

8) **Upcoming Meetings:**
   - Sept. 9, Annual Meeting in Milwaukee
   - Sept. 9-12, Great Lakes Week in Milwaukee
   - Sept. 11, Great Lakes Water Quality Agreement Summit

The meeting adjourned at 2:05 p.m.

Respectfully submitted,

Tim A. Eder
Executive Director

/cm
Action Items

- **Resolution – Preventing the interbasin transfer of Asian carp and other invasive species:** This resolution recognizes the imminent threat posed by Asian carp and the ongoing concern about the interbasin transfer of aquatic invasive species (AIS); existing efforts to stop the movement of Asian carp and develop potential solutions; and the need to define and move forward with short- and long-term actions that will address this threat.

- **Resolution – Sustaining progress under the Great Lakes Restoration Initiative in fiscal years 2015-19:** This resolution recognizes the progress we are making in implementing the GLRI, and opportunities to enhance and continue the program for another five years to maintain our momentum and build on past investments. The resolution calls on the U.S. EPA to consult with the Great Lakes states and other regional partners to complete an update of the GLRI Action Plan for fiscal years 2015-19 that includes strengthened performance measures and actions to account for challenges that could have a material effect on the success of the GLRI, such as climate change; and calls on Congress to continue funding for the GLRI through FY2019.

- **Resolution – Strengthening federal protections against the importation and trade of invasive species:** This resolution recognizes the ongoing risk to the Great Lakes posed by the importation of harmful, non-native species and calls on Congress and the Executive Branch to use legislation or existing authorities to strengthen federal laws and programs to implement and expedite screening of non-native species in trade. It formalizes the GLC’s support for actions that will establish an efficient and mandatory pre-import screening process for non-native species, and strengthen federal authority to prohibit importation of those species that are determined to be injurious.

- **Resolution – Advancing economic strength and environmental integrity for the Great Lakes region: Federal priorities for 2014:** This resolution endorses the GLC’s suite of federal priorities for 2014; and calls on Congress and the Administration to continue to maintain base funding for Great Lakes programs and strengthen collaboration with the Great Lakes states in the implementation of the Great Lakes Restoration Initiative (GLRI).
Preventing the interbasin transfer of Asian carp and other invasive species

Whereas, Asian carp pose an imminent threat to the Great Lakes ecosystem and economy because of their ability to reproduce rapidly and consume large quantities of food; and

Whereas, if populations of Asian carp become established in the Great Lakes they will be difficult, if not impossible, to control or eradicate and thus the federal government has recognized Asian carp as “the most acute [aquatic invasive species] threat facing the Great Lakes today”; and

Whereas, extensive monitoring and control efforts including commercial fishing in the Chicago Area Waterway System (CAWS), led by the Illinois Department of Natural Resources and its federal partners, are important interim control measures, while long-term solutions are pursued; and

Whereas, a recent study conducted by the Army Corps of Engineers and the U.S. Fish and Wildlife Service showed that the electric barriers in the CAWS are not effective in stopping the movement of all fish, especially small fish, and that barges can sweep fish through the electric barrier; and

Whereas, the Army Corps of Engineers has identified 13 aquatic invasive species (AIS) with a high or medium risk of passing through the CAWS into either the Great Lakes or Mississippi River basins that likely would cause harmful impacts on the basin being invaded; and

Whereas, the Army Corps of Engineers has identified 17 other pathways, in addition to the CAWS, through which AIS may be able to pass between the Great Lakes and Mississippi River basins; and

Whereas, the states of Indiana and Ohio are working with federal partners to close connection points in Eagle Marsh and Ohio waterways; and

Whereas, the State of Wisconsin has permanently closed the Rapide Croche Lock on the Fox River to prevent the passage of aquatic invasive species from Lake Michigan into the Fox River; and

Whereas, the State of Minnesota is actively developing and investing in measures to combat further spread of Asian carp to its inland lakes and rivers, including possible closure of the most upstream Mississippi River lock in Minneapolis; and

Whereas, the Great Lakes governors and premiers of Ontario and Québec have committed to work together to prevent the introduction of new aquatic invasive species, and to develop a mutual aid agreement to facilitate cooperative response actions in the event of detection of new aquatic invasive species that threaten the region; and

Whereas, preventing the spread of Asian carp is a national problem – as evidenced by control efforts also underway in the Ohio River and Upper Mississippi River – and research and control actions in the Great Lakes can support and will be relevant for efforts in other parts of the country; and

Whereas, the *Restoring the Natural Divide* report prepared in 2012 by the Great Lakes Commission and the Great Lakes and St. Lawrence Cities Initiative presented three alternatives for separating the Great Lakes and Mississippi
River watersheds in the CAWS to provide a long-term solution that prevents AIS transfer while maintaining or enhancing the system’s benefits for flood protection, water quality and waterborne transportation; and

Whereas, the Army Corps of Engineers has released the Great Lakes and Mississippi River Interbasin Study (GLMRIS) presenting a range of eight options to reduce risk of AIS movement between the Great Lakes and Mississippi River basins, including two alternatives for full hydrological separation; and

Whereas, the GLMRIS report recognizes the hydrologic separation options as the most effective at keeping Asian carp out of the Great Lakes; and

Whereas, the GLMRIS report does not recommend a preferred alternative and the Corps of Engineers has not provided direction on next steps, emphasizing that “ANS control is a shared responsibility” and “continued participation by stakeholders is essential to reach a decision and authorization for a collaborative path forward”; and

Whereas, the Great Lakes Commission has determined that immediate action is needed to identify short-term steps that can be implemented quickly to reduce risk while continuing to build consensus around a long-term solution.

Therefore, Be It Resolved, that the Great Lakes Commission calls for continued action by federal partners to support states in their efforts to further modify waterways and construct barriers to reduce and strive to eliminate the degree of risk from connection points outside of the CAWS; and

Be It Further Resolved, that the Great Lakes Commission calls for immediate action on a suite of near-term measures to reduce the risk of interbasin transfer of Asian carp and other invasive species at the CAWS, including:

- continued implementation of the Asian Carp Control Strategy Framework and related efforts;
- immediate implementation of additional control measures as generally outlined in the GLMRIS alternative two (such as use of chemical controls, ballast and bilge management, habitat alternation, and controlled harvesting and overfishing);
- design, engineering and construction within three years of modifications to the Brandon Road lock and dam structure to reduce the risk of one-way transfer (into Lake Michigan), including additional electric barriers at the entrance and exit of the lock, use of fish deterrents, modifications of the gates on the dam, and other technologies;
- design, engineering and testing of the “GLMRIS lock,” as a national demonstration project, to determine its viability and effectiveness at stopping both one- and two-way transfer and cost; and

Be It Further Resolved, while near-term control measures are vital, it is critical that long-term solutions, which may include physical separation, be implemented quickly consistent with the continued movement of Asian carp and other invasive species toward the Great Lakes, and from the Great Lakes toward the Mississippi River basin; and

Be It Further Resolved, that efforts to develop and reach regional consensus within both the Great Lakes and Mississippi River basins on long-term solutions to prevent interbasin transfer of aquatic invasive species should be accelerated and should include input from the states, the provinces of Ontario and Québec, the full range of affected stakeholders, and that an advisory committee assembled by the Great Lakes Commission and the Great Lakes and St. Lawrence Cities Initiative be requested to provide input on solutions in and affecting northeast Illinois and northwest Indiana; and

Be It Further Resolved, that long-term solutions must strive to eliminate risk and prevent the interbasin transfer of all aquatic invasive species while mitigating potential negative impacts on current flood risk management, water quality protection, recreation, and commercial transportation priorities in northeast Illinois and northwest Indiana; and
Be It Further Resolved, that commercial navigation industries are called upon to identify practices to reduce the risk of aquatic invasive species transfer that will be instituted on an escalating pace commensurate with increasing risk of interbasin transfer of Asian carp and other invasive species during their advance toward Lake Michigan; and

Be It Further Resolved, to complement what is expected to be a substantial commitment of federal resources to address solutions, the Great Lakes states and provinces note that they are currently investing substantial state and provincial resources including development of the new mutual aid agreement, resources for research, prevention and enforcement, surveillance, management and public education programs and, further, that the states and provinces are willing to engage in further dialogue on potential for financing approaches that recognize aquatic invasive species prevention and control as a shared responsibility; and

Be It Finally Resolved, that the Great Lakes Commission calls on the Obama Administration to increase its leadership to resolve the challenge of preventing AIS transfer between the Great Lakes and Mississippi River basins through the Council on Environmental Quality and that the Department of Interior should be delegated the lead role and provided with the resources necessary to coordinate efforts of all other federal agencies.
RESOLUTION – DRAFT

Sustaining progress under the Great Lakes Restoration Initiative in fiscal years 2015-19

Whereas, the Great Lakes and St. Lawrence River are national treasures and environmental and economic assets of vital importance to the eight Great Lakes states, the provinces of Ontario and Québec, and the United States and Canada as a whole; and

Whereas, 36 million Americans and Canadians depend on the Great Lakes-St. Lawrence River Basin for drinking water, recreation, fish and wildlife resources, power generation and commercial navigation, among other benefits; and

Whereas, benefits from the Great Lakes-St. Lawrence River Basin continue to be threatened by the release of untreated sewage, invasive species, toxic contaminants, deteriorating water infrastructure, inadequately maintained ports and harbors, and declining water levels due to climate change and other causes; and

Whereas, with leadership from the president and bipartisan support from Congress, the Great Lakes Restoration Initiative (GLRI) has supported a targeted, regional effort to address critical problems facing the Great Lakes since its inception in 2009; and

Whereas, the GLRI is making significant progress, with over 2,000 restoration projects implemented to clean up degraded coastal areas, halt Asian carp and other invasive species, and prevent polluted runoff that closes beaches and causes harmful algal blooms, with notable results including increased state capacity to support Great Lakes restoration efforts, removal of 46 beneficial use impairments and completion of cleanup work in six Areas of Concern, and initiation of 50 projects remediating over 11 million cubic yards of contaminated sediments; and

Whereas, funding provided by Congress to date for the GLRI has been below the amount projected to ensure its completion within the original five-year timeframe ($2.2 billion) and ecosystem outcomes from the restoration program likely will not become fully apparent for some years after its implementation; and

Whereas, the Great Lakes region – including states, cities, tribes, business and industry, and nongovernmental groups – have invested significant time and resources to build the capacity to implement the GLRI and translate regional restoration goals into site-specific actions that benefit local communities; and

Whereas, U.S. EPA, along with other federal agencies, is updating the GLRI Action Plan to strengthen and guide the program through an extended implementation period from FY 2015-19; and

Whereas, in July 2013 the Great Lakes Commission presented U.S. EPA and its partner agencies with recommendations on updating the GLRI Action Plan and strengthening program implementation through FY 2019 with a request for improved coordination and communication to facilitate consistent, ongoing and open dialogue as the GLRI enters its next phase; and

Whereas, a November 2013 Government Accountability Office report found no significant deficiencies with the GLRI program and recommended that U.S. EPA strengthen the program’s measures of progress and address issues outside its current scope, such as climate change and failing wastewater infrastructure; and
Whereas, in December 2013 the Great Lakes Advisory Board released its Recommendations to the Great Lakes Interagency Task Force on the Development of the FY2015-2019 Great Lakes Restoration Initiative Action Plan that included encouraging continued investment in on-the-ground and in-the-water activities that advance restoration, protection, prevention, sustainability and resilience to climate change.

Therefore, Be It Resolved, that the Great Lakes Commission calls on U.S. EPA to complete an update of the GLRI Action Plan for fiscal years 2015-19 that will guide the restoration program over the next five years, with strengthened performance measures and reporting to better track progress, and actions to account for challenges that could have a material effect on the success of the GLRI, such as climate change; and

Be It Further Resolved, that the Great Lakes Commission calls on U.S. EPA to carry out this update in close consultation with the Great Lakes states, the Great Lakes Congressional Delegation and other regional partners, with consideration given to recommendations from the Great Lakes Commission, the Great Lakes Advisory Board, the Government Accountability Office, and other partners; and

Be It Further Resolved, that the Great Lakes Commission calls on Congress to continue funding for the GLRI through Fiscal Year 2019 to maintain the momentum underway, build on investments made by the Great Lakes states and other partners, and facilitate the long-term success of the regional restoration program; and

Be It Finally Resolved, that the Great Lakes Commission commends U.S. EPA and the other federal agencies, along with state agencies and countless local partners, for their dedication and hard work in implementing the GLRI and urges continued collaboration with the Great Lakes states to sustain its effectiveness.

Presented for consideration at the 2014 Semiannual Meeting of the Great Lakes Commission, March 4-5 in Washington, D.C.
RESOLUTION – DRAFT

Strengthening federal protections against the importation and trade of invasive species

Whereas, the integrity of the Great Lakes-St. Lawrence River Basin ecosystem and economy is threatened by the ongoing introduction and spread of harmful aquatic invasive species; and

Whereas, the United States is a leading import market in the global trade of live organisms with more than 2,200 different species of non-native wildlife being imported to the United States over the last decade, including more than 300 species that pose risks as potential invaders; and

Whereas, the existing federal regulatory system for preventing the importation and trade of injurious wildlife, established through the Lacey Act (18 USC 42) in the early 1900s and administered by the U.S. Fish and Wildlife Service, is too cumbersome and inefficient to keep up with globalization and the current high volume of trade in non-native organisms; and

Whereas, existing procedures too often result in listing species as “injurious” only after they have been imported and begin spreading in the wild, as occurred with species such as Asian carp, Northern snakehead and the Burmese python, which are causing severe disruptions in ecosystems where they are established and costing millions of dollars annually to control; and

Whereas, legislation entitled “The Invasive Fish and Wildlife Prevention Act” (S. 1153 and H.R. 996) has been introduced by Sen. Kirsten Gillibrand (NY) and Rep. Louise Slaughter (NY-25) to strengthen federal laws and programs to reduce the risk of introduction of injurious, non-native wildlife and associated diseases through the trade in live animals; and

Whereas, the above legislation is revenue neutral and would provide the Fish and Wildlife Service with streamlined authority and the ability to proactively list foreign species as “injurious” while providing exemptions for qualified zoos, aquaria and research institutions and common domesticated species kept as pets or livestock; and

Whereas, the Great Lakes Commission has consistently advocated for strengthened federal laws to prevent the introduction and spread of aquatic invasive species.

Therefore, Be It Resolved, that the Great Lakes Commission calls on Congress to support and pass legislation, such as the Invasive Fish and Wildlife Prevention Act (S. 1153 and H.R. 996), to improve federal laws and programs to strengthen our ability to make rapid, science-based decisions and prevent the importation of potentially damaging non-native fish and wildlife; and

Be It Further Resolved, that the Great Lakes Commission calls on the Department of Interior to accelerate use of existing authorities to expedite the listing of and restrict import of harmful, non-native species; and

Be It Finally Resolved, that the Great Lakes Commission supports legislative or executive branch action that will:

• establish a mandatory pre-import screening process that is efficient and systematic for federal agencies to evaluate risks associated with species proposed for importation;

• allow federal agencies to implement the screening process for non-native species already in trade; and
• provide the authority needed for federal agencies to prohibit importation of those species determined to be injurious.
RESOLUTION – DRAFT

Advancing economic strength and environmental integrity for the Great Lakes region: Federal priorities for 2014

Whereas, the Great Lakes and St. Lawrence River are a binational treasure and an environmental and economic asset of vital importance to the eight Great Lakes states, two provinces and the North American economy; and

Whereas, 36 million Americans and Canadians depend on the Great Lakes-St. Lawrence River Basin for drinking water, recreation, fish and wildlife resources, power generation and commercial navigation, among other benefits; and

Whereas, these benefits from the Great Lakes-St. Lawrence River Basin continue to be threatened by the release of untreated sewage, invasive species, toxic contaminants, deteriorating water infrastructure, inadequately maintained ports and harbors, and other causes; and

Whereas, Congress and the Administration are supporting an unprecedented partnership with the Great Lakes states and other partners to implement the Great Lakes Restoration Initiative (GLRI), which is strategically targeting the most critical problems facing the Great Lakes;

Whereas, the Great Lakes region – including states, cities, tribes, business and industry, and nongovernmental groups – are investing significant time and resources to implement the GLRI and translate regional goals into site-specific actions that generate real benefits for local communities; and

Whereas, the Great Lakes states are critical partners in the success of the GLRI with the best knowledge and experience to ensure that resources are targeted at local priorities, and several of the Great Lakes states have adopted Great Lakes restoration strategies and plans to complement federal restoration activities in their states; and

Whereas, the Great Lakes region faces other challenges and opportunities, including preventing the introduction and spread of Asian carp and other invasive species, repairing failing water infrastructure, preventing nutrient pollution, and strengthening the Great Lakes commercial navigation system.

Therefore, Be It Resolved, that the Great Lakes Commission endorses a suite of federal priorities for 2014, with a primary focus on:

- Providing funding and direction to the Army Corps of Engineers and other agencies to advance alternatives from the Great Lakes and Mississippi River Interbasin Study and supporting immediate implementation of control measures that can move forward now; supporting a comprehensive national Asian carp control program led USF&WWS and the successful sea lamprey control program led by the Great Lakes Fishery Commission; and taking action to strengthen federal programs to prevent the importation of invasive species
- Providing $300 million-$475 million for the GLRI in FY 2015 and updating the GLRI Action Plan to guide the restoration program over the next five years, with strengthened performance measures and reporting to better track progress, and actions to account for challenges outside the scope of the GLRI, such as climate change and failing wastewater infrastructure
• Passing comprehensive legislation that authorizes important existing Great Lakes programs and provides a strong regional framework to sustain effective restoration, protection and ongoing management of the Great Lakes
• Providing funding for the Clean Water and Safe Drinking Water State Revolving Fund programs in FY 2015 to repair failing water infrastructure, including separating combined sewers and upgrading sewage treatment plants to prevent the release of nutrients that contribute to harmful algal blooms in the Great Lakes; including provisions for low-interest loans and grants to assist economically struggling communities
• Providing funding for and expediting implementation of new Farm Bill programs that implement soil conservation and water quality protection measures, including the Regional Conservation Partnership Program that focuses on reducing nutrient pollution in priority watersheds, with input from the Great Lakes states and in coordination with state priorities
• Increasing appropriations from the Harbor Maintenance Trust Fund with a primary focus on critical needs facing authorized navigation projects; the Corps of Engineers should implement a new funding approach that manages the Great Lakes as a single, integrated navigation system, with close consultation with the Great Lakes states and regional stakeholders; and

Be It Further Resolved, that the GLRI is intended to supplement, not supplant, base funding for Great Lakes programs and the Great Lakes Commission calls on Congress and the Administration to maintain funding for core programs; and

Be It Further Resolved, that the Great Lakes Commission calls on Congress and the Administration to continue to strengthen collaboration with the eight Great Lakes states in the implementation of the GLRI, recognizing that elevating their role will improve administrative efficiency and ensure that resources are directed at the most important on-the-ground restoration priorities in shoreline communities; and

Be It Finally Resolved, that the Great Lakes Commission calls on the Obama Administration and Congress to sustain the progress being made in restoring the Great Lakes and leveraging them as an economic asset for the eight-state Great Lakes region by supporting these priorities together with core programs that provide for ongoing conservation and management of the Great Lakes.
Building a Brighter Future for the Great Lakes and St. Lawrence River Region

The Great Lakes and St. Lawrence River are a natural treasure and a vital economic asset that give our eight-state, two-province region a unique competitive advantage. With 90 percent of our nation’s supply of fresh surface water, the Great Lakes provide vital benefits for the 36 million Americans and Canadians who live in the region, including unparalleled recreational opportunities for residents and tourists; abundant fresh water for communities and industries; an efficient transportation system for raw materials and finished goods; and extensive habitat for fish and wildlife.

Restoring, protecting and wisely using the Great Lakes and St. Lawrence River are fundamental to our broader strategy to create jobs, stimulate economic development and strengthen waterfront communities. With proper care and sound investments, the Great Lakes will continue to be a foundation for economic prosperity and a high quality of life for our region’s future.

Sustaining Our Progress

We are making real progress in cleaning up the Great Lakes and addressing threats to their health. Most significantly, we are implementing the Great Lakes Restoration Initiative (GLRI), an unprecedented regional effort that is addressing serious problems facing the Great Lakes. This action-oriented initiative is translating our regional restoration strategy into site-specific projects that are cleaning up contaminated Areas of Concern, reducing phosphorus runoff that causes harmful algal blooms, and preventing the introduction and spread of invasive species such as Asian carp.

There is still much work to be done and it is critical that the GLRI be carried through to completion. Great Lakes restoration is a wise investment that is projected to generate over $50 billion in long-term economic benefits.

Regional Priorities for the Great Lakes

The Great Lakes Commission urges Congress and the Administration to support the following regional priorities to sustain our restoration efforts and address specific challenges to the long-term environmental and economic health of the Great Lakes.

- Take action to protect the Great Lakes and St. Lawrence River against Asian carp and other invasive species
- Sustain progress under the Great Lakes Restoration Initiative
- Pass comprehensive legislation to strengthen and accelerate Great Lakes conservation efforts
- Help communities upgrade aging water infrastructure
- Support Farm Bill programs that prevent polluted runoff and protect water quality
- Maintain and improve infrastructure for the Great Lakes navigation system
Take Action to Protect the Great Lakes and St. Lawrence River against Asian Carp and other Aquatic Invasive Species

The Administration and Congress must act with urgency to prevent the introduction and spread of Asian carp and other aquatic invasive species. This includes providing funding and direction to the Army Corps of Engineers and other agencies to develop alternatives from the Great Lakes and Mississippi River Interbasin Study (GLMRIS), and supporting immediate control measures recommended by regional leaders and local partners in the Chicago area. Asian carp are a national problem and Congress should provide funding to the U.S. Fish and Wildlife Service (USF&WS) to lead a comprehensive national control effort. Our country remains vulnerable to invasive species introduced via the trade in live animals – as occurred with Asian carp – and action is needed to strengthen federal programs to prevent harmful species from being imported. Congress should provide full funding for the Great Lakes Fishery Commission’s successful sea lamprey control program.

Request: Provide funding and direction to the Army Corps of Engineers and other agencies to advance alternatives from the GLMRIS report and support implementation of control measures that can move forward immediately. Support a comprehensive national Asian carp control program led by USF&WS and the successful sea lamprey control program led by the Great Lakes Fishery Commission. Take action to strengthen federal programs to prevent the importation of invasive species.

Sustain Progress under the Great Lakes Restoration Initiative

Sustaining funding for the GLRI is critical to build on the investments underway at the federal, state and local level and help the region “get the job done!” The GLRI Action Plan is being updated and a regional advisory board has been established to guide the restoration program. We are making progress in achieving the Initiative’s goals, with special emphasis on cleaning up degraded Areas of Concern, reducing phosphorus runoff that contributes to harmful algal blooms, and preventing the introduction and spread of harmful aquatic invasive species. The Commission urges Congress and the Administration to continue this successful program to ensure complete implementation of our regional restoration strategy.

Request: Provide $300 million - $475 million for the GLRI in FY 2015. Update the GLRI Action Plan to guide the restoration program over the next five years, with strengthened performance measures and reporting to better track progress, and actions to account for challenges outside the scope of the GLRI, such as climate change and failing wastewater infrastructure.

Top Priorities for the Great Lakes

Chicago River leading to Lake Michigan, Chicago, Ill.
Support Farm Bill Programs that Prevent Polluted Runoff and Protect Water Quality

Soil erosion and runoff of nutrients, fertilizers and other chemicals from agricultural lands can pollute rivers and streams and contribute to harmful algal blooms – a growing problem in the Great Lakes. The recently passed Farm Bill provides an important opportunity to safeguard the Great Lakes and address threats to agricultural productivity and water quality. The bill includes a new Regional Conservation Partnership Program that – if fully funded and implemented – will strengthen our region’s ability to address priority watersheds with the greatest conservation needs. This will enable the Great Lakes states, regional organizations, landowners and other partners to respond to local priorities related to soil erosion, habitat protection and water quality. Ultimately, this will benefit landowners and their communities, while safeguarding the health of the Great Lakes.

Request: Provide funding for and expedite implementation of new Farm Bill programs that implement soil conservation and water quality protection measures, including the Regional Conservation Partnership Program that focuses on reducing nutrient pollution in priority watersheds, with input from the Great Lakes states and in coordination with state priorities.

Maintain and Improve Infrastructure for the Great Lakes Navigation System

The economic viability of our water transportation system is at risk due to reduced funding for dredging, lower water levels in the lakes, diminishing options for disposing of dredged material and aging navigation infrastructure. The Water Resources Development Act (WRDA) currently being considered by Congress includes important provisions that will reform the Harbor Maintenance Trust Fund (HMTF) to ensure that monies collected are used to maintain our nation’s navigation infrastructure; and implement a new approach that manages the Great Lakes as a single, integrated system, recognizing the interdependence of our ports and harbors. New approaches are also needed to support dredging of recreational harbors, which are vital to the economic health of coastal communities.

Request: Increase appropriations from the HMTF with a primary focus on critical needs facing authorized navigation projects. The Army Corps of Engineers should implement a new funding approach that manages the Great Lakes as a single, integrated navigation system in close consultation with the Great Lakes states and regional stakeholders. Support efforts to secure resources for dredging of small harbors.

Help Local Communities Upgrade Aging Water Infrastructure

Aging wastewater infrastructure allows the release of inadequately treated sewage into local waterways every year. Sewage discharges continue to close Great Lakes beaches, threaten public health and damage local economies. Similarly, degraded drinking water infrastructure is a costly challenge for many communities. The Clean Water and Safe Drinking Water State Revolving Fund (SRF) programs assist states and local communities in upgrading water infrastructure.

Request: Provide funding for the Clean Water and Safe Drinking Water SRFs in FY 2015 to repair failing water infrastructure, including separating combined sewers and upgrading sewage treatment plants to prevent the release of nutrients that contribute to harmful algal blooms in the Great Lakes. Include provisions for low-interest loans and grants to assist economically struggling communities.

Pass Comprehensive Legislation to Strengthen and Accelerate Great Lakes Conservation Efforts

The Great Lakes Ecological and Economic Protection Act (GLEEPA) has been introduced by the bipartisan leaders of the House and Senate Great Lakes task forces to authorize several critical, existing Great Lakes programs and strengthen coordination with regional stakeholders and binational cooperation with Canada. The Commission supports legislation that will

- Authorize the GLRI to target significant problems facing the basin at a funding level of $475 million annually
- Reauthorize U.S. EPA’s Great Lakes National Program Office to facilitate policy and administrative tasks relating to the Great Lakes
- Reauthorize the Great Lakes Legacy Act at a funding level of $150 million annually to remove contaminated sediments from the Great Lakes basin
- Establish a Great Lakes Advisory Board to secure input from the states and regional stakeholders
- Authorize a Federal Interagency Task Force to coordinate restoration efforts among federal agencies
- Advance implementation of the Great Lakes Water Quality Agreement with Canada

Request: Pass comprehensive legislation that authorizes important existing Great Lakes programs and provides a strong regional framework to sustain effective restoration, protection and ongoing management of the Great Lakes.
Maintain Base Funding for Federal Programs

Congress has been clear that GLRI funding is intended to be in addition to base funding for many essential programs.

Request: Support federal programs that contribute to the ongoing restoration, protection and effective management of the Great Lakes. Examples of important programs include, but are not limited to, the following:

### Department of Agriculture
- Natural Resources Conservation Service and the new Regional Conservation Partnership Program
- Farm Service Agency
- U.S. Forest Service conservation programs

### Department of the Interior
- U.S. Fish and Wildlife Service, Aquatic Invasive Species Program
- U.S. Fish and Wildlife Service, Great Lakes Fish and Wildlife Restoration Act
- U.S. Geological Survey, Great Lakes Science Center
- U.S. Geological Survey, National Streamflow Information Program

### National Oceanic and Atmospheric Administration

- Coastal and Estuarine Land Conservation Program
- Coastal Zone Management Act Grants
- Great Lakes Environmental Research Laboratory
- Great Lakes Habitat Restoration Program
- Integrated Ocean Observing System, Great Lakes Observing System
- National Sea Grant College Program

### U.S. Army Corps of Engineers
- Great Lakes Fishery and Ecosystem Restoration Program
- Great Lakes Navigation Operations and Maintenance
- Great Lakes Recreational Harbors Dredging
- Great Lakes Remedial Action Plan Program
- Great Lakes and Mississippi River Interbasin Study

About the Great Lakes Commission
The Great Lakes Commission was established by the Great Lakes states in 1955 to coordinate management of the water resources of the Great Lakes basin and to represent the states’ interests on Great Lakes matters before the federal government. Based in Ann Arbor, Mich., the Commission promotes the concept that a healthy environment and prosperous economy should be mutually dependent, not exclusive, goals. With appointees from the eight states, the Commission serves as a forum for the development of regional policy, and as an advocate for legislation and programs to benefit the Great Lakes. The Canadian provinces of Ontario and Québec participate in all Commission deliberations and activities as associate members.
The Great Lakes are a natural treasure and a vital economic asset for our eight-state region. They provide us with a high quality of life and valuable benefits, including drinking water for 36 million people. The lakes face continued threats, such as a legacy of toxic contamination; invasive species that cost the region hundreds of millions of dollars annually; and the loss of habitat that is vital for fish and wildlife and our region’s tourism industry. We have solutions to these problems and recent investments are making a difference. Continued action is needed to fully implement our Great Lakes restoration plan, which is projected to generate at least $50 billion in long-term economic benefits.

Our organizations are united in urging Congress to support these priorities for the Great Lakes:

- **Support the Great Lakes Restoration Initiative**
  The GLRI is cleaning up contaminated Areas of Concern, halting Asian carp and other invasive species, and addressing polluted runoff that closes beaches and causes harmful algal blooms. There is still much work to be done and it is critical that Congress sustain support for the GLRI. Cutting funding now will undermine existing investments and make cleanup efforts more complicated and costly. **Sustain the GLRI by providing at least $300 million in FY 2015 to maintain progress in implementing our Great Lakes restoration strategy.**

- **Pass legislation to enhance Great Lakes restoration and protection**
  The Great Lakes Ecological and Economic Protection Act (S. 1232 and H.R. 2773) has been introduced by the bipartisan leaders of the House and Senate Great Lakes task forces to authorize several critical, existing Great Lakes programs and strengthen coordination with regional stakeholders and binational cooperation with Canada. **Co-sponsor and pass legislation that authorizes the Great Lakes Restoration Initiative, reauthorizes the Great Lakes Legacy Act, and strengthens regional and binational restoration and protection efforts.**

- **Take action to protect the Great Lakes from Asian carp and other aquatic invasive species**
  Congress must act with urgency to prevent the introduction and spread of Asian carp and other aquatic invasive species that threaten the health of the lakes and the recreational benefits they provide for residents and tourists. **Provide funding and direction to the U.S. Army Corps of Engineers and other agencies to advance alternatives from the Great Lakes and Mississippi River Interbasin Study and support implementation of control measures that can move forward immediately; maintain current actions under the Asian Carp Control Strategy Framework; support a national Asian carp control program led by the U.S. Fish and Wildlife Service; strengthen federal programs to prevent the importation of harmful non-native species; and provide full funding for the successful sea lamprey control program led by the Great Lakes Fishery Commission.**

- **Invest in clean water infrastructure**
  Aging sewers release billions of gallons of untreated sewage and stormwater into the Great Lakes each year. Continued support is needed to help local communities repair and upgrade aging infrastructure to end sewer overflows, keep Great Lakes beaches open and safeguard drinking water. **Reauthorize and provide funding for the Clean Water and Safe Drinking Water State Revolving Fund programs.**

- **Sustain the economic and ecological vitality of Great Lakes ports and harbors**
  We need to maintain and upgrade infrastructure that supports commercial navigation and recreational boating in the Great Lakes region. This is vital for our regional economy and the health of coastal communities. **Fund maintenance and improvements to commercial ports and recreational harbors, using ecologically protective measures.**
Speaker Topics

Under this tab are background materials provided to inform the panel discussions:

Asian Carp / GLMRIS Report

- GLMRIS Alternatives Evaluation Criteria
- ANS Control Technologies Considered in GLMRIS Alternatives
- GLMRIS Lock description
- Initial Overview of the GLMRIS Report, prepared by the Great Lakes Commission, Great Lakes-St. Lawrence Cities Initiative, HDR Engineering and ECT, Inc.
- Asian carp response efforts in the Chicago Area Waterway System, courtesy Asian Carp Regional Coordinating Committee
- “EDITORIAL: Shutting down waterways sounds fishy,” Northwest Indiana Times; Feb. 16, 2014

Oil Transportation

- “Inside the oil-shipping-free-for-all that brought disaster to Lac-Mégantic,” The Globe and Mail; Dec. 2, 2013
Table 4.2 GLMRIS Evaluation Criteria Summary

<table>
<thead>
<tr>
<th>GLMRIS Alternatives</th>
<th>GLMRIS Alternatives Evaluation Criteria†</th>
<th>Effects of GLMRIS Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effectiveness at Preventing Interbasin Transfer (at time of implementation)</td>
<td>Implementation (years)</td>
</tr>
<tr>
<td>No New Federal Action – Sustained Activities</td>
<td>★</td>
<td>0</td>
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<tr>
<td>Nonstructural Control Technologies</td>
<td>★★</td>
<td>25</td>
</tr>
<tr>
<td>Mid-System Control Technologies without a Buffer Zone – Flow Bypass²</td>
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<td>10</td>
</tr>
<tr>
<td>Lakefront Hydrologic Separation²</td>
<td>★★★★</td>
<td>25</td>
</tr>
<tr>
<td>Mid-System Hydrologic Separation²</td>
<td>★★★★</td>
<td>25</td>
</tr>
<tr>
<td>Hybrid – Mid-System Separation Cal-Sag Open²</td>
<td>★★★</td>
<td>25</td>
</tr>
<tr>
<td>Hybrid – Mid-System Separation CSSC Open²</td>
<td>★★★</td>
<td>25</td>
</tr>
</tbody>
</table>

† Evaluation Criteria Descriptions are located on the reverse side of this table.
1 Under the Lakefront Hydrologic Separation Alternative, stormwater and CSOs would no longer be able to backflow to Lake Michigan, likely reducing beach closures and contaminant loading to Lake Michigan.
2 This alternative includes the nonstructural measures identified in the Nonstructural Alternative.
3 A quantified evaluation of the impacts of the Nonstructural Alternative was unable to be completed. Based on professional judgment, the impacts are believed to be likely minimal.
4 The costs presented in the GLMRIS Report are commensurate with the five percent level of detail in design for each alternative. The cost and schedule estimates are appropriately used in this report as a means to compare the alternatives presented. The funding stream for an alternative is assumed to be sufficient to support annual progress to meet corresponding implementation timelines. These cost and schedule estimates are not intended to support authorizing language, and will change with more detailed designs of an alternative.
5 Estimated initial costs for the Nonstructural Alternative are assumed negligible and sufficiently captured by the estimate for the annual OMRR&R Costs.
Effectiveness at Preventing Interbasin Transfer. This criterion qualitatively assesses the alternative’s effectiveness at preventing ANS transfer based on the number of High and Medium risk ANS of Concern whose risk of establishment can be reduced from High or Medium to Low. This criterion is also influenced by the comparative levels of uncertainty associated with the ANS Control measures proposed in each alternative. Plans are given a “star” [*] rating; with four “stars” being the most effective.

Implementation. This criterion is the total number of years it will take for the alternative to fully realize projected risk reduction benefits.

Negative CAWS Environmental Impacts. This criterion qualitatively evaluates the negative effects of an alternative on the existing environment limited to the footprint area of the alternative’s construction and the alternative’s impact on the connectivity of the habitats in the CAWS.

CAWS Ecosystem Mitigation Measures Costs. This criterion presents the estimated costs to mitigate some of the negative environmental impacts of an alternative.

Water Quality Impacts (CAWS). This qualitative rating is based upon the output of the CAWS DUFLOW model. DUFLOW simulates the water quality (WQ) in the CAWS under baseline, future without project, and future with project conditions. DUFLOW simulation results are used to generate a CAWS Water Quality Index for each project alternative based on the percent increase in Days Out of Regulatory Compliance for three indicator constituents (Fecal Coliform, Dissolved Oxygen, and Chloride). A detailed discussion of these analyses can be found in Appendix F – Water Quality Analyses.

Water Quality Impacts (Lake Michigan). This qualitative rating is based upon the output of the CAWS DUFLOW and Lake Michigan FVCOM models. DUFLOW calculates the loads of pollutants discharged to Lake Michigan for the baseline, future without project, and future with project conditions. DUFLOW simulation results are used to generate a Lake Michigan Water Quality Index for each project alternative, based on the mass of pollutant loads to Lake Michigan for six indicator constituents (Biochemical Oxygen Demand, Total Nitrogen, Total Phosphorus, Total Suspended Solids, Chloride, and Fecal Coliform). A detailed discussion of these water quality analyses can be found in Appendix F – Water Quality Analyses.

Water Quality Mitigation Measures Costs. This criterion presents the estimated costs to mitigate the Water Quality Impacts to both the CAWS and Lake Michigan of an alternative. Further detailed discussion of the mitigation measures can be found in Appendix F – Water Quality, and the associated cost analyses are described in more detail in Appendix K.

Flood Risk Management (FRM). This criterion displays the FRM impacts as the equivalent expected annual damages (EEAD) associated with implementing each GLMRIS Alternative plan. In the without-project conditions, damages are expected to occur to various structures. However, the implementation of a GLMRIS plan will either increase the total damages in the Chicago area (represented as positive values in this column) or decrease total damages in the Chicago area (negative value). Specifically, the values presented represent the difference (i.e., net change) between the without-project condition (EEAD of $231.241 million) and the with-project conditions. Positive values represent induced damages in the Chicago area. Negative values represent a reduction in overall damages in the Chicago area. Values show the unmitigated impacts. A more detailed discussion of this analysis can be found in Appendix E – Hydrologic & Hydraulic Analyses and Appendix D – Economic Analyses.

FRM Mitigation Measures Costs. This criterion presents the estimated costs to mitigate the FRM impacts of an alternative. Further detailed discussion of the mitigation measures can be found in Appendices E, and J, and the associated cost analyses are described in more detail in Appendix K.

Commercial Cargo Cost Impacts. Normally, it is cheaper to move bulk commodities via waterways (waterborne transportation) than it is on land (i.e., via truck and rail). The difference between the costs of moving commodities on land and the cost of moving them on a waterway is called “transportation cost savings.” This criterion displays the losses in transportation cost savings if a GLMRIS Alternative is implemented. Several of the GLMRIS Alternative plans include measures that would decrease the efficiency of moving goods on the waterway, so the cost of shipping these goods via waterways increases. Therefore, there are fewer savings associated with moving the goods via water under versus land. The greater the losses in transportation cost savings, the greater the cargo navigation impacts. A more detailed discussion of these analyses can be found in Appendix D – Economic Analyses.

Non-Cargo Navigation Impacts. This criterion, based on professional judgment, qualitatively states the impact of an alternative on non-cargo navigation in the CAWS, to include recreational navigation. The alternatives will be given a ranking of “High,” “Medium,” or “Low.” A more detailed discussion of these analyses can be found in Appendix D – Economic Analyses.

Complexity of Regulatory Compliance. This criterion qualitatively states the level of regulation that the alternative will be subject to and incorporates the complexity of the associated compliance with those regulations. The alternatives will be given a ranking of “High,” “Medium,” “Low,” or “None.” “High” means a high level of difficulty achieving regulatory compliance would be associated with the alternative. All alternatives will be fully compliant with applicable regulations.

Cost of the Alternative (ANS Controls and Mitigation). This criterion is a parametric cost estimate of each alternative. The cost estimate will include the cost of construction of the alternative measures, including any mitigation that would be required as part of the alternative. Cost estimates underwent an abbreviated risk analysis to determine an appropriate contingency percentage to be included in the cost. These estimates include costs for all work necessary to implement an alternative, although some of these costs may be borne by entities other than USACE. Cost estimates do not include final quantities. The costs presented in the GLMRIS Report are commensurate with the five percent level of detail in design for each alternative. The cost and schedule estimates are appropriately used in this report as a means to compare the alternatives presented. The funding stream for an alternative is assumed to be sufficient to support annual progress to meet corresponding implementation timelines. These cost and schedule estimates are not intended to support authorizing language, and will change with more detailed designs of an alternative. Further detailed discussion of this analysis can be found in Appendix K – Cost Engineering.

Nonstructural & OMRR&R Costs. This criterion is an estimate of the nonstructural measures and the annual operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) costs of an alternative. Further detailed discussion of this analysis can be found in Appendix K – Cost Engineering.
SELECTION OF ANS CONTROL TECHNOLOGIES

Technologies that can be used to control the transfer of the 13 target ANS for GLMRIS were identified through a series of studies. From the original list of 96 technologies that were identified, several were selected as appropriate for consideration in the CAWS to minimize and/or prevent the transfer of ANS between the Great Lakes and Mississippi River basins.

ANS controls are either nonstructural or structural methods. Structural methods include the building and operation of structures to control the transfer of ANS.

NONSTRUCTURAL CONTROLS

Nonstructural controls can be installed or applied quickly and have relatively few potential safety risks associated with their use. They include methods like:

- Using nets to remove fish from a water body;
- Using registered chemicals to control plants or animals in a water body;
- Controlling boat access to a waterway and making cleaning stations available to boats going between different water bodies; and
- Education programs to help the general public understand the issues associated with ANS and how their everyday actions can influence the spread of ANS.

STRUCTURAL CONTROLS

Structural control methods for the CAWS include GLMRIS Locks, electric barriers, ANS Treatment Plants, screened sluice gates, and physical barriers.

The GLMRIS Lock is a gate system that allows boat traffic to pass between water bodies and uses a system of structures and special equipment to control the transfer of ANS.

The lock is closed after a boat enters. ANS-treated water is then pumped into the lock, replacing the water that came in with the boat. The lock is then opened and the boat continues on its way. Electric barriers and ANS Treatment Plants are used in combination with the GLMRIS Lock system.
Electric barriers are included as part of the GLMRIS Lock to reduce the possibility of fish getting through the lock. The barrier uses electrodes in the bottom of the channel, powered by a control house, to create an electric field in the waterway. Fish are repelled or stunned by the electric field, which restricts their movement into the GLMRIS Lock.

The ANS Treatment Plant (ANSTP) is a system to remove ANS from water used for operation of the GLMRIS Lock. The process of treating the water includes screening, filtration, and exposure to ultraviolet light (UV).

Screened sluice gates are used to control ANS transfer during flood conditions. They allow water to pass during significant flood conditions, but the screen controls fish passage through the structure.

Physical barriers are structural control measures used to separate one water body from another. Separation of water bodies provides a relatively high level of confidence that the transfer of ANS will be controlled. Barriers are built using concrete and sheet pile and could also be used as park space or pedestrian bridges.
Objective: To prevent ANS from entering the CAWS from the Lower Des Plaines River via the Brandon Road Lock.

Concept: To “flush” the lock chamber with ANS-free water between lockages to reduce risk of ANS transfer.
Potential development of GLMRIS Lock

  
  **GLMRIS Lock – Reducing Risk of Aquatic Nuisance Species Transfer through Locks**

- Potential future research to inform design
  - Computational model
  - Physical model

- Would answer questions
  - Quantify exchange volumes
  - Validate and refine mixing processes
  - Determine pumping requirements

- Estimated requirements
  - Time: 15 months
  - Cost: $1.1M
GLMRIS presents a range of options and technologies to prevent invasive species movement between the Great Lakes and Mississippi River basins via the Chicago Area Waterway System (CAWS). The report identifies eight alternatives and analyzes potential impacts and corresponding mitigation requirements for flood-risk management, natural resources, water quality and navigation. The alternatives range from the current electric barriers, commercial harvesting and monitoring, to full hydrologic separation with physical barriers, and a new technology called a “GLMRIS lock” that would permit barge traffic but use treated water in locks to remove invasive species. The study recognizes hydrologic separation as the most effective way to keep Asian carp out of the Great Lakes and mitigate flooding, but several assumptions also make it the most expensive. Key elements of the alternatives include major expansion of Chicago’s Tunnel and Reservoir Plan (TARP) system, removal of contaminated sediments in the Chicago and Calumet rivers, and the construction of a major water treatment plant to provide AIS free water for lockages and water quality enhancements. The costs range from $7.8 to $18.4 billion and time for implementation is between 10 and 25 years.

The following is a brief overview of the alternatives; see the summary report for a more complete description and the table on page ES-11 of the executive summary of the full report for the GLMRIS alternatives evaluation criteria.

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Cost</th>
<th>Years to Complete</th>
<th>Effectiveness</th>
<th>Key Structural Elements</th>
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<tr>
<td></td>
<td>GLMRIS Lock</td>
<td>Electric Barrier</td>
<td>ANS Treatment Plant</td>
<td>Screened Sluice Gates</td>
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<td>✔</td>
</tr>
<tr>
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<td>★★★</td>
<td>✔</td>
</tr>
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</table>

Assessment of GLMRIS Assumptions and Methodologies

The Corps made key assumptions in GLMRIS that account for the significant costs and extensive implementation times for its alternatives, including design for a 500-year storm event, complete removal of contaminated sediments (as a cost of separation), and no discharges to Lake Michigan. They limit their recommendations to proven technologies and leave out potentially promising approaches that might be less costly (such as using CO2 to treat lock chambers, currently being investigated). Planning to contain CSOs for a 500-year storm event is far above the design standard generally used for wastewater and stormwater systems. Consequently, the proposed combined sewer overflow (CSO) controls far exceed the typical standard of care and are not consistent with U.S. EPA’s national CSO control policy (which allows four treated overflows per year).
The GLC-Cities Initiative Restoring the Natural Divide report used different assumptions in key areas that largely account for the lower cost estimate ($3.3 to $4.3 billion) for our mid-system separation alternative. These include planning for a 100-year storm event; allowing modest CSO discharges to Lake Michigan (as occur at present); improving wastewater treatment to allow discharge to the lake; and assuming that contaminated sediments will be remediated regardless of separation, and thus are not a cost of separation. Our report also included significant investments in harbor infrastructure to mitigate impacts to commercial navigation and improve benefits in this area. GLMRIS does not mitigate for navigation impacts and merely assumes that shippers will shift to a different mode.

The following are overarching observations on GLMRIS and an assessment of its assumptions and methodologies in key areas. It is important to recognize that differing assumptions significantly impact cost estimates for physical separation. It also is important to distinguish between costs directly related to the alternatives themselves versus those that are needed today or anticipated in the future to address existing problems related to water quality, flooding and transportation. For these reasons, we believe that effective solutions likely will not be as costly as projected in the GLMRIS report.

**Overarching Observations on GLMRIS**

- Physical separation is the most effective means of preventing aquatic invasive species (AIS) from crossing between the two watersheds (GLMRIS, pg. ES-11).
- Water quality in Lake Michigan continues to receive priority over the Mississippi River basin, as Illinois anti-degradation law requirements apply to discharges to Lake Michigan and not to discharges to the Mississippi River basin. The report does, however, recognize the difficulty of meeting those requirements (GLMRIS, p. 85).
- The assumption of no additional wastewater and CSO pollutants discharged to Lake Michigan drives much of the alternative elements and, thus, costs.
- Impacts and mitigation measures regarding CSO volumes and flooding were determined using the 500-year storm event (GLMRIS, p. 86).
- The mid-system hydrologic separation alternative “minimizes induced flooding impacts to the Chicago area.” (GLMRIS, pg. ES-7) “Mid-System hydrologic separation alternative has the least adverse impact on overbank or basement flooding.” (GLMRIS, App. B, p. 52)
- “Non-structural alternatives could be implemented quickly, while remaining elements of a primarily structural plan were being designed and constructed.” (GLMRIS, pg. ES-6)
- Contaminated sediments are an important (and costly) impairment.
- “Mitigation for commercial navigation was not included as part of any GLMRIS Alternative.” (GLMRIS p. 86) “Impacts to commercial navigation would not be mitigated, because no mitigation measures were identified that would effectively address the impacts.” (GLMRIS, p, 159).
- Time to achieve full implementation of the separation alternatives is 25 years and is driven by construction of new CSO holding and treatment capacity. Time to implement the first phase of separation in the Restoring the Natural Divide report is 10 years.

**Water Quality**

GLMRIS maintains the current approach of protecting the Great Lakes that gives priority to the Great Lakes water quality relative to the Mississippi River. This approach – not allowing any discharge of CSOs or treated wastewater to Lake Michigan – accounts for approximately $12 billion of the $16 billion cost of the GLMRIS Mid-System Alternative. As an example, GLMRIS proposes to use tunnels to relocate wastewater treatment plant outfalls to the Mississippi River side of physical barriers and capture and treat CSO discharges (via new tunnels and reservoirs) up to the 500-year storm event. Furthermore, GLMRIS proposes to take Lake Michigan water, treat it to drinking water standards, and then use it to augment flows on both sides of physical barriers to dilute other pollutant sources and maintain water quality standards.

The CSO control program proposed by GLMRIS is driven by the assumption that CSOs cannot be discharged to Lake Michigan. Rather than capturing a small volume of CSOs for a short period of time, screening and
disinfecting it, and then discharging it, GLMRIS proposes to capture and treat all flows from all storms up to and including a 500-year storm and discharge them to the Mississippi River basin.

GLRMIS proposes that contaminated sediments exposed to the Great Lakes must be remediated as part of separation, while sediment remediation on the Mississippi River side of any physical barriers is not required (and, therefore, there are no project costs).

**Flood Risk Management**

GLMRIS states that the “Mid-System hydrologic separation alternative has least adverse impact on overbank or basement flooding” (GLMRIS, App. E, p. 52). Second storage reservoirs at both McCook and Thornton are primarily a water quality mitigation element, which is driven by the assumption that no additional wastewater or CSO flows can be discharged to Lake Michigan. It is difficult to determine the costs associated with maintaining water quality versus the costs associated with flood mitigation relative to the total cost of the tunnels and reservoirs.

GLMRIS baseline conditions assume that climate change, land use and green infrastructure would have negligible impact (GLMRIS, p. 46). The 500-year (24-hour duration) storm event was used for evaluation of overbank flood impacts (GLMRIS, App. B, p. 53). GLMRIS mitigation assumptions include Lake Michigan water levels at historic average levels with consideration given for historic high levels (GLMRIS, App. B, p. 53).

**Transportation**

GLMRIS did not include mitigation for commercial navigation for any GLMRIS alternative because no mitigation measures were identified that would effectively address the impacts. This was based on feedback from CAWS operators who indicated they would not likely use a multi-modal facility because of the additional re-handling costs and, as a result, that cargo would shift modes to rail or truck. Additionally, should operators desire to use a multi-modal facility, a similar facility currently operates in Joliet, Illinois. This unmitigated impact to commercial cargo operations was estimated at $250 million per year for the Mid-System hydrologic separation alternative (GLMRIS, p. 159). Furthermore, GLMRIS assumed that recreational vessels would not be lifted or moved around a physical barrier based on the potential increased risk for ANS transfer. If similar assumptions for commercial and recreational transportation were made for alternatives in the Restoring the Natural Divide study, the cost of its mid-system alternative would be reduced by approximately $1 billion.

**ANS Control Technologies**

Nonstructural Alternatives: GLRMIS only used measures currently in use for the non-structural alternative. As a result, “The Nonstructural Alternative would not reduce the risk of establishment of the bighead or silver carp when compared to the No New Federal Action – Sustained Activities conditions.” Additionally, regarding new or emerging technologies, GLMRIS states “As effective nonstructural measures are introduced, they should be considered for use under the Nonstructural Alternative” (GLMRIS, pg. 98).

Structural Alternatives: The GLMRIS Lock is intended “to allow for vessel transportation while reducing the risk to the maximum extent possible of passive drift GLMRIS species transferring during lockages” (GLMRIS, pg. 65). The GLMRIS Locks are coupled with ANS treatment plants and enhanced electric barriers. These treatment plants use a combination of screening, filtration, and UV radiation to produce ‘ANS-free’ water. While the effectiveness of electric barriers continues to be studied, GLMRIS states that enhanced electric barriers are currently considered the most effective technology (not including physical barriers) for preventing fish passage. Other technologies reviewed in GLMRIS, such as CO2, were not considered as effective, their effectiveness was too uncertain, or they had unacceptable negative impacts.

With regard to electric barriers, a separate study, released by the Corps in late December, showed that the electric barriers are not stopping the movement of all fish. The Corps conducted a series of underwater sonar recordings in the area within the electric barrier that showed fish passing through the electric field in nearly two-thirds of the recordings. A related study showed that barges can sweep fish through the electric barrier.
Asian Carp Removal Project

This program was established to reduce the numbers of Asian carp downstream of the Electric Barrier System through controlled and contracted commercial fishing. We have observed reduced Asian carp populations in the upper Illinois Waterway and anticipate this will lower propagule pressure and the chances of Asian carp gaining access to waters in the vicinity of the barrier. Primary areas fished include Dresden Island, Marseilles, and Starved Rock pools.

- Contracted commercial fishers and assisting IDNR biologists deployed 1,055 miles of net in the upper Illinois Waterway from 2010-2013.
- A total of 59,087 Bighead carp, 100,375 Silver carp, and 1,194 Grass carp were removed by contracted netting. The total weight of Asian carp removed was 1,069 tons or just over 2.1 million pounds.
- IDNR, working in collaboration with Will County Forest Preserve, have identified a small population of fish in Rock Run Rookery Lake, Dresden Island Pool. Nearly 900 Asian carp (10 tons) were removed with evidence that the population there is now greatly reduced. Efforts will continue to minimize this population in upcoming years.

Agency Intense Surveillance above the Electric Barriers in the Chicago Area Waterways System (CAWS)

- 637 hours spent electrofishing and 261 miles of trammel/gill net deployed at fixed and random areas from 2010-2013.
- 104 hours spent electrofishing and 95.2 miles of trammel/gill net deployed at fixed sites and random areas in 2013 alone.
- Sampled 227,181 fish representing 72 species and two hybrid groups during electrofishing and trammel/gill netting at fixed sites random sites from 2010-2013.
- To date, only a single Bighead Carp has been collected above the electric barrier (2010, Lake Calumet).
- 12 non-native species make up 15% of total fish caught and 21% of total species. These include: Common carp and hybrids, alewife, goldfish, round goby, white perch, oriental weatherfish, Chinook salmon, brown trout, coho salmon, rainbow trout, grass carp, and a silver arowana. Blue tilapia has also been collected in the CAWS but efforts were additional to routine intense surveillance.
- No Bighead or Silver Carp captured or observed during intensified fixed and random area electrofishing and netting from 2011-2013.
Law Enforcement

- CPO’s participates with Regional Asian Carp Task Force for data and intelligence sharing.
- CPO’s logged >2,000 hours investigating invasive species issues.
- Activities to prevent the live movement of Asian carp across Illinois.
- Review live fish market trade and practices to confirm that no live Asian carp are present in trade.

Agency Fixed Site Monitoring Downstream of the Dispersal Barrier

- Estimated 7,697 person-hours spent sampling at fixed sites and additional netting locations downstream of the Dispersal Barrier from 2010-2013.
- 223 hours spent electrofishing and 147 miles of trammel/gill net, 172 hoop nets, and 112 mini-fyke nets deployed from 2010-2013.
- Sampled 105,466 fish, representing 92 species and seven hybrid groups.
- No Bighead or Silver carp were captured by electrofishing or netting in Lockport and Brandon Road pools.
- Observed spawning activity in Marseilles Pool in 2013 during an historic flooding event. Intense multi-agency efforts did not detect any larvae or eggs in the Upper Illinois River as a result of this observation.
- Current knowledge documents established populations (presence of Adult and young individuals < 6 inches) of Asian carp nearly 143 miles from Lake Michigan.

Additional Actions in the CAWS (rapid responses and planned intensive surveillance)

- 10 rapid response actions from 2010-2012 triggered by detection of Asian carp DNA have resulted in no Asian carp being observed or captured.
- Planned intensive surveillance at key locations where Asian carp eDNA has been found to accumulate occurred in 2013 in lieu of response actions and dropping eDNA as a trigger in the monitoring plan. The 2013 Monitoring Plan is located at [http://www.asiancarp.us/monitoring.htm](http://www.asiancarp.us/monitoring.htm).
- Three planned surveillance efforts occurred in 2013 at Lake Calumet, North Shore Channel, and Chicago Lock/Bubbly Creek area of the CAWS. An additional 46 hours of electrofishing, 10 miles of trammel/gill nets, and three 1.2 mile long seine hauls were completed.
- A total of 22,896 fish from 50 species and 3 hybrid groups were collected.
- No Bighead or Silver carp were captured or observed during response actions.

Urban Fishing Pond Surveys

- Sampled 24 ponds with electrofishing and trammel/gill nets from 2011-2013.
- A total of 32 Bighead Carp have been removed from five Chicago area ponds.
- Contamination likely in historical stocking of channel catfish for urban fishing programs (prior to laws restricting transport of Asian carps in 2003).
- 82 lb Bighead Carp removed from Flatfoot Lake in 2013 and now available as a replica for outreach education purposes.
Army Corps owes explanation on its invasive species report

Editorial
Feb. 10, 2014

Melbourne-Wisconsin Journal Sentinel

So it turns out that the Army Corps of Engineers may have overestimated the time and money necessary to cut the link between the Great Lakes and Mississippi River basins that runs through Chicago. If that's true, the Army Corps needs to offer a better explanation of why it did so and a more realistic cost estimate.

In early January, after seven years of study and $25 million (and a congressional order to work faster), the Army Corps released a report offering eight options for dealing with invasive species moving from one basin to the other through the Chicago canal system. That system was created more than 100 years ago to send Chicago's waste down the Illinois River system rather than into Lake Michigan.

The problem is that the link it created opened a much wider highway for species such as the Asian carp to invade habitats not naturally their own. It's the substantial threat posed by a carp invasion of the Great Lakes that spurred the report, as well as calls to physically close the link.

Creating the barrier, the Army Corps said in its report, could cost $15 billion to $18 billion and take 25 years to complete. But as Journal Sentinel reporter Dan Egan noted in a Sunday article, the Army Corps may have overblown both the cost and the time frame.

Egan reported that the bulk of the estimate to restore the natural separation between the Lake Michigan and Mississippi River watersheds is tied to projects that critics contend have little to do with directly stopping invasive species. They include about $12 billion to build things such as new reservoirs, sewer tunnels and water treatment plants, as well as remove contaminated river sediments.

"The media has fixated on the $15 (billion) to $18 billion figure, and a number of politicians equate that with the price tag for (watershed) separation," Tim Eder, executive director of the Great Lakes Commission, a body appointed by the region's governors and legislatures, told Egan. "We don't accept that. We think that's based on flawed assumptions."

Among those flawed assumptions, the critics say, are errors in the way the Army Corps interpreted environmental requirements and even definitions. One expert said of one mistake apparently made by the Army Corps, "It really worries me that if the corps got a simple legal fact like this wrong in this process, they are either inept or so biased that it's very hard to trust their work."
Another said of the Army Corps' assumptions, "It's a deeply ironic — if not cynical — use of environmental principles to block an environmental solution."

A study funded in 2012 by the Great Lakes Commission and a group representing Great Lakes mayors found that separation would cost about $4.25 billion and that dams could be in place in a few years rather than two decades.

Egan asked David Ullrich, who leads the mayors group, whether the Army Corps report convinced him that his study was wrong.

"No. There is nothing here that convinces me of that," Ullrich said.

Maybe the corps is right and Ullrich is wrong. But considering all the criticisms raised, we think Congress needs to step in and demand an explanation from the Army Corps.

This editorial was in response to an article titled Bulk of $15 billion plan not directly tied to stopping Asian carp by Dan Egan of the Journal Sentinel, published on Feb. 8, 2014.
As scary as Asian carp are, the prospect of shutting down the link between Lake Michigan and the Mississippi River watershed is even more scary.

That would cause an estimated $1.9 billion hit to Northwest Indiana's economy. But there are many who want to sever the connection between the Mississippi River and the Great Lakes anyway.

U.S. Rep Candice Miller, R-Mich., has introduced a bill that would authorize the U.S. Army Corps of Engineers to construct barriers separating the two systems.

That would devastate the shipping industry. About $1.9 billion of the Port of Indiana's $14 billion economic impact each year is derived from goods shipped through the Chicago River, according to a 2010 study.

And setting up a physical barrier would take years to complete, by which time the project could become obsolete. The Asian carp could have spread to Lake Michigan by then anyway.

"The Great Lakes region must address the dangers posed by Asian carp migration, but not in a way that devastates Northwest Indiana's economy," said U.S. Sen. Dan Coats, R-Ind.

Coats is sensitive to the region's business needs. "Separating the Mississippi River from Lake Michigan is a costly, unreasonable solution that will jeopardize Hoosier commerce and jobs," he said.

Kay Nelson, director of environmental affairs for the Northwest Indiana Forum, noted other potential ill effects of severing the Chicago Area Waterway System, including flooding and pollution from combined sewer overflows and sediments.

Indiana Attorney General Greg Zoeller wants the federal government to offer grants to address streams like the Wabash River that Asian carp have already invaded.

That's a reasonable idea, too.

There are other means to kill specific species or to herd them to areas where commercial fishermen could harvest them in large numbers.
Use these or other means to control these species, but avoid separating the Mississippi and Lake Michigan.

Don't kill commerce in the name of killing the invasion of the Great Lakes.
Inside the oil-shipping free-for-all that brought disaster to Lac-Mégantic

GRANT ROBERTSON AND JACQUIE McNISH
The Globe and Mail
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An investigation into the disaster and its causes.

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- **Part 2:** How a flawed pipeline on wheels brought disaster
- **Part 3:** The oil was known to be deadly
- **Now:** Why railways can do as they please in Canada
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Long before disaster struck, the 5,900 residents of Lac-Mégantic had grown accustomed to the sight of large oil tankers rolling through their small, tightly knit community in the Eastern Townships of Quebec.

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A shortage of oil pipelines in North America had created a new kind of railway industry traversing the continent. In just a few years, tankers carrying crude oil from the resource-rich West had grown from a mere 8,000 in 2009 to nearly 400,000, and Lac-Mégantic is located along one of the main routes to refineries in the East.

Despite this extraordinary boom in oil shipments, there was no change in regulatory oversight, or added safety measures, governing these veritable pipelines on wheels passing through hundreds of small towns across the country.

Related video: From the U.S. to Lac-Mégantic: Inside the massive growth of oil by rail

There were no new rules affecting the chain of 72 crude-laden tankers that barreled toward the Quebec town on the night of July 6 – the same train that would explode in the worst rail disaster in modern Canadian history. The railway was not required to formulate a plan to deal with catastrophe, in the event the crude train derailed.
Such strategies, known as Emergency Response Assistance Plans, are the primary safeguard against materials designated as dangerous that move through communities. Though these plans are required for shipping everything from chlorine to gasoline, they do not apply to crude – even though regulators had ample opportunity to make that change. For years, Ottawa never saw crude, even in mass quantities, as such a dangerous product.

There were also no rules determining how much crude could be placed on one load, or how many tankers could be strung together without creating the risk of large explosions. There were no regulations requiring railways to place buffer cars periodically through these hazardous loads to help minimize the danger of an explosion. The number of inspectors designed to oversee the industry, meanwhile, had dropped from one for every 14 tanker cars on the rails to just one for every 4,000. In this specific instance, the paperwork relating to the cargo was wrong, underestimating the volatility of the oil, and there are serious concerns about whether the contents were properly tested prior to shipment.

In the four months since the Lac-Mégantic derailment, which killed 47 people and devastated the town, The Globe and Mail has investigated how the oil-by-rail industry came to exist, and what safeguards were put in place by government and regulators to ensure that moving vast quantities of oil on trains didn’t expose the public to undue risks.

The investigation, which included gaining exclusive access to the site in North Dakota where the ill-fated Lac-Mégantic train was loaded, has uncovered serious questions about the practices employed by railways and oil companies, and what little they know about the volatility of the oil they ship by rail. Although Transport Canada officials have been reserved on the specifics of the disaster until the government completes its investigation into the Lac-Mégantic derailment, two high-ranking former hazardous materials inspectors in the U.S. agreed to take The Globe inside this new and murky world of crude by rail.

The newspaper conducted dozens of interviews with industry insiders, including railway officials, oil shippers, chemical analysts, inspectors and regulators, and obtained documents through Access to Information laws. What emerges is a disturbing picture of regulatory loopholes, government indifference and systemic failures in oversight that have, in a relatively short period of time, allowed railways to operate without close scrutiny on their way to making significant new revenue on oil shipments.

But who allowed this to happen? As more than 80,000 barrels of oil per shipment began to move on rails designed more than a century ago for shipping less volatile cargo such as lumber, coal or grain, minimal checks and balances were put in place. When the decision was made to begin shipping such huge amounts of oil by rail, the industry required no approval from government or regulators to proceed, even though documents obtained by The Globe show that U.S. government officials knew that moving such a “high concentration of hazardous materials” was inherently more risky.

“This was the worst accident in my 40 years of rail experience with hazardous materials, killing that many people,” Ed Pritchard, a former senior hazardous materials inspector for the Federal Railroad Administration in Washington, said of the Lac-Mégantic derailment. “I don’t recall oil shipments ever being a problem. Now all of a sudden they’re running 100-car trains of oil.”

And this oil, it turns out, was a particularly volatile form of crude.

As Mr. Pritchard knows from his years of inspecting railways, and sharing insight with other inspectors, not all crude is the same.

“Some of it, I was told, it’s damn near close to gasoline,” he said.

High risk, low oversight

Before the oil boom, state legislators in North Dakota faced a tough decision: what to do with miles and miles of useless and decaying railway tracks. The rails were becoming too expensive to maintain, but they were no use to a dwindling industry that was shipping fewer loads of grain every year, and had all but abandoned the line.
Lacking a better solution, the state decided to turn the track into a bike path.

Had that plan been put in place, history might be much different. But before the old rail lines could be torn from the ground, something happened: North Dakota struck oil — so much that there were not enough pipelines to move it. And rail suddenly became popular again.

In fact, the roots of the Lac-Mégantic derailment were planted five years ago, by an offshoot of Enron Corp., the failed energy giant. Enron Oil and Gas, or EOG Resources as it is now known, was among the first energy producers to begin exploiting the rich Bakken oil reserves that straddle much of North Dakota and parts of southern Manitoba and Saskatchewan.

But EOG had a problem: It needed a way to get that oil to refineries.

New pipelines took years to build, but trains were a relatively quick and easy solution. The tracks were already in place and the railroad companies were eager for new business. Although oil had never been shipped in large quantities by rail – in 2008 not a single barrel of oil produced in North Dakota left by train – there was no reason it couldn’t be, EOG believed.

In the early 1900s, the railway industry came up with a new concept to move large quantities of grain, called the unit train. These were trains of 80 to 100 cars, comprised entirely of the same product, which travelled on an express route from prairie to port as a way to speed up commerce. Although unit trains were historically used primarily for non-hazardous materials, EOG saw no reason why it couldn’t move 100 cars of oil quickly down the tracks. Regulators saw no problem with it either.

EOG needed a way to fill the trains quickly, though, since loading 100 cars of oil could take days or weeks if done car-by-car. The company spent 2008 building a vast crude loading facility the size of 26 football fields on the vacant North Dakota prairie, where tanker cars were filled with oil using more than a dozen pumps working in tandem, then sent quickly on their way.

Speed was the key ingredient. According to an internal management presentation obtained by The Globe, EOG had invented a way to fill 100 rail tankers in about half a day. On Jan. 31, 2008, the first unit train of oil rolled out of North Dakota on its way to Oklahoma, and the industry changed forever.

“EOG was the godfather of this industry,” said a senior industry official who spoke on condition his name not be used, fearing for his job in the wake of the Lac-Mégantic disaster. “Before that, we hadn’t shipped very much crude by rail at all.”

EOG’s business boomed and other companies rushed to build similar loading facilities. By 2012, more than a dozen of them were in operation or slated to be built. But to move this much oil, neither the railways nor the oil companies needed to ask permission.

According to interviews with rail industry personnel and former hazardous materials inspectors, neither Transport Canada nor the U.S. Department of Transportation differentiated between the danger of moving a single car filled with crude oil, and moving a train carrying 100 cars of oil. The industry changed, but the rules overseeing it didn’t, said a former top rail inspector.

Alan Roberts spent 43 years at the U.S. Department of Transportation investigating rail accidents, and oversaw the hazardous materials department, based in Washington, from 1975 up until his retirement at the turn of the century. He said Canadian and U.S. regulators have effectively left railways in charge of themselves when it comes to shipping oil, aside from some rudimentary rules governing track usage and restrictions on how fast a train can travel based on its weight.

“The whole distribution configuration has changed,” Mr. Roberts said. Yet “there is virtually no regulation that I’m aware of” for moving large amounts of oil.
Meanwhile, the railways were racing ahead and banking unprecedented revenue from moving oil. Not surprisingly, they began to fight fiercely over the unit train business. Glossy brochures sent by railways to oil companies tell of a booming new industry, focusing on the speed of moving oil down the tracks.

A single unit train “can haul 81,000 barrels of crude,” says a brochure sent to oil companies by Burlington Northern Santa Fe, the largest oil shipping railway in North America. The brochure captures the boom-time feel of the sector. “BNSF moved 100 million barrels of crude in 2012, and is ready to ship significantly more in the years ahead.”

But inside the industry, railways and regulators knew of the possible danger of transporting such vast quantities of crude.

Internal U.S. government documents probing tanker car explosions in 2012 show the Washington-based National Transportation Safety Board was not only aware of potential problems, but concerned about the possibility of a major accident caused by oil unit trains. And if such a derailment were to occur, the board feared the consequences could be exponentially bigger, given the amount of crude being transported.

With the “increasing number of unit train shipments” happening in North America, “the risks are greater because of high concentrations of hazardous materials,” warned the documents, which were part of an internal report. “Existing standards and regulations [are] insufficient.”

No limits on crude

On the night the oil train exploded in Lac-Mégantic, several things went catastrophically wrong. As has been well documented in the months since the crash, the train, operated by Montreal, Maine & Atlantic, was parked for the night and left unattended, and began to roll down a hill towards the town after the brakes had been improperly applied, picking up speed as it went. When the train crashed, the crude tankers erupted in a series of devastating blasts.

While much of that can be chalked up to human error, the retired inspectors who agreed to speak to The Globe say there is a bigger picture that governments and regulators need to address. Had a unit train comprised of grain, coal or lumber rolled down the same hill, the cars would have still derailed, but the results would not have been nearly as deadly. Oil is different. Eyewitnesses report seeing multiple explosions coming from the 72-car Lac-Mégantic oil train within seconds of the crash, as the crude began to catch fire. Numerous people reported seeing mushroom clouds in the night sky.

But even though oil unit trains are different, and more hazardous, than typical trains, Transport Canada and U.S. regulators did not draw up extra safeguards as the industry began to experience rapid growth. The Globe investigated the rules governing how railroads can ship oil and found most of the operating procedures are set by the railways themselves.

For example, there are no restrictions on how many cars of oil a railway can transport, even though stringing together dozens of cars of oil can create a bigger danger of explosion. The only limit on how much oil can move on the tracks, and ultimately through cities and towns, is dictated by the length of sidings the company has on its line.

The sidings, which are tracks that run parallel to the main line, allow trains to pull over so that another can pass. Currently, the largest sidings in North America allow for 120-car trains. But there is already talk within the industry of constructing longer sidings so that railways can ship up to 140 cars, or more, using unit trains of oil. It amounts to self-regulation: At present, Transport Canada has no rules to regulate the amount of crude riding on the rails.

There are also no rules telling railways how they should assemble their oil trains, including where in the load to place buffer cars, which could help keep fires from spreading, and possibly prevent explosions in the event of a crash.

Many of the rules for shipping hazardous materials were written for trains comprised of mixed goods, called manifest trains, where smaller shipments of dangerous cargo are interspersed with other loads.

The rapidly growing oil-by-rail industry is governed by safety measures that never contemplated kilometre-long shipments of crude.
“There are, in the regulations, car placement requirements,” said Mr. Pritchard, who retired as a U.S. Department of Transportation safety inspector in 2010. “You can’t have a [hazardous materials] tank car next to a shiftable load, like a car carrying steel girders or telephone poles.” The rules also state that hazardous materials must be six cars away from the caboose.

But those rules are out of touch with modern railway practices. For one thing, the railway industry stopped using cabooses in the 1980s. The guidelines haven’t been updated.

The only fixed rule that oil unit trains must follow when they assemble their cars is to place a buffer car, which is either empty or full of a non-hazardous material such as gravel, between the locomotives and the first tanker car. In that regard, the train that exploded at Lac-Mégantic was fully compliant with current regulations.

But the use of buffer cars throughout the train could help prevent fires and explosions from spreading, or lessen their impact by parcelling up the shipment. However, this would cost the railways money since they’d have to run more empty cars.

“If you have 100 cars of hazardous materials, all you have to have is at least one buffer car – that’s it,” Mr. Pritchard said. Although the industry has morphed into something new, the rules and oversight have not kept pace. “The same rules I just described to you have been in place since I started my hazmat training back in the 1960s.”

No emergency plan

The facility where the Lac-Mégantic train was loaded with crude sits on the south side of New Town, N.D., a frontier boomtown on the prairies that can’t grow fast enough to supply sufficient hotels and restaurants to accommodate the influx of rig workers.

Last summer The Globe gained exclusive access to the site, which is where Miami-based World Fuel Services buys oil from drilling companies for shipment to refineries.

The site, with dual tracks for loading oil, is a testament to efficiency, but also an example of the greater risks created by this new era of oil trains. Each day, or every other day, a Canadian Pacific train backs about 40 empty tanker cars onto each track for filling. Large tanks holding Bakken crude drilled nearby dispense oil into the tanker cars. At the end of the process, engines hook up both 40-car loads and depart as an 80-car unit train. This is how the Lac-Mégantic train began its journey.

The amount of time it takes for crude to be pumped from the ground and loaded onto a train for shipping can be as little as three or four hours.

The reality is that not all crude is checked for critical characteristics such as flashpoint or boiling point, which provide insight into its explosiveness. The introduction of unit trains for oil has created an industry that is sometimes moving too quickly for careful inspection or testing.

But Mr. Pritchard has been to sites where the shippers knew they didn’t have to do extensive testing, because of the loose regulations.

“They didn’t have to,” Mr. Pritchard said. “If they said it was a flammable liquid, and they pretty much knew it was a flammable liquid, that’s all they had to say.”

The reason for such lax scrutiny stems from the government’s general lack of concern about shipping oil in general. For years, Ottawa never saw crude, even in mass quantities, as a more dangerous product.

In 2006, when internal auditors at Transport Canada began examining weaknesses in the department’s handling of disaster preparedness, they zeroed in on the little-known Emergency Response Assistance Plans system. These plans, which help
first responders such as fire crews deal with emergencies involving hazardous materials, ensure critical equipment – such as specialized foam trucks for extinguishing flames and other hazmat gear – is kept at stops along the route to deal with an accident.

Any company that wants to ship dangerous goods must have an ERAP in place. But when the internal auditors probed how the system worked, according to federal documents, they found troubling weaknesses.

Of the 926 ERAPs the government had approved for hazardous materials shipping, 453 of them were issued with interim approval, requiring followup. However, Transport Canada failed to follow up on roughly half of those interim approvals. In one instance, “one company transported shipments of at least 3,000 litres of flammable propane gas for over 13 years with only interim approval of its plan,” the internal audit says.

Another weakness was what the program omitted. Although ERAPs were required for shipping everything from chlorine to gasoline, no emergency plan was needed for moving crude oil. The government did not see oil as potentially dangerous.

The auditors ordered an extensive review, and in 2008 Transport Canada pledged to fix the gaps in its ERAP system. Over the next five years, the department retrained staff and rewrote several of its policies. In April of this year, Transport Canada declared the job complete, and oil was left out of the program.

Three months later, 6.5 million litres of crude spilled from the train in Lac-Mégantic and erupted in a series of major explosions. The fire burned for days as emergency crews struggled to get the blaze under control, using equipment borrowed from nearby towns.

Responding to The Globe’s revelations of questionable testing standards by oil shippers, Minister of Transport Lisa Raitt announced last week that the federal government is stepping up its oversight, and is working with U.S. regulators to deploy inspectors to oil-loading facilities to scrutinize crude being shipped to Canada by rail.

Calling the situation “unacceptable,” Ms. Raitt said dealing with the matter “is a very high priority.”

Yet even with that change, oil is still not part of the ERAP system, so there is still no requirement that shippers put in place an emergency response plan for crude that could save lives.

Claude Dauphin, the mayor of Lachine, Que., and the president of the Federation of Canadian Municipalities, said that problem shouldn’t be allowed to continue.

“With what happened at Lac-Mégantic, and what could happen anywhere else in North America, I think we should have the same rules for crude oil. The same thing,” Mr. Dauphin said.

No special measures

The investigation into how oil is classified exposes probably the most significant weakness in the system that is supposed to oversee the booming oil-by-rail industry.

Even if the oil on the Lac-Mégantic train had been correctly identified, it would not have changed how the railway operated, known among engineers as “train handling.”

Although oil is supposedly tested for volatility, that information is primarily of use to emergency responders so they know the type of hazardous materials they are dealing with, and can set evacuation zones accordingly. It has no bearing on how oil cars are handled while in transit. Crude is shipped in standard tankers known as DOT-111 cars, which have been criticized for being susceptible to corrosion and ruptures. One of the biggest gaps in oversight is that the birth of oil unit trains hasn’t required railways or shippers to take any special measures to ship the oil.

The tankers that left North Dakota travelled on a CPR train before being passed off to the MM&A railway for the trip...
through Lac-Mégantic. But in the only statement it has given since the Lac-Mégantic explosions, World Fuel Services conceded to The Globe that regardless of how the oil was classified at the source, it “would not have changed the manner in which it was handled, transported, routed or responded to by emergency personnel upon MM&A’s derailment,” said a spokesman for the company.

Nor was the disaster in Quebec a freak, one-time accident. On Nov. 8, a unit train carrying 90 tankers of crude oil from the Bakken fields of North Dakota derailed in Alabama, causing huge explosions. Witnesses said the flames rose 90 feet in the air. Much like the Lac-Mégantic derailment, observers were surprised crude oil would cause such a fire.

When companies began moving the first giant oil unit trains out of North Dakota and into Canada, Transport Canada and the U.S. Department of Transportation took no steps to require companies to handle the potentially explosive cargo any differently than if it were lumber or grain, even though inside the railway industry there was acknowledgment this new practice was much more risky.

In Canada, oil refiner Ultramar knew the risks. Ultramar began using a smaller version of the hazardous materials unit train in 1996 that shipped gasoline and heating oil from a refinery near Quebec City to ports outside Montreal. But after six derailments in eight years, including a 1999 collision that killed two people, the company decided to build a pipeline instead. Ultramar president Jean Bernier called the pipeline a “safer” option.

There have been other instances of unit trains carrying hazardous materials, though they are limited. Illinois Central railway decided to run a unit train of hazardous materials from Louisiana to Michigan in the 1970s, carrying chemicals from plants in the southern U.S. to factories in the Great Lakes region. Because the train was unusual, it was treated with special care: The cars went through a rigorous examination before departing, and the train never stopped for long periods of time – and was certainly never left unattended.

“They gave it a really good inspection before it departed the yards, and they expedited the movement. They didn’t have it hanging around different yards, and they weren’t running it every day,” Mr. Pritchard said.

Fast forward to this summer, and the practices governing the MM&A train were much different. Not only had the struggling railway been granted permission by Transport Canada to operate with only a single crewman – which is exceedingly rare – in order to save costs, but there were few rules governing how the oil train must move.

The Globe learned through its investigation that as the train was making its way into Canada from the U.S., the locomotive was visibly sparking due to a broken piston in the engine. Even though this caused smoke in the cabin, the engineer pressed on. Despite carrying 72 cars of potentially explosive cargo, there are no federal rules to dictate how a hazardous materials train must be handled in such a situation, only a railway’s own internal guidelines, which are not made public and are impossible to independently scrutinize.

It was only after the Lac-Mégantic derailment that Transport Canada ruled hazardous materials trains could no longer be operated by a single crewman, and that trains could not be left unattended on a main track.

Until that point, the railway sector had been anxious to convince government that its rules were fine, and that nothing needed changing. According to the federal lobbyist registry, the Railway Association of Canada requested in January of this year to meet with government officials “to assure them that current regulations for dangerous goods transportation are sufficient.” The same request was made again in June.

But on July 8, two days after the Lac-Mégantic derailment, the railway association submitted a new version of its request for meetings. This time, the line about current regulations being “sufficient” was conspicuously absent.

Desensitized to risk

Not only did railways not have to seek clearance to start running full trains of crude through cities and towns, governments and regulators have failed to keep pace with the growth of the industry. The trains operate in an
environment where there are fewer and fewer inspectors to ensure safety.

This allows railways to operate with very little scrutiny, in an industry where things go wrong with trains all the time – and the Lac-Mégantic train was no different. The Globe has learned that after the train left North Dakota, being pulled by Canadian Pacific, it was actually carrying 78 oil tankers. However, before the train was handed off to MM&A, six cars were removed from the train. When asked about the problem by The Globe, the railway said the cars were removed for unspecified mechanical problems, but refused to elaborate on the reason. The railways are not required to provide greater detail to the public.

The oversight of trains on the rails has diminished dramatically in recent years amid federal cost-cutting and deregulation, including the significant drop in the number of inspectors since the oil unit trains began to roll, said Bruce Campbell, executive director of the Canadian Centre for Policy Alternatives.

“Why did Transport Canada not strengthen enforcement of its dangerous goods regulatory system to handle the spectacular increase of oil transport by rail that has occurred in the last five years?” Mr. Campbell said.

But the shift to fewer regulations has pervaded the sector since 2001, when changes were made to the federal Railway Act that gave the railways control over their own safety management systems rather than having protocol prescribed by the government, which Transport Canada thought would be a more efficient and less-costly system. The plans cover everything from track maintenance to safety and security training.

While railways submit these plans to Transport Canada for scrutiny, they are not closely watched to see if companies are complying after the fact, according to a November report by the Auditor General. As a result, Transport Canada and its inspectors can’t have a clear picture of what railways like MM&A are doing. Much of the time, the railways are regulating themselves.

Lax federal oversight in Canada and the U.S. – the rules are kept closely aligned to expedite trade and commerce – has meant trains can pass through cities and towns carrying what they want.

Asked if regulators have any say in the rise of oil unit trains, Nate Moulton, the head of railways for the Maine Department of Transportation, said “not that I’m aware of.” Maine is one of the states that North Dakota oil trains pass through. “It’s allowed,” he said of the oil train boom. “But is it good practice? Fuels are something that have always been moved. Just not in these quantities.”

In the wake of the Lac-Mégantic disaster, the railway industry has quoted statistics stating that more than 99.9 per cent of oil shipments by rail arrive at their destination without incident. Railway proponents have also argued that, in many places, towns grew up around the tracks and therefore inherit the risks associated with being located near rails. A century ago, however, when many of the laws that govern the rail system were originally formulated, trains were moving much safer goods, not 100 cars of volatile crude.

Steve Vachon is among those still trying to make sense of what happened in Lac-Mégantic, where he grew up. His father was an engineer who ran trains down those same tracks in Quebec. Back then, oil was never shipped in such huge quantities. There was no such thing as an oil unit train.

“I think we’ve become desensitized [to risk],” Mr. Vachon said. “You see the oil come through – you see it all the time, there’s a lot of it – and you just kind of convince yourself that it’s safe.”

**Single page**

- 1
- 2
- 3
- 4
- 5
Transporting Alberta Oil Sands Products: Defining the Issues and Assessing the Risks

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EXECUTIVE SUMMARY

Oil sands are unconventional hydrocarbon deposits that consist of clay, sand, water, and a highly viscous petroleum product known as bitumen. Over the past decade, extracting bitumen from oil sands has become profitable as oil prices have increased and extraction technologies improved. With the rapid growth of the oil sands industry in Alberta, production is expected to grow from 1.25 million barrels per day (mbl/d) in 2011 to around 3.75 mbl/d by 2030. Most oil sands products are transported to market via existing and proposed pipelines; however, a sharp increase in the use of rail and marine transport can be expected while new pipelines are constructed to match the increasing production of oil sands products.

Alberta bitumen owes its high viscosity and density to its geological origins. The deposits began as standard crude oil reserves, but over time the reservoirs never exceeded 80°C, suggesting that pasteurization (sterilization) did not occur. Indigenous oil-degrading microorganisms metabolized smaller molecules in the oil, leaving only the large molecules that impart the characteristic physical properties to bitumen. Bitumen densities can range from greater than to less than fresh water, complicating the question of whether the substance would sink or float if spilled in the environment.

In order to transport bitumen, a diluent is usually added to decrease the viscosity and density. The most commonly used diluent is natural gas condensate, a liquid byproduct of natural gas processing. Typically, the mixture of diluent and bitumen ("dilbit") consists of 30% diluent and 70% bitumen. A second kind of diluent is synthetic crude oil (bitumen that has undergone partial upgrading, removing larger molecules through coking and hydrolysis), with the resulting bitumen-synthetic crude oil mixture called "synbit." Synbit is approximately 50% synthetic crude and 50% bitumen. Future projections indicate that the use of synthetic crude as a diluent will increase, while the use of natural gas condensate will remain steady because of natural gas condensate’s high price and decreased availability.

Little research is currently available regarding the behavior of oil sands products spilled into water, and how they weather in the environment. Most tests have been conducted in the laboratory, so predicting the actual behavior of oil sands products for a range of spills is difficult. While the source bitumen can be denser than water (meaning that it would sink), with diluent addition the density of the mixture decreases to less than water (i.e., it would float). However, the ambient environmental conditions during a spill—such as temperature, turbidity, water salinity, and mixing energy—can influence the tendency for oil sands products to float or sink. Responders to the 2010 oil sands product spill into the Kalamazoo River reported the presence of floating oil, submerged oil, and

1 Recent tests conducted by industry have moved to mesocosm-scale experiments.
sunken oil. There are several research projects to examine the weathering behavior of the spilled oil sands products, but results were not yet available at the time of this report.

A highly debated topic related to oil sands products is the degree of corrosivity of mixtures and the implications for pipeline transport. Raw oil sands products tend to be higher in sulfur and total acid number than medium and light crude oils, which can contribute to corrosivity. However, the available research and monitoring suggest that oil sands products in their transported state are not more corrosive than standard crude oils, and thus do not pose a increased risk for transmission pipeline corrosion.

Environmental and human health risks are another concern associated with oil sands development and transportation. Conditions observed along the Athabasca River, near the oil sands deposits in Alberta, might be referenced during future oil spills. Researchers have found elevated levels of priority pollutants in the river below oil sands development exceeding those considered safe for aquatic life, but not exceeding those considered to be safe for human consumption. However, distinguishing between toxicity attributable to bitumen, and that from seepage from tailings ponds is difficult. Fish larvae exposed to bitumen-contaminated substances did show a higher rate of death and many of those that survived displayed physical abnormalities including lesions, hematomas, and unusual growths. Polynuclear aromatic hydrocarbons are elevated in the Athabasca River, but linkage to health effects has not been demonstrated.

If a spill of oil sands products were to occur, responders could need to prepare for both a light, floating oil—depending on the diluent used—and the potential for a heavy, submerged or sinking oil. Species of concern for floating oil are any that frequent the interface between water and air, particularly those that may inhale toxic fumes from the oil sands products or the evaporating diluent, and/or those at risk from direct physical contact or coating. Submerged and sinking oil extends the potential for oil exposure into the water column, affecting fish and fish larvae, species that feed on or come into contact with sediments, and benthic habitats such as coral reefs.

For responders and residents of a spill-affected area, it is important to note that during the response to the Kalamazoo River spill, elevated benzene levels were measured in the air. Also, bitumen tends to be higher in sulfur content, which may also distress exposed populations. The diluent, depending on the type, could pose additional issues related to relatively low flash point and flammability, as the gas is heavier than air. After the Kalamazoo River spill, 331 people reported adverse effects, including nausea, respiratory distress, and headaches—although none required hospitalization.

To date, only a handful of spills of oil sands products have occurred in the U.S. and Canada. In 2007, synthetic crude spilled in Burnaby, B.C. following a pipeline rupture. The second, in 2010, was the previously mentioned dilbit spill in Marshall, Michigan. In the latter example, a pipeline rupture led to dilbit spilling into the Kalamazoo River. The spilled dilbit initially floated, but eventually moved into the water column and sank to the bottom at natural collection points. The response efforts in Burnaby B.C. were considered to be
relatively successful, whereas the Kalamazoo spill response was more challenging. The cleanup effort is ongoing in the Kalamazoo River (as of March 2013). In both spills, the failure to follow emergency shutdown procedures increased the magnitude of the oil spills.

More recent incidents involving Alberta oil sands products occurred in 2013. In March, an ExxonMobil pipeline burst near Mayflower, Arkansas, spilling Wabasca Heavy oil (a diluted bitumen product). In May, bitumen and water were discovered to be oozing to the surface near a production area in the Cold Lake Weapons Range in Alberta. A similar leak occurred in the same area in 2009. The causes of these Canadian spills remain speculative, but the mode of production involves injection of high-pressure steam into the underground bitumen reserve and pumping the mobilized product to the surface.

Planning responses to spills of oil sands products is complicated by our inability to predict with certainty whether they will float, submerge, or sink. As of now, the ability to detect, monitor, contain, and recover submerged or sunken oil is limited. Research and development is currently underway to design equipment for responding to sinking or submerged oil spills. In addition, it is difficult to assess regional or national capacity to respond to a submerged or sunken oil spill as the existing equipment lists omit key pieces of information.

Regulations and standards governing oil spills can largely be divided into two related categories—requirements for preparing for oil spills and requirements for responding to oil spills. For oil sands products, several regulatory shortcomings were identified. Two important gaps are:

- The exemption of oil sands products from the excise tax that provides funding for oil spill cleanup in the U.S.; and
- The unavailability of specific product information provided by facilities and transporters for the oil they are handling.

There are additional gaps in policies and regulations that warrant scrutiny as transport of oil sands products and other unconventional oils increases. Federal and state railway regulators have previously played relatively minor roles in oil spill planning, but the rapid increase in rail transport of petroleum products and recent high-profile accidents involving oil and rail tank cars suggest the agencies with regulatory oversight over rail transportation should consider increasing effort for spill contingency planning.

Concern has also been expressed that contingency plans for pipelines are not well-integrated with regional and area spill contingency plans. Finally, while current regulatory authorities permit agencies to oversee bitumen products, lack of resources and experience in dealing with potentially non-floating oils impede the ability to do so effectively.
Moving Energy Safely
A Study of the Safe Transport of Hydrocarbons by Pipelines, Tankers and Railcars in Canada

Standing Senate Committee on Energy, the Environment and Natural Resources

August 2013
EXECUTIVE SUMMARY

On November 28, 2012, the Standing Senate Committee on Energy, the Environment and Natural Resources initiated a study of the safe transportation of bulk hydrocarbons by transmission pipelines, tankers and railcars in Canada.

The goal was to examine the current state of emergency and spill prevention, preparedness and response frameworks under federal authority and to make recommendations to improve public safety and the protection of the environment.

The study is set within the context of growing hydrocarbon production in North America and the need to secure and diversify export markets. It is expected that pipelines, tankers and rail will expand their existing capacity and/or routes as hydrocarbon production increases.

The shocking Lac-Mégantic rail disaster that took place on July 6, 2013, has intensified the need to address hydrocarbons transportation safety. Due to the scope of the disaster, the committee concluded that an arm’s-length review of rail safety is necessary in Canada. The committee also made specific recommendations aimed at improving railway safety culture and enhancing rail safety for tank cars, regulatory oversight of the transport of dangerous goods and liability thresholds related to rail accidents. It was recommended that Transport Canada work in partnership with railway companies to make existing safety culture assessments mandatory within its audit program.

Including rail transportation recommendations, the committee made a total of 13 recommendations. There are five recommendations related to marine spills. They include expanding spill data collection, modernizing spill preparedness and response capacities and providing responder immunity protection for marine response organizations that assist in non-ship source marine spills.

There are two pipeline recommendations: first, that the National Energy Board develop a program to audit for safety culture; and second, that the federal government facilitate a national access point for information on buried utility infrastructure to prevent third-party damage by excavators. There is one general recommendation to the National Energy Board and Transport Canada to provide information on transportation-related oil and gas spills in an accessible manner.

For the most part, oil and natural gas are moved safely in Canada. Transmission pipelines moved liquid product 99.9996% of the time without spills in Canada\(^1\) and railcars have an average of 99.9% for dangerous goods.\(^2\) This type of ratio was not available for tankers but major tanker spills are rare; the last one that occurred in Canada was over 30 years ago.

Transportation systems operate within a highly regulated environment. There are extensive regulatory frameworks, management systems, standards and practices all serving to promote safety. However, no activity is without risk. Hydrocarbon spills do occur and sometimes major disasters happen. Each major accident is carefully examined to learn what went wrong so that improvements can be made.
SUMMARY OF RECOMMENDATIONS

General
1. That the National Energy Board and Transport Canada create a web portal that includes interactive maps indicating detailed information on spills and incidents for pipelines, tankers and railcars, such as the types of product released and, as soon as possible, the cause of the incident.

Pipelines
2. That the National Energy Board work in partnership with regulated companies and experts in safety culture to develop a program for the mandatory auditing of safety culture.
3. That the federal government facilitate efforts to establish a national access point for information on the location of buried infrastructure, as well as the promotion of one-call centres and call-before-you-dig initiatives. Information on the coordinates of underground infrastructure should be consulted prior to any excavation activities by a third party.

Tankers
4. That the Transportation Safety Board expand and modernize its database to provide detailed information on ship-sourced spills, including the type of ship and the volume and type of product released.
5. That the current spill preparedness and response capacity of 10,000 tonnes within prescribed timeframes be adjusted upwards to fit the assessed needs of each region as determined by Transport Canada.
6. That the federal government provide umbrella responder immunity protection to Canadian marine response organizations for all non-ship source spills including marine spills from pipelines, trains and trucks.
7. That the Canadian Coast Guard’s mandated spill preparedness and response capabilities be certified by Transport Canada or an arm’s-length agency periodically.
8. The committee believes that, in certain areas and under specified circumstances, certified marine response organizations should be pre-approved to use dispersant, initiate controlled burning and take other prescribed counter-measures when it yields a net environmental benefit.

Rail
9. That Transport Canada work in partnership with railway companies to make existing safety culture assessments mandatory within its audit program.
10. That the federal government initiate a major arm’s-length review of the country’s railway regulatory framework, standards and industry practices to meaningfully advance the safe transportation of dangerous goods by rail in Canada.
11. That Transport Canada review, in cooperation with the United States Department of Transportation, the use of CTC-111A and DOT-111 tank cars and consider accelerating the transition to the revised standard.
13. That Transport Canada apply appropriate minimum liability coverage thresholds to ensure rail companies have the financial capacity to cover damages caused by a major incident.
In May 2012, the Great Lakes Commission Board of Directors approved a 2012-14 workplan for the Commission. A workflow diagram, illustrating the six program areas in the new workplan, is shown on the following page.

The workplan is the follow-up document to the Commission’s five-year Strategic Plan. The Strategic Plan addresses how the Commission accomplishes its work through four core programs: Communication and Education, Information Integration and Reporting, Facilitation and Consensus Building, and Policy Coordination and Advocacy. The workplan addresses the kinds of work the Commission pursues, focusing on six broad program areas: 1) Clean Energy and Climate; 2) Water-dependent Economy and Infrastructure; 3) Invasive Species; 4) Water Resources Management; 5) Water Quality and Ecosystem Health; and 6) Habitat and Coastal Management. [Readers will note that the goal statements are intentionally far-reaching and probably beyond the scope of what can be achieved by the Commission’s work alone.]

The program areas identified herein seek to address the needs of Member states/provinces, reflect current regional priorities, and identify emerging issues and ways that the Commission can leverage its core programs to address them. The new workplan should allow for grouping of similar projects, more efficient management of work and staff resources, guidance for program development efforts, and streamlined communication of progress to Commissioners, Observers and partners. The workplan itself will be updated on a biennial basis.

In December 2013, the GLC unveiled an updated www.glc.org website, which mirrors the organizational structure of the workplan. We invite you to visit the new site, which will provide the most current project updates.

On the pages that follow, you’ll find brief updates from the staff on progress in achieving the objectives within each program area.
GLC Workflow Diagram

**Core Service Areas** (GLC Strategic Plan)
- Communications/Education
- Info Integration/Reporting
- Facilitation/Consensus Building
- Policy Coordination/Advocacy

The Commission's mandated roles and primary services on behalf of member states and the region.

**Administration**
- Business Planning
- Business Operations
- Program Development

Day-to-day operations in support of the Commission, its projects and its regional services.

**Program Areas (Workplan)**

- **Clean Energy and Climate**
  - Climate change and variability
  - Clean energy

- **Water-Dependent Economy and Infrastructure**
  - Tourism
  - Commercial navigation
  - Recreational boating
  - Water-dependent economic development

- **Invasive Species**
  - Prevention & control strategies for new and existing pathways/vectors

- **Water Resources Management**
  - Support for Great Lakes-St. Lawrence River Basin Sustainable Water Resources Compact (and Agreement)

- **Water Quality and Ecosystem Health**
  - Water infrastructure
  - Nonpoint source pollution
  - Atmospheric deposition
  - Oil and hazardous material spills
  - Pollution loadings, beach health

- **Habitat and Coastal Management**
  - Coastal management
  - AOCs, brownfields
  - Habitat and land use

Current focus areas for projects and program development.
Clean Energy and Climate

**Goal:** Promote a regional energy mix that can be sustained over generations and is compatible with other uses of Great Lakes-St. Lawrence River water resources and promote policies and programs that provide a high level of resiliency to climate change and its impacts.

**Objectives and Actions**

1) **Objective:** Continue to serve as secretariat for the Great Lakes Wind Collaborative (GLWC), a multistakeholder forum dedicated to advancing the sustainable development of wind power in the binational Great Lakes region

   **ACTION:** Staff spent considerable time in late 2013 preparing a competitive proposal to the National Renewable Energy Laboratory for a three-year grant to support the GLWC. The GLC, on behalf of the GLWC, submitted a detailed proposal that included four subcontracts and 34 letters of support in early December. Staff was notified in mid-February that the GLC proposal would not be awarded. The future of the GLWC is under discussion. Work to survey pelagic bird activity over the Great Lakes continues.

2) **Objective:** Foster dialogue and generate information on climate change adaptation issues with a focus on how they affect the water and related natural resources of the Great Lakes-St. Lawrence River basin

   **ACTION:** The GLC continues to lead a project to identify and promote best practices for climate adaptation in coastal wetlands (funded by a grant from the Michigan CZM). The project timeline is being extended until summer 2014 to accommodate additional project team review and personnel changes with a project partner.

Water Dependent Economy and Infrastructure

**Goal:** Work with the states and provinces to develop and implement elements of regional strategies for economic growth and development based on the wise use of Great Lakes-St. Lawrence water resources.

**Objectives and Actions**

1) **Objective:** Promote “branding” of the Great Lakes St. Lawrence River region as a domestic and international travel and tourism destination.

   **ACTION:** The GLC, in consultation with the Michigan Office of the Great Lakes, is hiring a contractor to carry out an aggregated awareness and perceptions research study for two of Michigan’s Great Lakes Areas of Concern (AOC): Muskegon Lake and White Lake. The aim is to assess and characterize the perceptions of the AOCs as formed by the attitudes, beliefs and dominant associations held by general consumers, both internal and external, that contribute to the “sense of place” for these areas. The project is part of the GLC’s support for the Statewide Public Advisory Council (SPAC) for Michigan’s Great Lakes AOC program. GLC staff has been invited to participate in a May 2014 workshop being convened by U.S. EPA on the process of moving from remediation to restoration to revitalization (R2R2R) in environmentally degraded coastal communities. The workshop is intended to both communicate ideas, needs, and interests, but also gather sufficient information to develop a “R2R2R” framework and implement one or more pilot projects in the region. The workshop products will be developed into a technical guidance document.
The GLC continues to seek opportunities to advance and promote the Great Lakes Circle Tour, created by the GLC and its member states and provinces as the premier road travel guide for exploring the coastal regions and communities of the Great Lakes. Securing funding to upgrade the Circle Tour's website on GLIN with new interactive features is a priority. The GLC's BeachCast project, also supports this objective through a recently introduced a mobile app to enhance public access to real-time Great Lakes beach and lake conditions information.

2) **Objective:** Work with other regional institutions and commercial navigation interests (including ports, vessel operators and governmental transportation agencies) to build regional consensus on maintaining and improving the Great Lakes St. Lawrence Seaway system as a safe, fuel-efficient, economically important and environmentally responsible marine transportation system serving the North American mid-continent

**ACTION:** The GLC serves as secretariat to the Great Lakes Dredging Team (GLDT) to work with state and federal agencies and industry partners on maintaining navigation access to Great Lakes ports and harbors while pursuing sustainable and environmentally responsible dredging operations and management of dredged material. Following its 2013 Annual Meeting, the GLDT established a new committee structure to address dredging-related priorities including Outreach, Technical and Legislative committees consisting of the GLDT’s non-federal members. These Committees are now operational with each having developed two-year workplans to accomplish GLDT priorities. Staff has begun working on a series of issue briefs describing these priorities and policy/legislative options to address them. The Outreach Committee has developed an outreach plan with supporting products including a fact sheet, frequently asked questions (FAQs) regarding dredging and a poster. The GLDT is planning a workshop on open water placement of dredged material to be held immediately prior to the 2014 GLDT annual meeting. The dates for these meetings are May 20-22 at the Maumee Bay Start Park in Oregon, Ohio.

The GLC, along with the State of Illinois, the Federal Reserve Bank of Chicago, and the National Oceanic and Atmospheric Administration, convened an important conference titled *Great Lakes Ports and Regional Growth: Integrating Environmental Health and Economic Prosperity* on Nov. 18-19, 2013, in Chicago. The conference involved more than 125 participants including representation from port authorities, regional finance and economic development practitioners, logistics, non-governmental organizations, and experts in economics and environmental protection. The event explored perspectives from other port ranges, including case studies from Europe on how port cities with similarities to Chicago and the Great Lakes can best leverage their maritime assets for economic growth and development. A number of relevant studies were cited, including work by the Paris-based Organization for Economic Cooperation and Development (OECD) under its Port Cities Program. The two-day conference wrapped up with a panel discussion focused on strategies to best spur progress on the Great Lakes and St. Lawrence Seaway in the future.

The GLC has also been engaged in efforts to address ships’ ballast water as a vector for aquatic invasive species, including partnering with the Great Ships Initiative and the Great Lakes Ballast Water Collaborative. The GLC is convening a new Ballast Water Task Force to assess current ballast water standards and develop a common platform among Great Lakes states and provinces from which to advance a future ballast water management regime.

3) **Objective:** Assist the states and provinces in growing the Great Lakes recreational boating and fishing industries as important generators of jobs and economic investment

**ACTION:** The GLC supports the advocacy efforts of the recreational boating and fishing industries, including the Great Lakes Small Harbors Coalition. The GLC continues to explore potential new, non-federal strategies for small harbor operation and maintenance.
4) **Objective:** Build partnerships among state, provincial federal and local entities from governmental, university, non-governmental and private sectors to build consensus on priority needs for the Great Lakes-St. Lawrence River regional economy

**ACTION:** Staff supports the GLC’s Economic Committee formed by the GLC at its October 2011 Annual Meeting. The committee’s purpose is to give a voice to the economic development and sustainability components of the GLC’s mission. The committee meets periodically via conference call to discuss issues related to transportation and infrastructure, and retaining and expanding business and employment in the region. The committee completed a survey of the GLC member jurisdictions to identify cross-cutting regional economic priorities. This survey will be helpful to guide future efforts of the GLC to ensure that each jurisdiction’s perspectives are accurately represented in future projects. The committee will also be working with GLC staff on an issue brief related to economic benefits and risks associated with oil transportation in the Great Lakes-St. Lawrence River region.

### Invasive Species

**Goal:** Prevent the introduction and spread and, where necessary, promote management and control of invasive species that are or have the potential to negatively impact water resources or the economy of the Great Lakes-St. Lawrence River basin through a focus on canals/waterways, organisms in trade and ballast water as major pathways.

**Objectives and Actions**

1) **Objective:** Prevent the introduction and spread of invasive species from connecting waterways with a focus on the Great Lakes basin and Mississippi River watershed

**ACTION:** The GLC is working in partnership with the Great Lakes and St. Lawrence Cities Initiative to investigate solutions to the threat of Asian carp and other invasive species passing through the Chicago Area Waterways System (CAWS), while maintaining current uses of the system. The Great Lakes and Mississippi River Interbasin Study (GLMRIS) was released in January and there is now an intense desire among decisionmakers to move forward with specific measures; however, GLMRIS does not recommend a preferred solution. Immediately following its release, the GLC directed its technical consultants to carefully review the GLMRIS report and appendices and assess its assumptions and methodologies in key areas (included in Tab Four: Speaker Topics). The GLC also convened meetings of its multistakeholder Advisory Committee in October 2013 and January 2014. The committee has expressed a strong desire to continue meeting and help identify and advance solutions to the threat of invasive species passing through the CAWS. At its last meeting, following release of the GLMRIS report, the committee agreed to a goal and a six-part strategy for seeking consensus on both near-term control measures and a long-term solution. A series of principles and priorities is being developed to guide the committee’s work and subgroups are being formed to work on specific items. Given the divergent views within the group and the challenge of reaching consensus on long-term solutions, the GLC plans to hire a professional facilitator/mediator to assist its work with the committee. The committee’s next meeting is scheduled for March 25 in Chicago. The Advisory Committee is the primary regional stakeholder forum seeking solutions to the problem of AIS transfer through the CAWS. Its role is more important than ever given the lack of a recommended alternative in the GLMRIS report and the need for consensus-based guidance on measures to prevent AIS movement through the CAWS. Additional information on the GLC’s coordination on this issue with the Great Lakes congressional delegation is included in the Policy Coordination and Advocacy section of this workplan update.
2) **Objective:** Advance federal programs to reduce the risk of releases of potentially invasive species through the trade in live organisms, including plants and animals sold for live bait, aquarium, aquaculture, water garden and horticulture, among other pathways

**ACTION:** Work is underway on a grant from the Great Lakes Restoration Initiative to develop software and tools to track, identify and monitor the sale of invasive species via the internet. The GLC has hired the software development firm RightBrain Networks to develop the web-crawling software system. The final system is expected to be released in March 2014. Stakeholders are being engaged to develop a plan for outreach to sellers identified through the project. A workshop was held in November 2013 to share progress and gather feedback from stakeholders. The GLC continues to engage in activities to support legislation or executive action that would strengthen federal programs to prevent the importation of potentially harmful non-native species. A resolution has been drafted in support of this effort.

3) **Objective:** Support initiatives to convene states and provinces in collaborative efforts (including Governor Snyder-led initiative) to develop, advance and fund effective and coordinated approaches to invasive species prevention and control

**ACTION:** The GLC continues to support the Great Lakes Panel on Aquatic Nuisance Species (GLP) and its standing committees. The GLP met in December 2013 in Ann Arbor. Meeting topics included grass carp, and prevention activities focused on the recreational boating pathway and fish passage. The next GLP meeting will be held April 29-30, 2014, in South Bend, Ind. In addition, the Great Lakes Water Quality Agreement Annex 6 (AIS) Subcommittee held its first in-person meeting in conjunction with the December GLP meeting. GLC staff have been participating as a member of the subcommittee. The GLC is also supporting efforts of the Great Lakes governors and premiers to advance a coordinated regional strategy to address AIS that includes prevention, early detection, rapid response and management. Finally, the GLC is convening a new Ballast Water Task Force to assess current ballast water standards and develop a common platform among Great Lakes states and provinces from which to advance a future ballast water management regime. This effort does not presume that current standards or programs are inadequate, nor is the intent to slow the implementation of existing regulations. The GLC will be coordinating with the AIS task force convened through the Council of Great Lakes Governors.

4) **Objective:** Support efforts to manage and eradicate priority invasive species established in the Great Lakes, such as non-native phragmites and sea lamprey

**ACTION:** The GLC continues to expand a partnership with the USGS-Great Lakes Science Center to lead communications and research on the invasive plant Phragmites. The GLC established the Great Lakes Phragmites Collaborative in 2012 to engage the resource management community, reduce redundancy, link science and management, facilitate adaptive management, and encourage a systems approach to management and conservation associated with this invasive plant. The Collaborative supports an interactive web-hub (www.greatlakesphragmites.net), webinar series and email list, and is guided by a regional advisory committee. The GLC also supports the Collaborative for Microbial Symbiosis and Phragmites Management, established in partnership with the USGS to bring together researchers to explore the potential to use symbiotic relationships both to control invasive Phragmites and encourage native plant establishment.

5) **Objective:** Elevate awareness of AIS issues and solutions among decisionmakers and the public

**ACTION:** GLC staff attended the national Aquatic Nuisance Species Task Force meeting in November 2013 in Arlington, Va. In addition, staff is participating on a steering committee for the upcoming Great Lakes Briefs on Invasive Organisms Traded in Commerce (BIOTIC) Symposium in Milwaukee, Wis., on
June 3-4, 2014. The symposium will identify research gaps to improve management of OIT, and will facilitate the efficient transfer of information between researchers, managers, educators, OIT industries/associations and the public. The GLC also expanded capacity for its invasive species program in January with the hiring of Katherine Hollins as an invasive species program specialist to support ongoing projects including the Great Lakes Phragmites Collaborative and the Great Lakes Panel on Aquatic Nuisance Species.

Water Resources Management

**Goal:** Support the development of a water resources management regime that protects the ecological function of the resource while supporting the sustainable use and conservation of the waters of Great Lakes-St. Lawrence River basin in order to protect public and environmental health, assure economic well-being and sustain a high quality of life for the region’s residents

**Objectives and Actions**

1) **Objective:** Compile and disseminate consistent water withdrawal, diversion and consumptive use information to support requirements of the Water Resources Compact and Agreement.

**ACTION:** The GLC continues to provide annual water use reports to the Great Lakes-St. Lawrence River states and provinces in support of the Great Lakes Water Resources Compact and Agreement. The annual report for water use in 2012 was completed in February 2014 and is posted on the project website: [http://projects.glc.org/waterusedata/](http://projects.glc.org/waterusedata/). The GLC and the Council of Great Lakes Governors are planning a water use data workshop for state and provincial data managers in Ann Arbor, Mich., in May. The workshop will help the states and provinces better coordinate and implement a common methodology for regional reporting. The states and provinces will submit data for the 2013 water use report by Aug. 15, 2014, with the report due to be completed by early December. At the request of the Council of Great Lakes Governors, GLC staff are digitizing seven years (1987-1993) of water use data, which will help inform future regional water resource assessments. This digitization effort is expected to be completed by June 2014.

2) **Objective:** Assist in the development of the Water Resource Agreement’s Science Strategy including identifying and implementing activities to advance water conservation and efficiency within the states and provinces

**ACTION:** The GLC has joined a team led by John Jackson (formerly of Great Lakes United) and other partners on a Great Lakes Protection Fund project to identify and test the environmental and financial rationales for municipalities to pursue water conservation and green infrastructure practices, and evaluate how this information – when combined with effective knowledge transfer techniques – can drive innovation in water management throughout the Great Lakes region. The team is looking at all aspects of water conservation including municipal water supply, stormwater and wastewater management improvements, and other traditional water conservation strategies. The project is piloting these approaches in six communities: the Regional Municipality of Waterloo, Ontario; the City of Waterloo, Ontario; the City of Guelph, Ontario; the Township of Lyons, Michigan; the Township of Commerce, Michigan; and Southwest Oakland County, Michigan. During this first year, the GLC helped scope the communications and knowledge-transfer workplans, which will be implemented over the next two years.

GLC staff continue to partner with the Council of Great Lakes Industries (CGLI) on the third phase of a Great Lakes Protection Fund project entitled Optimizing Industry Water Use: Applying Water Stewardship Tools.
by Great Lakes Basin Industries. The objective of CGLI’s water stewardship project is to develop a tool kit that can be used to assess, guide, and confirm use of good water stewardship practices by Great Lakes industries. The GLC also continues to work with the Council of Great Lakes Governors to identify other opportunities to advance the science strategy of the Water Resources Compact and Agreement.

3) **Objective:** Coordinate data and information sharing between the states and provinces to support the understanding of the Great Lakes-St. Lawrence River physical system and enhance implementation of the Agreement and Water Resources Compact

**ACTION:** The GLC partnered with the Council of Great Lakes Governors and the Great Lakes Observing System on a project to integrate foundational data sets to support a cumulative impact assessment through a grant from the NOAA Regional Ocean Partnership. The cumulative impact assessment report and online “dashboard” for comparative data analysis (http://www.glerl.noaa.gov/data/now/wlevels/dbd/GLSLRCIAD/) have been completed.

The GLC periodically meets/communicates with the USGS science centers from Michigan and Ohio on issues related to water resources streamflow modeling and assessment tools to help states and provinces identify impacts associated with water withdrawals and consumptive use.

### Water Quality and Ecosystem Health

**Goal:** Improve water quality and ecosystem health in the Great Lakes-St. Lawrence River basin through the reduction of pollution loadings into surface and ground waters and the coordination of monitoring, prevention and response strategies

**Objectives and Actions**

1) **Objective:** Reduce nonpoint source pollution and improve water quality by building partnerships with state, provincial and federal agencies to improve the efficiency of pollution prevention programs, target them to priority watersheds, and expand public awareness efforts

**ACTION:** The GLC administers the Great Lakes Basin Program for Soil Erosion and Sediment Control (GLBP) which is currently supporting 50 active projects for the 2010, 2011, 2012 and 2013 program years. The GLBP is funded by the USDA-NRCS through the GLRI. GLBP grants are awarded to local and state entities to install sediment reduction practices in priority watersheds throughout the Great Lakes basin. The 2013 grants (21 grants totaling more than $1.8 million) were initiated in fall 2013. Annual reports were developed for each of the previous program years. Practices range from cover crops to streambank stabilization to applying gypsum to reduce erosion and phosphorus runoff. The agreement with USDA-NRCS for the 2014 GLBP grants program is under development and expected to be completed in May 2014.

The GLC continues to provide technical and administrative support to the U.S. Army Corps of Engineers’ Great Lakes Tributary Modeling Program. GLC staff facilitates communication among the Corps’ Great Lakes districts through participation in bimonthly program teleconferences, as well as the convening of an annual Great Lakes Sedimentation Workshop, which is being planned for June 2014. These annual meetings provide an opportunity for federal, state, NGO, university and private sector partners to come together to discuss priorities for Great Lakes soil conservation, sedimentation, and NPS pollution prevention, control and planning. GLC staff also assisted the Corps’ Buffalo District in the organization and publicizing of training classes for the program’s online modeling tools. To expand partnerships under the program, an informational meeting on the program was held with Great Lakes
Fishery Commission (GLFC) staff and a strategy was developed to adapt several of the current modeling efforts to assist the GLFC in their efforts to control sea lamprey. The GLC is exploring an opportunity with the University of Michigan School of Natural Resources and Environment to sponsor a master's student team project to compare the costs, benefits and policy issues related to various approaches to implementing conservation practices. Updates to the program website are ongoing.

2) **Objective:** Develop recommendations and assist state and federal agencies in implementing actions to reduce the frequency and severity of harmful algal blooms in the Great Lakes by reducing the input of phosphorus and other nutrients through improved clean water infrastructure, research, technical assistance, outreach and education

**ACTION:** The GLC, through a partnership agreement with USDA-NRCS in Wisconsin, is almost one year into the Fox P Trade project. The goal of this project is to develop a phosphorus credit trading program for the Lower Fox River watershed in Wisconsin to help address high nutrient levels and algal blooms. The beginning stages of the project have been focused on engaging the appropriate stakeholders from all sectors. GLC staff conducted two in-person meetings with a smaller subset of stakeholders. Staff holds regular informational webinars on a variety of topics related to water quality trading. Staff is also continuing to work closely with local Wisconsin DNR and NRCS staff to help plan the program. A feasibility study to assess local phosphorus trading supply and demand has been designed and is scheduled to begin in March.

The Lower Fox Demonstration Watershed project began in December 2013 and is in the beginning implementation phase. This $1 million, five-year agreement between the GLC and USDA-NRCS was signed in October 2013. An in-person project management team meeting with the project partners, NRCS, and the land conservation offices was held in January to provide updates, select the preliminary demonstration sites and establish the technical advisory committee. A contract between the GLC and Brown County for the local liaison position was developed and presented to Brown County for their review.

3) **Objective:** Advance state, provincial and federal efforts to reduce Great Lakes impairments from atmospheric contaminants by supporting necessary research and information collection to drive risk assessment, priority setting and pollution reduction actions

**ACTION:** The GLC recently concluded a collaborative project funded by the U.S. EPA via a 2011 GLRI grant to reduce human and ecosystem exposure to brominated flame retardants (particularly PBDEs) and loadings to the Great Lakes environment. Project objectives were to estimate a regional PBDE inventory for the Great Lakes basin, propose metrics to quantify the magnitude of reductions, and recommend a formal approach to finding alternatives to PBDEs. Final products from this effort included three summary papers on these topics, which are available from the project website [http://glc.org/projects/water-quality/pbde/](http://glc.org/projects/water-quality/pbde/). The GLC also partnered on a 2012 GLRI grant to organize workshops for industry representatives (i.e., furniture and textile manufacturers and retailers) on the concerns associated with the use of flame retardants and to encourage development of partnerships that could result in expanding the market share of product lines that can be produced without these additives. With the conclusion of these two projects, the GLC’s direct involvement in work relating to the reduction of Great Lakes loadings from atmospheric contaminants has now ended.

4) **Objective:** Enhance coordination, communication and data management among the many agencies and organizations that conduct or benefit from coastal and nearshore monitoring efforts in the basin
**ACTION:** In June 2013 the GLC was asked by the Council of Great Lakes Governors to address the “Water Monitoring” resolution, approved by the governors at their summit on Mackinac Island, which calls for development of a comprehensive, systems-level approach to monitoring and accounting for the basin’s water resources. The GLC has formed a collaborative workgroup that is actively working on development of a comprehensive framework for water resources information. Innovations include: 1) integration of water quality, water quantity, and human use aspects; 2) increased emphasis on economic uses and values; and 3) a collaborative information governance model.

Under a GLRI grant titled “Evaluating and Enhancing Lake Michigan Nearshore Monitoring,” the GLC, on behalf of the Lake Michigan Monitoring Coordination Council’s (LMMCC) Nearshore Monitoring (NEMO) workgroup, conducted an inventory of nearshore monitoring projects in the Lake Michigan basin in 2013. Following up on a workshop in April 2013 and a webinar in July 2013, a second workshop was held in conjunction with the State of Lake Michigan Conference in October 2013 in Sheboygan, Wis. The workshop featured presentations on a number of nearshore monitoring efforts in the Lake Michigan basin, including a briefing on the results of the 2013 inventory. A final assessment report on the inventory has been completed. A new inventory will occur in spring 2014 to continue the collection of nearshore monitoring information. Additional LMMCC activities in 2014 will support addressing the commitments of monitoring-related activities in the Great Lakes Water Quality Agreement, including development of a nearshore framework for Lake Michigan, as well as preparations for the 2015 Lake Michigan intensive year monitoring.

The GLC continues to support the data management efforts of the Great Lakes Observing System, including contributing to development of an enhanced GLOS Data Portal, released in 2013 (see http://glos.us/data-access/data-portal).

The GLC administers the Michigan Clean Water Corps program (MiCorps), which funds two volunteer water quality monitoring programs, the collection and dissemination of volunteer monitoring data using standardized methodologies, small-scale stream cleanup events, and educational initiatives related to water quality in Michigan. On Oct. 28-29, 2013, staff convened the 9th annual MiCorps conference at the R.A. MacMullan Conference Center on Higgins Lake, featuring presentations on monitoring and citizen science initiatives as a way to maintain the health of Michigan’s freshwater systems.

The GLC provides secretariat and web hosting services for the Great Lakes Beach Association. Staff are also assisting with planning for the 2014 Beach Conference planned for fall 2014 in Toronto.

5) **Objective:** Help coordinate spill prevention/response programs and build partnerships between state, provincial and federal agencies to improve planning, make response efforts more efficient, and expand public awareness of the risks associated with oil and hazardous material spills

**ACTION:** Maintenance of statewide Inland Sensitivity Atlases (ISAs) for use by spill responders remains a priority under this objective. Processing of data updates for the latest version of the Ohio ISA began in early 2013; map production began in August. A completed update is expected by May 2014. GLC staff is also assisting with design support for the Federal Region 5 Regional Response Team website; updates to the Federal Region 5 Regional Contingency Plan; initiation of the update process for the Northern Michigan Subarea Spill Contingency Plan, in conjunction with U.S. EPA, U.S. Coast Guard, and local and county agencies; and continued development of a pilot tool under the Environmental Information Exchange Network to produce an updateable inventory of emergency response resources.
6) **Objective:** Review the status of state emergency preparedness response programs and regulations and the adequacy of federal programs through a reestablished Emergency Preparedness Task Force

**ACTION:** In preparation for reconvening the Emergency Preparedness Task Force, staff reviewed and prioritized the recommendations in the Task Force’s 2012 report on oil spill preparedness in the Great Lakes. Particular attention was paid to recommendations the GLC could directly support, including an analysis of regionwide oil transportation, spill trends, and planning and response program resources; advocacy in support of improved interagency communication; and studies of shore-based spill sources, including reporting and response strategies for heavily polluted waterways.

7) **Objective:** Enhance protection of public health by improving the expediency and reach of communication mechanisms for broadcasting water quality advisories and beach health information

**ACTION:** In 2013, the GLC released an updated version of its myBeachCast mobile app (http://beachcast.glin.net), which provides real-time information on beach water quality advisories, weather and water conditions for more than 1,800 Great Lakes and inland beaches. The app now features beach hazard statements issued by the NOAA National Weather Service, issued when the potential for strong and dangerous rip currents and waves is medium or high. To further publicize and increase use of myBeachCast, the GLC, in cooperation with regional partners, developed a beach safety card that features free applications and safety tips to promote swimming safety. The cards are now available at welcome centers, parks and beaches throughout Michigan and neighboring states. Other partners on the effort include LimnoTech, WeatherFlow and Michigan Sea Grant.

8) **Objective:** Support regional efforts to plan for and invest in green infrastructure to better manage stormwater and to improve the quality of urban water resources

**ACTION:** The GLC has joined a team led by John Jackson (formerly of Great Lakes United) and other partners on a Great Lakes Protection Fund project to identify and test the environmental and financial rationales for municipalities to pursue water conservation and green infrastructure practices, and evaluate how this information can drive innovation in water management throughout the Great Lakes region.

**Habitat and Coastal Management**

**Goal:** Contribute to the preservation of diverse habitats and natural communities that sustain populations of desirable species; the restoration of degraded areas, such as the Areas of Concern; and the conservation of coastal resources to support sustainable activities that depend on access to the waters of the Great Lakes

**Objectives and Actions**

1) **Objective:** Support the work of federal, state and local agencies and advisory groups to develop and implement restoration projects with a focus on Areas of Concern and place-based restoration that can achieve multiple ecosystem objectives (e.g., climate change, habitat restoration, sustainable water resource management, invasive species prevention and control)

**ACTION:** The GLC continues to provide staff support to the Statewide Public Advisory Council for Michigan’s Areas of Concern Program. Recent actions include conducting a workshop on placemaking in coastal communities, administering grants to local Public Advisory Councils to support restoration work, and assisting with the 2014 annual conference for the U.S. AOC program, being held March 18-19 in Chicago. The GLC is administering travel funding to support participation in the conference by members.
of AOC advisory committees and other AOC leaders. Staff are also leading projects to address climate change in coastal wetlands and improve communication, management and research of invasive Phragmites. The GLC received a grant to lead a new NOAA GLRI-funded three-year regional partnership to support habitat restoration in priority AOCs throughout the region. Year one funding is allocated for restoration at the St. Marys River AOC in Michigan. The GLC is working with local agencies to implement this project over the next two years. It is anticipated that projects in the Buffalo River and Muskegon Lake AOCs may be funded in years two and three of the partnership.

2) **Objective:** Advance federal programs that support our habitat and coastal management goal

**ACTION:** The GLC works closely with the states and federal agencies to establish regional positions and priorities related to habitat and coastal management policies, and legislative initiatives. The GLC supported strong conservation provisions in the reauthorization of the Farm Bill including the Regional Conservation Partnership Program. With support from the USACE, the GLC has developed the Great Lakes Restoration Database, [http://habitat.glc.org/](http://habitat.glc.org/), to showcase projects implemented under Focus Area Four of the Great Lakes Restoration Initiative (GLRI). This searchable database was developed to increase awareness and improve communication on the accomplishments of the GLRI.

3) **Objective:** Ensure that the science needs of state natural resource managers are addressed by federal research laboratories and that environmental managers have access to the latest scientific information

**ACTION:** Staff is engaged in a pilot project with Michigan DEQ, Wisconsin DNR and Wayne State University to test sharing of ecosystem research data using infrastructure and data handling practices implemented by the Environmental Information Exchange Network. The aim of the project is to facilitate submission and retrieval of ecosystem-related data not traditionally distributed through state and federal monitoring and regulatory programs.

The GLC partners with federal agencies to facilitate communication and coordination among states and federal research laboratories. The GLC established a Memorandum of Understanding with the U.S. Geological Survey (USGS) to facilitate collaboration with its Great Lakes Science Center in Ann Arbor. Staff support several projects in this growing partnership including the Great Lakes Phragmites Collaborative and the Coastal Science Strategy. In January 2014 the GLC hired Katherine Hollins as a new program specialist to assist with the Phragmites and related AIS projects. Since January 13, the GLC has also been hosting Dr. Paul Seelbach. Paul is currently the Chief of the Coastal Ecosystems Branch of the USGS Great Lakes Science Center. At the same time, GLC Program Director Victoria Pebbles is on a 4-month temporary assignment as Acting Deputy Director of the Great Lakes Science Center.

4) **Objective:** Respond to needs and interests of the states and provinces related to coastal management issues

**ACTION:** With funding from the USFWS Great Lakes Fish and Wildlife Restoration Act, the GLC is in its second year of surveying and mapping avian resources in the nearshore and open waters of lakes Erie, Huron, Michigan and Ontario. The GLC is working with the USFWS, USGS, Michigan DNR, MSU, Biodiversity Research Institute, the Michigan Natural Features Inventory and the Western Lake Michigan Bird and Bat Observatory to collect bird data that will support decisions regarding offshore siting of wind turbines. Staff are engaged in a climate adaptation project, supported by Michigan DEQ and NWF, to develop a best practices tool kit to support climate change adaptation in coastal wetlands. Staff also participate in the Coastal Conservation Working Group of the Landscape Conservation Cooperative.
Policy Coordination and Advocacy

The centerpieces of the GLC’s policy coordination and advocacy program are its annual legislative priorities statement and Great Lakes Day in Washington. The 2014 statement, *Advancing Economic Strength and Environmental Integrity for the Great Lakes and St. Lawrence River Region*, will be released on March 6 – Great Lakes Day 2014 – and will guide the GLC’s advocacy activities in 2014. Top priorities for 2014:

- Taking action to protect the Great Lakes and St. Lawrence River against Asian carp and other invasive species
- Sustaining progress under the Great Lakes Restoration Initiative
- Passing comprehensive legislation to strengthen and accelerate Great Lakes conservation efforts
- Helping communities upgrade aging water infrastructure
- Supporting Farm Bill programs that prevent polluted runoff and protect water quality
- Maintaining and improving infrastructure for the Great Lakes navigation system

These priorities are summarized in the draft resolution in the briefing book, and the full federal priorities statement will be provided in the meeting folder and in folders to be provided to congressional staff.

Below is a brief status report and summary of actions taken on the GLC’s 2013 federal priorities since the annual meeting in September 2013.

Status of Appropriations for Major Great Lakes Programs

The following table summarizes appropriations (in millions of dollars) for selected Great Lakes programs for Fiscal Year 2013; the President’s budget request for FY 2014; and the final funding levels approved by Congress last month in the FY 2014 omnibus appropriations bill.

<table>
<thead>
<tr>
<th>Program</th>
<th>FY 2013</th>
<th>FY 2014 Budget Request</th>
<th>Final FY 2014 Funding Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Lakes Environmental Research Laboratory</td>
<td>$9.64</td>
<td>$24.4*</td>
<td>$9.6</td>
</tr>
<tr>
<td>Dispersal Barrier and Interbasin Study</td>
<td>$22.4</td>
<td>$27.6</td>
<td>$27.6</td>
</tr>
<tr>
<td>Harbor Maintenance Trust Fund</td>
<td>$838</td>
<td>$890</td>
<td>$1,000</td>
</tr>
<tr>
<td>Great Lakes and Mississippi River Interbasin Study (GLMRIS)</td>
<td>$2.85</td>
<td>$3</td>
<td>$3</td>
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<tr>
<td>Clean Water State Revolving Fund</td>
<td>$1,376</td>
<td>$1,095</td>
<td>$1,449</td>
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<tr>
<td>Drinking Water State Revolving Fund</td>
<td>$862</td>
<td>$817</td>
<td>$907</td>
</tr>
<tr>
<td>Great Lakes Restoration Initiative</td>
<td>$264</td>
<td>$300</td>
<td>$300</td>
</tr>
<tr>
<td>BEACH Grants</td>
<td>$9.4</td>
<td>$0</td>
<td>$9.5</td>
</tr>
<tr>
<td>Great Lakes Science Center</td>
<td>$8.3</td>
<td>$8</td>
<td>$8.4</td>
</tr>
<tr>
<td>Section 106 Water Pollution Control</td>
<td>$238</td>
<td>$259</td>
<td>$231</td>
</tr>
</tbody>
</table>

*Represents funding under the Ocean, Coastal and Great Lakes Research category, which includes GLERL and a portion of funding for two other NOAA labs.

Sustain Progress Under the Great Lakes Restoration Initiative (GLRI)

As summarized in the table above, Congress provided $300 million for the GLRI in FY 2014, an increase from the FY 2013 sequester level and equal to the President’s budget request (this also includes funding for the Great Lakes Legacy Act and U.S. EPA’s Great Lakes National Program Office). The GLC devoted substantial efforts over the past year to urging Congress to fully fund the GLRI, including a joint letter in September with six regional organizations to the Great Lakes Congressional Delegation urging $300 million for the Initiative. Continued level funding is a significant victory for the region, particularly after the House Appropriations Committee initially proposed reducing it to $60 million.
For the fourth year in a row the GLC has prepared factsheets showing the GLRI projects funded in each state and summarizing the importance of the Great Lakes and the economic benefits from restoration efforts. These show site-specific projects funded during the first four years of the GLRI, 2010-2013. An online, searchable map showing GLRI projects (http://projects.glc.org/restore/glrimap/) has also been updated to include GLRI projects through FY 2013. These materials have been very effective in showcasing on-the-ground impacts from the GLRI and will be broadly publicized with the Great Lakes Congressional Delegation. Copies are included in the folders to be left with congressional staff.

**Pass Comprehensive Legislation to Enhance and Accelerate Great Lakes Conservation Efforts**

The Great Lakes Ecological and Economic Protection Act (GLEEPA) was introduced in the House (HR 2773) and Senate (S. 1232) in 2013, which would authorize the GLRI at $475 million annually; reauthorize EPA’s Great Lakes National Program Office (GLNPO) at $25 million annually; reauthorize the Great Lakes Legacy Act at $150 million (Senate bill) or $100 million (House bill) annually; establish a Great Lakes Advisory Board; authorize a Federal Interagency Task Force; and call for implementation of the Great Lakes Water Quality Agreement. The sponsor of the House bill, Rep. David Joyce (R-OH), has indicated plans to introduce a new bill that would provide a combined authorization of $300 million for the GLRI, Great Lakes Legacy Act and EPA-GLNPO, and drop the other provisions. He has been advised that this bill would have better prospects of passing in the House. The GLC remains committed to authorization levels in the original bill but recognizes the value of moving a bill in the House that can then be negotiated with the Senate. Securing formal authorization for GLRI is a significant priority to safeguard the program in future years.

**Establish Strong Protections Against Aquatic Invasive Species (AIS)**

*Asian carp and the Chicago Area Waterway System*

The GLC has devoted substantial effort to reviewing and assessing the Army Corps of Engineers’ Great Lakes and Mississippi River Interbasin Study (GLMRIS), released on Jan. 6, and coordinating with regional partners and the Great Lakes Congressional Delegation on a path forward, both for near-term measures and long-term solutions. A detailed assessment of the GLMRIS report was prepared by consultants for the GLC’s CAWS project (included in Tab Four: Speaker Topics) and the GLC will be submitting formal comments on GLMRIS to the Corps in March.

With release of GLMRIS, there is significant interest – and a pronounced sense of urgency – in Congress to take action to prevent the movement of Asian carp into the Great Lakes via the CAWS. The GLC has shared its assessment of the report with the Great Lakes Congressional Delegation and communicated its intent to provide recommendations on next steps. GLC staff met recently with staff from the co-chairs of the Great Lakes Task Force and other offices to review GLMRIS and discuss its upcoming work with the CAWS advisory committee (discussed in the Invasive Species workplan update). There is significant interest in advancing near-term actions to increase protections against Asian carp moving through the CAWS, likely focused on modifications to the Brandon Road Lock and Dam. A variety of approaches are being considered, such as using the Corps’ existing authority under GLMRIS, new direction to the Corps, or legislation or funding for other federal agencies or non-federal partners. Rep. Candice Miller (R-MI) has introduced the *Defending Against Aquatic Invasive Species Act of 2014* that would require the Corps to move forward with design and construction of hydrological separation of the Great Lakes and Mississippi River in the CAWS.

The GLC is in a pivotal position to recommend a path forward on Asian carp to congress and federal agencies. While its CAWS advisory committee will provide important input, it will be imperative that the GLC provide independent and credible guidance from the Great Lakes states. The resolution on this issue to be considered at the semiannual meeting provides the GLC’s recommendations to Congress and policy direction to guide the substantial work anticipated over the next several years to develop both near-term
control measures as well as a long-term solution. It also will inform actions that the Council of Great Lakes Governors may take on this issue when they meet in Chicago in late April.

**Preventing the importation of invasive species**

Rep. Louise Slaughter (D-NY) and Sen. Kirsten Gillibrand (D-NY) have introduced the Invasive Fish and Wildlife Prevention Act (HR 996 and S. 1153, respectively) to strengthen the screening of non-native fish and wildlife proposed for importation to prevent the introduction of harmful invasive species. The bills provide new policy guidance and regulatory tools to the U.S. Fish and Wildlife Service (USFWS) to modernize and improve the Lacey Act, which governs the importation of non-native species. The GLC and the Great Lakes Fishery Commission sent a joint letter in September 2013 to the House and Senate Great Lakes delegations supporting these bills. There has been no action to date on these bills and their prospects appear uncertain. It may be possible to strengthen programs that screen non-native species proposed for import via executive action or other programmatic or regulatory changes within USFWS.

**Address the Crisis Facing Commercial Navigation and Recreational Harbors in the Great Lakes**

Both the House and Senate have passed Water Resources Development Act (WRDA) bills (S. 601 and HR 3080) with provisions affecting the Great Lakes; the bills are now in conference committee. The GLC has communicated actively in support of provisions that would increase funding for dredging and navigation infrastructure in the Great Lakes. The latest communication to the WRDA conference committee urged the strongest possible reform of the Harbor Maintenance Trust Fund (HMTF); opposed provisions that put the Great Lakes region at a disadvantage; supported a dedicated funding authorization for operating and maintaining the Great Lakes Navigation System; and supported the House provision directing the Army Corps of Engineers to manage and allocate funding for the Great Lakes Navigation System as a single, comprehensive system. This approach was endorsed last spring by the Great Lakes Governors. The following are highlights of how the bills address specific issues:

- **HMTF reform:** The Senate bill sets specific minimum HMTF funding levels: $1 billion in FY2014 and increasing $100 million each year through FY2019, after which all funds are to be appropriated. Establishes the “primary purpose” of the HMTF as maintaining the width and depth of ports, with those projects receiving “first consideration.” The House bill expands use of the HMTF beyond authorized O&M for donor ports as long as HMTF appropriations exceed certain thresholds. It encourages equitable O&M funding for commercial harbors based on more than just tonnage.

- **Great Lakes-specific funding:** The Senate bill sets aside 20 percent of HMTF funds in excess of FY 2012 levels for Great Lakes projects.

- **Recreational harbors:** The Senate bill directs 10 percent of funding for low- and moderate-use ports when high-use, deep-draft harbors have been funded and lower-use ports have received significant state and local infrastructure investments. The House bill sets aside 10 percent of HMTF O&M funding for harbors moving less than 1 million tons.

- **Authorization of the Great Lakes Navigation System:** The House bill authorizes the Great Lakes as a single navigation system for purposes of funding (reflecting Congresswoman Candice Miller’s bill, HR 2273). In a colloquy on the Senate floor with the chair of the Senate Environment and Public Works Committee, several Great Lakes senators clarified and confirmed the Senate’s intent that the Corps of Engineers should manage the Great Lakes Navigation System as a single system.

- **Asian carp and invasive species:** Both bills designate USFWS to coordinate Asian carp efforts in the Upper Mississippi and Ohio rivers. The House bill requires closure of the Upper St. Anthony’s Lock and Dam if tonnage is under a specified level and a GAO study on AIS impacts and spending. The Senate bill authorizes the Corps to implement emergency interim measures to prevent AIS from entering the Great Lakes from the Mississippi River and requires a review of existing AIS authorities and recommendations for improving federal and state laws.

Substantial effort has been invested by members of the Great Lakes Congressional Delegation, along with regional stakeholders, to maximize resources for the Great Lakes in the WRDA bills as they have moved through the legislative process. Responding to one Great Lakes member at the opening of the WRDA conference committee, Sen. Barbara Boxer (D-CA), chair of the conference committee, stated: “Let me assure you, your Senators were unrelenting. If I could recount how many times I heard the word ‘Great Lakes’ during our deliberations, it would please you. So I think with all the fighting for the Great Lakes, I don’t think you have to worry too much about the final product.”

**Provide Funding to Upgrade Aging Water Infrastructure**

As noted in the table above, Congress provided $1.5 billion and $906 million, respectively, for the Clean Water and Drinking Water State Revolving Fund (SRF) programs for FY 2014. This is an increase over last year’s levels and a significant increase over the president's budget request. This represents a “win” for the Great Lakes that, per the programs’ existing allocation formulas, will provide approximately $750 million to address the significant need our region faces to repair and upgrade water infrastructure. The allocation per state is expected to be as follows:

<table>
<thead>
<tr>
<th>State</th>
<th>Clean Water SRF</th>
<th>Drinking Water SRF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois</td>
<td>$65,345,390</td>
<td>$34,190,130</td>
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<tr>
<td>Indiana</td>
<td>$34,773,600</td>
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<td>Michigan</td>
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<td>Minnesota</td>
<td>$26,514,870</td>
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<tr>
<td>New York</td>
<td>$159,523,890</td>
<td>$59,764,710</td>
</tr>
<tr>
<td>Ohio</td>
<td>$81,428,180</td>
<td>$29,111,490</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>$57,231,550</td>
<td>$26,572,170</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>$39,120,300</td>
<td>$15,596,680</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$526,095,590</td>
<td>$223,188,090</td>
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</table>

**Reauthorize the Farm Bill to Advance Soil Conservation and Water Quality Protections in the Great Lakes Region**

In early February Congress passed and the President signed a new Farm Bill with important new conservation provisions. The GLC has worked closely over the past year with the House and Senate Agriculture committees and regional partners to advance passage of a new Farm Bill, including a new Regional Conservation Partnership Program (RCPP) that will take the place of the current Great Lakes Basin Program for Soil Erosion and Sediment Control and increase funding for priority conservation areas. However, the bill's report language directs NRCS to continue using the Basin Program to implement the GLRI while the new Farm Bill conservation programs are developed.

The RCPP consolidates four existing programs into a single approach to support locally led conservation projects that address soil, water or wildlife habitat issues in a specific area or region. It will use a competitive, merit-based approach that encourages producers and partner organizations to work collaboratively to develop joint strategies for addressing the most pressing conservation issues. The program authorizes up to eight critical conservation areas, with priority for multistate areas with significant agricultural production, areas covered by an existing plan with established goals and objectives, areas with large bodies of water with water quality concerns, or areas that may be subject to regulatory requirements that could reduce the economic scope of agriculture in the area.
Funding for RCPP is $100 million plus 7 percent taken from certain other conservation programs. In total, approximately $275 million is expected to be available annually for locally led conservation projects. Of this funding, 35 percent is allocated for critical conservation areas; 40 percent for projects through a competitive federal grant program; and 25 percent to states through a competitive process. The funding breakdown is estimated below.

<table>
<thead>
<tr>
<th>State competitive process</th>
<th>25%</th>
<th>$68 million</th>
<th>$1.38 million per state</th>
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</thead>
<tbody>
<tr>
<td>Federal competitive process</td>
<td>40%</td>
<td>$110 million</td>
<td>TBD</td>
</tr>
<tr>
<td>Critical Conservation Areas</td>
<td>35%</td>
<td>$96 million</td>
<td>$12 million per area</td>
</tr>
</tbody>
</table>

There are numerous questions regarding how the RCPP will function and GLC staff are working with congressional staff and USDA-NRCS to better understand how the program can be applied in the Great Lakes. One key concern is the apparent prohibition on using federal funds to pay for administrative costs of participating entities. Ultimately, the RCPP could dramatically increase resources available for conservation efforts and enable the Great Lakes region to better target areas where soil erosion and nutrient runoff impact water quality, such as harmful algal blooms.
Reference

This section includes:

- Great Lakes Basin Compact
- Commission Bylaws
- Membership lists
  - Commissioners, Associate Commissioners and Alternates
  - Observers
  - Staff
GREAT LAKES BASIN COMPACT

(With State & Federal Legislative History)

Reprinted by

Great Lakes Commission
Eisenhower Corporate Park
2805 S. Industrial Hwy., Suite #100
Ann Arbor, Michigan 48104-6791
GREAT LAKES BASIN COMPACT

The party states solemnly agree:

**ARTICLE I**

The purposes of this compact are, through means of joint or cooperative action:

1. To promote the orderly, integrated, and comprehensive development, use, and conservation of the water resources of the Great Lakes Basin (hereinafter called the Basin).

2. To plan for the welfare and development of the water resources of the Basin as a whole as well as for those portions of the Basin which may have problems of special concern.

3. To make it possible for the states of the Basin and their people to derive the maximum benefit from utilization of public works, in the form of navigational aids or otherwise, which may exist or which may be constructed from time to time.

4. To advise in securing and maintaining a proper balance among industrial, commercial, agricultural, water supply, residential, recreational, and other legitimate uses of the water resources of the Basin.

5. To establish and maintain an intergovernmental agency the end that the purposes of this compact may be accomplished more effectively.

**ARTICLE II**

A. This compact shall enter into force and become effective and binding when it has been enacted by the legislature of any four of the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin and thereafter shall enter into force and become effective and binding as to any other of said states when enacted by the legislature thereof.

B. The Province of Ontario and the Province of Quebec, or either of them, may become states party to this compact by taking such action as their laws and the laws of the Government of Canada may prescribe for adherence thereto. For the purposes of this compact the word 'state' shall be construed to include a Province of Canada.

**ARTICLE III**

The Great Lakes Commission created by Article IV of this compact shall exercise its powers and perform its functions in respect to the Basin which, for the purposes of this compact shall consist of so much of the following as may be within the party states:

1. Lakes Erie, Huron, Michigan, Ontario, St. Clair, Superior, and the St. Lawrence River, together with any and all natural or manmade water interconnections between or among them.

2. All rivers, ponds, lakes, streams, and other watercourses which, in their natural state or in their prevailing conditions, are tributary to Lakes Erie, Huron, Michigan, Ontario, St. Clair, and Superior or any of them or which comprise part of any watershed draining into any of said lakes.
ARTICLE IV

A. There is hereby created an agency of the party states to be known as The Great Lakes Commission (hereinafter called the Commission). In that name the Commission may sue and be sued, acquire, hold and convey real and personal property and any interest therein. The Commission shall have a seal with the words, 'The Great Lakes Commission' and such other design as it may prescribe engraved thereon by which it shall authenticate its proceedings. Transactions involving real or personal property shall conform to the laws of the state in which the property is located, and the Commission may by by-laws provide for the execution and acknowledgment of all instruments in its behalf.

B. The Commission shall be composed of not less than three commissioners nor more than five commissioners from each party state designated or appointed accordance with the law of the state which they represent and serving and subject to removal in accordance with such law.

C. Each state delegation shall be entitled to three votes in the Commission. The presence of commissioners from a majority of the party states shall constitute a quorum for the transaction of business at any meeting of the Commission. Actions of the Commission shall be by a majority of the votes cast except that any recommendations made pursuant to Article VI of this compact shall require an affirmative vote of not less than a majority of the votes cast from each of a majority of the states present and voting.

D. The commissioners of any two or more party states may meet separately to consider problems of particular interest to their states but no action taken at any such meeting shall be deemed an action of the Commission unless and until the Commission shall specifically approve the same.

E. In the absence of any commissioner, his vote may be cast by another representative or commissioner of his state provided that said commissioner or other representative casting said vote shall have a written proxy in proper form as may be required by the Commission.

F. The Commission shall elect annually from among its members a chairman and vice-chairman. The Commission shall appoint an Executive Director who shall also act as secretary-treasurer, and who shall be bonded in such amount as the Commission may require. The Executive Director shall serve at the pleasure of the Commission and at such compensation and under such terms and conditions as may be fixed by it. The Executive Director shall be custodian of the records of the Commission with authority to affix the Commission's official seal and to attest to and certify such records or copies thereof.

G. The Executive Director, subject to the approval of the Commission in such cases as its by-laws may provide, shall appoint and remove or discharge such personnel as may be necessary for the performance of the Commission's function. Subject to the aforesaid approval, the Executive Director may fix their compensation, define their duties, and require bonds of such of them as the Commission may designate.

H. The Executive Director, on behalf of, as trustee for, and with the approval of the Commission, may borrow, accept, or contract for the services of personnel from any state or government or any subdivision or agency thereof, from any inter-governmental agency, or from any institution, person, firm or corporation; and may accept for any of the Commissions purposes and functions under this compact any and all donations, gifts, and grants of money, equipment, supplies, materials, and services from any state or government of any subdivision or agency thereof or inter-governmental agency or from any institution, person, firm or corporation and may receive and utilize the same.

I. The Commission may establish and maintain one or more offices for the transacting of its business and for such purposes the Executive Director, on behalf of, as trustee for, and with the approval of the Commission, may acquire, hold and dispose of real and personal property necessary to the performance of its functions.
J. No tax levied or imposed by any party state or any political subdivision thereof shall be deemed to apply to property, transactions, or income of the Commission.

K. The Commission may adopt, amend and rescind by-laws, rules and regulations for the conduct of its business.

L. The organization meeting of the Commission shall be held within six months from the effective date of the compact.

M. The Commission and its Executive Director shall make available to the party states any information within its possession and shall always provide free access to its records by duly authorized representatives of such party states.

N. The Commission shall keep a written record of its meetings and proceedings and shall annually make a report thereof to be submitted to the duly designated official of each party state.

O. The Commission shall make and transmit annually to the legislature and Governor of each party state a report covering the activities of the Commission for the preceding year and embodying such recommendations as may have been adopted by the Commission. The Commission may issue such additional reports as it may deem desirable.

**ARTICLE V**

A. The members of the Commission shall serve without compensation, but the expenses of each commission shall be met by the state which he represents in accordance with the law of that state. All other expenses incurred by the Commission in the course of exercising the powers conferred upon it by this compact, unless met in some other manner specifically provided by this compact, shall be paid by the Commission out of its own funds.

B. The Commission shall submit to the executive head or designated officer of each party state a budget of its estimated expenditures for such period as may be required by the laws of that state for presentation to the legislature thereof.

C. Each of the Commission's budgets of estimated expenditures shall contain specific recommendations of the amount or amounts to be appropriated by each of the party states. Detailed commission budgets shall be recommended by a majority of the votes cast, and the costs shall be allocated equitably among the party states in accordance with their respective interests.

D. The Commission shall not pledge the credit of any party state. The Commission may meet any of its obligations in whole or in part with funds available to it under Article IV(H) of this compact, provided that the Commission takes specific action setting aside such funds prior to the incurring of any obligations to be met in whole or in part in this manner. Except where the Commission makes use of funds available to it under Article IV(H) hereof, the Commission shall not incur any obligations prior to the allotment of funds by the party states adequate to meet the same.

E. The Commission shall keep accurate accounts of all receipts and disbursements. The receipts and disbursements of the Commission shall be subject to the audit and accounting procedures established under the by-laws. However, all receipts and disbursements of funds handled by the Commission shall be audited yearly by a qualified public accountant and the report of the audit shall be included in and become a part of the annual report of the Commission.
F. The accounts of the Commission shall be open at any reasonable time for inspection by such agency, representative of the party states as may be duly constituted for that purpose and by others who may be authorized by the Commission.

ARTICLE VI

The Commission shall have power to:

A. Collect, correlate, interpret, and report on data relating to the water resources and the use thereof in the Basin or any portion thereof.

B. Recommend methods for the orderly, efficient, and balanced development, use and conservation of the water resources of the Basin or any portion thereof to the party state and to any other governments or agencies having interests in or jurisdiction over the Basin or any portion thereof.

C. Consider the need for and desirability of public works and improvements relating to the water resources in the Basin or any portion thereof.

D. Consider means of improving navigation and port facilities in the Basin or any other portion thereof.

E. Consider means of improving and maintaining the fisheries of the Basin or any portion thereof.

F. Recommend policies relating to water resources including the institution and alteration of flood plain and other zoning laws, ordinances and regulations.

G. Recommend uniform or other laws, ordinances, or regulations relating to the development, use and conservation of the Basin's water resources to the party states or any of them and to other governments, political subdivisions, agencies of inter-governmental bodies having interests or in jurisdiction sufficient to affect conditions in the Basin or any portion thereof.

H. Consider and recommend amendments or agreements supplementary to this compact to the party states or any of them, and assist in the formulation and drafting of such amendments or supplementary agreements.

I. Prepare and publish reports, bulletins, and publications appropriate to this work and fix reasonable sales prices therefore.

J. With respect to the water resources of the Basin or any portion thereof, recommend agreements between the governments of the United States and Canada.

K. Recommend mutual arrangements expressed by concurrent or reciprocal legislation on the part of Congress and the Parliament of Canada including but not limited to such agreements and mutual arrangements as are provided for by Article XIII of the Treaty of 1909 Relating to Boundary Waters and Questions Arising Between the United States and Canada. (Treaty Series, No 548).

L. Cooperate with the governments of the United States and of Canada, the party states and any public or private agencies or bodies having interests in or jurisdiction sufficient to affect the Basin or any portion thereof.

M. At the request of the United States, or in the event that a Province shall be a party state, at the request of the Government of Canada, assist in the negotiation and formulation of any treaty or other mutual agreement between the United States and Canada with reference to the Basin or any portion thereof.
N. Make any recommendation and do all things necessary and proper to carry out the powers conferred upon the Commission by this compact, provided that no action of the Commission shall have the force of law in, or be binding upon, any party state.

**ARTICLE VII**

Each party state agrees to consider the action the Commission recommends in respect to:

A. Stabilization of lake levels.

B. Measures for combating pollution, beach erosion, floods and shore inundation.

C. Uniformity in navigation regulations within the constitutional powers of the states.

D. Proposed navigation aids and improvements.

E. Uniformity or effective coordinating action in fishing laws and regulations and cooperative action to eradicate destructive and parasitical forces endangering the fisheries, wildlife and other water resources.

F. Suitable hydroelectric power developments.

G. Cooperative programs for control of soil and bank erosion for the general improvement of the Basin.

H. Diversion of waters from and into the Basin.

I. Other measures the Commission may recommend to the states pursuant to Article VI of this compact.

**ARTICLE VIII**

This compact shall continue in force and remain upon each party state until renounced by the act of the legislature of such state, in such form and manner as it may choose and as may be valid and effective to repeal a statute of said state, provided that such renunciation shall not become effective until six months after notice of such action shall have been officially communicated in writing to the executive head of the other party states.

**ARTICLE IX**

It is intended that the provisions of this compact shall be reasonably and liberally construed to effectuate the purposes thereof. The provisions of this compact shall be severable and if any phrase, clause, sentence or provision of this compact is declared to be contrary to the constitution of any party state or of the United States, or in the case of a Province, to the British North America Act of 1867 as amended, or the applicability thereof to any state, agency, person or circumstances is held invalid, the constitutionality of the remainder of this compact and the applicability thereof to any state, agency, person or circumstance shall not be affected thereby, provided further that if this compact shall be held contrary to the constitution of the United States, or in the case of a Province, to the British North America Act of 1867 as amended, or of any party state, the compact shall remain in full force and effect as to the remaining states and in full force and effect as to the state affected as to all severable matters.
STATE LEGISLATIVE HISTORY:

Illinois: (69th GA House Bill, No. 983, 1955)
Indiana: (Chapter 220 (H. 216, Approved March 10, 1955)
Minnesota: (Laws of Minnesota 1955, Chapter 691; S.F. No. 1982)
New York: (Chapter 643, Laws of 1960)
Ohio: (Amended House Bill 415, Effective October 9, 1963, 105 General Assembly)
Wisconsin: (No. 294 A, Chapter 275, Laws of 1955)

The Commission was officially organized and established December 12, 1955 subsequent to ratification of the compact by five states (Illinois, Indiana, Michigan, Minnesota and Wisconsin). The Commission office was established on the Campus of the University of Michigan in early 1956.

CONGRESSIONAL CONSENT - LEGISLATION

All interstate compacts require Congressional consent (Article I, Sec. 10, Clause 3, Constitution of the United States) in order to achieve full force and effect. Numerous bills were considered beginning in 1956. In 1968, Congress enacted S. 660 (PL 90-419) giving limited consent to the compact as follows:

"Public Law 90-419
90th Congress, S 660
July 24, 1968

"AN ACT

"Granting the consent of Congress to a Great Lakes Basin Compact, and for other purposes.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the consent of Congress is hereby given, to the extent and subject to the conditions hereinafter set forth, to the Great Lakes Basin Compact which has been entered into by the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin in the form as follows:
"GREAT LAKES BASIN COMPACT"

(The full text of the State adopted Compact text is included in PL 90-419 at this point.)

"SEC. 2. The consent herein granted does not extend to paragraph B of article II or to paragraphs J, K, and M or article VI of the compact, or to other provisions of article VI of the compact which purpose to authorize recommendations to, or cooperation with, any foreign or international governments, political subdivisions, agencies or bodies. In carrying out its functions under this Act the Commission shall be solely a consultative and recommendatory agency which will cooperate with the agencies of the United States. It shall furnish to the Congress and to the President, or to any official designated by the President, copies of its reports submitted to the party states pursuant to paragraph O of article IV of the compact.

"SEC. 3. Nothing contained in this Act or in the compact consented to hereby shall be construed to affect the jurisdiction on, powers, or prerogatives of any department, agency, or officer of the United States Government or of the Great Lakes Basin Committee established under title II of the Water Resources Planning Act, or of any international commission or agency over or in the Great Lakes Basin or any portion thereof, nor shall anything contained herein be construed to establish an international agency or to limit or affect in any way the exercises of the treatymaking power or any other power or right of the United States.

"SEC. 4. The right to alter, amend, or repeal this Act is expressly reserved. "Approved July 24, 1968."

FEDERAL LEGISLATIVE HISTORY:

PL 90-419 (90th Congress, S 660)
HOUSE REPORT No 1640 (Comm. on Foreign Affairs)
SENATE REPORT No. 1178 (Comm. on the Judiciary)
CONGRESSIONAL RECORD, Vol. 114 (1968):
June 12: Considered and passed Senate.
July 15: Considered and passed House.
July 24: Signed by the President.
BYLAWS

Pursuant to the powers and authority vested in the Great Lakes Commission by paragraph K of Article IV of the Great Lakes Basin Compact, the following Bylaws are adopted and shall remain in force until amended.

ARTICLE I
COMPONENT STATES

The states of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin having ratified the Great Lakes Basin Compact by act of their legislatures are recognized as the component states of this Compact which has become operative in view of the provisions of Article II, section A of this Compact. The provinces of Ontario and Québec, by actions of their governments through a Declaration of Partnership, are recognized as associate (non-voting) members of the Compact.

ARTICLE II
MEMBERSHIP

SECTION 1 - The members appointed by and certified to the Commission by the component states shall constitute the members of the Commission.

SECTION 2 - Pursuant to the provisions of the Compact, each state shall have a total of three votes on any matters coming before the Commission to be cast in accordance with the applicable laws of such state. Should any Commission or any committee, special committee, or task force member be absent from any Commission or committee, special committee or task force meeting, their vote may be cast by a duly appointed proxy in accordance with Article IV, Section E of the Compact, whose authority shall be in writing and filed with the Chair of the Commission or committee, as the case may be, at the time of or before said meeting.

SECTION 3 - Each state or the Commission itself shall be permitted to make use of advisors and consultants of its own choice at any meeting of the Commission or of any committee, special committee or task force. Such advisors and consultants may be permitted to participate in discussions and deliberations without the power to vote.

SECTION 4 - The Commission shall be permitted to designate observers representing the United States and Canadian federal governments, regional organizations, or any others it may so designate to advance the goals and objectives of the Great Lakes Basin Compact. Observers may be permitted to participate in discussions, deliberations and other activities as approved by the Commission, but shall have no vote.
ARTICLE III
BOARD OF DIRECTORS

SECTION 1 - There is established a Board of Directors (hereafter referred to as “the Board”) to be composed of a Commissioner from each component state. The governors of each state, where not inconsistent with state law, shall designate the person who shall serve on the Board. The Chairs of the Ontario and Québec delegations to the Commission shall serve in an associate (non-voting) capacity on the Board. The Chair and Vice Chair of the Commission shall be elected by the Commission from among the state delegation members and, upon election shall also be members of the Board. The Chair of the Commission shall also hold the title of Chairman of the Board.

SECTION 2 - The Board shall evaluate the work, activities, programs and policies of the Commission and shall recommend to the Commission the taking of any action by the Commission relative to such areas. It shall also serve in an advisory capacity to the Chair and Vice Chair of the Commission and shall perform such other duties and functions as the Commission shall delegate to it or otherwise authorize it to perform from time to time on behalf of the Commission. It shall meet on the call of the Chair.

SECTION 3 - The Board shall adopt budget(s) following review by the full Commission in accordance with Article VII. Pursuant to Section 8, Article VII, the Board shall authorize, by majority vote of members present, the adoption of changes to the general operating budget of the Commission. The Board may authorize increases or decreases of the budget by majority vote of members present. Alterations within previously approved amounts of spending categories, not changing the general operating budget amount, may be adopted by majority approval of the Board members present.

SECTION 4 - The Board shall, from time to time, review the personnel policies of the Commission and receive recommendations from Commissioners and the President/Chief Executive Officer on these personnel policies. The Board may authorize changes to the Commission’s "Personnel Policies and Procedures" and authorize changes in compensation for the President/CEO and staff personnel within available budget amounts. Compensation includes salary and fringe benefits available to staff.

SECTION 5 - The Board shall review proposed policies that are prepared for consideration by the Commission and shall report to the full Commission on the findings of the review and provide recommendations on adoption or suggested changes.

SECTION 6 - The Board shall report on all Board meetings at the next regularly scheduled or special Commission meeting. Draft minutes of Board meetings will be furnished to all Commissioners as soon as possible.

SECTION 7 - Board meetings will be held as needed, including by conference call or in conjunction with full Commission meetings to conserve travel costs to the extent practical for member states. Board meetings shall be open to all Commissioners as observers. All meetings will be announced to the entire membership. Board decisions will be made on the basis of a majority vote of those present.

SECTION 8 - The Board will act on Commission policy and budget matters in accordance with the following guidelines:
a) The Commission at a special or regularly scheduled meeting, refers the issues to the Board for action. All Commissioners may participate in discussions, but only Board members will be entitled to vote on the issue.

b) The Commission is unable to adequately resolve an issue (e.g., additional research, discussion or coordination is required, in a timely manner not available to the full Commission.) The Board may receive a referral from the Commission, or the Chair, and after discussion with the Vice Chair and President/CEO, may notify all Commissioners that an issue has been referred to the Board for action and resolution. Any objections shall be considered by the Chair. Other Commissioners desiring to participate may do so through the Board member representing their state or province.

c) For issues in which circumstances require an immediate decision or action, the Chair, after discussion with the Vice Chair and President/CEO, may refer the issue to the Board when a full Commission meeting is not an option for resolution. The Chair will report on all action taken by the Board to the full Commission by regular mail or equivalent as soon as practicable.

SECTION 9 - There is established the position of Immediate Past Chair to be held by the departing Chair for the period of his/her successor’s tenure as Chair. The Immediate Past Chair may be designated, by the Chair in consultation with the Board, to undertake special activities as deemed appropriate.

SECTION 10 - The Chair may designate members of the Board to undertake other special responsibilities as deemed appropriate.

ARTICLE IV
OFFICERS

SECTION 1 - Nominations for Chair and Vice Chair of the Commission shall be made by a nominating committee appointed by the current Chair, and election shall be held at the annual meeting of the Commission. Election to each office shall be by majority vote and each state shall be entitled to three votes. The Chair and Vice-chair shall hold office for one year or until their successors are elected and qualified. In the event the office of Chair becomes vacant, nomination and election to fill the vacancy shall be effected at any meeting of the Commission after due notice to all Commissioners.

SECTION 2 - Chair: The Chair shall take office immediately following adjournment of the meeting at which elected. The Chair shall preside at all meetings of the Commission and of the Board from such time until a successor shall take office. The Chair shall appoint, or establish the process of appointing, the members of committees, special committees, and task forces. The Chair shall serve as a voting member of the Board.

SECTION 3 - Vice Chair: The Vice Chair shall act for the Chair in the event of the latter’s absence or disability. The Vice Chair shall serve as a voting member of the Board.

SECTION 4 - President/CEO: Subject to the general supervision of the Commission, the President/CEO shall be the full time executive officer of the Commission. The President/CEO shall be employed by the Commission and shall hold office at the pleasure of the Commission; and shall:
   (a) Carry out its policies;
   (b) Serve as editor of any Commission publication;
   (c) Coordinate the activities of all committees, special committees and task forces;
   (d) Arrange details and facilities, including secretarial and other services for all Commission and Committee meetings;
   (e) Serve as ex-officio member without vote for all committees, special committees and task forces;
(f) Cause to be made a record of the proceedings of the Commission and Board and preserve the same in the headquarters office;
(g) Give notice of all meetings;
(h) Make recommendations on programs, policies, and activities of the Commission;
(i) Exercise general supervision under the direction of the Commission of all the Commission programs and activities;
(j) Have immediate charge of the headquarters office and personnel.

SECTION 5 - Executive Staff: The executive staff of the Commission shall consist of President/CEO and such other staff members as may be designated by a majority vote of the Board from time to time.

ARTICLE V
COMMITTEES

SECTION 1 - The Commission may, from time to time and as deemed necessary, delineate committees, special committees, and task forces to carry out its initiatives. Each committee, special committee, or task force shall consist of persons from each interested state and province, nominated by the Chair of the delegation and appointed by the Chair. Each state shall be entitled to one vote on each committee, special committee and task force. In addition, the Chair of each committee, special committee or task force may arrange for associates or advisors, without payment of compensation or expenses to the same unless authorized by the Commission, to assist the committee, special committee or task force and participate in its deliberations and discussions without power to vote on recommendations.

SECTION 2 - The committees, special committees, and task forces shall conduct studies and research, prepare memoranda and reports in their assigned fields and on that basis make recommendations to the full Commission for specific action to be taken in a particular field. Any and all action on legislative recommendations of a committee, special committee or task force other than discussion, study and voting will be made only with the approval of the Commission.

SECTION 3 - Each committee, special committee or task force shall meet as needed to conduct assigned duties. Through its Chair, or the Chair’s designee, each committee, special committee or task force shall periodically submit a written report to the Commission at regular annual meetings of the Commission or at other times as deemed appropriate. Recommendations by the committees, special committees and task forces calling for action by the Commission shall be received in writing by the Chair of the Commission and the President/CEO at least one month prior to the date of the meeting of the Commission at which such action is to be sought, unless special permission is granted by the Commission Chair for a late report.

ARTICLE VI
MEETINGS

SECTION 1 - Annual and semiannual meetings: The Commission shall meet at least twice annually. The annual meeting normally shall be held during the month of October; the semi-annual meeting normally shall be held during the second half of the fiscal year (January – June). The Chair shall consider recommendations and invitations of Commissioners in selecting meeting locations, and views on conditions which tend to over-ride the normally established meeting dates.

SECTION 2 - Notice: The President/CEO shall mail notice in writing of the time and place of each regular meeting of the Commission to each member not later than 60 days prior to the date of the meeting.
SECTION 3 - Special meetings: Special meetings of the full Commission may be called by the Chair to be held at times and places identified in an official call for such meetings.

SECTION 4 - Order of business and rules: The order of business which may be developed by Bylaws, tradition or ruling of the presiding officer of the Commission or Board may be changed at any meeting of the body proposing a change in its order of business by vote of a majority of members present, except as otherwise provided by the Compact or the Bylaws. The usual applicable parliamentary rules and precedents will govern all proceedings.

ARTICLE VII
BUDGET AND FINANCE

SECTION 1 - All component states shall share equally in the expenses of the Commission. Each individual state shall bear the expenses of its Commissioners at Commission annual, semiannual and Board meetings, and such expenses shall not be paid out of funds in the Commission treasury.

SECTION 2 - In the case of committee, special committee or task force programs the Commission may authorize the payment of expenses of committee, special committee or task force members from Commission funds.

SECTION 3 - Financial remittances to the Commission by each member state shall be requested for each fiscal year. The amount of each remittance shall be determined by the Commission in accordance with Sections 1, 6, 7 and 8, this Article and Article V of the Compact.

SECTION 4 - The President/CEO shall, on a quarterly basis, prepare and submit to the Board a statement presenting the Commission’s financial condition.

SECTION 5 - With the approval of the Board, the President/CEO may make transfers of funds within the approved budget of the Commission.

SECTION 6 - The budget of estimated expenditures referred to in Article V of the Compact shall be adopted by the Board prior to the relevant fiscal year, and presented at the next meeting of the Commission.

SECTION 7 - The budget of the Commission shall consist of two parts:

a) The "general operating budget" shall include, but not be limited to funds remitted by each member state, Commission reserve funds and interest earned. Expenditures will normally include routine operating costs for the Commission.

b) The "restricted fund budget" shall include income from projects, grants and other sources not considered as a routine revenue. Expenditures will normally be made to fund costs of the projects or grants incurred by the Commission. Transfers to pay Commission operating expenses may be made in accordance with grant or project authorization.
SECTION 8
a) The President/CEO shall prepare a proposed annual budget for review and evaluation by the Board at least 45 days prior to the new fiscal year. The proposal shall include estimated income and expenditures for each part of the budget.
b) The Board will make necessary changes to the proposal, will distribute a draft budget to the full Commission for review, and following consultation with the full Commission will adopt a final budget document. The general operating budget component shall be used to determine the financial remittance required by each member state. Only a majority vote by the full Commission shall authorize a change in a member state’s required financial remittances.

SECTION 9 - Certain changes and alterations are expected to occur within the approved budget. These will be handled as follows:
a) Changes in the general operating budget, not requiring a change in required member state remittances, may be made by majority vote of the Board or by a majority vote of the full Commission.
b) Changes in the restricted fund budget, not amending the general operating budget, may be adopted by a majority vote of the full Board or by a majority vote of the full Commission.
c) Changes in the budget, requiring alterations in the required member state remittance will only be authorized by majority vote of the full Commission.
d) Changes in the budget requiring immediate action, where a Board or full Commission meeting is not possible, may be made by the President/CEO in consultation with the Chair or Vice Chair, as available. A subsequent report to, and ratification by, the Board or Commission, as appropriate, will be sought.

ARTICLE VIII
AMENDMENT OF BYLAWS

These Bylaws may be altered and amended at any regular meeting upon the affirmative majority vote of the Commission. However, no amendment may be considered at any such meeting unless the proposed amendment shall have been received by the Chair and President/CEO at least one month prior to the first day of the month of which said regular meeting shall be held. Immediately upon receipt of such proposed amendment the President/CEO shall refer it to the Board and shall send a copy thereof to each member of the Commission within fifteen days after the receipt thereof, together with notice of the date on which the proposed amendment will be acted upon by the Commission.

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