

**Great Lakes Executive Committee Meeting Summary**  
June 6-7, 2018

**WELCOME REMARKS AND BUSINESS ITEMS**

The June 2018 Great Lakes Executive Committee (GLEC) meeting was opened with welcome remarks from GLEC Co-Chairs Tinka Hyde and Michael Goffin. Tinka informed GLEC that it was her last meeting as the U.S. GLEC Co-Chair and manager of the Great Lakes National Program Office (GLNPO) and welcomed Chris Korleski as the returning manager of GLNPO. U.S. Environmental Protection Agency (EPA) Deputy Regional Administrator James Payne for Region 5 was welcomed to the GLEC meeting and provided additional welcoming remarks for the attendees.

The agenda for the two days was accepted and it was noted that the action items from the December 2017 GLEC meeting were completed.

A list of meeting attendees can be found in Appendix A.

**AREAS OF CONCERN (ANNEX 1)**

Marc Tuchman (U.S. Environmental Protection Agency (U.S. EPA)), the new U.S. Annex 1 Co-Lead, and Jon Gee (Environment and Climate Change Canada (ECCC)), the Canadian Annex 1 Co-Lead, provided domestic updates on progress of the respective Areas of Concern (AOC) programs, specifically focusing on the U.S. Rochester Embayment AOC and the Braddock Bay Wetland & Barrier Beach Restoration; and the Canadian Toronto and Region AOC, including aquatic habitat creation and restoration coordinated through the Toronto Waterfront Aquatic Habitat Restoration Strategy with guidance from Aquatic Habitat Toronto.

**LAKEWIDE MANAGEMENT (ANNEX 2)**

Prior to Annex 2 Co-Leads providing their updates, Michael Goffin noted that John Marsden, the Canadian Annex 2 Co-Lead would be retiring and thanked him for all his efforts leading Annex 2 and 7.

Annex 2 Co-Leads, James Schardt (U.S. EPA) and John Marsden (ECCC) provided highlights of completed and planned Annex activities for the Lakewide Action and Management Plans (LAMPs) for each lake, Nearshore Framework implementation, and LAMP Annual Reports before turning the session over to Lake Partnership members to present on projects relevant to Lake Huron and Lake Superior.

Rick Hobrla (Michigan Department of Natural Resources) presented efforts on the [Saginaw Bay Reef Restoration project](#) (within Lake Huron) including tools for sedimentation model-predicted deposition, findings from the U.S. Fish and Wildlife funded pre-construction assessment, current challenges, and the timeline on project completion.

Stephen Dicks and Nadine Crookes (Parks Canada) presented an overview of the [Lake Superior National Marine Conservation Area \(NMCA\)](#) and how it aligns with Lake Superior LAMP efforts and actions

including: education and prevention of aquatic invasive species; addressing threats to native plant and animal communities; and helping remove invasive European Common Reed from the basin.

### **CHEMICALS OF MUTUAL CONCERN (ANNEX 3)**

Anton Martig (U.S. EPA), presenting on behalf of the U.S. Annex 3 Co-Lead, Mardi Klevs (U.S. EPA), and Tricia Mitchell (ECCC), the Canadian Annex 3 Co-Lead, provided updates related to:

- The Binational Strategies for Chemicals of Mutual Concern (CMCs), including the final strategies for PCBs and HBCD available on [binational.net](http://binational.net); the posting of the draft strategies for PBDEs and Mercury for public comment; and the development of the strategy for short-chain chlorinated paraffin and per- and polyfluoroalkyl substances which will be posted for public comment when available.
- Work to enhance the binational screening criteria for chemicals that are nominated as CMCs in order to make the decision-making process more transparent and streamlined, as well as incorporate a weight of evidence approach that involves consideration of multiple sources of information and lines of evidence.
- The process for addressing the external nominations for radionuclides and sulfates according to revised criteria, which will include a discussion of the evaluations with nominators, prior to finalizing the decisions for these two nominated CMCs.

### **NUTRIENTS (ANNEX 4)**

Annex Co-Leads, Tinka Hyde (U.S. EPA) and Susan Humphrey (ECCC), highlighted the finalization of the Domestic Action Plans (DAPs) for both U.S. and Canada and discussed efforts to implement actions identified in the plans towards achieving phosphorus load reductions to Lake Erie and next steps, including: establishing and adaptive management team and framework to continually evaluate and optimize actions towards meeting the phosphorus load reductions; calculating and finalizing phosphorus loads to Lake Erie; and tracking and reporting on progress through existing mechanisms (e.g., Great Lakes Public Forum, State of the Lakes Reports, LAMP annual reports, Lake Erie LAMPs, Harmful Algal Bloom forecasts, Progress Report of the Parties, Individual Domestic Action Plans, and the Government of Canada's Open Data portal), as well as new reporting mechanisms (e.g., binational webinars and the Great Lakes Commission's [ErieStat](#)).

It was noted that Santina Wortman (U.S. EPA) and Tricia Mitchell (ECCC) will be the new Annex 4 Co-Leads.

### **INTERNATIONAL JOINT COMMISSION (IJC) TRIENNIAL ASSESSMENT OF PROGRESS (TAP) REPORT**

GLEC Co-Chairs Tinka Hyde (U.S. EPA) and Michael Goffin (ECCC) discussed each countries' domestic response to the IJC's TAP report. Tinka notified GLEC that the U.S. would consider the IJC's recommendations as a part of planning for the next three-year management cycle and offered two suggestions related to a more detailed discussion of government partners' progress to provide greater context for the IJC's recommendations and more a detailed discussion of jurisdictional authorities that would be involved in the specific recommendations. Michael discussed the Canadian response to the

TAP report and noted that Canada would consider the IJC's recommendations moving forward with the Canada-Ontario Agreement and the GLWQA through the respective Great Lakes priority setting process.

Lana Pollack and Gordon Walker (IJC) noted the significant efforts to develop the first TAP report and the value of the report's recommendations, as well as recognized the efforts of the Parties and the progress made under the 2012 GLWQA. It was noted that while the first TAP report was structured around assessing the Parties' progress against the nine General Objectives of the Agreement, alternative structures for future TAP reports may exist; and it was recommended that early coordination between the IJC and the Parties for future reports occurs. The Commissioners also expressed the significance of collectively communicating the work under the Agreement; the importance of deciding how to consider recommendations provided going forward; and ensuring both the IJC and the Parties' expectations related to the TAP are being met in a mutually satisfactory manner.

### **AQUATIC INVASIVE SPECIES (ANNEX 6)**

Guest speaker, Jeff Zuercher, from the Army Corps of Engineers (U.S. ACE) presented an overview of the Great Lakes & Mississippi River Interbasin Study (GLMRIS) and project plans for the Brandon Road Lock and Dam. Eighteen pathways of aquatic invasive species were identified in GLMRIS with eight labelled as top priority, including the Chicago Area Waterway System (CAWS) Brandon Road pathway. Currently the U.S. ACE is working to move the Brandon Road August 2019 Chiefs report to Congress for the opportunity to get authorization and funding for construction; moving the engineering and design feasibility phase to the pre-construction and design phase with final details worked out after authorization; and the negotiation of local sponsorship to fund the project. Construction is scheduled to begin at the end of year 2020.

### **GROUNDWATER (ANNEX 8)**

Annex Co-Lead Howard Reeves (U.S. Geological Survey (USGS)) on behalf of himself and his Canadian Co-Chair Dale Van Stempvoort (ECCC) provided the following Groundwater Annex updates:

- Several efforts to enhance assessing groundwater-surface water interaction and support groundwater-surface water modeling work, including:
  - The IJC's Science Advisory Board-Research Coordination Committee-sponsored meeting related to "Surface-water/Groundwater Model Integration" bringing together scientists from the U.S. and Canada to discuss the potential benefits and feasibility of an integrated groundwater-surface water model for the basin.
  - Natural Resources Canada's project in Southern Ontario in collaboration with the Geological Survey of Canada to synthesize aquifer and groundwater information and to make that information available to the public.
  - A workshop related to "Regional-scale groundwater geoscience in southern Ontario" sponsored by Ontario Geological Survey (OGS), Geological Survey of Canada (GSC), and Conservation Ontario, which focused on outcomes of the OGS-GSC groundwater geoscience knowledge gaps analysis, the Great Lakes Water Quality Agreement and the Canada-Ontario Great Lakes Agreement, Provincial groundwater data management and modeling, and Conservation Authority geoscience.
  - USGS proposed work through the National Cooperative Geologic Mapping Program to build on previous efforts and update the geologic framework for the basin.

- GLEC member agency efforts related to advancing the assessment of the geographic distribution of groundwater contaminants relevant to Great Lakes water quality including a study of groundwater transport of phosphorous following decommission of on-site treatment for septic that looked at direct transport to Georgian Bay; future discussions on the Thames Basin study looking at nutrient delivery to Lake Erie; USGS work by the National Water Quality Project in assessing potential groundwater transport of nutrients; and efforts to addressing per- and polyfluoroalkyl substances in groundwater (including EPA's National Leadership Summit and the development of Ohio and Michigan State action plans).
- Work on the groundwater indicator was also discussed, including current efforts to address spatial gaps in data and to address trends for chloride and nitrate concentrations in support of reporting against the Groundwater Indicator, as well as work proposed by the Ontario Ministry of Environment and Climate Change and USGS to more routinely assess baseflow and to evaluate trends in baseflow. This would support enhancing the assessment of groundwater-surface water interaction, and may allow for reporting on the status and trends of the Groundwater Indicator in future State of the Great Lakes Reports beyond 2019.

## **CLIMATE CHANGE IMPACTS (ANNEX 9)**

Canadian Annex Co-Lead, Shaffina Kassam (ECCC), provided an update, on behalf of herself and the U.S. Co-Lead Meredith Muth (NOAA), on the following Annex 9 efforts including:

- A synthesis report of the existing approaches for conducting vulnerability assessments in the Great Lakes, which will be made available on bintional.net. This synthesis report will enhance efforts to assess climate change in the Great Lakes to inform strategies and actions.
- A review the 2015 State of Climate Change Science report with other GLWQA Annexes to identify and prioritize the knowledge gaps in climate change science to inform future research.
- Continuing to deliver climate information through the quarterly Great Lakes Climate Summaries and Outlooks, as well as a new initiative to develop an Annual Climate Trends and Impacts Summary for the Great Lakes Basin. Co-presenter Jenna Jorns (University of Michigan) highlighted select features and articles from the new 2017 Annual Climate Trends and Impacts Summary for the Great Lakes Basin, including noting the record lake levels for Lake Ontario and overall warmer temperatures in both February and September around the Basin; and given this Annual Summary was a pilot, feedback from GLEC was requested.
- Next steps for work the noted above efforts were also discussed, as well as refining the climate trends indicators for the 2019 State of the Great Lakes Report.

## **SCIENCE (ANNEX 10)**

In relation to work being undertaken under Annex 10, Beth Hinchey Malloy (U.S. EPA) provided an overview of the 1995-present Dreissena and Diporeia population dynamics for Ontario, Huron and Michigan, highlighting the importance of the Cooperative Science and Monitoring Initiative surveys in gathering lakewide information, as well as the importance of the multi-partner collaboration in these efforts. Beth presented the latest findings from this work, noting that Diporeia populations have disappeared or are in currently in a state of dramatic decline in all the lakes except Lake Superior; and that Quagga mussels now dominate the benthos. It was noted that while Diporeia declines coincide with the invasion of exotic dreissenid mussels, the mechanisms underlying the declines are not fully

understood or proven. Beth concluded the presentation with benthic video footage from the bottom of Lake Michigan and Lake Huron, which showed areas of significant presence of mussels.

Cathy Stepp, U.S. EPA's Regional Administrator was welcomed and provided remarks on the importance of collaboration to discuss cross-border issues and in turn, communicating these issues and its significance to the public in a simplified way for understanding. Cathy thanked GLEC for the continued efforts under GLWQA and provided her support for continuing the dialog of Great Lakes issues.

## **2019 GREAT LAKES PUBLIC FORUM**

GLEC Secretariats, James Schardt (U.S. EPA) and Carla Torchia (ECCC), presented a status update on the 2019 Great Lakes Public Forum, which is scheduled for May or June and will be held in the U.S. and updated GLEC on upcoming deliverables including the 2019 State of the Great Lakes report, the 2019 Progress Report of the Parties, and the 2020-2022 Binational Priorities for Science and Action. It was noted that the aim was to share drafts of these products at the December 2018 GLEC meeting and GLEC members would have opportunities for input and review.

## **DISCUSSION OF OTHER ANNEXES**

Information Notes for Lakewide Management, Discharge from Vessels, Habitat and Species, Groundwater, and Science annexes were included in participants' meeting binders, which included updates on these annexes' activities and their planned activities.

## **NEWS AND COMMENTS FROM GLEC MEMBERS**

Andrew McAllister (Canadian Nuclear Safety Commission) – Andrew noted that the Ontario Power Generation are engaging the Saugeen Ojibway Nation to provide additional information, at the request of the Minister, regarding the potential cumulative effects on physical and cultural heritage of the proposed Deep Geologic Repository Deep Geological Repository in Kincardine, Ontario – a timeline to provide the additional information has not been identified. Andrew also noted that public hearings for the re-licensing of the Bruce Nuclear Power Plant wrapped-up at the end of May and hearings for the Pickering Nuclear Generating Station license renewal are occurring at the end of June – all proceedings are webcast and can be viewed at the [Commission's website](#). In addition, Andrew highlighted changes at the Commission, including 3 new members recently appointed, 1 re-appointment, and a new Commission President anticipated to be named in August, as well as the Commission's assessment of Radionuclides as a Chemical of Mutual Concern under Annex 3 available at the [Commission's website](#) and [binational.net](#).

Rick Balla (U.S. EPA) – Rick acknowledged partners from New York State Department of Environmental Conservation and the St. Regis Mohawk Tribe and highlighted their essential collaboration with the U.S. portion of Lake Ontario and Lake Erie. The Lake Ontario LAMP is underway with comments being considered and included into the next writing phase. The draft LAMP is scheduled to be released later this summer. CSMI field year monitoring has begun and will emphasize the understanding of how nutrients drive the growth of nuances benthic algae. A binational survey of benthic growth of mussels using dive teams will provide detailed information that can support cladophora growth models and

assist with decision making for Annex 4. Extensive sampling of water quality and the lower food web will support the development of whole-lake nutrient transport and algal growth model. Progress is being made to restore native pray fish communities in Lake Ontario, which is a major objective of the LAMP biodiversity conservation strategy.

John Dickert (Great Lakes & St. Lawrence Cities Initiative) – John provided remarks on the upcoming Great Lakes and St. Lawrence Cities Initiative meeting scheduled for June 13-15<sup>th</sup> in Ajax, Ontario, with a focus on climate resiliency and its effects with flooding and other coastal issues, and working collaboratively to solve raised issues by the Mayors. Special thanks were given to Bob Lamb, Mark Fisher and others on the Canadian collaborative to create a GLRI-type funding proposal and a phosphorus collaborative to find specific solutions on both sides of the border. John updated GLEC regarding the anticipation of the Brandon Road project in hopes to stop the spread of aquatic invasive species and collaborative efforts in Lake Erie to keep nutrients on the land.

Jessica Jock (St. Regis Mohawk Tribe) – Jessica provided a summary on the St. Regis Mohawk Tribe environmental division's efforts to apply Traditional Ecological Knowledge (TEK) during the successful 2017 flora vegetation field surveys which identified the native plant species and Mohawk cultural significant of use and. Moving forward, the St. Regis Mohawk Tribe will use TEK in future scientific management decisions of replanting's of species of cultural use affected during sediment remedy mitigation in a Treat Rights area and Superfund site. Special thanks were given to the partnerships involving the blend of scientific knowledge with TEK and St. Regis Mohawk Tribe hopes to build similar TEK models with other annexes. Jessica also provided a heads up that Region 5 and Region 2 will see a letter identifying a partnership with the State and Tribe to Co-Chair their AOC.

Debbie Lee (National Oceanic and Atmospheric Administration (NOAA)) – Debbie provided a brief update on the Lake Erie Harmful Algal Bloom early season projection dated June 5<sup>th</sup>, 2018, which will be updated each week through the end of June. The projection is forecasting the bloom to be less severe than last year, but also noted a level of uncertainty on the potential severity of the bloom since the due to unforeseen events. Debbie also highlighted that the Ohio State University Stone Lab and Ohio Sea Grant will host NOAA's annual Lake Erie Harmful Algal Blooms forecast on July 12<sup>th</sup>, 2018 from 11 am – 1 pm. The event will feature spring nutrient loading projections along with expert commentary and highlights of recent research successes. Debbie also communicated Governor Walker's decision to rescind a nomination to implement a national marine sanctuary in Lake Michigan over concerns expressed by its citizens and elected officials on the proposal.

Carl Platz (U.S. Army Corps of Engineers (ACE)) – Carl highlighted the ACE involvement in Annex 1's collaboration with the Great Lakes states related to as addressing Beneficial Use Impairments and removing legacy contaminants. ACE is completing work on several priority construction projects and seven AOCs and coordinating support for numerous Great Lakes Legacy projects across the basin. Carl also spoke to the ACE involvement with the Lakewide Management Annex and work with each LAMP team to provide information on the ACE's initiatives and projects including the development of regional sediment budgets for each of the lakes (which supports better understanding of sediment in littoral processes, wetland restoration efforts and understanding of nearshore dynamics) and the Great Lakes coastal resiliency study (a proposal for coordinated strategy across the Great Lakes to efficiently and effectively manage and protect the Great Lakes coastlines). With respect to Annex 6, Carl provided an update on the Brandon Road feasibility study noting that 11,200 comments were received during the public comment period, which are being addressed; that Illinois will serve as the non-federal sponsor; and work towards development of the schedule to complete the Chief's Report for the Study. Lastly,

Carl provided an update on the ACE's work in relation to the Habitat and Species Annex and the removal of the Sabin Dam (the third dam on the Boardman River), which is expected to be substantially completed by the end of the calendar year.

#### **COMMENTS PROVIDED FROM COMMISSION REPRESENTATIVES**

Bob Lambe (Great Lakes Fishery Commission (GLFC)) – Bob noted the significance of barriers within the Great Lakes basin in terms of blocking the movement of aquatic invasive species and preventing their spread, but also blocking native species. Bob also highlighted the GLFC's recapitalization plan to address aging barriers, as well as the GLFC's launch of FishPass in 2016 – a structure replacing the deteriorating Union Street Dam in downtown Traverse City, Michigan on the Boardman River, which will test new technologies allowing the passing of desirable fishes while removing invasive fishes. Thirty percent of the design of FishPass is complete and construction of the engineering channel is scheduled to be completed in 2019 with research completed in 2025 and full operation of FishPass in 2026.

John Linc Stine (Great Lakes Commission (GLC)) – John introduced Darren Nichols as the new GLC Executive Director, highlighted GLC activities in collaboration with Annex 4, including work on ErieStat and using BlueAccounting as a tool to show progress towards Lake Erie nutrient reduction;; conveyed the Commission's support of ongoing funding for the Great Lakes Restoration Initiative (GLRI), as well as support for the second lock at the Soo; and noted that the GLC recently moved its office to Ann Arbor.

Lana Pollack (International Joint Commission) – Lana introduced David Burden as the new Director of the Commission's Great Lakes Regional Office and thanked Marc Burrows for his leadership as Acting Director. Lana reiterated the importance of cooperation in developing the next Triennial Assessment of the Progress report to ensure its providing value. Lana commented on the need for continuing to improve efforts to engage the public and noted that the Commission will be releasing a report of the Second Binational Great Lakes Basin Poll soon. In closing Lana, noted that the IJC continues to work on a number of issues and recognized IJC's strength in its capacity to bring together partnerships to discuss issues of most pressing need and interest for the Great Lakes.

#### **COMMENTS PROVIDED BY OBSERVERS**

Michael Murray (National Wildlife Federation/Healing our Waters) – Michael emphasized the significance of discussing the principles of prevention and precaution and their incorporation into the implementation of the various GLWQA annexes. Michael also encouraged focused Great Lakes efforts through the GLWQA to go beyond federal domestic programs.

Kathryn Buckner (Council of Great Lakes Industries (CGLI)) – Kathryn conveyed CGLI's support of the proposed streamlined and transparent binational screening criteria to assess chemicals proposed as CMCs, and the reliance on data and science-based weight of evidence approach for analyzing the proposed chemicals. This will help define the scope of Annex 3's implementation efforts and will increase efficiency of the work necessary to assess chemicals proposed as CMCs. Two areas of refinement to the binational screening criteria were proposed: new and emerging chemicals need additional definition; and the review of candidate substances to be very specific when defining the compounds of chemicals that are being targeted.

Nancy Goucher (Freshwater Future) noted that she will be departing Freshwater Future and joining University of Waterloo's Water Institute. Nancy as well commented that GLEC provides an important forum for sharing information about Great Lakes issues.

John Jackson (Toxics Free Great Lakes Network) commented on the importance on focusing on the Great Lakes priorities at hand, as well as taking stock of lessons learned to avoid similar problems of the past. John also commented on the need for continued monitoring on a broad range of issues and assessing on a regular basis, the effectiveness of the actions taken and whether the issue is improving.

#### **ACTION ITEMS**

1. Annex 3 Co-Leads to finalize the binational criteria for evaluating chemicals nominated as Chemicals of Mutual Concern and, using the finalized binational criteria, assess the external nominations for radionuclides and sulfates to make formal recommendation by the December 2018 GLEC meeting.
2. Secretariat to circulate the Canadian and U.S. government responses to the International Joint Commission Triennial Assessment of Progress (TAP) report to GLEC.
3. GLEC to provide input and comments regarding future TAP reports.
4. GLEC Co-Chairs to consider strategies and opportunities to move forward on the topic of dreissenid mussels that now dominate the benthos and the dramatic decline in *Diporeia*.

#### **MEETING WRAP UP**

December 3<sup>rd</sup> to 4<sup>th</sup> and December 4<sup>th</sup> to 5<sup>th</sup> were proposed as dates for the next GLEC meeting in Toronto. A conflict was noted with December 3<sup>rd</sup> being the first day of Hanukkah.

## GLEC MEETING PARTICIPANTS JUNE 6-7, 2018

## U.S. PARTICIPANTS

1. Jon Allan – Michigan Department of Environmental Quality
2. Rick Balla – U.S. Environmental Protection Agency
3. Edlynzia Barnes – U.S. Environmental Protection Agency
4. Timothy Bruno – Pennsylvania Department of Environmental Protection
5. Kathryn Buckner – Council of Great Lakes Industries
6. Thomas Crane – Great Lakes Commission
7. John Dickert – Great Lakes St. Lawrence Cities Initiative
8. Rick Duff – U.S. Department of Agriculture
9. Sandra Eberts – U.S. Geological Survey (remotely)
10. Stephen Galarneau – Wisconsin Department of Natural Resources
11. Jane Gamble – U.S. Department of State
12. Karl Gebhardt – Ohio Environmental Protection Agency
13. Gail Hesse – National Wildlife Federation (remotely)
14. Beth Hinchey-Malloy – U.S. Environmental Protection Agency
15. Rick Hobrla – Michigan Department of Natural Resources
16. Jon Hortness – U.S. Geological Survey
17. Tinka Hyde – U.S. Environmental Protection Agency
18. Jessica Jock – St. Regis Mohawk Tribe
19. Mark Johnson – U.S. Center for Disease Control and Prevention
20. Jenna Jorns – University of Michigan
21. Tyler Kaspar – 1854 Treaty Authority (remotely)
22. Marcus Key – U.S. Fish and Wildlife Service
23. Roger Knight – Great Lakes Fishery Commission (remotely)
24. Chris Korleski – U.S. Environmental Protection Agency
25. Hala Kuss – Indiana Department of Environmental Management
26. Bob Lambe – Great Lakes Fishery Commission
27. Deborah Lee – National Oceanic and Atmospheric Administration
28. Shannon Lotthammer – Minnesota Pollution Control Agency
29. Martin Lowenfish – U.S. Department of Agriculture (remotely)
30. Tony Martig – U.S. Environmental Protection Agency
31. Edwin Martinez – U.S. Department of Agriculture (remotely)
32. Jesse Martus – Minnesota Pollution Control Agency (remotely)
33. Caroline Mollering – Little Traverse Bay Bands of Odawa Indians
34. Sara Moses – Great Lakes Indian Fish and Wildlife Commission (remotely)
35. Michael Murray – National Wildlife Federation (remotely)
36. Beth Murphy – U.S. Environmental Protection Agency
37. Sonny Myers – 1854 Treaty Authority
38. Darren Nichols – Great Lakes Commission
39. Todd Nettesheim – Environmental Protection Agency
40. Lori Nordstrom – U.S. Fish and Wildlife Service
41. Victoria Pebbles – Great Lakes Commission
42. Carl Platz – U.S. Army Corps of Engineers

43. Lana Pollack – International Joint Commission
44. Howard Reeves – U.S. Geological Survey
45. Brian Rockensuess – Indiana Department of Environmental Management
46. Jamie Schardt – U.S. Environmental Protection Agency
47. Victor Serveiss – International Joint Commission
48. Michael Smith – U.S. Nuclear Regulatory Commission
49. John Linc Stine – Minnesota Pollution Control Agency
50. Craig Stow – National Oceanic and Atmospheric Administration
51. Lorne Thomas – U.S. Coast Guard Ninth District
52. Naomi Tillison – Bad River Band of Lake Superior Chippewa Tribe (remotely)
53. Marc Tuchman – U.S. Environmental Protection Agency
54. Todd Turner – U.S. Fish and Wildlife Services
55. Amelia Valberg – Environmental Protection Agency
56. Jennifer Vanator – Great Lakes Indian Fish and Wildlife Commission
57. Mike Weimer – U.S. Fish and Wildlife Services
58. Santina Wortman – U.S. Environmental Protection Agency
59. Don Zelazny – New York Department of Environmental Conservation

#### **Canadian Participants**

60. Paul Allen – International Joint Commission
61. Heather Arnold – Transport Canada (remotely)
62. Antonette Arvai – International Joint Commission (remotely)
63. Raj Bejankwiar – International Joint Commission
64. Jennifer Boehme – International Joint Commission (remotely)
65. Gary Bouchard – Pawgwasheeng First Nation
66. David Burden – International Joint Commission
67. Mark Burrows – International Joint Commission
68. Stacey Cherwaty – Environment and Climate Change Canada (remotely)
69. Matthew Child – International Joint Commission
70. Gavin Christie – Fisheries and Oceans Canada
71. Steve Clement – Environment and Climate Change Canada (remotely)
72. Tracey Cooke – Invasive Species Centre (remotely)
73. Nadine Crookes – Parks Canada Agency (remotely)
74. Diane De Beaumont – Environment and Climate Change Canada (remotely)
75. Fe De Leon – Canadian Environmental Law Association
76. Stephen Dicks – Parks Canada Agency
77. Colleen Duke – Global Affairs Canada (Consulate General of Canada in Chicago)
78. Mark Fisher – Council of Great Lakes Region
79. Bonnie Fox – Conservation Ontario (remotely)
80. Jon Gee – Environment and Climate Change Canada
81. Michael Goffin – Environment and Climate Change Canada
82. Nancy Goucher – Freshwater Future
83. Susan Humphrey – Environment and Climate Change Canada
84. John Jackson – Toxics Free Great Lakes Network (remotely)
85. Pamela Joosse – Agriculture and Agri-Food Canada (remotely)
86. Shaffina Kassam – Environment and Climate Change Canada
87. Rupert Kindersley – Georgian Bay Association

88. Gail Krantzberg – University of McMaster (remotely)
89. Ash Kumar – Environment and Climate Change Canada
90. Alesia Kurlak – Environment and Climate Change Canada (remotely)
91. Camille Mageau – International Joint Commission
92. Catherine Masson – Consultant (remotely)
93. John Marsden – Environment and Climate Change Canada
94. Andrew McAllister – Canadian Nuclear Safety Commission
95. Felicia Minotti – Global Affairs Canada
96. Tricia Mitchell – Environment and Climate Change Canada
97. Carolyn Oneill – Ontario Ministry of Environment and Climate Change Canada (remotely)
98. Cheryl Recollet – Chiefs of Ontario
99. Linda Robertson – Environment and Climate Change Canada (remotely)
100. Tamara Rudge – Transport Canada
101. Julie Simard – Ontario Ministry of Natural Resources and Forestry (remotely)
102. Nancy Stadler-Salt – Environment and Climate Change Canada (remotely)
103. David Sweetnam – Georgian Bay Forever
104. Carla Torchia – Environment and Climate Change Canada
105. Dale Van Stempvoort – Environment and Climate Change Canada
106. Gordon Walker – International Joint Commission
107. Lizhu Wang – International Joint Commission (remotely)
108. Cindy Warwick – International Joint Commission
109. Chris Wiley – Transport Canada (remotely)
110. Ram Yerubandi – Environment and Climate Change Canada