**DRAFT Great Lakes Executive Committee Meeting Summary**

June 25-26, 2024

**Great Lakes Executive Committee Co-Chairs’ Welcome Remarks and Introductions**

Great Lakes Executive Committee (GLEC) Co-Chairs, Teresa Seidel (U.S. Environmental Protection Agency, EPA) and Véronique Hiriart-Baer (Environment and Climate Change Canada, ECCC) welcomed participants to the June 2024 GLEC Meeting in Duluth, Minnesota, USA.

A list of meeting attendees is found in Appendix A.

**Business Items**

The Draft Meeting Agenda was approved by the GLEC membership.

*Action Item:* Any remaining GLEC Member and Observer comments/edits on the December 2023 meeting minutes were due by **July 12, 2024**.

**2024 and 2025 Great Lakes Executive Committee Deliverables**

Véronique Hiriart-Baer and Teresa Seidel described that the International Joint Commission’s 3rd Triennial Assessment of Progress initiates the first nine-year review of the operation and effectiveness of the agreement since the Great Lakes Water Quality Agreement’s renegotiation in 2012. Carla Torchia and James Schardt provided a more detailed description of the provision to review the operation and effectiveness of the agreement and an overview of past reviews. They also provided a preview of the Agreement’s near-term deliverables including:

* The State of Great Lakes Report, which summarizes the health of the Great Lakes using environmental indicators, has already begun being drafted for a late summer 2025 publication.
* The Progress Report of the Parties, which summarizes 2023-2025 GLEC member accomplishments and activities that contribute to meeting the goals of the Agreement, will start being drafted in November 2024 for a late summer 2025 publication.
* The next set of Binational Priorities for Science and Action will begin to be drafted in early 2025 for presentation and presented in draft for public comment at the Great Lakes Public Forum.
* The Great Lakes Public Forum is scheduled for early December 2025 at a to-be-determined location in the US.

The GLEC Co-Chairs welcomed input pertaining to the scope and nature of the review under the agreement.

*Action Item:* GLEC Member and Observer input for the Parties’ consideration on the scope and nature of the review of the operation and effectiveness of the Agreement are due by **July 29, 2024**.

**Annex Sessions**

*Annex 1 Areas of Concern (AOCs)*

 Beth Hinchey (EPA) and Mark Chambers (ECCC), acting for the Annex 1 US and Canadian Co-Leads, listed recent success stories and ongoing efforts related to the restoration of water quality and ecosystem health in the Great Lakes Area of Concern. They introduced guest speakers Barb Huberty (Minnesota Pollution and Control Agency, AOC Coordinator) and Tim Hollenger (ECCC, North Shore of Lake Superior RAP Coordinator).

Barb Huberty discussed the completed management actions and ongoing efforts in the St. Louis River Area of Concern. Of the 80 total management actions, 72.5% are completed. Additional sources of funding and a wide network of partners enabled this work. Barb highlighted the Shallow Sheltered Bay habitat site, which had 11 partners individually. Strategies for including the public and community in the AOC remediation process, as well as sustaining restoration activities catalyzed by the AOC program, were discussed.

Tim Hollenger discussed the Thunder Bay Wildlife Habitat Area of Concern strategy. He touched on engagement activities for Beneficial Use Impairment (BUI) delisting with the community, government, and local public advisory and implementation committees. Tim also discussed efforts to ‘Restore, Revitalize, Reconnect’ Lake Superior to the local community, highlighting several habitat restoration sites and a native plant production chain.

*Annex 3 Chemicals of Mutual Concern (CMC)*

Annex Co-Leads Meaghan Kern (EPA) and Steve Clement (ECCC) presented on the status and next-step timeline for chemicals nominated for chemicals for mutual concern (CMC) designation. Polycyclic aromatic hydrocarbons (PAHs), which have received a candidate CMC standing, are due to have a Binational Summary Report and recommendation completed by June 2025. Sulphate, lead, and radionuclides are expected to have their criteria-based screenings and recommendations finalized by December 2025. The evaluation for microplastics, which received a recent nomination in August of 2023, is expected to be underway in 2025. Meaghan Kern introduced guest speaker Sarah Janssen (USGS, Research Chemist), who presented on mercury in the Great Lakes.

Sarah’s work focuses on discerning historical and contemporary mercury source impacts on bioaccumulation. She summarized lake-wide analyses analyzing mercury source contributions from watershed, precipitation, and industry and legacy sources within Lake Superior, Lake Huron, and Lake Ontario. Sarah discussed mercury bioaccumulation trends within the lakes on a near-shore to lake-center axis, in proximity to industrial centers, and in relation to a decreasing atmospheric mercury precipitation contribution. Additional research focused on watershed variation in mercury runoff.

*Annex 6 Aquatic Invasive Species (AIS)*

Annex Co-Lead Mike Steeves (Fisheries and Oceans Canada, DFO) presented on behalf of himself and Aaron Woldt (US Fish and Wildlife Service, USFWS) and highlighted the collaborative approach with partner committees, academic organizations, citizen science, and more to fulfilling the priorities for science and action. Mike highlighted i) the Annex’s exploration of environmental DNA (eDNA) as a prominent new method to detecting invasive species and ongoing efforts to improve result analysis, ii) continuing risk assessments to better prioritize invasive species for improved resource allocation, and iii) existing control programs aiming to address established invasive species.

Mike then introduced three guest speakers with expertise in invasive species management: Biologist and AIS Prevention Lead Kate Wyman-Grothem from USFWS, Great Lakes EDM Coordinator Nick Frohnauer from USFWS, and Division Manager of the Great Lakes Lab for Fisheries and Aquatic Sciences Lynn Bouvier from Fisheries and Oceans Canada (FDO).

Kate Wyman-Grothem of USGS provided a high-level overview of processes related to screening and evaluating species invasiveness. She described methods to sort species into low-, medium- and high-risk invasive buckets as part of the Regional Horizon Scanning Process. The high-risk species are placed on a priority species list for early detection and monitoring programs, which provides a basic summary information useful to rapid infestation response, a basis for policy work, and a focus for outreach and education.

Nick Frohnauer of USFWS presented an overview of their early detection and monitoring program. Nick summarized the role of the core team, established to facilitate communication, catalyze decisions, and prioritize actions between management agencies. AIS high invasion risk sampling sites across the Great Lakes were first identified with a model that combined modeling and ground expertise. Species identification with eDNA at sampling sites will be fully implemented in 2025.

Lynn Bouvier of DFO reported on a project evaluating the Thames River’s suitability as a spawning tributary for invasive carp. Simulations estimated potential carp spawning success in a variety of river flows and thermal regimes. Findings from these simulations provide scientific information regarding both timing and potential spawning locations to the DFO Asian Carp Program. This guidance will be implemented during the 2024-2025 season.

*Annex 7 Habitat and Species*

Annex Co-Leads Sean Backus (ECCC) and Lori Nordstrom (USFWS) introduced three guest speakers featuring habitat and species restoration projects: Restoration Program Manager Gini Breidenbach with Minnesota Land Trust, Resource Management Division Director Darren Vogt at the 1854 Treaty Authority, and Lake Superior Assessment Biologist Eric Berglund based out of Thunder Bay.

Gini Breidenbach presented on three estuary landscape projects undertaken with a host of partners along the St. Louis River. These were i) the Interstate Island avian restoration project, which involved land elevation and shoreline restoration for engage red bird use, ii) an understory ash planting meant to rehabilitate avian habitat following damage from the emerald ash borer, and iii) Allouez Bay marsh bird habitat restoration, which involved landscaping to create a hemi-marsh with pools and channels.

Darren Vogt discussed the reseeding of Manoomin (wild rice) as part of the Wild Rice Restoration Implementation Plan for the St. Louis River Estuary. The Fond du Lac Tribe has spearheaded the seed acquisition and preparatory vegetation removal. Rice biomass and density monitoring has been tracking the restoration success, with the eventual hope of the reseeded areas supporting harvest. Community outreach on rice harvesting and processing methods have been met with high interest.

Eric Berglund provided an overview of walleye recovery in Black Bay, Lake Superior. The rehabilitation plan for walleye is showing signs of success and relies on stocking, harvest control, and habitat protection. A revision of the fisheries management plan prompted research using telemetry to better map spawning locations, as well as annual movement patterns to further improve regulation.

*Annex 9 Climate Change Impacts*

Annex Co-Lead Alisa Young (NOAA) thanked Sean Backus (ECCC) and Megan Morrison (ECCC) for their support of the Annex during the transition to a new Canadian Annex Co-Lead. She then introduced the two guest speakers: co-lead planner for the Great Lakes Coastal Resiliency Study Cara Pattullo with the US Army Corps of Engineers (ACE), and physical scientist Dan Titze with the National Oceanic and Atmospheric Administration (NOAA).

Cara Pattullo presented the Great Lakes Coastal Resiliency Study to protect the long term economic, environmental, and social value of the Great Lakes coast with proactive planning. The study aims to create a coastal resiliency plan by 2028 which combines a vulnerability assessment with prioritization of future coastal resiliency investments. The outputs will then be used to map potential threats for three indexes: social vulnerability & environmental burdens, environmental & historic resources, and population & infrastructure.

Dan Titze discussed improving Great Lakes flood forecasting capabilities. The Great Lakes Operational Forecast System (GLOSS) currently simulates physical processes such as water temperature, water level, storm surges, and ice cover five days into the future. Future work will seek to expand the hydrodynamic domain with floodplains to improve storm surge and coastal flooding guidance. The improved version of GLOSS is slated to be in operational implementation by 2027.

Alisa provided a summary of Annex 9’s key commitment to improve modeling and risk assessment capacities. She also presented climate forecasting highlights from quarterly webinars, which included i) an atmosphere-lake-land coupled climate modeling system which has shed light on mesoscale convective system precipitation trends, and ii) an exploration of Great Lakes water budget components which explored lake surface temperatures as a result of surface heat fluxes and influenced meteorological state variables. In closing, Alisa advised that a Great Lakes Climate Modeling Workshop is being organized for 2025, and that more information on the workshop will be forthcoming.

*Discussion related to Annex Issue Notes*

The floor was opened for discussion both about the presented annexes and respective presentations, as well as the written summaries provided for the rest of the annexes.

*GLEC Member Updates, Commission Comments, Observer Comments*

GLEC members, Commissioner representations and Observers shared the following updates and remarks:

GLEC members:

1. Joy Mulinex from the Ohio Lake Erie Commission updated on Ohio’s completed domestic action plan, coordination for the upcoming Cooperative Science and Monitoring Initiative (CSMI) sampling, and biannual progress report on the Maumee watershed nutrient Total Maximum Daily Loads (TMDL) slated for late 2024.
2. Glenn Skuta with the Minnesota Pollution Control Agency updated on the success of the St. Louis River AOC and the revitalization in west Duluth. He announced a million dollars has been received from Minnesota’s Clean Water Fund for five soil and water conservation districts in the state’s Lake Superior watershed.
3. Carl Platz, Great lakes Program Manager for the Army Corps of Engineers, highlighted a set of collaborations with other agencies for projects within annexes one, three, six and seven, which ranged from fish pass construction and PFAS study aid to novel gene silencing agents and invasive carp prevention.
4. Jon Hortness, Great Lakes Program Coordinator with USGS, summarized tools and research currently in development. These included a program to visually represent long-term trends in nutrients, an examination of holistic total lake loads on a watershed scale, analysis of impact from water bottling facilities on local water resources, and coastal water level modeling for a climate change coastal likelihood change index.
5. Jason Schlender, Executive Administrator for Great Lakes Indian Fish and Wildlife Commission (GLIFWC), presented on the results of recent PFAS testing, the production of the Ganawenindiwag guide (translates to ‘They Take Care of Each Other’) which informs users of plants able to heal and protect shorelines, and action to ensure traditional and ecological knowledge holders have a meaningful role in the workshop regarding Lake Superior’s 2026 CSMI.
6. Deborah Lee of NOAApresented on a handful of NOAA ongoing programs and projects as well as a recent victory. The Lake Ontario National Maine Sanctuary has been created, with another sanctuary designation in progress in Lake Erie. Efforts on fish passage projects, improving the Great Lakes water forecast, and regional climate and ecosystem model development to assist in fisheries management are underway.
7. Kentra Axness, LAMP and AOC Policy Coordinator in the Office of Great Waters in the Wisconsin Department of Natural Resources (DNR), presented on several AOC updates pertaining to the construction of a dredge material management facility (Milwaukee AOC), the finalization of a public-comments version of the restrictions on drinking water consumption BUI removal document (Green Bay AOC), and a management action list for the fish and wildlife habitat and populations BUI (Green Bay AOC) that was sent to the U.S. EPA’s Great Lakes National Program Office. A local leadership council has been convened and the community advisory committee strengthened. Environmental justice and climate resilience have been incorporated as core principles.
8. Rick Balla, head of EPA New York City Regional Offices, summarized actions taken to progress the Rochester Embayment AOC delisting and BUI removals in the Buffalo River, Eighteenmile Creek, St. Lawrence River at Massena/Akwesasne and Niagara River AOCs. Traditional and ecological knowledge was drafted for several BUIs in the St. Lawrence River AOC. Work has begun on the 2023-2025 binational priorities for science and action regarding phosphorus loads.
9. Shannon Dougherty, the Great Lakes Program Director with the New York State Department of Environment Conservation (DEC), echoed excitement about the Rochester delisting. She summarized support for actions within the Niagara River and St. Lawrence River AOCS, advancing development and review for the Lake Ontario and Erie LAMPs, new guidance documents strengthening New York state wastewater treatment permits, and a state-wide climate impact assessment with vulnerability assessment.
10. Jennifer Vincent, Executive Director for Freshwater Management in Ontario, Canada Water Agency / ECCC, provided an update on the Canada Water Agency Act, which has received royal consent to establish the Canda Water Agency as an independent body by the end of 2024. The Canada Water Act, which allows the federal government to enter into partnerships with provinces and territories, is in the process of being reinvigorated with great preparatory community engagement.
11. Scott Parker from Parks Canada provided background on the National Marine Conservation Area (NMCA) and its policy and directive in open access. NMCA is working on elevating the profile of protected areas in meeting GLQWA objectives.
12. Leo Luong, Director of the Great Lakes Inland Waters Branch of the Ministry of the Environment, Conservation and Parks (MECP) in Ontario, presented that 1.2 million had been invested in the Great Lakes Local Action Fund for Indigenous and local communities, and 31 million invested in ~560 wetlands by the Wetlands Conservation Partner Program under the Canada-Ontario LAMP.
13. Jennifer Keyes, Director of Development at the Hazard Policy Branch for the Ministry of Natural Resources in Ontario, discussed commercial scale geological carbon storage. Public consultation on the development of a regulatory framework is currently in process, and a discussion paper will be circulated to GLEC members to ensure their opportunity to provide input into Ontario’s future regulatory framework.
14. Kevin Rath, Senator of the Thames Blue Water Métis Council and Co-Chair of the Métis Nation Great Lakes Advisory Group, announced funding was received from Crown Indigenous Relations and Northern Affairs Canada and ECCC to support development of Métis Guardians Environmental Program. A climate change strategy is expected to be in place by the end of 2024. The Great Lakes Advisory Group will have two new youth members.

Commissions:

1. Susan ChiblowCommissioner to the International Joint Commission (IJC) provided remarks on the development of the next Triennial Assessment of Progress, including greater collaboration with First Nations, tribes, and Métis, and methods for receiving public input. A recap of the IJC Great Lakes Science Observatory Board’s spearheading of collaborative efforts developing the Great Lakes Science Plan and regional polls was presented.
2. Erika Jensenof the Great Lakes Commission presented on actions taken since the last GLEC meeting. A resolution supporting the IJC’s recommendations was passed. A good-faith Memorandum of Understanding between the IJC and Great Lakes Fishery Commission was established to formalize areas of ongoing partnership and areas for increased coordination. Recommendations on LAMP execution improvement were presented, as well as an update on continuing resiliency support and tracking.
3. Roger Knight of the Great Lakes Fishery Commission announced Marc Gaden as the new Executive Secretary. He also announced the Commission’s support of the IJC’s science strategy, reiterated interest in improved access to datasets to aid in fisheries management, and mentioned aims to increase public awareness of the Great Lake Commission’s activities.

Observers:

1. Molly Flanagan, Vice President for Policy at the Alliance of the Great Lakes and member of the IJC’s water quality board, highlighted that written comments from the Alliance of the Great Lakes were submitted regarding the operation and effectiveness of the 2012 GLQWA.

**Review of Action Items and Closing Remarks**

The following date is proposed for the December GLEC meeting in Toronto: December 10 -11 (and as a back-up: December 3-4) – please let the GLEC Secretariat know if you are aware of any conflicts by **July 5, 2024**.

* Any remaining GLEC Member and Observer comments/edits on the December 2023 meeting minutes are due by **July 12, 2024**.
* GLEC Member and Observer input for the Parties’ consideration on the scope and nature of the review of the operation and effectiveness of the Agreement are due by **July 29, 2024**.

**GLEC MEETING PARTICIPANTS JUNE 25-26, 2024 – virtual and in-person**

1. Antonette Arvai (International Joint Commission)
2. Kendra Axness (Wisconsin DNR)
3. Rick Balla (U.S. Environmental Protection Agency)
4. Drew Becker (U.S. Bureau of Indian Affairs)
5. Kirk Beckmann (U.S. Coast Guard)
6. Raj Bejankiwar (International Joint Commission)
7. Lynn Bouvier (Fisheries and Oceans Canada)
8. Ryan Bowie (Chiefs of Ontario)
9. Gini Breidenbach (Minnesota Land Trust)
10. Mark Burrows (International Joint Commission)
11. Mark Burrows (International Joint Commission)
12. Mark Chambers (Environment and Climate Change Canada)
13. Danielle Chesky (Embassy of Canada)
14. Steve Clement (Environment and Climate Change Canada)
15. Sydney Currier (Invasive Species Centre)
16. Fe de Leon (Canadian Environmental Law Association)
17. Christie Deloria (U.S. Fish and Wildlife Service)
18. Shannon Dougherty (New York State Department of Environmental Conservation)
19. Darlene Dove (Ontario Ministry of Natural Resources and Forestry)
20. Sara Drescher (Forest County Potawatomi Community)
21. Elizabeth Everhardus (Ministry of the Environment, Conservation and Parks)
22. Melissa Fabian Mendoza (Canadian Nuclear Safety Commission)
23. Isabella Filagrossi (National Oceanic and Atmospheric Administration)
24. Emily Finnell (Michigan Department of Environment, Great Lakes, and Energy)
25. Molly Flanagan (Alliance for the Great Lakes)
26. Melanie Foose (Michigan Environment, Great Lakes, and Energy)
27. Bonnie Fox (Conservation Ontario)
28. Nick Frohnauer (U.S. Fish and Wildlife Service)
29. Brad Hill (Environment and Climate Change Canada)
30. Veronique Hiriart-Baer (Canada Water Agency, Environment and Climate Change Canada)
31. Jon Hortness (U.S. Geological Survey)
32. Edo Jakupovic (Ministère de l’Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs)
33. Erika Jensen (Great Lakes Commission)
34. Richard Kavanagh (Environment and Climate Change Canada)
35. Meaghan Kern (U.S. Environmental Protection Agency)
36. Jennifer Keyes (Ontario Ministry of Natural Resources and Forestry)
37. Sarah Kielek-Caster (Ontario Ministry of Agriculture, Food and Rural Affairs)
38. Diane Kilby (Great Lakes Advisory Group, Métis Nation of Ontario)
39. Rupert Kindersley (Georgian Bay Association)
40. Roger Knight (Great Lakes Fishery Commission)
41. Rebecca Knoche (National Oceanic and Atmospheric Administration)
42. Gary Kohlhepp (Michigan Environment, Great Lakes, and Energy)
43. Gail Krantzberg (McMaster University)
44. Jennifer Lacey (U.S. Geological Survey)
45. Debbie Lee (National Oceanic and Atmospheric Administration)
46. Jess Lienhardt (Great Lakes-St. Lawrence Legislative Caucus)
47. Leo Luong (Ontario Ministry of the Environment, Conservation and Parks)
48. Caryn MacLoghlin (Métis Nation of Ontario)
49. Catherine Masson (Trent University)
50. Chris McLaughlin (International Joint Commission)
51. Chase Meierotto (U.S. Bureau of Indian Affairs)
52. Felicia Minotti (Global Affairs Canada)
53. Joy Mulenex (Ohio Lake Erie Commission)
54. Sonny Myers (1854 Treaty Authority)
55. Linda Nguyen (Red Cliff Band of Lake Superior Chippewa)
56. Lori Nordstrom (U.S. Fish and Wildlife Service)
57. Hilary Oakman (Fisheries and Oceans Canada)
58. Scott Parker (Parks Canada)
59. Thomas Parr (National Park Service)
60. Harold Peterson (U.S. Bureau of Indian Affairs)
61. Carl Platz (U.S. Army Corps of Engineers)
62. Kevin Rath (Great Lakes Advisory Group, Métis Nation of Ontario)
63. Lindsay Rogers (Great Lakes Advisory Group, Métis Nation of Ontario)
64. Evan Ronan (Ontario Ministry of Natural Resources and Forestry)
65. Jill Ryan (Freshwater Future)
66. Lyne Sabourin (International Joint Commission)
67. Mimi Santano Carrasco (Ontario Ministry of Natural Resources and Forestry)
68. James Schardt (U.S. Environmental Protection Agency)
69. Jason Schlender (Great Lakes Indian Fish and Wildlife Commission)
70. Teresa Seidel (U.S. Environmental Protection Agency)
71. Jane Shimono (Transport Canada)
72. Glenn Skuta (MN Pollution Control Agency)
73. Nancy Stadler-Salt (Environment and Climate Change Canada)
74. Mike Steeves (Fisheries and Oceans Canada)
75. Sadie Stevens (USDA Forest Service)
76. Heather Stirratt (International Joint Commission)
77. David Sweetnam (Georgian Bay Forever)
78. Chuck Traxler (U.S. Fish and Wildlife Service)
79. Jennifer Vanator (Great Lakes Indian Fish and Wildlife Commission)
80. Jennifer Vincent (Canada Water Agency, Environment and Climate Change Canada)
81. Allison Voglesong Zejnati (International Joint Commission)
82. Darren Vogt (1854 Treaty Authority)
83. Natalija Vojno (Our Future First)
84. Melanie Ward (Ministry of the Environment, Conservation and Parks)
85. Jo Werba (International Joint Commission)
86. Joel Wessman (Consulate General of Canada - Minneapolis)
87. John Wilson (International Joint Commission)
88. Kate Wyman-Grothem (U.S. Fish and Wildlife Service)
89. Natalia Yarkova (Ontario Ministry of Agriculture, Food and Rural Affairs)
90. Ram Yerubandi (Environment and Climate Change Canada)
91. Alisa Young (National Oceanic and Atmospheric Administration)