



IJC Science Advisory Board Meeting Summary

April 26, 2023 1:00pm-4:00pm

U.S. Members	Canadian Members	Commission Staff
Chris Winslow (RCC Co-Chair)	Gail Krantzberg (SPC Co-Chair)	Lizhu Wang (RCC Secretary)
Lucinda Johnson (SPC Co-Chair)	Rebecca Rooney (RCC Co-Chair; virtual)	Matthew Child (SPC Secretary)
Bob Sterner (Virtual)	Karen Kidd	Heather Stirratt
Donna Kashian	Jerome Marty	Mark Burrows (virtual)
Drew Gronewold	Mike McKay	Rajendra Poudel (virtual)
Michael Twiss	Maggie Xenopoulos	Victor Serveiss
Sandra Eberts	John Livernois	Oliver Dumville
Dale Hoff	Ram Yerubandi	Allison Voglesong Zejnati (virtual)
Val Klump	Jason Borwick	
Carl Platz	Eric Boisvert	
	Sergio Paulo	
	Nandita Basu (virtual)	

Guest: Jesse Feyen (GLERL)

1. Welcome and Introductions, and Approval of Draft Agenda

- The SAB Co-Chairs welcomed everyone to the hybrid meeting; round table introductions were made.
- October 2022 SAB meeting record was acknowledged.
- The draft agenda was approved by consensus with the addition of how to follow up on board reports.

2. SAB Projects – Status updates, next steps, and discussion

a. Great Lakes Early Warning System (Phase 2)

- This may be the last time to report on this project. We have been working on it for the last 5 years.
- The contractor has completed a contractor report which incorporates workgroup input. The workgroup has decided not to develop a workgroup report, instead the workgroup will produce a cover memo (or equivalent) with recommendations.
- It is expected that the contractor report with cover memo will be submitted to the Commissioners for approval in summer 2023.

- The workgroup is also planning to develop a journal manuscript for the project and is currently working on an outline of the manuscript.
- Discussion:
 - WQB is responsible for reporting on horizon threats to the Great Lakes ecosystem. Phase-1 of the project identified options on how an early warning system should be governed. Phase-2 is to develop a framework on how to technically identify, analyze, and prioritize threats. It is a very complex and challenging process considering changing climate, applying western science and Traditional Ecological Knowledge, and effects of spatial and temporal components on known and unknown threats.
 - The workgroup recommends conducting a pilot project as a phase-3 study.
 - The project ties to other SAB projects including the Great Lakes science plan, ecological indicators, information flow, microplastics, and microbial source water assessment.
 - It was commented that the current systematic RCC and SPC joint process for identifying projects is a breakthrough.
 - It was asked who will do the test run after the next phase of the project is approved; it is suggested that the SAB will develop a detailed work plan.

b. Great Lakes Winter Science

- The workgroup and contractor have been working dedicatedly and the project is progressing as scheduled.
- The objectives of the project are to assess the status of winter science, existing research needs, infrastructure and personnel training required for winter science. These objectives and associated tasks will be achieved through two virtual and one in-person workshops, as well as literature review and synthesis.
- Presently, we have completed the literature review and synthesis and will hold the first virtual workshop next week to identify winter science gaps.
- There has been much less ice on the lakes in recent years, which has and will draw a lot of attention of stakeholders and right holders, such as fisherman, navigation, and media.

c. Great Lakes Microplastic Study

- The project is co-chaired by Karen Kidd, Rebecca Rooney, and Chelsea Rochman.
- The objectives of the project are to (1) synthesize recent advances and knowledge in plastics science relevant to the Great Lakes through events that bring together researchers to share the latest information on plastics; (2) develop a framework for monitoring plastic pollution in the Great Lakes that would support its use as a sub-indicator for the State of the Lakes reporting of the GLWQA; and (3) develop a risk assessment framework for plastic pollution in the Great Lakes focused on ecological effects.
- Project has completed literature review and will have a special session at 2023 IAGLR Conference to bring scientists together to supplement the literature review. The literature review process also identified available data.
- The workgroup is also working with the Southern California Coastal Water Research Project to standardize monitoring methods.

- The workgroup has also got connected with EPA Chesapeake Bay project to share protocols to work smarter not harder.
- The project is trying to answer what microplastic substances of concern in the future can be used to identify pollution problems and what the governments and concerned public can do about them. Currently, the EPA is looking for the best way of microplastic sampling.

d. Q&A (if any) on individual SPC & RCC projects

- No Q&A raised.

3. Great Lakes Task Force – update from office of U.S. House Representative David Joyce (R-OH)

- Lydia Denis, Legislative Director, from Republican Joyce’s office provided an oral presentation.
- The Great Lakes Task force’s priority is Great Lakes restoration. The Task Force has been working with the Canadian government to support their effort on a similar program. The Task Force has also been working with the EPA, USGS, NOAA, USACE on Great Lakes restoration through the GLRI. This year the Task Force focuses on educating people on the importance of Great Lakes, especially on Great Lakes economic benefit, environmental issues, and the challenges of the management of the lakes by governments of two countries and multiple states and provinces.
- It was mentioned that Representative David Joyce is from Ohio, and Lake Erie’s problem is different from the other lakes, such as HABs, nutrient over loading, hypoxia, and dragging.
- It was commented that science can help to address such multiple issues. Modelling provided the critical tools for establishing P reduction targets. Our knowledge has been focused on understanding the ecosystem during non-winter seasons, but the fishes living through winter and the ecosystem still function on which we are lacking understanding. Changing winter also impacts human recreational activities during winter and also ecosystem services.
- The Canadian Task Force is relatively new. The US and Canadian Task Forces have got in touch in an effort to address the Great lakes issues. SAB was encouraged to make suggestions on how such an effort can be improved.
- It was mentioned that there is an issue on data harmonization between the two countries. For example, wetlands have classified differently between US and Canada, no unified way to map wetland for the Great Lakes basin.
- Funding to support both sides of the lakes is welcomed; the SAB encourages and promotes US and Canada to fund collaboratively. The Task Force is interested in efforts’ coordination and oversight.
- The Great Lakes Science Strategy effort was described. Its current investments have been focused on addressing the problems that have already occurred. Curing such problems is more costly in social and ecosystem aspects than preventing the happening of the problems. To prevent or avoid future problems, we now have the technology available. We are more capable than ever, such as super-computing power, remote sensing technology, unmanned surveillance technology, genomic technology, and artificial intelligence. We need new investments to train people, update equipment, and

apply technology and tools to understand the ecosystem to prevent and avoid future problems.

- SAB was encouraged to brief the Task Force on this Science Strategy effort.
- Two bills related to Great Lakes Authority:
 - In March 2022, Rep. Kaptur [introduced](#) H.R. 7131 – the Great Lakes Authority Act – with the support of eleven Great Lakes colleagues in the House. In December, Senators Debbie Stabenow (D-MI) and Rob Portman (R-OH) introduced a companion to Rep. Kaptur’s bill in the Senate.
 - The amended version of Rep. Kaptur’s bill to create the Great Lakes Authority was passed by the House and Senate as a part of omnibus appropriations legislation to fund the federal government for fiscal year 2023. The newly established Great Lakes Authority will operate as a federal regional commission dedicated to identifying and advancing solutions to the economic and environmental challenges facing the eight US States of the Great Lakes region. Together, these eight states contain the core of the United States’ commercial and defense industrial base and border the largest system of accessible surface freshwater in the world.
 - The Great Lakes Authority will be empowered to: (1) grow the capacity for successful community economic development by deploying grants to programs focused on workforce skills training, employment-related education, entrepreneurship, technology, and business development as well as for transportation, telecommunications, and public infrastructure projects; (2) promote the development of renewable and alternative energy sources as well as resource conservation, tourism, recreation, and preservation of open spaces in a manner consistent with economic development goals; (3) Provide assistance to severely economically distressed and underdeveloped areas that lack financial resources for improving basic healthcare and other public services.
 - No conversation has occurred with the Canadian government regarding this effort.

4. New Work Plans – discussion & next steps

a. Development of a Great Lakes Science Plan

- Workshops 1 and 2 will develop a detailed and persuasive rationale for the need for additional investments in forward-looking Great Lakes science and validate priority science gaps and needs and design the operational architecture of an improved science enterprise, considering the broad themes identified in the Commission-approved Science Strategy.
- Workshop 3 will develop a detailed estimate of costs to advance identified science priorities, including an analysis of funding options and a business case(s) for those investments.
- Workshop 4 will identify approaches and mechanisms to interweave western science and Indigenous Knowledge perspectives.
- Workshop 5 will evaluate and recommend preferred enabling mechanisms and governance arrangements that consider existing capacities and funding pathways, to effectively implement the Science Plan.
- Workshop 6 will synthesize insights from each thematic discussion to prepare a

final Science Plan report.

- The nature of each workshop is still a work in progress; the process will need a champion and need to be bipartisan; we now focus on gaps and needs. The Q&A is for internal use and will be periodically updated.
- It was also commented that the workshops are important, but a Collaborative will be important to maintain progress.
- It was also suggested to adjust the need of the Science Plan to tie it to the GLWQA.

b. Great Lakes Atlas Scoping

- EPA and ECCC developed the 1995 Atlas, which is very useful, but some information is dated and needs to be updated. Some new information needs to be added.
- It was discussed that the end users will determine what the content should be. Identification of end users, how the Atlas will be used, what form it takes will be part of the tasks of the scoping work plan.
- It is the intent that the SAB and WQB jointly scope out a blueprint for the Atlas, with consideration of hosting and maintaining the Atlas; may also consider seeking external funds. There were a lot of discussions on what it is, who it is for, and how it will be maintained.
- Presently, the GLRO director has been in contact with GLEC Co-chairs to discuss and get EPA and ECCC involved. Both EPA and ECCC expressed interest. Opportunities to involve and engage with the Parties will be explored.
- One of the values of the Atlas is to tell Great Lakes stories and it also supplies essential information for management, public, and policy making.

5. Triennial Assessment of Progress – progress update

- TAP report will be distributed to Great Lakes Boards on May 1 for review with three weeks of turnaround time.
- Secretaries will provide information on what format each board should use for input.
- The report should not be shared with any non-board members.
- The SAB was asked to provide input/comments primarily focusing on the content of the report. There will be graphic assistance to address formatting and visual aspects of the report once it has been approved and finalized.
- The SAB was asked to help fact check the science of the report; to provide support to strengthen the cases and concise/strong arguments, so do not suggest lengthy text.
- The SAB was asked to check on proper Indigenous terminology use.

6. Board appearances – coordinate messaging for joint projects

- Great Lakes Early Warning System project – RCC leads.
- Great Lakes Winter Science project – SPC leads.
- Microplastics project - SPC leads.
- Great Lakes Science Plan – RCC/SPC lead jointly.
- Great Lakes Atlas Scoping – SPC leads.

7. Other business

- Discussion on process for how to follow up on board reports:
 - Communicate as broadly as possible.
 - IJC is interested in synthesizing how IJC recommendations are implemented by the Parties.
 - Since the IJC's effort does not include the recommendations implemented by non-government entities, SAB members may report on recommendations implemented by others.
- The challenges in finding contractors for the Board projects were discussed. Due to the US government contracting rules, this has been an on-going issue. The GLRO Director and the IJC US Section have been in discussions to figure out solutions.

8. Adjourn

- The meeting was adjourned at 4:00 p.m.