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**SCIENCE ADVISORY BOARD
Research Coordination Committee Meeting**

October 25, 2016

Albert at Bay Suite Hotel, Spring Salon Room
435 Albert Street, Ottawa, ON

Meeting Record

Attendees:

RCC: Norman Grannemann, Gavin Christie, Christopher Winslow, Christine Mayer, Deborah Lee, Ian Campbell, Kyle McCue, Michael Twiss, Patricia Chambers, Tareq Al-Zabet, Val Klump, Yves Michaud

IJC staff: Lizhu Wang, Vic Service, Glenn Benoy, Jennifer Boehme, Lauren Stokes

1. Introduction: Welcome and Review the Agenda

- The Co-Chairs provided welcome remarks.
- Agenda is approved as is.

2. Future Improvement to GL Indicators Report

- The Future Improvements to Great Lakes Indicators report is based on the information from the two contractors' reports. One of the contractor's report conducted extensive investigation on indicators' data availability and accessibility. The other contractor's report summarized results of a binational expert workshop that focused on identifying how the indicators used for the State of the Great Lakes report can be improved.
- The report was synthesized by Norm Grannemann and Patricia Chambers with the assistance from IJC staff first. The report was then reviewed by all SAB-RCC members.
- The report made eight recommendations to IJC and the Parties.
- The report has been approved by the Commissioners to be put on IJC's website.
- A request was made to all SAB-RCC members that they reach out to the experts they supervise, collaborate with or know to look at the Table 2 of the report to make sure the table accurately describes the status of the indicator data.

- It noted that treated water is almost always very clean, but that source water may not; it is important to differentiate. Drinking waters are usually all high quality because they are treated; looking at source water we might provide a better indication of trends in water quality. Knowing the state of source water would help water treatment plants know what they're dealing with.
- Next step for the report – suggested to:
 - Submit the report to GLEC Co-chairs and the Annex 10 Ecosystem Indicator Task Team;
 - Put it on IJC website with appendices;
 - Have a news release that will appear on GLIN and IJC newsletter;
- Those who work in government agencies requested advance notice when report is publicized.

3. Upcoming RCC Priorities

a. Great Lakes Adaptive Management Priority

- A white paper entitled “Opportunities for Implementing and Sustaining Science-Based Adaptive Management for Scientific Research and Ecosystem Management” has been developed.
- The white paper:
 - Lays the foundation for science-based adaptive management as an institutional framework;
 - Reviews current adaptive management case studies to identify success stories, gaps, and shortfalls;
 - Presents lessons learned and recommendations to guide SAB-RCC on moving adaptive management forward as an institutional framework in the conduct of Great Lakes research and management.
- The white paper proposes that the SAB-RCC may want to:
 - Coordinate ongoing scientific research management with ecosystem management under existing authorities and institutional frameworks (e.g., GLWQA, IJC AM task team, GLRI);
 - Provide guidance to CSMI and Research Vessel Management to address identified research and data gaps in performance indicators;
 - Bring together modeling approaches to advance ecosystem forecasting and management.
- It was decided that the SAB-RCC will develop a work plan by January for Commissioners’ consideration in April 2017.

- The work plan will include surveying modeling approaches to inventory/identify “levers” needed to be “pulled” to achieve a 40% reduction in phosphorus loads to West Lake Erie Basin.
- A work group was identified:
 - Debbie Lee (Workgroup lead)/Craig Stow – GLWQA Annex 4 perspective
 - Michael Twiss - GLRI USEPA Great Lakes Advisory Board perspective
 - Kyle McCune – GLAM perspective
 - Norm Granneman – GLRI AM Pilot Project perspective
 - Yves Michaud – modeling perspective
- A conference call among workgroup members was tentatively planned for late November or early December to discuss issues that may have materialized.

b. Coordination on Great Lakes Modeling Priority

- RCC has decided to develop a work plan for a fully-integrated water model for the Great Lakes Basin
- Workgroup members: Yves Michaud, Tareq Al-Zabet, Deborah Lee, and Clare Robinson and Christina Semeniuk from the SPC.
- It was decided that the SAB-RCC will develop a work plan by January for Commissioners’ consideration in April 2017;
- The objectives of the work plan are:
 - Overview of existing data (e.g., geology, hydrogeology, monitoring wells (water level and/or quality), streamflow gauging stations) and studies (e.g., hydrological, hydrogeological, geochemical models/studies) to assess the influence of groundwater on GLB ecosystem.
 - Identify data, tools and knowledge gaps (e.g., need for data and knowledge synthesis?, need for a systematic and extensive monitoring program ?) for a better GLB ecosystem management
 - Identify integrated approaches for the study of the GL surface and subsurface hydrological processes impacting water quality.
- The outputs of the work plan will be:
 - A report that documents the two-days’ workshop on modeling in the Great Lakes and outlines the principal conclusions and path forward
- A broad discussion was carried out, mainly related to groundwater:
 - There is a need to integrate groundwater into the surface water modeling and expand the lifespan the models can handle.
 - The modeling of the groundwater quality is important for the Great Lakes Compact.
 - Assess the influence of groundwater on the Great lakes water balance and water quality will further improve our understanding of the dynamics of the full water cycle in the Great Lakes Basin in relation to climate change.

- Members agreed that ‘groundwater’ should be in the title of the work plan document.
- The possibility of planning a workshop on modelling to identify and scope the need for a fully integrated model of the Great Lakes basin was discussed.
- The work plan proposes to support the need for a fully integrated model for the Great Lakes Basin in relation to climate change. Inventory of existing models regarding what they look at and where they can be adapted.

4. Great Lakes Early Warning System

- The work plan is a joint effort of RCC and SPC and received broad supports from members during the joint session in the morning.
- The tasks of the work plan include:
 - Synthesis of current knowledge and assessment of existing initiatives.
 - Develop and apply a framework to detect and identify emerging stressors and threats.
 - Conduct of an expert workshop to apply the framework developed during the earlier phase of the project to confirm emerging stressors and threats and improve methods to detect and identify unknown stressors. The workshop will also test the effectiveness of the framework for application at intervals in the future to ensure the list of emerging stressors and threats remains current.
- This will be a challenging but very important project. The plan needs to focus on issues that affect, or could potentially affect the Great Lakes, taking in considerations of social, political and economic changes as well as environmental changes that affect the Lakes.
- Data availability will be a limiting factor for the framework. We may not have the kind of data or technology to obtain such data for this, as we are having a challenge with the current indicators’ data needs.
- There are many other types of early warning systems for economic, diseases, credit card risk and climate analysis. We do not have clear idea how this will look like. Hopefully, the work group will figure this out themselves and through contractors.
- Several potential approaches are mentioned, including seasonal beach forecasting warning, and analysis of lake variables such as hypoxia, and toxic algae. Potential impacts of human population moving into the Great Lakes basin are also mentioned.
- Three potential scales of analysis were considered: seasonal scale, latent variable scale and ‘futurology’ scale. It was agreed that the possibility of all three would be ‘brought’ into the project.
- HPAB has expressed an interest in interacting with this project.
- The \$69,000 budget is considered adequate.

5. Review of Technical Appendix to TAP

- November 10 is the deadline to submit comments/suggestions.

- The TAP Team has provided some charge questions; Victor Serveiss agreed to add references to the charge questions (i.e., refer to page **).
- It was decided that members can choose which questions to answer; no questions were specifically assigned.
- Chris Winslow and Norm Grannemann agreed to review Chapters 1, 2 and 3; all members agreed to review their previously assigned sections.
- The committee agreed to schedule two conference calls to discuss review/charge questions; Li to send a doodle pool to members for tentative dates of October 31st/November 1st and November 7th/November 8th.

6. Report on Other Activities

- Research Inventory:
 - Contract has been assigned with KENJYA-TRUSANT GROUP, LLC, THE; A couple of conference calls were carried out between the contractor and IJC staff; work is in progress.
- Emerging Monitoring Technology/GL Observing System:
 - Survey results have been written into a manuscript, which has been submitted to the Journal of Great Lakes Research.
- CSMI:
 - Lake Ontario will have a workshop on November 15 and 16; about 50 people from government agencies and academia institutions are attending.
- Others:
 - None.

7. RCC Board Appearance Presentation

- Went over the draft board appearance presentation and made suggested changes.

8. Next meeting

- Next Conference call - tentatively planned for November 28th-November 30th. Li will set up a Doodle Poll.

9. Adjourn
