



**Public Interest Advisory Group**

9:00 a.m. – 4:00 p.m. EDT, Tuesday, April 7, 2009

Type of Meeting: Face-to-Face

Meeting Facilitators: Jim Bruce/Kay Felt

Invitees: All PIAG Members & Study Team

Location: Marriott Eagle Crest Conference Center, Ypsilanti, MI

## MINUTES

### **I. Roll Call**

Present from PIAG: Kay Felt, James Bruce, James Anderson, Doug Cuddy, Richard Hibma, Kenneth Higgs, William Hryb, David Irish, John Jackson, Mary Muter, David Powers, Roger Smithe, Alan Steinman, Dan Thomas, and Jeffrey Vito

Present from Study Team: Ted Yuzyk, Eugene Stakhiv, Syed Moin, Anthony Eberhardt, John Nevin, and Jill Wingfield

### **II. Minutes Approval**

The minutes from the conference call held on February 26, 2009, were approved.

### **III. Interim Findings of St. Clair Studies**

Kay Felt provided introductory remarks for the briefing on the progress of the Study. PIAG was reminded that this briefing is confidential as the materials in the briefing book, and the preliminary findings to be presented by the Study Team, have not yet been finalized. Much of what will be presented today is not yet in written form; chapters 4-6 are in progress and have not yet been sent to the Study Board as the Study Board Co-chairs are still working with the TWGs on revisions.

Eugene Stakhiv provided the briefing on the status of the Study, noting that the presentation shared today with PIAG is virtually the same as the presentation given to the IJC Commissioners at their semiannual meeting the previous week. The Study identified three areas of study – hydraulics, sediment and hydroclimatic. Strategies for each of these areas and for assessing scientific uncertainty have been independently peer reviewed. Some key studies, report chapters and the final report will also be independently reviewed.

The IUGLS lake-to-lake fall analysis examined different sets of gauges including those used in the Baird report (Harbor Beach and Cleveland). Using these two gauges allowed the Study to factor out the effects of glacial isostatic adjustment and to determine that the change due to glacial isostatic adjustment accounted for 4cm of the 23cm change in lake-to-lake fall between Harbor Beach and Cleveland.

A number of factors contribute to the conveyance capacity of the St. Clair River. As more and more information became available, additional hypotheses to explain change in conveyance capacity were developed.

### Sediment

The questions to be answered were: Has the morphology of the St. Clair River changed? Is the bed currently stable or eroding? If the bed is eroding, what is causing the erosion?

The findings indicate that bathymetry changed between 1971 and 2000, which resulted in an enlarged channel. However, all of the available data is from after the 1962 dredging, and there is little information for the period between 1971 and 2000. The Study also concluded that from 2000 until 2007, there has been no net change in bathymetry. Further, while there is limited bed mobility as demonstrated by downstream accretion of sediment lobe and dunes, there has been no net change. Rather, sediment is being redistributed in the channel. The Study also determined that the natural flow of the river provides a shear stress (defined as the velocity needed to erode bed material) which is not sufficient to erode existing bed material. Shipping and ice jams could increase shear stress temporarily. This is evident when looking at the images of the river bed that show transverse ridges and longitudinal striations in the shipping channels.

### Hydraulic

The questions to be addressed were: What is causing the declining head difference between Lakes Michigan-Huron and Erie? Has the conveyance capacity changed since 1962? If so, what are the causes? The findings indicate that an increase in conveyance capacity accounts for 10-12 cm decrease in Lake Huron level between 1971 and 2000; the next objective is to determine if this is due to a continuous chronic change or a single episodic incident. The Study is awaiting findings of ice jam modeling efforts to determine if the 1984 ice jam was a factor in the conveyance capacity change as some evidence suggests. Approximately 88% of the change in conveyance capacity occurred in the lower part of the river (between Dry Dock and Port Lambton). This area is not a control section. The Study also concluded that the conveyance capacity stabilized after 2000. The change in conveyance capacity increased the corresponding flow temporarily by 180-250 m<sup>3</sup>/s, which is less than 5% of the mean flow. These conclusions are based on the result of six different models that were also adjusted to incorporate effects of glacial isostatic adjustment on the water level difference. The mean head difference for all of the models was 11cm.

### Hydroclimatic

The question to be answered was: How has the climate affected the change in levels between Lakes Michigan-Huron and Erie?

Hydroclimatic models suggest that an increase conveyance capacity change (8-9 cm) and climatic factors (24-27 cm) account for a relative drop of Lake Michigan-Huron between 1986 and 2005. Further, the climate was by far the major factor between 1996 and 2005. In addition, the group concluded that, between 1962 and 1996, both climate and conveyance capacity change were factors.

### Preliminary Conclusions

Based on the findings from each of the three areas of study, the Study Board presented its interim conclusions. The change in the St. Clair River due to conveyance capacity changes is 11cm. The change in net total supply accounts for 2/3 of the lake-to-lake fall since 1962 and 3/4 of the fall since 1998. There has been no ongoing erosion since 2000. Glacial isostatic adjustments accounts for ~4cm change in the head difference.

As the Baird Report was the catalyst for the St. Clair River portion of the IUGLS, the Study presented an analysis of its findings compared to those presented in the Baird Report. While both agree there has been a change in conveyance capacity, the magnitude of the change found by the Study is less than half

of what Baird concluded. It is important to note that Baird did not gather new data during its study while the IUGLS has compiled a significant amount of new data. The Baird report's conclusions differed from the IUGLS in that Baird: attributed the change in conveyance capacity entirely to dredging and erosion; indicated ongoing erosion; delineated the upper reach of the river as the key area of erosion and conveyance capacity change; and, did not consider net total supply and glacial isostatic adjustment factors to be important.

Each component can be estimated based on the conclusions to each of the science questions presented above. The findings of contributions to change in head are:

- The change in head = 23 cm for 1962 to 2005, as high as 51cm (1986 – 2005) (note: the 23 cm is averaged for the whole period)
- The change in St. Clair conveyance capacity = 10 to 12 cm
- The change in net total supply = 9-27 cm
- The change in glacial isostatic adjustment = 4cm
- The change in Detroit/Niagara conveyance is small and is incorporated in the change in net total supply.

The numbers do not add up because the head difference (23cm) is estimated over the period while the other components of the equation are the actual figures of changes within the period (esp. NTS).

PIAG Questions on the Science:

1. What do we know about Lake Erie outflows?
  - a. Corresponds to the state of Lake Erie water levels. Outflow is stable.
2. What are the reasons for the increase in net total supply in Lake Erie?
  - a. There are different storm tracks bringing more precipitation over Erie in parts of this period.
3. What is the impact for the commercial navigation industry of the Study findings?
  - a. The overall effect of shipping on conveyance capacity is minimal. Since conveyance capacity has stabilized since 2000, this can be said with confidence. So, shipping may be an issue for redistributing sediments downstream where the composition of the bed material is finer, but not in the upper reaches with gravel and cobble bed.
4. When will the science reports be made available?
  - a. By the release of Volume II, on May 15, there will be 2-3 page summaries of all of the science reports appended to the draft report. Once the full reports are peer-reviewed, they will be made available to the public on the web site.

#### Preliminary Policy Recommendations

Even though there is uncertainty associated with each individual piece of information, there was significant concurrence in the findings from the many different sources involved in this Study. As the Study Board reconciled the many pieces of information, the similarities between the separate components of the Study contributed to the confidence concerning the overall conclusions and resulting recommendations.

Prior to presenting the recommendations from the Study Board, the IJC was asked for clarification concerning the Study directive. Definitions of remediation, mitigation and compensation were presented; remediation is the term to be used as it is defined as compensation for past damages or adverse actions. The IJC's mandate and subsequent directive to the Study Board with respect to conveyance changes is limited to providing advice to governments on remediation options in the St.

Clair River where it is found that there are ongoing changes in the river bed (note: the governments have already acknowledged that the 1962 dredging caused a lowering of lake M-H levels (~15cm).

Taking all the science and the IJC's Directive into consideration, the Study Board recommends that:

- Remedial measures not be undertaken in the St. Clair River at this time.
- The need for mitigative measures in the St. Clair River be examined as part of the comprehensive assessment of the future effects of climate change on water supplies in the Upper Great Lakes basin in Report 2 of the Study, on Lake Superior regulation.

The Board will also offer a series of secondary recommendations to the governments to include: maintenance of the three international stream flow gauges and two evaporation eddy co-variance gauges put in by the IUGLS; implementation of new rating curves and flow estimation techniques and hydraulic and hydroclimatic models; standardization of data collection, analysis and reporting (also need to determine who should be responsible for this); regular monitoring of bathymetry; and formalization of the ad-hoc coordinating committee on Great Lakes Hydrology and Hydraulics (the IJC should develop a mandate for this group that includes cleaning up old data sets).

Additional studies that will be conducted during the public review period include further examination of: navigation and shipping impacts; further investigations of ice jam impacts; clarification of maintenance dredging impacts and completion of the uncertainty analysis.

#### **IV. Draft Report Discussion and Questions**

The following recommendations were provided by PIAG members:

1. Change the language from "no need to consider remediation" to "under the mandate, cannot consider."
2. Change second point to read "no compelling evidence of ongoing erosion causing a change in conveyance capacity since 2000."
3. Reiterate the mandate of the Study in the recommendations. Make it clear that the governments directed the IJC to undertake this Study. The IJC then gave the IUGLS its directive.
  - a. Develop a fact sheet on the mandate and directives of the Study.
4. Be consistent with terminology (i.e. compensation vs. remediation).
5. Communicate the science outcomes to the public and then package the recommendations around the science.
6. Emphasize the importance of the "secondary" recommendations. Change the term "secondary" to "legacy", "on-going" or "continuing."
7. Need to develop a coherent narrative on impacts of dredging.
8. Need to be clearer that this is the first part of a much larger report. "Report 1" is not clear enough.
9. Presenting the findings in the context of the Baird report is confusing.
10. Include at least one photo of ice jam into PowerPoint so public can see the magnitude of what occurred.
11. The 1993 water level study also recommended the collection of data; however, this recommendation was never implemented by the governments. The IUGLS Report should state this and make the point that the efforts of the IUGLS Study Board were significantly impacted by the lack of data.
12. The page numbering is confusing. There was a recommendation to add the section number before each chapter page number.

13. The terms “flow” and “conveyance capacity” seemed to be used interchangeably throughout the report. The flow of the river hasn’t changed at lower water levels; the conveyance capacity has and the full capacity is rarely used.

#### **V. Public Synthesis Document Discussion**

1. It is critical that the synthesis report be tight and that the terminology be correct as it is the document that will be read by most of the public.
2. The use of acronyms in the full report is excessive. Using acronyms for agency names is all right, but using acronyms for concepts (GIA, NBS/NTS) is too extensive.
3. Figure captions (currently only in the full report as there are only placeholders in the synthesis report) were very unsatisfying. Some of the figures had legends while others did not; some of the figures do not even say what metric is being used. The figures and captions need to be as explicit and intuitive as possible.
4. The Synthesis Report should be called a “Citizens Guide”
  - a. There was consensus from PIAG and Study Team to change the name.
5. There was a discussion about the May 1 deadline as there was some concern the Study was not far enough along to release to the public. The majority of the PIAG members felt it was important to get information out to the public soon, even if some of the work was still in progress.
6. The synthesis report requires the reader to have a fairly good understanding of hydrology and hydraulics. It would be helpful to put the finding into context (i.e. is the river wider, deeper, etc.) and explain the cause and effect of changes in conveyance capacity relative to lake levels.
  - a. Some of the slides from the previous round of public meetings may be helpful to add to the synthesis document.
7. Fact Sheets should be distributed in conjunction with the Citizen Guide as they address much of the background information that is necessary to understand the report.
8. The presentation to the public should include slides about the larger Study and put this part of the report into context with respect to the bigger picture.
  - a. It is also important that the Study Board and PIAG are very clear that this round of public meetings will focus on St. Clair River portion of the Study.

#### **VI. PIAG Discussion on Public Meetings**

Questions to address:

- A) What is the expected reaction from constituencies in your area?
  - B) What is the expected level of interest in the Study at this time (i.e. projected attendance at public meetings)?
1. David Irish (Traverse City): The major concern from eastern Lake Michigan is high water. It is important not to focus explicitly on low water because that is what we are experiencing now. Attendance may be low in Muskegon because the focus of these meetings is on the St. Clair portion of the basin.
  2. Roger Smithe (Muskegon): Attendance in western Michigan will not be affected by the fact that this is a St. Clair Study.
  3. Dan Thomas (Chicago): Attendance will likely be low; does not believe water quality issue will be raised at these meetings.
  4. Jeff Vito (Duluth): A low turnout is anticipated; concerned that the public will be confused by these meetings/report because they think of the Study as “the Lake Superior Study” and this phase does not really address Lake Superior interests.

5. John Jackson (Sarnia): Attendance will likely be fair. The public will likely be unsatisfied by the recommendations because they are not enough; the mandate is a limiting factor and the governments need to hear this. Government representatives should be at meetings.
6. Al Steinman (Muskegon): Attendance will be good because people in the area care about Great Lakes issues; however, it is difficult to gauge what the response will be.
7. Jim Anderson (Parry Sound): We need to ensure state agencies, NGOs, politicians, etc. are aware of the science behind the recommendations. We need to engage them in our outreach plans.
8. Dick Hibma (Owen Sound): The science supports not taking any remedial action right now. The public will be interested in recommendations concerning adaptation to climate change and adaptation to ongoing glacial isostatic rebound.
9. Mary Muter (Parry Sound): A component on education needs to be included. Comments on climate change are important, even though the Study isn't far enough along to make any conclusive remarks. The report also needs to incorporate discussion about flexible mitigation measures to deal with extreme highs and low levels, recognizing that the development, construction and implementation of these structures will still have to go through the governmental process. Also the Board should note that even though the connection between water levels and water quality is not being made in this report, it will be brought up as an issue at the public meetings.
10. Dave Powers (Bay City): This area is impacted by both high and low water levels. This winter, ice threatened homes along the shore so people will be concerned about high water this time around whereas they were primarily concerned about low water before.
11. Doug Cuddy (Sault Ste. Marie and Little Current, ON): Most of the people at these meeting will be concerned about their own backyard and won't be concerned with other areas throughout the basin. Turn out at both locations will probably be low since these findings are focused on St. Clair; advises the Study Board not to invite SSM politicians!
12. Ken Higgs (Midland): Will likely be a good turnout at the meeting as people are interested in the Study findings on the St. Clair conveyance. It is especially important to emphasize the point that this is only the first report.
13. Bill Hryb (Thunder Bay, ON): Personalized invitations to the Port Authority from the IUGLS may help attendance. Politicians should be invited also.

## **VII. Public Meeting Demonstration**

Jill Wingfield and John Nevin demonstrated the public meeting setup using WebEx software. The hub locations will be hosted by PIAG members and members of the Study Team will be present. Each of the satellite locations will be hosted by PIAG members and have a Study representative available to answer questions that are not answered during the Q&A.

A formalized schedule for each meeting will be provided to each PIAG host. The anticipated schedule is as follows: welcome from PIAG host (5 min), introductory video (10 min), PowerPoint presentation on Study findings and recommendations from Study Co-Chairs (20 min), Q&A (85 min). The Q&A session will be facilitated at each site by the PIAG member who will be responsible for establishing a question queue. The PIAG host at the hub location will ask for one question from each site on a rotational basis and continue until the meeting time is up or all questions have been addressed.

Discussion:

- Both questions and comments are welcome during the Q&A session.

- The cross-basin approach is being utilized to facilitate an understanding among the public of issues and concerns facing other areas of the basin. This awareness will contribute to the public's understanding that the Study's recommendations must take into account all affected interests. This approach will hopefully contribute to the public's understanding as comments and proposed amendments to the recommendations are developed.

Members of PIAG approved the public meeting schedule as proposed.

#### **VIII. Communications Update**

John Nevin provided an update on the communications plan for release of the draft report, including scheduled briefings prior to the release. The Study Team will brief local, state, provincial, and federal governments, First Nations and Native American groups, members of the press, NGOs and commercial interests, and the PIAG. Members of PIAG stressed that commercial interests on the Great Lakes must be included in the process. John also highlighted the various documents that would accompany the report, including the Citizen's Guide, the next issue of On the Level, a press release, a video and fact sheets.

The key messages to serve as talking points during the public meetings are in progress. There was significant discussion about the word choice and the objective to be served with each talking point. In particular, members focused on the importance of providing additional context to Study findings and also to emphasize that the Study will begin to shift its focus to the Lake Superior regulation plan.

#### **IX. Round table**

William Hryb is looking forward to the meeting in Thunder Bay and would like to request help from the communications team to increase attendance.

Roger Smithe requested that, on the April 27 call, the Study Team provide information about where to direct members of the public to get copies of the draft report (website, phone number, etc.). Roger would also like to get approximately 12 printed copies of the report so he can mail it upon request.

Kenneth Higgs expressed his concern that it is going to be very challenging to present the science to public in an understandable way in such a short period of time.

Doug Cuddy supports the public meeting hub and spoke approach. It is important to share concerns across the basin.

David Powers had no comments above what had already been presented.

Mary Muter is concerned about connecting so many locations during the public meetings. Mary advised that, in her opinion, a full presentation on the science needs at least 45 minutes. Mary also stated that some of the information in the synthesis report needs to be corrected (comments should be directed to Ted Yuzyk's attention).

Dick Hibma feels that his participation in this Study continues to be a remarkable learning session. He is aware of the challenge the Board faces and thinks they have risen to the challenge.

Jim Anderson is looking forward to the forthcoming chapters and how the Study Team packages all of this information for public consumption.

Al Steinman cautioned the Study Team against “caveating” the Study to death to the point that the public feels bored or misled. Al feels that the appropriate number of slides is 14-20 and that it is critical to be very honest about what is known and what is not known.

John Jackson had no additional comments above what was already presented.

Jeff Vito was a little apprehensive about the public meeting approach following the February conference call, but now understands the cross-basin approach and appreciates the objective of the approach.

Dan Thomas feels that the Study Team should not use the term “compensation” because even if it is literally correct, it is not pragmatic and it will be misconceived by the public.

David Irish had no comments above what had been presented.

Jim Bruce was very impressed with the PIAG meeting. Jim thanked all of the attendees for all of the helpful comments directed to the Study Board and to the communications team.

Kay Felt stated that the co-chairs were very pleased with the feedback provided by all of the PIAG members. Kay was concerned about the proposed length and time allocated for the presentation at the public meetings as it is important that the Study Team not “water down” the science because the public is very interested in learning about the science no matter how complicated.

Respectfully Submitted

Jill Wingfield