International Lake Ontario - St. Lawrence River Study

Public Interest Advisory Group

FINAL REPORT

To the

International Joint Commission

April 2004 – November 2005

Please note that all Public Interest Advisory Group members were not in attendance when the picture on the cover of this report was taken.

Public Interest Advisory Group

November 30, 2005

Mr. Dennis L. Schornack
Chairman, United Sates Section
International Joint Commission
1250 23rd Sstreet, NW, Suite 100
Washington, DC, USA 20037

Rt. Hon. Herb Gray
Chairman, Canadian Section
International Joint Commission
234 Laurier Avenue West, 22nd Floor
Ottawa, Ontario, Canada K1P 6K6

Dear Chairman Schornack and Chairman Gray:

The Public Interest Advisory Group (PIAG) to the International Lake Ontario - St. Lawrence River Study is pleased to submit herewith its Final Report at the request of the International Joint Commission.

The Report reviews the activities of the PIAG during the last two years. It provides insight into the communication processes developed by the PIAG during this time. It also provides recommendations to the International Joint Commission, regarding future communication of Commission Boards to the public. Finally, it provides introspective views of individual PIAG members about the Lake Ontario - St. Lawrence River Study.

Respectfully submitted,

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Acronyms

IJC	International Joint Commission
ISLRBC	International St. Lawrence River Board of Control
PIAG	Public Interest Advisory Group
PFEG	Plan Formulation and Evaluation Group
TWG	Technical Work Group
U.S.	United States

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Executive Summary

The International Lake Ontario - St. Lawrence River Study has been a trailblazer. The International Joint Commission (IJC) decided prior to the initiation of this Study to have the public represented at the "table" right from the start. The Public Interest Advisory Group (PIAG) had a separate mandate from the IJC, allowing it to act independently. We were an internal "peer review" group for the Study. To develop this "peer review" group, the IJC selected members of the public, in many cases, who were the toughest and most active critics of the International St. Lawrence River Board of Control's operations prior to the Study. Through this process, PIAG members met and learned from each other, gaining a better understanding of the system geographically and technically and of the various concerns of the regions. Consequently, the Study has now developed a cadre of lay-experts available to the International Joint Commission in the public interest.

Another facet of our mandate was to ensure effective communication between the public, which we represented, and the Study and its technical work groups. We provided input to Study decisions and communication and education to the public. We were there at the table for all Study Board discussions. The PIAG assisted the decision process, ensuring that the public input was considered and that the process remained transparent.

The Study Board kept an arms length approach to our activities. We tested several innovative instruments of public outreach; the results of what worked and what did not work will be provided to the International St. Lawrence River Board of Control.

The two main lessons learned from the Study are:

"We have to realize that the Study cannot satisfy the needs of all of the interests all of the time." This is indeed the case as the PIAG as a group does not favor any one candidate plan over another.

Communications cannot be an ad hoc procedure. The IJC must commit funds to ensure proper communications of the Board of Control by means of dedicated communication person(s) and budget to allow publication of meetings and other important communications, using techniques developed by PIAG during this Study and other valid methods of ensuring two-way communication.

Introduction

To emphasize the importance of public outreach, consultation, and participation during the International Lake Ontario-St. Lawrence River Study, the International Joint Commission appointed a 20-member, bi-national Public Interest Advisory Group (PIAG) for the Study. PIAG members

were selected based on their knowledge and experience in one or more interest areas associated with the Lake and River system. The members participated in all aspects of the Study, worked to ensure effective communication between the Study Team and the public, and ensured input from the public was considered. Individual PIAG members acted as liaisons to the various Study Technical Work Groups. The PIAG Chairs are members of the Study Board. A list of the current membership, their location along the system, and their areas of affiliation is found in Appendix B.

The PIAG's principal objective was to ensure that the results of the Study considered the interest and "natural knowledge" of the public. The PIAG's mandated goals have been achieved. They are:

- to create an awareness of the Study,
- to educate the public regarding the Lake Ontario-St. Lawrence River system, and
- engaging the public to stimulate interest in becoming involved in the Study.

A summary of the PIAG's first-year activities is found in the PIAG Year One Report published in May 2002. Activities during years two and three of the Study were summarized in the PIAG's Year Two-Three Report, published in July 2004.

Activities - Study Years Four and Five

Membership meetings

The PIAG held four membership meetings during the final two years of the Study.

a. **Syracuse, NY, June 3, 2004 –** The PIAG reviewed the performance indicators, approved their report for Study years two and three, and material for the summer meetings such as panels, presentation and fact sheets.
b. **Ottawa, ON, October 21, 2004 –** The PIAG approved their communication plan for year five and presented it to the Study Board for their approval.
c. **Rochester, NY, January 26, 2005** – The PIAG participated in a Study-wide workshop with the Plan Formulation and Evaluation Group.
d. **Alexandria Bay, NY, August 23, 2005 –** The PIAG met to discuss their section of the Study final report. They also participated in the Study Board meeting the next day.

The PIAG met with the Plan Formulation and Evaluation Group of the Study five times to review the candidate plans and provide feedback into the Study Board's decision-making process. One of the key messages throughout the Study has been "We have to realize that we cannot satisfy the expectations of all of the interests all of the time." This is indeed the case as the PIAG as a group does not favor any one candidate plan over another.

Public Outreach

Through the Study speakers' bureau, members continued to create awareness, educate, and involve the public by giving over 140 presentations with a cumulative audience of almost 6,000. (See Appendix C for presentations given in the final two years.) All input received from and concerns expressed by the public at these meetings were relayed to the Study Team.

An aggressive campaign to receive input from the public was put into motion during the final two years of the Study. Over 400 people throughout the Lake Ontario and St. Lawrence River basin provided input during the public outreach meetings listed below during the fourth year of the Study:

a. Akwesasne Outreach - Cornwall Island, August 12, 2004
b. Canadian Meetings
    i. Jordan, ON, August 18, 2004
    ii. Toronto, ON, August 19, 2004
    iii. Belleville, ON, September 1, 2004
    iv. Gananoque, ON, September 2, 2004
    v. Cornwall, ON, September 15, 2004
    vi. Dorval, PQ, September 16, 2004
    vii. Trois-Rivières, PQ, September 17, 2004
c. U.S. Meetings
    i. Massena, NY, August 18, 2004
    ii. Alexandria Bay, NY, August 19, 2004
    iii. Henderson, NY, September 1, 2004
    iv. Oswego, NY, September 2, 2004
    v. North Rose, NY, September 15, 2004
    vi. Greece, NY, September 16, 2004
    vii. Olcott, NY, September 17, 2004

Each meeting included an open house to provide participants with the opportunity to review informational panels regarding the Study and its nine technical work groups and to ask questions of the technical work group leads. The presentation was tailored for each location and included information from the technical work groups that represented the community's primary interests. The Shared Vision process being used by the Study Board to evaluate plans and make recommendations was described during the presentation. These meetings were set up with concurrent meetings being held in the United States and Canada on the same night. The question and answer sessions for the concurrent meetings were linked by telephone conference calls so that the audiences could hear the concerns expressed in different locations. Handouts listed the preliminary measures of economic, social, and environmental impacts, performance indicators; preliminary criteria, which give general direction to the regulation process; water level targets, which are specific maximum or minimum flows or water levels that satisfy the criteria; and the Study's decision-making guidelines. Valuable input was received from these meetings, but it was generally felt that if the Study report for years two and three and final performance indicators had been available before the meetings that there would have been a larger number of people in attendance.

During the final year of the Study, fourteen public meetings were held throughout the Study area. The purpose of these meetings was to solicit public comment about the candidate plan options. This public comment was used to adjust or tweak the plan options that now appear in the Study Board Final Report. Feedback was garnered through comments at the meetings, correspondence directed to the Study and a survey.

A brief summary of the meetings held in the final year of the Study prepared by PIAG members in attendance at each of the meetings begins on the next page.

KINGSTON MEETING
June 10, 2005
Queen's University, Kingston, ON

Of the fifty-five participants present, most were from areas outside of Kingston. An additional fifteen members connected to the Study were present and eight questions were posed.

Participants showed great overall interest in environmental and natural ecosystem issues. There were concerns with the impacts of the water levels on the environment, whether the plans provided less hydropower and why the Study is comparing the new suggested plans with 1958DD instead of 1958D. The views of the International Great Lakes Mayors were also expressed.

Final thoughts raised alarms about shoreline problems and a discussion arose as to how to mitigate these on the Great Lakes before the environment suffers too great a loss.

Overall, environmental interests were predominant at this meeting.

JORDAN MEETING
June 22 2005
Best Western - Beacon Harbor Side Hotel, Jordan, ON

Approximately twenty-three participants were in attendance in addition to the fifteen Study Team members.

The residents of the Grimsby area were vocal with concerns related to shoreline property and erosion. The overall statement was that they believed the "government" keeps raising the water levels, resulting in higher damage costs to their property and then expects them to pay for it. Participants wanted to see lower water levels and a better system (or compensation) from the government for their erosion costs if the water levels are raised.

Concern was also shown for the environment and the damages of higher water levels and greater erosion of the Lake's shoreline. There were also questions about where the wetlands have gone and why and how the water levels have affected them so drastically.

Overall, Plan B was the predominant Plan.

MASSENA MEETING
June 22, 2005
Quality Inn, Massena, NY

Sixty people, excluding Study Team members, attended the Study Board meeting. Of these 60, three were from the media and five were elected officials. Comments from the audience included those from shoreline property owners, recreational boaters and environmentalists. The subject of mitigation (offsetting costs with directed revenue from increased hydro generation) was mentioned, while others discussed monitoring of whichever plan is selected. Reorganization of the

International St. Lawrence Board of Control was suggested to include recreational boating, tourism and environmental interests. One participant wondered if the Orders of Approval would be changed.

The basic water level issue in the Lake St. Lawrence reach is that the hydrology and hydraulics of the river make water levels, in the area just upstream of the Moses-Saunders Dam, fluctuate more dramatically and over a shorter period of time than other reaches of the system. As a result, recreational boaters have their season cut short which impacts them directly and affects tourism-related business. Shoreline property owners experience problems with docks, water intakes, etc. when levels are low.

Overall, recreational boating and support for Plan B were predominant at this meeting.

TORONTO MEETING

June 23 2005

Delta Toronto East Hotel, Toronto, ON

Ten participants were in attendance in addition to the eleven members connected to the Study team.

Discussion was lead by participants trying to understand how the system works (i.e., how the water system is adjusted, lake structure, and how the dams functions). The process of how erosion occurs and the tilting structure of Lake Ontario were also brought to light. Other questions centered around how the new plans would control the levels, the effects the plans would have on the environment and erosion that would occur on the Lake Ontario Bluffs.

Comments and concerns were also brought forward about trying to ensure an education program is put in place so that people will have a better understanding of the issues on the Great Lakes in the years to come. Suggestions included implementing programs through the school systems and boating community (marinas, yacht clubs, etc.).

Overall, an environmental interest prevailed.

ALEXANDRIA BAY MEETING

June 23, 2005

Bonnie Castle Resort, Alexandria Bay, NY

One hundred and forty six participants were present. There were also four elected officials, four members of the media and eight Study team members.

Questions and comments centered around the concern for the need to revisit plans regularly to keep things current, the equity of the economics and the complexity of the systems itself. Some participants inquired about the degree of certainty these plans will follow their intentions and if there was to be room for deviations. Concerns also arose that no reductions to commercial navigation and hydropower arise with the issuing of new plans.

Overall, the comments that were made showed clear support for Plan B with hope that in the future, Plan E's support of the environment would be acknowledged.

AKWESASNE MEETING
June 30, 2005
St. Regis Recreational Centre, Akwesasne

Approximately twenty-five participants were present; two were Chiefs. In addition there were seven members of the Study team present to answer questions.

Questions and comments arose in areas of erosion, water levels and the cost of the Study. There were concerns that the IJC is responsible for protecting the water of the Great Lakes from any diversions that may arise after a new plan was put in place. The chiefs expressed concern that in the past they have been able to live off the water and now, with levels being so low, they are unable to do so. For this reason, the participants showed a greater interest in Plan B but indicated they would send in any further comments to the IJC directly.

Overall, Plan B was the preferred plan.

TYENDINAGA BRIEFING
July 12, 2005
First Nations Technical Institute, Tyendinaga, ON

Fourteen participants (including seven from the Study Team) were given an overview of the Study in a briefing to the Chief, Councilors and staff of Tyendinaga.

Concerns included water and sewer plant upgrades, the Remedial Action Plan for the Bay of Quinte, water levels in the other Great Lakes, the effects on shipping and hydropower industries, and diversions. Questions were also asked regarding the future of fish habitat, wells and rare species as a result of implementing a new plan. As the community is along the shoreline, not twelve miles inland, concerns also arose regarding the levels of damage that would be caused by future flooding in the area.

It is important to remember that water is a large part of the Aboriginal culture and as a result requests were made that data collection be further examined to study the effects on the Bay of Quinte, the impacts of ground water, sensitivities relating to the existing info-structure and the probabilities of future water levels scenarios to assist in defining future needs of the Mohawk people. Through the IJC, efforts will be made to coordinate data collection with the Council of Chiefs and other agencies.

BELLEVILLE MEETING
July 13 2005
Belleville City Hall, Belleville, ON

Thirty-nine participants were in attendance. In addition two members of the media and fourteen Study Team members were present.

Questions and concerns were related to water levels (which have been higher in the area in the past couple of years), keeping people out of the floodplains and mitigation. Concerns also arose as to how the data was accumulated for the Study and how the effects of global warming will change the Plan put in place.

Environmental issues and the ecosystem/wetlands were the primary concerns of the region, plus the need for better forecasting to ensure they would endure no harm due to human manipulation.

Overall, environmental interest was predominant.

SACKETS HARBOR MEETING

July 13, 2005
Sackets Harbor Central School, Sackets Harbor, NY

In attendance were 59 public participants, 4 local officials and one media representative in addition to members from the Study Board, Technical Working Groups and the PIAG. Despite a power outage that occurred during the last 90 minutes of the meeting, many participants stayed till the end to ensure their comments were heard.

Comments were varied and included a person that spoke in favor of Plan E and a person who asked questions about how the economic benefits were assigned to Plan B and whether economic values were assigned to environmental wetlands and biodiversity changes. One participant wondered whether the impacts of the Ottawa River were taken into consideration and another suggested we go back to what pre-regulated conditions would be. Another participant did not like any of the plans and another participant wanted lower high water levels. One member of the audience indicated that Plan D was not bad for the environment. A Public Interest Advisory Group member requested that we show the changes from 1958DD in percentages rather than net economic benefits.

Four survey cards were turned in after the meeting, two respondents ranked Plan B first in overall performance and two respondents ranked Plan D first in overall performance. In a later question one respondent indicated that Plan B was unacceptable under any circumstances.

Overall, environmental and coastal property concerns were most prominent at this meeting.

GANANOQUE MEETING

July 14 2005
Gananoque Fire Hall, Gananoque, ON

Seventy-three participants were in attendance. In addition 2 elected officials, 1 member from the media and fourteen people connected to the Study were present.

Twenty-two questions and comments were made over the course of the evening. Topics included possible trade-offs, support for Plan B, moving toward Plan E, putting Plan E as best for the environment back on the table, complexities of the system, impacts on communities including

impacts on local economies and specific location issues. Concerns were also expressed regarding island ferry operations, drinking water supply regulations and approaches to mitigation. It was mentioned that the quality of the environment in this part of the St. Lawrence provides major contributions to the economy and quality of life in the area.

Participants noted that the $4 million difference between Plan A and Plan D was insignificant in the overall picture and should not be a central concern when deciding the final Plan of Action.

Overall, participants showed support for Plan B and moving toward Plan E in the longer term.

OSWEGO MEETING
July 14, 2005
Captain's Steak & Seafood Restaurant, Oswego, NY

Twenty-nine participants were present, in addition to the fourteen Study team members.

The audience consisted primarily of shoreline property owners concerned about higher water levels. They voiced their concerns in a series of 20 questions. There were at least two participants representing environmental interests who had already spoken at other public meetings. There were a number of meeting participants for whom this was their first exposure to the Study.

Participants showed concern for the plans presented. While there were three comments supporting Plan B, two of the comments suggested a modified B to mitigate the flooding and recreational boating negative impacts. There were a number of comments about adaptive management or at least returning to see if impacts of plan selected are realized in 5 –10 years. There were concerns from the shoreline interests about the damages that could occur with any of these plans selected.

Overall, shoreline interests were predominant at this meeting.

CORNWALL MEETING
July 20 2005
Cornwall Civic Centre, Cornwall, ON

Fifty participants were in attendance at the meeting. In addition one elected official, four members of the media and twelve members of the Study were present.

Eleven comments and questions were about how levels would be mandated and plans would be regulated. Participants were concerned about who controlled the system's levels and if any thought was given to limiting peaking. The effects of erosion on shoreline property was also a concern.

Many of the questions were about the work of the Control Board as many of the participants live on or near Lake St. Lawrence and Lake St. Francis and understand the workings of the levels very well.

Overall, Plan B was the favored plan in Cornwall.

NORTH ROSE MEETING
July 20, 2005
Cutter's Restaurant, North Rose, NY

One hundred and one participants were present at the meeting in addition to the ten Study Team members.

The audience consisted of primarily shoreline property owners concerned about higher water levels. Out of the 21 comments made, most speakers supported Plan D or staying with 58DD, aside from at least two participants representing environmental interests. There were a number of public officials that had concerns about the high water levels that may be encountered and the damage it will do to recently developed recreational and tourism aspects of the Sodus Bay area. One official stated that the monies put into these developments are over $3 million of taxpayer money and Lake levels above 247 feet will inundate these improvements.

Non-public officials (interested residents) appeared more concerned with flooding and bank erosion due to high water levels than concerns about lower lake levels. Recreational boaters wanted levels higher into September, while environmental supporters wanted more fluctuation.

Overall, keeping plan 1958DD was favored. None of the candidate plans were favored.

DORVAL MEETING
July 21, 2005
Hampton Inn and Suites, Dorval, PQ

More than 40 participants attended, not including the 14 members of the Study Team.

The interests and concerns from the public attending included the environment and climate change, recreational boating, sport fishing, commercial navigation including the Port of Montreal. Shoreline owners living on Lake St. Louis were concerned about possible extreme water levels, erosion and flooding.

Twelve persons spoke at the microphone for comments or questions. They expressed varying choices on the different candidate plans and were clearly concerned about the impact of climate change and possible flooding, especially in Plan B. Many wondered how our environmental outcomes might be linked to other environmental issues.

GREECE MEETING
July 21, 2005
Greece Town Hall, Greece, NY

Two hundred and twenty two participants were present at the meeting in addition to the fourteen Study Team members.

Forty-one participants, representing coastal, recreational boating and environmental interests were vocal at the meeting.

Upon hearing the Study Boards presentation, various elected officials representing different levels of government, appeared unhappy with any of the three proposed plans. Reasons for this were that no plans were proposed with deviations and there will be a loss of guarantee for protection of Lake Ontario shoreline (Criterion G of the existing regulation Plan 1958D).

Non-public officials (interested residents) appeared more concerned with flooding and bank erosion due to high water levels than concerns about lower lake levels. Recreational boaters wanted higher levels into September, while environmental supporters wanted more fluctuation.

Overall, keeping plan 1958DD was favored. None of the candidate plans were favored.

SOREL MEETING
July 28, 2005
Auberge de la Rive Sud, Sorel, PQ

One hundred and seven participants and fourteen members of the Study Team were in attendance at this meeting.

The issues raised include impacts on the environment, recreational boating, sport fishing, and shoreline issues related to erosion and flooding for those living on Lake St-Pierre and Sorel region.

Thirteen members of the public spoke at the microphone for comments or questions. They were concerned that they didn't have enough time or information to make a decision. Some in the audience were concerned about flooding and erosion that had not been accounted for in house construction close to the shore.

Citing the various graphics from the presentation, participants worried about the affect of low levels, especially under climate change. There were several different environmental issues raised and questions about the research.

They mentioned that river dragging and unexploded shells from military testing in the recent past were a problem at the bottom of Lake St-Pierre. Many participants asked both about the proportion of representation from the province of Québec on the Study Team and transparency of the results of the Study.

OLCOTT MEETING
July 28, 2005
Olcott Fire Hall, Olcott, NY

Ninety-four participants were present at the meeting in addition to the ten Study Team members.

Eighteen participants were vocal during the meeting; representing coastal, recreational boating and environmental interests.

Participants appeared more concerned with flooding and bank erosion due to high water levels than concerns about lower lake levels. The homeowners present had a concern about possible effect of any new plan and higher water levels and how the Rochester-Toronto ferry wake will compound erosion. Water quality was also a concern as erosion of banks causes degradation of water quality and fishing areas.

Recreational boaters wanted levels higher into September, while Environmental supporters wanted more fluctuation.

Overall, none of the candidate plans were favored.

The PIAG recognized the importance of including members of the First Nations in discussions. Through the PIAG's various meetings with the Tyendinaga, Kahnawake, Akwesasne and St. Regis Mohawk Nations, information regarding First Nations and Native American interests was gathered and provided to the Study Board for consideration.

Trends and patterns

The following trends and patterns in public comment for these meetings were observed:

- There was, depending on location and interest group, broad support for Plans B and D, but relatively less interest in Plan A with the notable exception of Gananoque where it had some support. In meetings on the South Shore of Lake Ontario, there was large support for the status quo because all of the options raise the Lake Ontario levels in the long-term average.
- Concerns regarding shoreline erosion and flooding were more pronounced in Oswego, North Rose, Greece, Olcott, Gananoque, Belleville and Jordan.
- Even those who wanted much lower highs or higher lows also said that they wanted a more natural lake/river regime. If you narrow the range of water level variations, it is possible that harm will come to the environment. When the debate is framed in terms of a natural or environmental plan, Northern New York, Ontario and Quebec meeting attendees from along the river and similarly located survey respondents tend to favour plans that follow the natural flow.
- There were concerns about the short timeline for comment expressed in Sorel and that came to be one of the largest issues of the evening, causing some residents to say they felt that they were not being fairly dealt with and their opinions were not truly valued. This concern was also expressed in Alexandria Bay, but once it was explained that the International Joint Commission would be holding public hearings next year, the audience seemed to be satisfied that their voices would be heard.
- A vocal number of property owners expressed their opposition to the possibility that they might experience losses to protect environmental, shipping, recreational boating or hydropower interests.
- Several attendees, especially those interested in environmental aspects of the system, commented on both the need for better communications and more education on water issues and were generally unaware of initiatives related to education about water in their areas. They also stressed the need for continued monitoring after a plan is implemented to measure its performance.

- Some of the graphs exhibited during the presentation were received very well in the meetings where they were shown and helped people to understand the complexity of the Lake Ontario-St. Lawrence system in a very direct way.
- There is a strong wish expressed by the public in several locations that the performance of the plans be monitored with a review, say every five years, to assess the results.
- Some urged that the Control Board be restructured to better represent the interests in the system.
- Many people wanted to know what the upper limit/criterion would be under the various plans or whether deviations would be allowed. There was some skepticism and concern that without deviations a plan might result in serious negative outcomes such as flooding or increased erosion.
- At many of meetings held along Lake Ontario and the St. Lawrence River, the publicly elected officials rose to speak. They may have expressed what many in the audience were strongly supporting and, as such, many people did not feel that they needed to reiterate the same concern either vocally or via survey. The large number of resolutions passed by municipalities, mostly from New York state communities, later confirmed this view.

Public Outreach Tools Used

Database Expansion

Members of the public had the opportunity to sign up to be added to the Study's database for the mailing list at every meeting. They were also provided with the opportunity to be part of the Study's electronic list service that is used to notify the public of newsletter availability on the Web and upcoming meetings. In order to assist in the transition from the Study to the International St. Lawrence River Board of Control, the public was provided with many opportunities to be added to the Control Board's mailing list.

The United States section of the Study database includes over 3,790 entries. The list of elected officials in the database is reviewed and updated yearly after elections.

The Canadian section of the Study database contains 1700 names and is updated on a quarterly basis.

Website

The Study website has had over 1,200,000 visits from over 60,000 unique visitors since its inception. Users can now visit the website and complete a survey to be added to the final mailing list to receive updates on progress and meetings being held after the Study's work is completed.

Newsletter

During the final two years of the Study, four volumes of the Study newsletter *Ripple Effects* were produced and sent to the Study mailing list of approximately 5,500 recipients.

Publicity

Where possible the use of front-page, post-it note advertisements to target postal codes is cost effective.

Establishing a network of websites held by stakeholders that you can partner with to publicize upcoming meetings is helpful.

Recommendations

Regarding the International Lake Ontario – St. Lawrence River Study
Many of the PIAG members had very important individual comments and suggestions for the future. Their individual input is included in Appendix E so that it could be reviewed in an unedited manner. The PIAG sends the comments below forward collectively:

Informing and educating the public is an important aspect of implementing any regulation plan. Developing a better understanding of the scientific results of the Study and the impacts to the stakeholders will be important to encourage an understanding of this shared resource called the Lake Ontario - St. Lawrence River System.

A review of shoreline policies needs to be undertaken. The scope of these policy reviews needs to be defined but should include: land use planning, environmental policy, coastal development policy (housing set backs elevations etc), marina development and maintenance. The review should first gather together the existing policies of the various levels of government and include a section on lessons learned from our TWG studies. For example, we have learned basic things about erosion and flooding and these should help guide future government policy.

In the area of adaptive management, some group perhaps the next International St. Lawrence River Board of Control with input from our Plan Formulation and Evaluation Group members, needs to be charged with this responsibility.

The shoreline riparian policy section should also include approaches to developing a shoreline management (public safety, public use, and natural heritage) strategy for certain reaches of the shoreline utilizing the data and information gathered by the TWG's. This review would also help define options (i.e., acquisition, planning policy and guidelines and shoreline protection) for existing structures within the shoreline hazard.

There must be a way found to engage municipal governments, students and researchers in maintaining an involvement as years go by.

Regarding the International St. Lawrence River Board of Control
The International St. Lawrence River Board of Control's Communication Committee has been meeting via teleconference each month to plan and implement their communication strategy. The PIAG has already commented on that plan and the committee added and revised items in their plan as a consequence (Appendix D). Some highlights of the Communication Committee's work are summarized below.

The Control Board meets monthly to prepare a strategy for the following month based on current forecast information. They then communicate that strategy to their stakeholder groups through the

website. In the past, these communications were difficult for the layperson to understand. A major effort has been made to standardize these strategy statements and make them user friendly. This has been well received by the stakeholders.

The Communication Committee has also committed to a more personalized approach to their communications plan. Committee members have adopted an approach to investigate comments and complaints that appear to have substance. A member will call the person and explore the situation to get more information. This approach has led to better understanding and has raised the trust level with the stakeholders.

Stakeholders near the dam have an interest in knowing of the short-term changes in outflows and have asked for information on a timelier basis. The Communication Committee answered this request by posting the changes on their electronic list service.

The Communication Committee has continued the multi-city teleconference meetings twice per year, usually in March and September. Five cities are selected with at least two cities from each country participating. The meetings have not been well attended but they are starting to have a following of those most interested in the levels and flows. It is thought that these meetings will be better attended after the Study is completed and the process moves toward implementation.

The biggest issue for the Communication Committee is what will happen after the Study is completed. As it stands now, the Study is funding two full-time communications professionals. After the Study, communications will be returned to the Control Board, which only recently was able to get funding for a part time communications person. They are recruiting for this position now. It is then important for the PIAG to discuss and recommend what level of communications should exist during implementation of any new plan. The Control Board Communication Committee asked the PIAG to identify the tasks they feel are important to continue after the Study is completed. It will be important to have a good communication team and plan during implementation.

The Public Interest Advisory Group commented on the Board of Control's communication plan and appointed a member to be a liaison between the PIAG and the Board's Communication Committee. As mentioned above, the PIAG gathered names and addresses of people that wish to stay informed in the process and these will be provided to the Board. The PIAG received input from the public requesting a restructuring of the Board to better represent the various interests.

Regarding Future International Joint Commission Studies

The time dedicated to the Study by the PIAG membership was much more than initially expected. The e-mail traffic that PIAG members see can, at times, be overwhelming. PIAG recommendations for implementation of the Study Board's recommendations and for future International Joint Commission studies are included in this report. If the IJC asks volunteers to join a future study for a certain number of meetings per year, when this number of meetings changes as has happened in this Study, it is suggested that the Commission establish some sort of stipend to offset losses occurring to these same volunteers or make a donation to the participant's favorite charity.

PIAG members should be appointed on the basis of their expertise and ability to reach out to local interest groups and this appears to have worked well. It is very important for PIAG members to have networking capability as this promotes public participation. It is critical and fundamental that all stakeholder groups, including the First Nations, are treated in a respectful manner and included from the very beginning. Active and dedicated liaison officers will help maintain continuous communications between the Study and all impacted groups. Prospective members should be made aware of the need for comfort and proficiency in using email.

It is important to have a web site operational at the beginning of the study and make it easily accessible by all study participants including the communication team. A web site needs to be created to store and if possible maintain the information collected, such as metadata (data about data). This website should be easily accessible for all researchers around the Great Lakes.

When deciding on scientific research, care must be taken, as there is some tendency for scientists to focus on what they view as a topic of concern. A study must look at what IJC questions are asked before deciding on what science is needed. The study should drive the science.

Publication of the results of the research work should be encouraged and supported by the IJC and governments to the extent funding may be secured. If this was to be taken a step further, any resulting publications could be found on the International Joint Commission website. This would broaden the public awareness.

For transparency, all reports should be available as soon as possible even if only initially in the language of the person writing the report. All reports should be in their final format before the last payment is made to the author.

The turn out at some public meetings was very low, even though they were held in large cities. They will need to increase their efforts to get the word out; for example, make announcements on radio stations and local television stations, make follow-up telephone calls (this likely helps the most) to marina and riparian interests, and distribute ready-to-post announcements.

Recreational boating is a water-related issue and so are fishing and hunting on Lake St. Louis and Lake St. Pierre. Invite people who are experts in these areas to provide advice and ideas.

One observation from public meetings is that people may not understand the process we are describing at initial meetings, but their understanding evolves from year-to-year, as they go to additional public meetings. Conversely, those that attend later meetings do not always understand the process because they’ve missed earlier events.

Appendix A

International Lake Ontario-St. Lawrence River Study
Public Interest Advisory Group
Terms of Reference from the International Joint Commission

"The Public Interest Advisory Group is responsible for providing public involvement guidance, consultation and assistance to the International Lake Ontario - St. Lawrence River Study Board, and to periodically report to the International Joint Commission on its activities, findings and recommendations.

As part of this responsibility, the PIAG will:

- Provide a public liaison function to the Study Board through Public Interest Advisory Group co-chairs who serve as members of the Study Board;
- Advise the Study Board on the responsiveness of the Study process to public concerns;
- Advise the Study Board on public consultation, involvement and information exchange;
- Serve as a conduit for public input to the Study process, and for public dissemination of Study outcomes;
- Serve as liaison to and participate in the activities of Technical Work Groups as Public Interest Advisory Group members desire.

The Public Interest Advisory Group, in consultation with the Study Board, will work with grass-roots organizations and interests throughout the Study area and conduct public participation activities at strategic points in the Study to:

- Identify and utilize local expertise and information;
- Consult with the publics on critical or potentially controversial Study findings before these Study components have been finalized by the Study Board;
- Disseminate plain language information to enhance public understanding of the causes of problems related to fluctuating water levels and of the consequences of proposed solutions;
- Identify and consider priorities and preferences of the publics as alternatives are defined;
- Consult with the publics on Study Board findings, conclusions and recommendations prior to their adoption by the Study Board.

Public Interest Advisory Group meetings shall be held at different locations throughout the Study area to encourage public consultation and shall be announced in advance. Use of both French and English will be normal practice

for meetings held in the Canadian area of the Study. Opportunities for public observers to attend the meetings shall also be announced in advance, although the Public Interest Advisory Group may conduct its business in executive session, when necessary.

Public Interest Advisory Group members are encouraged to participate in the activities of the Study Committees/Teams.

The Public Interest Advisory Group shall consult with the Study Board, and the Study public affairs personnel to coordinate all public involvement activities under the study. Overall coordination shall be the responsibility of the Study Board. Coordination with the public outreach activities of the International St. Lawrence River Board of Control, the Cornwall and Massena Remedial Action Plans and the Lake-wide Management Plan is encouraged to avoid confusion and to better inform the publics.

The Public Interest Advisory Group shall meet approximately four times per year.

- Members will receive support for their travel to Public Interest Advisory Group meetings, but will not be compensated for their time.
- Secretariat support functions, such as distributing documents\agendas, organizing meetings and taking minutes will be provided to the Public Interest Advisory Group by Study public affairs personnel.
- PIAG members are selected by the International Joint Commission for renewable, 18- month appointments based in large part on the following considerations:

Ability to serve the greater public interest and work effectively in group settings that include diverse user groups.

- Knowledge of one or more user groups of the Lake Ontario-St. Lawrence River system and understanding of how they are impacted by levels and flows;
- Possession of an active network of contacts in Lake Ontario-St. Lawrence River system user groups and willingness to foster two-way communications between system users and the Study team;
- Availability to attend a minimum of four Public Interest Advisory Group meetings per year, read key Study documents and participate in other aspects of the Study process. (Alternate members may be designated to attend additional meetings on the member's behalf.) “

Appendix B

International Lake Ontario-St. Lawrence River Study
Public Interest Advisory Group
Public Interest Advisory Group Membership and Affiliations

PIAG Member	Affiliations
Dan Barletta Rochester, NY, U.S.	Member of Study Board Grandview Beach Association South Shore Advisory Committee Lake Ontario Levels Oversight
Larry Field Downsview, ON, Canada	Liaison to Coastal Processes TWG Toronto & Region Conservation Authority
Michel Gagné Montreal, QC, Canada	Liaison to Domestic, Industrial and Municipal Water Uses TWG
John Hall Burlington, ON, Canada	Liaison to Environmental TWG Liaison to Information Management TWG Hamilton Harbour Remedial Action Plan
Marc Hudon Chicoutimi, QC, Canada	Liaison to Environmental TWG Liaison to Coastal Processes TWG Liaison to Commercial Navigation TWG Union Québécoise pour la Conservation de la Nature (UQCN)
Elaine Kennedy St. Andrews, ON, Canada	Liaison to Environmental TWG Liaison to Hydrologic & Hydraulic TWG Cornwall and District Environment Committee St. Lawrence River Institute of Environmental Science.
Ivan Lantz Montreal, QC, Canada	Liaison to Commercial Navigation TWG Shipping Federation of Canada
Sandra Lawn Prescott, ON, Canada	Liaison to Environmental TWG Liaison to Recreational Boating TWG
Marcel Lussier Bossard, QC, Canada	Member of the Study Board Liaison to Hydroelectric Power TWG. Liaison to Domestic, Industrial and Municipal Water Uses TWG
Thomas H. McAuslin Oswego, NY, U.S.	Liaison to Commercial Navigation TWG Liaison to Recreation Boating TWG Port of Oswego

PIAG Member	Affiliations
Anthony McKenna Olcott, NY, U.S.	Liaison to Coastal Processes TWG New York Great Lakes Basin Advisory Council Executive Committee, Niagara USA Chamber of Commerce Board of Directors, Buffalo Niagara Partnership
Jon Montan Canton, NY, U.S.	Liaison to Recreation Boating TWG
Carol Simpson Massena, NY, U.S.	Liaison to Hydroelectric Power TWG Liaison to Hydrologic & Hydraulic TWG New York Power Authority
Henry S. Stewart Rochester, NY, U.S.	Liaison to Coastal Processes TWG Lake Ontario South Shore Council International Great Lakes Coalition South Shore Advisory Committee
Max K. Streibel Greece, NY	Liaison to Coastal Processes TWG Rochester Harbor Town Planning/Advisory Committee South Shore Collaborative
Paul A. Thiebeau, Jr. Clayton, NY	International Water Levels Coalition
Scott D. Tripoli Mannsville, NY	Liaison to Commercial Navigation TWG Liaison to Hydrologic & Hydraulic TWG Liaison to Plan Formulation and Evaluation TWG
Paul Webb Iroquois, ON, Canada	Liaison to Recreation Boating TWG International Water Levels Coalition
Stephanie Weiss Clayton, NY, U.S.	Liaison to Environmental TWG Save the River
Al Will Hamilton, ON, Canada	Liaison to Recreation Boating TWG Ontario Sailing Association

Appendix C

International Lake Ontario-St. Lawrence River Study
Public Interest Advisory Group
Outreach Meetings
April 1, 2004 – November 30, 2005

The Public Interest Advisory Group created a speakers bureau to ensure an effective two-way communication with the public. The Technical Work Groups and Study Board members also had opportunities to speak at meetings of interested groups. The table below lists the many meetings that have taken place between April 2004 and September 30, 2005, where Study activities were presented to the public, and where public concerns were heard. During the Summer 2005 final public meetings, the PIAG chaired and facilitated the public meetings while the Study Board gave the presentation. Overall, there have been over 139 presentations given to an audience of more than 5857.

Audience - Organization	Location	Date	Approx. # Attended
District 6 Power Squadron Spring Conference	Canandiagua, NY	April 3, 2004	200
Lockport Power Squadron	Lockport, NY	April 21, 2004	20
St. Lawrence Power Squadron	Waddington, NY	April 21, 2004	20
Dundas, Iroquois and Matilda & Morrisburg Ontario Natural Development Seaway Shoreline	Iroquois, NY	June 5, 2004	30
Lake Ontario LaMP Management Committee	Kingston, ON	June 9, 2004	20
Grandview Beach Association	Greece, NY	June 14, 2004	50
Great Lakes St. Lawrence Seaway Study – Environment Delivery Team	Burlington, ON	June 21, 2004	12
St. Lawrence Environmental County Management Council	Canton, NY	July 21, 2004	18
PIAG Public Meeting	Cornwall Island	August 12, 2004	16
PIAG Public Meeting	Jordan, ON	August 18, 2004	27
PIAG Public Meeting	Massena, NY	August 18, 2004	6
PIAG Public Meeting	Toronto, ON	August 19, 2004	7

PIAG Public Meeting	Alexandria Bay, NY	August 19, 2004	17
PIAG Public Meeting	Belleville, ON	September 1, 2004	15
PIAG Public Meeting	Henderson, NY	September 1, 2004	30
PIAG Public Meeting	Gananoque, ON	September 2, 2004	20
PIAG Public Meeting	Oswego, NY	September 2, 2004	30
PIAG Public Meeting	Cornwall, ON	September 15, 2004	10
PIAG Public Meeting	North Rose, NY	September 15, 2004	29
PIAG Public Meeting	Dorval, QC	September 16, 2004	30
PIAG Public Meeting	Greece, NY	September 16, 2004	90
PIAG Public Meeting	Trois-Rivières, QC	September 17, 2004	30
PIAG Public Meeting	Olcott, NY	September 17, 2004	42
Industry Community Awareness Panel	Cornwall, ON	October 5, 2004	7
Rochester Power Squadron	Rochester, NY	October 6, 2004	25
State of the Lakes Ecosystem Conference (SOLEC)	Toronto, ON	October 7, 2004	100
Syracuse Power Squadron	Syracuse, NY	October 7, 2004	35
New York State Department of Environmental Conservation	Watertown, NY	October 12, 2004	35
Zonta Club	Lockport, NY	October 19, 2004	20
Nature Conservancy	Rochester, NY	January 18-19, 2005	50
Williamstown Horticultural Society	Williamstown, ON	January 31, 2005	100
Save the River	Clayton, NY	February 9, 2005	50
Avonmore Women's Institute	Avonmore, ON	February 21, 2005	14
International Water Level Coalition	Brockville, ON	March 11, 2005	5

Burlington Lakeshore PROBUS Club	Burlington, ON	March 14, 2005	150
Grandview Beach Association	Greece, NY	March 28, 2005	50
New York State DEC	Syracuse, NY	March 29, 2005	20
Great Lakes Fisheries Commission	Niagara Falls, ON	March 30, 2005	85
Restoration Programs Division of Environment Canada	Burlington, ON	April 14, 2005	15
Beatty Beach Association	Greece, NY	April 18, 2005	40
Lake Ontario LaMP	Burlington, ON	April 18, 2005	15
New York State DEC/DOS	Albany, NY	April 21, 2005	20
Burlington Central PROBUS Club	Burlington, ON	April 21, 2005	130
Lockport Senior Citizens Group	Lockport, NY	April 22, 2005	15
Cornwall Township Historical Society	St. Andrews West, ON	April 27, 2005	20
Lake Ontario Coastal Initiative	Rochester, NY	May 6, 2005	80
Great Lakes Mayors	Quebec City, PQ	May 27, 2005	125
Provincial Parliament	Toronto, ON	May 31, 2005	10
Western New York Chapter of the American Meteorological Society	Buffalo, NY	June 2, 2005	12
Canadian Parliament	Ottawa, ON	June 2, 2005	30
IJC Biennial Conference	Kingston, ON	June 10, 2005	120
New York State Assembly/Senate	Albany, NY	June 15, 2005	20
Study Board Public Meeting	Massena, NY	June 22, 2005	60
Study Board Public Meeting	Jordan, ON	June 22, 2005	23
Study Board Public Meeting	Alexandria Bay, NY	June 23, 2005	146
Study Board Public Meeting	Toronto, ON	June 23, 2005	10

Study Board Public Meeting	Akwesasne	June 30, 2005	20
Tyendinaga Briefing	Tyendinaga	July 12, 2005	7
Study Board Public Meeting	Sackets Harbor, NY	July 13, 2005	59
Study Board Public Meeting	Belleville, ON	July 13, 2005	39
Study Board Public Meeting	Oswego, NY	July 14, 2005	29
Study Board Public Meeting	Gananoque, ON	July 14, 2005	76
Study Board Public Meeting	North Rose, NY	July 20, 2005	101
Study Board Public Meeting	Cornwall, ON	July 20, 2005	67
Study Board Public Meeting	Kahnawake Native Reserve	July 21, 2005	7
Study Board Public Meeting	Greece, NY	July 21, 2005	222
Study Board Public Meeting	Dorval, PQ	July 21, 2005	40
Study Board Public Meeting	Olcott, NY	July 28, 2005	94
Study Board Public Meeting	Sorel-Tracy, PQ	July 28, 2005	107
Greece Rotary Club	Greece, NY	August 3, 2005	100
Galop Canal Project Group	Iroquois, ON	August 17, 2005	6
International Water Levels Coalition Board of Directors	Alexandria Bay, NY	August 26, 2005	8
International Water Levels Coalition Water Levels Summit III	Clayton, NY	August 27, 2005	100
Great Lakes Commission Annual Meeting	Ann Arbor, MI	September 28, 2005	100
Grandview beach Association	Greece, NY	October 15, 2005	60
Kahnawake Briefing	Kahnawake Mohawk Territory	November 14, 2005	10

Appendix D

International Lake Ontario-St. Lawrence River Study
Public Interest Advisory Group
International St. Lawrence River Board of Control
Communications Strategy and Action Program
December 8, 2004

This plan will likely be modified based on lessons learned throughout the Study

This communication strategy and action program brings together major elements of the ISLRBC (International St. Lawrence River Board of Control) program for communicating Board actions regarding Lake Ontario and the St. Lawrence River, and it incorporates plans for future actions. This program will be updated from time to time to reflect interests of stakeholders and changes in strategies and actions. The approach taken is to define mission, purpose, and values for the program and then identify objectives, tactics, and actions.

Comments are welcomed and should be provided to the secretaries for the Canadian and U.S. sections: Reg Golding (GoldingR@DFO-MPO.GC.CA; 613-990-1408) and John Kangas (John.W.Kangas@usace.army.mil; 312-353-4333).

Mission

To communicate regularly, accurately, and effectively with users and stakeholders involved with the work of the ISLRBC.

Purpose

The purpose of this strategy and action program is to communicate about water conditions within the Lake Ontario-St. Lawrence River basin and their impacts, actions by the Board, and rationale for those actions; to understand issues and concerns of all stakeholders in reaching those decisions; and to do so in ways that are consistently understandable, positive, and helpful to all parties.

Values The values of the Board in pursuing effective communication will be:

- Openness and candor, responsiveness, and follow-through.
- Personal attention to fullest extent possible.
- Understanding of each stakeholder's interests to fullest extent possible.
- Continuous search for fullest information.
- Timely and comprehensive dissemination of information and responses to inquiries.
- Relating stakeholder interests to other stakeholders and to Board policies and actions.

Objectives The Objectives of the Board's communication plan are:

O1 To obtain knowledge of "on-the-ground" conditions and impacts and build it into the Board's information base.

O2 To know concerns and interests of all stakeholders and reflect them when Board decisions are considered and taken.

O3 To respond promptly and clearly to interests, concerns, and inquiries in ways that further understanding of conditions within the basin and impacts of Board actions.

O4 To provide information that will increase public understanding of issues related to water levels and flows.

O5 To communicate Board decisions and rationale clearly to all stakeholders.

O6 To facilitate communication among stakeholders to increase understanding consistent with watershed-wide contexts for Board decisions.

O7 To be an effective adjunct to the International Joint Commission.

Action Program

Tactics Major means to be used by the Board include:

- T1 Seek information about impacts of water levels and flows from organizations and individuals to expand the Board's knowledge base (including information from Regulation Representatives and staff, Operations Advisory Group, other organized entities, and public consultations).
- T2` Incorporate information from all affected interests into the Board's work and develop mechanisms to obtain such information on a regular basis.
- T3 Communicate accurately to reflect the context and content of decisions and their implications for stakeholders.
- T4 Communicate at high technical and professional standards and be understandable in the vernacular of stakeholders.
- T5 Establish and sustain open venues for communication, including public meetings, tele-conferences, and electronic and other media.
- T6 Convene discussions and meetings with stakeholder groups.

Actions The Board will continue and improve the following actions:

- A1 Refine the multi-city teleconferences, and widen interest and participation across the basin.
- A2 Refine public meetings, and widen interest and participation across the basin.
- A3 Expand meetings and discussions with stakeholders throughout the basin.
- A4 Distribute letters, e-mails, and responses to Board Members, associated technical staff, and stakeholders as appropriate.
- A5 Develop working rapport with media outlets throughout the basin to disseminate water conditions to the public.
- A6 Provide media releases in clear language following Board regulation decisions, together with the rationale for the decisions and their expected impacts.
- A7 Present information in Semi-Annual Progress Reports to the IJC in ways useful to the public.
- A8 Gather more information from stakeholders about their concerns and respond to the concerns.
- A9 Evaluate the FAQs (Frequently Asked Questions) on the web site on a periodic basis, and expand and revise them as needed.
- A10 Continue the joint IJC-ISLRBC Communications Committee.
- A11 Promote the Board's 800 numbers in both countries: in US, 1-800-833-6390; in Canada, 1-800-215-8794 (English) and 1-800-215-9173 (French).
- A12 Assess effectiveness of communication strategies and actions and revise them as necessary.
- A13 Work with the Lake Ontario - St. Lawrence River Study Board and its PIAG (Public Interest Advisory Group) to assist transition from Study and PIAG activities to actions by the IJC and ISLRBC, such as PIAG members briefing the Communications Committee and participating during the transition in meetings of the Committee.
- A14 Continue to advocate for dedicated staff expertise for Board communications.

Future Actions

- FA1 Revise "A Compendium on Critical Water Level Elevations in the Lake Ontario-St. Lawrence River System" (prepared by the International St. Lawrence River Working Committee, December 31, 1994) to include relevant results from the International Lake Ontario-St. Lawrence River Study, expand it to enumerate local impacts and concerns to the nearest relevant water level gauge(s), and make it readily available to the public.
- FA2 Develop further and sustain a state-of-the-art Board web site at www.islrbc.org.
- FA3 Develop and update the slide presentation of "How the System Works" for use at public meetings and for posting on the web site.
- FA4 Support development of user-friendly simulation and self-learning systems for Lake and River levels and for impacts of different management options.
- FA5 Supplement and revise this strategy and action program to reflect knowledge, findings, and recommendations established from the International Lake Ontario-St. Lawrence River Study.
- FA6 Develop more contacts within the Lake Ontario-St. Lawrence River Basin to facilitate communication between the ISLRBC and the public.

Appendix E

International Lake Ontario-St. Lawrence River Study
Public Interest Advisory Group
Thoughts regarding the International Lake Ontario- St. Lawrence River Study

Dan Barletta

- Existing users need consideration if adopted plan changes things for the worst. These existing users were here prior to project being built in 1950's. They were guaranteed protection in revised Orders of Approval. The south shore was to be protected in compensation for hydro benefits given to river area to develop industrial base.
- The products of this Study, i.e., are hypothetical. There is no guarantee that the computer programs as written will provide the expected results without unforeseen damages to one or more interests.
- If the IJC asks volunteers to join for a certain number of meetings per year, when this number of meetings changes as has happened in the Lake Ontario – St. Lawrence River Study. I suggest they establish some sort of stipend to offset losses occurring to these same volunteers. If they cannot do that, possibly a donation to the PIAG member's favorite charity in their honor would be acceptable.

John Hall

I think that additional value to the "public" can be derived from the volume of work and the consultation carried out in this Study. Here are my recommendations;

- A web site needs to be created to store and if possible maintain the information collected. I understand the IJC is creating a web-based site to hold monitoring metadata. This Study could be part of that metadata exercise.
- It would be useful to see some papers published from the research work that has been completed. Again, this should be encouraged and supported by the IJC and governments to the extent funding may be secured. If this was to be taken a step further, any publications resulting could be referenced on the IJC website in order to broaden the public awareness. Publication would also ensure another form of peer review of the science.
- In the category of lessons learned:
    - People living along Lake Ontario and St. Lawrence need to be educated with respect to the basic hydrology of the Great Lake System. Some education program needs to be established or misconceptions will continue to persist.
    - A review of shoreline riparian policy needs to be undertaken. The scope of this policy review needs to be defined but should include: environmental policy, coastal development policy (housing set backs elevations etc), marina development and maintenance. The review should first gather together what policies already exist at the various levels of government and include a sections on lessons learned from our TWG studies. e.g., PIAG members have learned basic things about erosion and flooding and these should help guide future government policy.

- In the area of adaptive management, some group needs to be charged with this responsibility, perhaps the next Board of Control with input from our Plan Formulation and Evaluation Group.

Larry Field
The shoreline riparian policy section should also include approaches to developing a shoreline management (public safety, public use, and natural heritage) strategy for certain reaches of the shoreline utilizing the data and information gathered by the TWG's. This review would also help define options (i.e., acquisition, planning policy and guidelines and shoreline protection) for existing structures within the shoreline hazard.

Sandra Lawn
I think there should also be a way of engaging municipal governments, students and researchers in maintaining an interest and involvement as years go by.

Max Streibel
Results of this Study, in terms of acceptable plans, slight riparian interests living in areas susceptible to erosion. While certain other interests benefited from less than conclusive evidence in support of their positions, Coastal, in my opinion, was supported by scientific evidence. It came increasing clear as we entered the final months of the study; environmental interests were being supported by Study Board Members without conclusive evidence. Attitudes of certain Study Board Members suggested that Riparians should be relocated if their property is in or near existing flood plains. Riparians are major taxpayers to their communities. Riparians have also spent thousands of dollars to reinforce their property from high water and storm related damage. The heights of their break walls were not determined by them, but rather the government, which established guidelines for these structures. Since it is possible to reduce accelerated erosion based on scientific recommendations, failure to do this in favor of unproven environmental science is a slap in the face to those living along the shore of Lake Ontario and therefore unacceptable.

Jon Montan
Regarding suggestions for future studies (which I define as something less than the big study in which we are currently involved), I think that a few things should be done after the plan is implemented:

1. The Monthly Water Levels Bulletin should be continued on the USACE website. The curve for the selected plan should be superimposed on the graph in addition to historic and actual current (and projected) levels.
2. As was stated in some of the public sessions, there should be opportunities for evaluation at some intervals during the life of the new plan. Such evaluation does not mean another full-blown study, just a chance to see if small adjustments can be made or mitigation proposed/developed.
3. It would be interesting to try and measure economic and environmental benefits and losses and compare actual experience with the estimates used in evaluating the plans. In

other words, was the research as good as it reasonably could have been? The benefit would be to come up with better research tools in the future.

Marc Hudon

1. The St-Lawrence River receives the outflows of the Great Lakes. It should get a specific recognition to that effect on the Part of the IJC. It remains difficult still to get the term "St-Lawrence River" or the name of non-government organizations like "ZIP committees" identified on taskings the IJC does regarding the St. Lawrence River and in particular on the Great Lakes.
2. Being located geographically so far away from the Great Lakes should not prevent us in Québec from being well informed in French at regular interval on whatever business the IJC does regarding the St-Lawrence River and in particular on the Great Lakes.
3. The IJC should be much more pro-active in Québec than it has historically been. Holding meetings in Dorval has been a good way to reach people in that part of the river, but the IJC should make efforts to cover adequately more of the territory affected by it's decisions and actions on the Great Lakes waters since they could impact right down to Lake St-Pierre near Trois-Rivières.
4. The IJC should go further east or downstream where cities, towns, villages in Quebec depend directly on the wellbeing of the water quality and quantity of the St. Lawrence River coming largely from Lake Ontario (Lac Saint-Pierre is the largest spawning and fish nursery of the entire St. Lawrence).
5. Doing so would help towns like Longueuil, Brossard, Repentigny, Contrecoeur, Varenne, Sorel, Trois-Rivières and their activity sectors like industrial, agricultural, university, navigation, pleasure boating, sport and commercial fishing, etc., get a better understanding of the Great Lakes/St. Lawrence River system and likely get interested and involved more on what the IJC does like other communities do from time to time on Lake Ontario.
6. The IJC should modernize its approach towards public participation in what it does, I have to say that this 5-year study has been a true step in that direction. Appointing civil society people from various parts of the system on every IJC tasking is something the IJC should look at, invest in "networking" with the non-government organizations active throughout the basin is another avenue to share information, help in understanding/solving problems, etc. First Nations must be integrated in these efforts.
7. At the last Great Lakes/St. Lawrence Mayors' conference in Quebec City in May I believe, the mayor of Quebec city ask that the city be considered in the work of the IJC because he said Quebec city was impacted by the Great Lakes water quantity… I am mentioning this as an example of how the cities are looking at the IJC for collaboration. Even if the reach of the impacts are far and away from the "usual reach", the IJC should look at such a request and find concrete ways to respond to it.
8. Universities in Montreal, Trois-Rivières and Quebec city would love to be more involved with the work related to the IJC, much stronger bonds should be created and develop to align priorities and research and exchange data, etc.

John Hall

Let me begin by stating that it has been a privilege to be involved in this Study. I think that the science and Shared Vision Model are top notch and the process followed to integrate the various interests through use of the Task Groups, Plan Formulation Advisory Group, Public Interest Advisory Group and Public Consultation has allowed for a thorough vetting and interaction of all interests. Here are my comments with Larry Field's input.

1. What I heard from the Public:

I attended four meetings, Jordon, Toronto, Bellville and Gananoque. Larry attended Toronto, Belleville, and Gananoque.

Shoreline owners who are susceptible to erosion are very concerned that water levels are not increased resulting in potential for increased erosion from wave attack. This issue seemed to create much debate in Jordan with the comment that all Candidate Plans resulted in higher lake levels especially during the storm season of late winter and early spring. These concerns are understandable and legitimate, but should be kept in context. Much of the Toronto / Hamilton shoreline does not experience problems with erosion and major wave attack as a result of past planning by the Province of Ontario, municipalities and Conservation Authorities. This major initiative was the result of the 1973 high lake levels and the associated shoreline damages which triggered the federal Flood Damage Reduction Program. As property values increase, erosion protection becomes more sophisticated (because people can't afford not to spend significant amounts on their property) and combined with comprehensive waterfront planning, more recent shoreline protection is often more sensitive to the local environment and the public objectives for access and aquatic/terrestrial habitat. I will say more about this in my suggestions for Lessons Learned.

I didn't hear *boaters at the western end of Lake Ontario* raise major concerns about water levels (but I stand to be corrected). This may be a result of the fact that many of the larger marinas are constructed in deeper water offline from creek mouths. In Hamilton Harbour, for example, only one marina area would be affected by low water levels. Plans for new marinas take into account the potential for extreme lows. Providing sufficient depth for new marinas also avoids the problem of nuisance aquatic weed growth in channels and slips. Again, to put the boating issue in context, most water level problems will occur in shallow embayments and creek mouths. These are also areas where sediment may accumulate in the near-shore zone requiring ongoing dredging and aquatic plants may interfere with boat traffic. I will say more about this in my comments on Tradeoffs and Mitigation.

Additionally, some of the current problems are the result of older facilities designed for a fleet mix and size of boat, say 20 years ago, and cannot accommodate today's size of boats.

I did note that *boaters particularly in eastern Lake Ontario* prefer higher water levels in the fall of the year to extend the boating season. We heard from boaters concerned when lake levels dropped

prematurely in August, below average levels, due to extreme dry conditions and decisions to alter outflows in early June.

Persons speaking for the environment spoke principally about the importance of wetlands and to a lesser extent, maintaining natural processes. Some expressed the opinion that the environment should have special status above other interests and not be given the status of just another interest to be balanced. Some environmentalists spoke about the need to use the pre-project or Plan E as the basis for comparison since it was based on "nature's" plan and not a managed system. In Gananoque, the public talked about the importance of the environment in the upper St. Lawrence to communities, tourism, cottagers and recreational users. I will speak to this in my section on Lessons Learned.

Some members of the *public questioned the economic value of gains and losses* with respect to the total value of the interest affected. In other words, a gain of $4 million for hydro is what percentage of the total value of the hydro production being affected. Similarly, what percentage of the total value are the losses for erosion on Lake Ontario given as $300 thousand and $660 thousand for Plans A and B respectively. I will say more about this in my section on Tradeoffs and Mitigation.

2. Tradeoffs and Mitigation:

Issues involving tradeoffs, in simple terms, revolve around extreme low and high water levels and their frequency on Lake Ontario and the St. Lawrence. This highlights the complexity of the system and the different interests – Lake Ontario, Upper River and Lower River.

I think it is fair to suggest that increasing the potential to increase flooding in Montreal or Greece, NY as compared to Plan 1958D with Deviations will be hard to accept and even more difficult to implement in practice. This does not mean that we should continue to allow flood susceptible development, in fact, we should work to reduce this in future planning. We should also set out recommendations that address current vulnerable areas (e.g. Greece) to storm damage during higher lake levels and minimize future damages. I realize the benefits to the Natural Environment, particularly wetlands, from periods of high water levels, but until we reach a point where development is not so susceptible to flooding and coastal processes, and to a lesser extent erosion, it will be very hard to implement. This, however, is a long-term goal that we should not lose sight of. I will say more about this in my sections on Preferred Plan and Lessons Learned.

I suggest that low water levels on Lake Ontario represent an inconvenience rather than a threat as is the case with high water levels. The practice of allowing periodic low levels necessary to regenerate marshlands, beaches and dunes represents a significant benefit to this interest. Shoreline owners, hydropower, shipping and water intakes can cope with lower levels. Recreational Boating will be inconvenienced. Where circumstances exist for a real threat to livelihood, mitigation may be required. It may be an oversimplification to suggest that the marinas at peril during low water level years are those located in shallow embayments and creek mouths. These are locations where ongoing dredging is often required because they are depositional areas. Assistance to dredge or relocate would help to offset the impact of low water levels. This is not without precedence, as a program of government supported dredging was provided for marinas on the Great Lakes in Canada, during previous low water levels. There were also guidelines through Federal Fisheries

and Oceans that facilitated emergency dredging through a fast tracked regulatory approval process. I will say more about this in my section on Preferred Plan.

When evaluating the benefits and losses of the various plans, I think it is important that some context be provided around the economic gains and losses. If Plan B, for example, improves the environmental condition by 43%, as stated in public summary documents, then what percentage is the gain or loss in economic terms for the other interests. If the economic gains or losses are very small percentages of the whole, then I for one have a hard time attaching the significance to them that they appear to have, when simple dollar values are shown side by side.

3. Preferred Plan:

I think the plans provided for comparison and reference are very useful and I agree with the decision to show the plans in the way the Study Board did.

In the end, the International Joint Commission will have to reconcile interests and plans, so here are my thoughts on the selection/preparation of a preferred plan.

I suggest that Plan B form the basis for the preferred plan. However, the infrequent high water levels resulting in flooding of Montreal should be diminished to the extent possible. Public pressure to prevent the threat to life and property would result in deviations from the preferred plan. I hope that the timing of the spring peak for the Ottawa River would be allowed to be handled through a normal deviation to the preferred plan in order to reduce the potential for flooding of Montreal, as required, in any particular year. In the case of Greece it appears that Plan B provides a similar condition to that which presently exists under Plan 1958D with Deviations. While, Plan B does increase the average lake level during the storm damage period of winter and early spring, it should be remembered that this is significantly better than the natural condition that existed before the Moses Saunders Dam was constructed and water level regulation practiced.

The losses to recreational boating may be mitigated by defining the low water level conditions when mitigation would be appropriate and identifying dredging and/or relocation programs that the governments could implement or facilitate. It should also be noted that boaters, particularly in eastern Lake Ontario, may place a higher value than the Study Board, on higher fall water levels as provided in Plan B.

As stated in my section on Tradeoffs and Mitigation the gains and losses to different interests as compared to the whole value of the particular interest may be minimal when compared to the gains for the Environment expected from Plan B. Just as a note, public comments at Gananoque indicated perhaps a much higher and broader interest benefit than the environmental performance indicator ratios presented to the public.

4. Lessons Learned:

a) Public Knowledge and Perceptions about Natural Processes

People don't understand the hydrology of the Great Lakes. As a member of PIAG, I learned plenty of new stuff about the Great Lakes and I am a graduate in geography with over 25 years of practice in watershed planning. Larry has also learned a lot about the system and its complexity, and brings 22 years of watershed and waterfront planning experience. It is hard to relate to the basic understandings and misunderstandings the public have. There is a basic lack of understanding about the relationship of water flowing into and through the system. I recall some basic questions. "How does Niagara Falls and the hydro generation affect flows in Lake Ontario? What impact will urbanization have on flows through the system? How could diversions out of the system, water taking, and expansion or alteration of the St. Lawrence Seaway affect the flow of water?"

The operation of the Moses Saunders Dam is not understood by people on Lake Ontario. "How can a dam not increase water levels? How much control over water levels can the dam exert? We have a dam, why can't we just keep the water level in Lake Ontario stable? What is the Iroquois Dam's function?"

Coastal processes and shoreline erosion is poorly understood. "I built a seawall and the water level keeps getting deeper in front of my property. Who keeps raising the water level?" "Why if water levels have been stabilized under regulation is my beach gone?"

I think the International Joint Commission (IJC) in partnership with the Federal, Provincial, Regional/local municipalities, Conservation Authorities and the appropriate government/agency levels on the U.S. side need to establish an education program to create a basic understanding of some key natural processes that are germane to the Great Lakes. This could also include information on shoreline management practices and what to do and who to talk to for advice/permits etc., if you are working or proposing works along the shoreline. Course curriculum (if it does not already exist) in public schools based on the Great Lakes would be one placed to start. There is also a need to educate the public with respect to specific issues that will arise once a "preferred plan" is selected. How will the plan differ from past practice, what monitoring is being done and how do people have input into the ongoing operation of the "water level board"?

b) Establishment of Consistent Policy for Shoreline Development

The challenges placed before a regulation plan relate to human activities and locations where development has occurred. During the past forty years, people have become used to a particular water level and flow regime. If there is an intention to move closer to a natural pre-project regime, then human activities need to anticipate this. It must be recognized that this is a huge system and it will claim the area required whether we like it or not. Therefore a standard needs to be established for future planning and to ensure the IJC maintains flexibility and isn't constrained by standards based on today's plan. I suggest that the standard that should be considered for use is the Pre-project or Plan E water level and flow regime. The Province of Ontario has developed a "Provincial Policy Statement" governing natural hazards (shoreline erosion, flooding) and natural heritage (coastal wetlands). All planning policies and zoning at the municipality level "shall be consistent

with" the Provincial Policy Statement. Conservation Authorities in Ontario through Ontario Regulation 97/04 are developing new regulations and schedules which "shall prohibit development in or on (a) hazardous lands, (b) wetlands (ie coastal wetlands) and (c) areas adjacent to Great Lakes- St. Lawrence River System (100 year flood level plus allowance in metres for wave up-rush and erosion limit and dynamic beach. This 100-year lake level should be taken from Plan E. Note that this Plan E level is probably higher than the levels currently being used in regulating shorelines. In summary, the Provincial Policy provides the framework for local/regional land use planning policies and zoning and the provisions for Conservation Authorities to pass regulations as one of the legislative implementation tools.

Shoreline management policies throughout the Lake Ontario and St. Lawrence River should be examined and policies developed that account for flooding, erosion and deposition. A model and starting point for this exercise may be the Province of Ontario "Provincial Policy Statement" and shoreline management guidelines. For example, the Toronto and Region Conservation Authority, based on a recommendation by The Royal Commission on the Future of the Toronto Waterfront (Hon. David Crombie), in the early 90's undertook an Integrated Shoreline Management Plan incorporating public safety, public use and natural heritage objectives. With the above model and the comprehensive data and analysis the Study Board has undertaken, the basis for integrated shoreline management policies is in place to complement the "preferred plan". Only with such policy in place, based on Plan E water levels and flows, will it be possible to move towards more natural conditions. The alternative is to keep using the constrained water levels and flows provided under each successive regulation plan and continue the practice of trying to resolve ever-competing interests. The IJC in my opinion should be the catalyst for this government policy initiative.

On the issue of government initiated programs to address shoreline hazards and protection, there are precedents with the Flood Damage Reduction Program after the 1973 high lake levels and subsequent Provincial/Municipal/Conservation Authority and private land transfers to facilitate public initiated and owned shoreline protection works e.g. Toronto waterfront and Scarborough Bluffs. This work would have to be undertaken with the context of a shoreline management plan and policies for specific sections of shoreline.

c) Monitoring and Adaptive Management

A monitoring plan is essential to provide feedback on the ability of the preferred plan to achieve its goals. The monitoring plan should be defined by the IJC and led by the senior levels of government. It may involve local organizations, universities and institutions. Similar to the Study, a limited number of indicators need to be identified in order to provide the critical information necessary to evaluate the plan's performance. It may be appropriate to formally report on the plan's performance every 5 to 10 years. The monitoring plan should also provide yearly reporting on the operating procedures, climate forecasting and operational adjustments required.

Through the Board of Control, adaptive management has been exercised throughout the operation of Plan 1958D. Similarly, some continued adaptive management is expected to be required. Now, there is the possibility of utilizing monitoring in a feed back loop that provides guidance to the Board of Control in exercising its expert judgment. I suggest the IJC should consider setting up such a system.

d) Dissemination of Study Data and Results

The added value of this $20 million Study is the data and research that has been pulled together. It is one of very few modern studies that has made extensive use of GIS and meta data systems for filing and linking information. The IJC needs to look at how this data base and meta base system can continue to be utilized by groups such as the Lake Ontario LaMP, Federal and Provincial/State agencies. Database updates and protocol are critical to the monitoring plan and reporting on the "plan's" performance. My fear is it may be archived or abandoned when the Study ends.

5. Summary of Comments

In summary, we are all working towards a new plan that assists us in living in better harmony with the Lake Ontario-St. Lawrence system and environment.
There is no surprise that issues revolve around Coastal, Recreational Boating and Environmental Interests. Coastal and Boating prefer stable water levels in a middle range, while Environmental prefer slightly higher winter levels augmented by infrequent more extreme lows and highs.

When considering the significance of the various interests, I suggest that it is important to put the various gains and losses in context. The percent gain or loss measured against the whole of the interest's value would assist in this regard.

I recommend that Plan B be considered as the basis on which to carryout further modifications. Plan B provides for significant, 43%, increase in environmental benefits while, I expect, by comparison results in very little percent increase in gains or losses to the various other interests. Changes to Plan B would include resolving the management of the spring freshet from the Ottawa River by allowing the Board of Control to temporarily reduce flows at the Moses Saunders Dam.

The IJC needs to take a leadership role in educating people about the Great Lakes Hydrology, the new Plan and related issues.

The Great Lakes and St. Lawrence is a huge system and will claim, from time to time, the land it requires with consequential flooding and erosion and property damage. The IJC should be a catalyst in securing the development of government policy for shoreline management. This policy should also deal with existing shoreline management issues around the Lake and down the St. Lawrence with protection guidelines (may include remediation works, acquisition, and funding partnerships, special planning policies to recognize hazard and allow some modest improvements where appropriate etc.). This policy should use pre-project flows, Plan E, as its basis and should account for flooding, erosion and deposition. Coastal wetlands, beaches and dunes should be addressed along with other land uses. There exists a model in Ontario through the regulation approach including detailed guidelines as an implementation tool to complement the shoreline management plan. The extensive data and shoreline mapping/analysis the coastal group has undertaken would provide the basis for the shoreline management plan and regulation schedules.

A monitoring program should be defined by the IJC and led by senior levels of government. It should be tied into adaptive management as part of a system to provide feedback to determine if the goals of the preferred plan are being accomplished through the "plan's" implementation.

The IJC needs to determine how the GIS and meta data system developed for the Study can continue to be utilized for its own purposes (ie performance reporting) as well as other interests e.g. Lake Ontario LaMP, Conservation Authorities, U.S. Army Corps, Federal and Provincial/State agencies.

In conclusion, in addition to the selection of a preferred plan, if the full value of the Study is to be realized, the IJC needs to be the catalyst for education, shoreline management, monitoring and adaptive management.

Tony McKenna

I have thoroughly enjoyed working with the study board and the PIAG the last 5 years. In my work life as the leader of a firm that does a lot of planning work with communities around our region, I can say that this very unique study has been and still is professionally invigorating.

My commentary is centered on both the report and the PIAG commentaries including the lessons learned section very thoughtfully put together by John Hall. My first comment is that all the proposed plans put more water on Lake Ontario and they do so at times that create potential erosion problems along the coastline in the area that I represent. As all know the erosion problems of the past, rightly or wrongly, have lead to widespread distrust for the agencies responsible for operating the system. I ask that the IJC consider one of two options for the proposed plans-either rework the plans such that they provide for water levels no greater than 1958DD or allow for deviations on the plans to reach the same effect. My reasoning is based on the view that damages caused by the current proposed plans will be born by a small group of riparians and a few communities. I think most if not all riparians care deeply about the environment and would support efforts to gain the benefits we on the study are seeking. However, asking those riparians who would suffer the damages to foot the bill for those environmental improvements is wrong. Another alternative would be for the two governments to provide a system to compensate those damaged such that the environmental benefits received are paid for by all who benefit.

My second comment concerns the use of any context that relies on the term "pre-project". The "project" has been constructed and has been in operation for 50 years. I think we on the study board and PIAG need to get some much needed perspective on this issue. No one in the public I speak with can relate to a pre-project environment. The IJC is tasked with whether to change the way we operate the system presently and will need to be accountable to the public for its operation in the future. I don't believe we should put forth an argument that "its still better than pre-project" or formulate any regulations that rely on that premise as its basis. The project is not going away and any change that is made to the existing operation will be compared to1958DD, a plan seen as successful. We need to have a plan that is accepted as better than 1958DD for all interests. That can be accomplished if we get the considerable benefits of lower water regimes and mitigate the damages of high water regimes through alterations to the proposed plans or by allowing deviations.