SIXTH PROGRESS REPORT
to the
INTERNATIONAL JOINT COMMISSION
by the
INTERNATIONAL LAKE ONTARIO – ST. LAWRENCE RIVER STUDY BOARD

Covering the period
14 March 2003 through 25 September 2003

25 September 2003
Ottawa, Ontario
Buffalo, New York

_Top: Eroded bluff protected with an armor stone revetment on Lake Ontario; Wayne County, N.Y.
Bottom: Field work for the Coastal TWG; Sandbanks Provincial Park, Ontario.
(Photographs courtesy: W. F. Baird and Associates)

INTERNATIONAL LAKE ONTARIO-ST. LAWRENCE RIVER STUDY BOARD

Ottawa, Ontario
Buffalo, New York
25 September 2003

International Joint Commission
Ottawa, Ontario
Washington, D.C.

Commissioners:

The International Lake Ontario-St. Lawrence River Study Board submits herein its sixth Semi-annual Progress Report, covering activities from 14 March 2003 to 25 September 2003.

1. SUMMARY

During this reporting period, the Board continued to focus on activities designed to accelerate the momentum towards development of concrete options responding to our five-year mandate. The last two years of this study will concentrate heavily on the development of criteria and regulation plans with decision support methodologies. The Board is confident that this is being achieved, in terms of the planned overall schedule as well as the results of the studies and progress in formulating the necessary tools.

In that respect, with regards to the ongoing studies, emphasis was put on ensuring that data collection and results be concluded within Year-3 even if some minimal work remains to be done in Year-4. In parallel, work on plan formulation and evaluation is progressing intensively to ensure that the results of the studies undertaken can be readily incorporated. The Plan Formulation and Evaluation Group (PFEG) worked with the Study Board and other Study Team members preparing for that challenge, as will be discussed later in this report.

In the reporting period, the Study Board held a meeting in Greece N.Y. on 28 and 29 May 2003; a second meeting in Buffalo N.Y. on 28 August 2003; and lastly in Montreal, Quebec on 24 and 25 September 2003. Also the Board held a conference call on 8 July 2003. Study Board attendance at these meetings is provided in Attachment 1.

The Board also spent significant time and effort on developing Criteria, the Performance Indicators, and the Guiding Principles. A document titled Vision, Goals and Principles was developed with participation of the PIAG and TWG members (Attachment 2).

Finally, the Board gave special attention to the challenge of economics and how economic metrics may be taken into account where possible.

The main focus of the meetings both in Greece in May and in Buffalo in August was to review and discuss the existing and draft proposals for new Criteria, Performance Indicators (PI), and Guiding Principles. As well, the Board's Economic Advisory Committee was charged with developing Economic Standards and Guidelines to help determine how economic metrics could be accounted for in the evaluation of options and alternative regulation plans. At the meeting in September in Montreal a full day was dedicated to discussions on Criteria and Performance Indicators and on engagement of the Board in evaluating and selecting alternative regulation plan options.

Major preoccupations of the Board during this period were the acceleration of commitments and engagements to complete the "Study Phase" of the mandate; the progress towards developing the basis for proposed Criteria and PIs; and the intensified public consultations. The Board also published the 5th and 6th newsletters "The Ripple Effect" in July and September, respectively.

Other main accomplishments were:

- Award of contracts and Memoranda of Understanding to finalize studies and collection of technical data in support of the Study;
- Workshops to establish procedures for evaluating alternative plans;
- Liaison with and award of contract to the St. Regis Mohawk Tribe for the conduct of Akwesasne Marsh study;
- Visit of the Water Uses TWG to the Akwesasne water filtration and purification station.
- Tour of the lower St. Lawrence (Montreal vicinity) by Study Team and Commission representatives;
- Refinement of the Study Critical Path Chart and coordination with TWGs to ensure timely progress to the conclusion of the mandate;
- Development of Policy for Public Requests for Information;
- Development of draft Economic Guidelines for application by Study Teams;
- Engagement of the International Water Levels Coalition resulting in a Coalition member appointment to the PIAG;
- PIAG and Study representatives meeting with the members of the Mohawk Territory of Kahnawake;

- Recognition letters sent to Study participants;
- Development of Study Vision, Goals, and Guiding Principles;
- Study participation at the Commission's Biennial Lake Levels Workshop;

The Public Interest Advisory Group (PIAG) was very active during the period. The group held public meetings at strategically selected locations across the system in Canada and the U.S. as discussed under Section 3 below.

2. BOARD ACTIVITIES

The Board discussed the progress and plans for the development of Performance Indicators and Criteria at the Board meeting held in Greece N.Y. last May. A number of public relations issues were addressed. It was decided that the Board would implement a modest award initiative and send letters to Study participants in recognition of their valued support. Letters were sent in July to past and present participants thanking them for their efforts and support. The Board also provided the Commission recommendation for sending letters to agencies of participants; feedback from individuals recognized in these agency-letters has been very positive. The Board also prepared plaques to be presented when appropriate to past Study participants. Finally, the Board acquired and distributed mementos consisting of pens given mainly to Study participants and supporters and water bottles given to the public.

The Board has been aware of the need to be open to the public and provide information on all Study activities. Cognizant of the need to be open and consistent, last May the Board developed and approved a document outlining the Policy for Public Request for Information; the policy was coordinated with Commission staff and is based on transparency, openness, and willingness to make all information available to the public.

A number of initiatives were taken to recognize the special needs of and to take into account potential impacts on First Nations. As part of the need to assess the potential environmental impacts of water-level fluctuations, a contract was let out last summer to the St. Regis Mohawk Tribe for the conduct of Akwesasne Marsh study. Because of the late season, the data collection work will carry over to next summer. Through our continued work to cover all areas that may potentially be impacted, an Akwesasne water treatment plant was identified and visited by the Water Uses TWG and the consultant from Ecole Polytechnique in Montreal. The collected data is being incorporated in the analysis of potential impact relating to Municipal and Industrial water uses. This fall, Board representatives met with representatives of Mohawks Territory of St. Regis and Kahnawake; we also contributed to the IJC Biennial meeting workshop on Great Lakes water levels.

In September, the Board held a workshop with the Plan Formulation and Evaluation Group to address issues for the development of alternative regulation

plans. As well, at the September meeting in Montreal, the Board was briefed by the TWGs on critical timelines for the delivery of Performance Indicators and other study result and impacts on budgets. The Board did a mid-year budget prioritization and revisions to cover the period up to the end of March 2004.

3. PUBLIC INTEREST ADVISORY GROUP (PIAG) ACTIVITIES

The reporting period saw the PIAG continue to develop under the leadership of Marcel Lussier and Dan Barletta. Elaine Kennedy filled in briefly for Marcel Lussier while he took sabbatical leave during part of the summer. A new U.S. member, Paul Thiebeau, from the Clayton N.Y. area on the St. Lawrence River, joined the PIAG.

The PIAG communication plan for year three was completed by September 2003. The communication plan for years 4 & 5 was developed and accepted at the Buffalo Study Board meeting in August. PIAG held public meetings at Niagara-on-the-Lake, (Ont.): Wilson, NY; Greece, NY; Cornwall, Ont.; Sodus Point, NY; Kahnawake, and Dorval, Quebec. PIAG participated at the Great Lakes Mayor Conference in St. Catharines, Ontario. A presentation was made at the Native American Fish and Wildlife Society held at Akwesasne, NY. The video storyboard was debated at the meeting in March and a decision was made in May to not proceed with further development because of the finite timeliness of the video.

Two quarterly editions of the PIAG newsletter, Ripple Effects, were mailed out or sent electronically and the fourth edition is in progress. A give-away item (LOSL Magnet) for meeting attendees was finalized and distributed at PIAG meetings.

The PIAG power-point presentation used at public meetings was revised to incorporate new information about the Study. Future revisions will be made to keep it current with new study information and also to make it more understandable to the public.

4. TECHNICAL WORK GROUP (TWG) ACTIVITIES

4.1 Coastal Processes TWG

The Coastal Processes TWG held meetings on 28 April in Buffalo, N. Y. and 17 September in Burlington, Ontario to review study progress and discuss future work activities. In addition, a conference call was held on 19 June. At the Study Board's May meeting, the consultants made detailed technical presentations, which provided an opportunity for the Board to learn more about the technical aspects of the study. Lastly, technical consultants and members of the TWG met with the PFEG representatives on 13 August in Oakville, Ontario to discuss study output and integration of study results into the Shared Vision Model.

Lake Ontario and the Upper St. Lawrence River

There are several key ongoing data collection tasks associated with the economic assessment of costs and benefits of water level regulation. The development of a detailed property parcel database is one of these tasks and significant progress has been made recently. Digital parcels and assessment data have now been obtained for 7 of 8 coastal counties in New York State covering the lake and river. For the Canadian portion of the lake and river, delivery of complete property parcel coverage from the mouth of the Niagara River to Prince Edward County is expected in September. The database will consist of over 50,000 riparian property parcels and include key physical attributes to complete the erosion and flooding hazard investigation such as existing shoreline protection (if any), distance of primary dwelling from eroding bluff, long term erosion rate, elevation of surrounding land and main floor elevation.

In support of this task, members from the Technical Working Group recently completed a five-day mission with the U.S. Coast Guard to fly the perimeter of Lake Ontario and the St. Lawrence River. Over 4,000 digital photographs were taken to provide near complete coverage of the Lake Ontario shoreline and the banks of the St. Lawrence River to Massena. A conventional video was also taken simultaneously with the digital pictures and geographic coordinates recorded directly on the screen.

The Beach Access Performance Indicator was developed to quantify the impacts of high and low lake levels on visitor's level of satisfaction with the beach experience. A literature review identified numerous studies on beaches in the Great Lakes, but none that specifically asked beach goers whether the occurrence of high or low lake levels would influence their decision to visit the beach. Therefore, a field study was developed in cooperation with staff from the Ministry of Natural Resources in Ontario and the New York Parks Department.

Sandbanks Provincial Park in Ontario and Hamlin Beach State Park in New York were visited by the study contractors in August to survey beach users about water level impacts on their future decisions to visit recreation beaches. The fieldwork was very successful with over 900 individuals completing the survey over a two-week period.

Economic methods were developed to evaluate the six Performance Indicators for Lake Ontario and the Upper St. Lawrence River. Many of these methodologies have been coded in the Database Module to automate the calculations and enable a truly system wide application.

The Lower St. Lawrence River

During this period, much of the work was dedicated to collection of data either to

support the detailed numerical modeling tasks or to develop the economic evaluation methodology for the different regulation plans. Collection of bathymetry data in order to produce the bank and near shore profiles required as input to the Riverbank Response Model (RRM) was completed. New bathymetry data was processed and validated, then incorporated to the existing digital elevation model of the lower St. Lawrence. Economic data related to past flooding events have also been gathered. Data on private and public property loss are currently being collected along with information on damage to public infrastructure. Also, the development of individual and sectoral stage-damage curves for past flooding events is underway, and gathering of assessment data at a property parcel scale for economic assessment is now completed.

Another component of TWG activity has focused on computational model development and application. The erosion algorithms were re-worked, which has resulted in a more robust recession predictor. A Shoreline Damage System was also developed with the available data and a specific framework for integrating data was completed. A literature review on performance indicator selection as well as methodologies for the application of performance indicators was undertaken. Performance Indicators were tested on specific sites along the river. With the Performance Indicator methodology developed, application has been initiated of the damage assessment and performance indicator methodology to the whole domain to determine the economic and other impacts that could potentially occur under various water level regulation scenarios. Finally, hydrologic criteria have been provided to the Plan Formulation and Evaluation group.

4.2 Commercial Navigation TWG

The Commercial Navigation Technical work Group concentrated on five tasks during this time frame:

1. Finalizing the report on Management of Ice Cover Operational Procedures;
2. Developing U.S. and Canadian commercial navigation vessel/commodity movement data for Lake Ontario and the Seaway;
3. Refining commercial navigation metrics for inclusion in the Shared Vision Model;
4. Developing the Terms of Reference for an Impact Evaluation Model; and
5. Developing a sample water level/transportation cost curve for grain for inclusion in the Shared Vision Model.

The report on Management of Ice Cover Operational Procedures was finalized by end of March 2003 and included: basic considerations on river ice formation, general descriptions of the three river sections (above the Project, below the Project upstream of Montreal, and downstream of Montreal), ice control features and operating techniques in each of the three sections. This information will form

the basis of some of the Criteria and Performance Indicators proposed by this TWG.

An integrated database on commercial vessel movements was completed for the three key geographical areas of the study: the Port of Montreal, the St. Lawrence Seaway and Lake Ontario. The data focused on the time period 1995 to 1999. This information was provided to a contractor who developed an integrated database that can be queried. The data collection focused on four main types of data: data on commercial vessels, data on voyages, data on the cargo carried, and data on the ports being serviced. This data can then be used to help model economic impacts on commercial navigation from various water regulation plans.

The Commercial Navigation Technical Working Group has identified 42 Preference Indicators. These Preference Indicators provide information on the water levels and flows that impact navigation for 5 distinct geographical areas. Impacts range from vessel speed reductions, to loading reductions, to cessation of vessel movement due to unsafe cross current conditions. The indicators were developed for high flow conditions, low flow conditions, timing of discharges and target gradients. Indicators were also developed that would enhance the development of a stable ice cover important to winter navigation on the St. Lawrence River up to the Port of Montreal. These 42 Preference Indicators were condensed to 22 proposed criteria that could be used to evaluate various Regulation Plans using the Shared Vision Model.

Another main activity during this time period was the preparation of a scope of work document that would be used to engage a consultant to develop an Impact Evaluation Model. Last July a request for proposals was issued in Canada. Two proposals were received and evaluated. In September the contract was awarded to the successful bidder Innovation Maritime.

The commercial navigation transportation cost evaluation model will look at commercial navigation traffic flows in three distinct areas: Lake Ontario, the St. Lawrence Seaway, and the St. Lawrence Ship Channel (Montréal through Trois-Rivières). The model will use commodity movements for the period from 1995 to 1999 as representative commodity/tonnage, origin/destination movements. It will primarily valuate ship-operating costs. The evaluation model will concentrate on transportation costs and have the following components: origin/destination commodity movement data, the physical system the vessels will use (ports, lock, channels), water level data, ice control parameters, transit times (including speed limits, average lock waiting and transit times and delays), vessel operating characteristics and vessel operating costs.

The model will take these scenarios of water levels and flows, and use them to develop costs and impacts using the historical period 1995 to 1999.

Model outputs will be on a "regulation plan" basis. Outputs will emphasize transportation costs and other impacts, but should include statistics on how well

each plan met the metrics identified.

Sample Transportation Cost Curves for grain were developed for the Shared Vision Model. Curves were developed for each of the months in the commercial navigation season. The derivation of the curves took into consideration maximum vessel drafts allowed on the Seaway, Coast Guard Load Line Limits and individual vessel carrying capacities.

Also developed during this time period were Canadian Year 3 work plans, which included the above activities and emphasized the development and implementation of a contract that would produce a commercial navigation impact model. The Commercial Navigation TWG was also active in providing information to PFEG for developing the next version of the Shared Vision model.

4.3 Hydrologic and Hydraulic Modeling TWG

The Hydrology and Hydraulics Technical Work Group met once in Burlington, Ontario during the reporting period to review the progress of the year-3 work and to develop the proposed plan for the remaining work. Progress meetings were also held with the external consultant for the simulation of synthetic flows. Two members of the H&H group are also members of the Plan Formulation Group as the work of these two groups is very closely linked. The group is providing sets of hydrologic results based on historic supplies, climate-change, and several synthetic series.

Great Lakes Net Basin Supply and Ottawa River Inflows Synthetic Generation

The TWG is providing PFEG and other TWGs 50,000 years of supply sequence. For consistency with the historical series, these 50,000 years of sequence are split into 500 series each 100 years long. For the purposes of simulation, the project is carried out in three distinct spatial zones; these are for the Great Lakes, the Ottawa River System and the local tributaries downstream of Lake Ontario control structure and the downstream study limits.

Climate Change Scenario Development

The project is intended to interpret the latest general circulation model results over the Great Lakes in hydrological impact estimates for changed climates. This is a multi-agency effort where the Great Lakes Environmental Research Lab (GLERL) will extract information obtained through Environment Canada for the Great Lakes and Ottawa River system. The generated climate information will be employed by GLERL to develop the four scenarios.

This year, GLERL is working with the Ottawa hydrologic modelling group, consisting of researchers at Hydro Quebec and the Ministère de l'Environnement (Province of Quebec), on a future 20-year window for 2050 (2040-2060). GLERL will acquire GCM scenarios for the latest versions of the Canadian and U.K. Hadley models. In order to evaluate the climate change impact fifty-year

windows were chosen with four critical scenarios. Of these, there are two scenarios from the third generation Hadley GCM and the other two are from the second generation Canadian GCM. For the purposes of this project these are termed HADCM 3A representing a warm and wet climate regime, HADCM 3B for not so warm and wet condition. For the Canadian GCM, these are CGCM 2A for a warm and dry regime and CGCM 2B for not so warm and dry conditions. The term dry implies conditions with less precipitation than the Hadley simulations and not necessarily less precipitation than the current climate regime. These models have been refined from the versions used in the U.S. National Climate Change Assessment, carried out in 1999-2001. In particular, the Hadley Centre model now has a better agreement between the effects of atmospheric sulphate aerosols as represented by the simplified parameterisation that they routinely use and much more lengthy and precise calculations.

Hydrological Information and Forecasting Integration

The following activities are underway:

- Linking hydrology/hydraulic variables to those Study decision variables identified from assessment of past operational decisions and interviews with the St. Lawrence River Control Board.
- Matching the hydrology/hydraulic variables with the appropriate hydrology/hydraulic model forecast considering temporal and spatial scales.
- Integrating new meteorological forecast products with weighting technology that allows the joint consideration of meteorology probabilistic forecasts for different variables, time periods, lags, and locations from different agencies with different types of forecast probability information.
- Planning of an operational framework for forecast and observed data integration for quantitative and subjective assessments of the hydrologic conditions associated with the LOSLR decision variables.

Ottawa River Regulation and Routing Model Upgrade

The objective of this work is to develop and make operational tools capable of computing the water temperature regime of Lake Ontario, the Bay of Quinte and the Upper St. Lawrence River. The water temperature model(s) will be applied to develop several time series of water temperature data that in combination with water level data will be used by the Environmental Technical Working Group (TWG) to assess the impact of regulation on the fish species in the region.

For the Lower St. Lawrence River, the following are the activities underway

- Extensive discussions with project partners to define the scope of the project.
- Literature review of work in the area of thermal modelling for the Lake Ontario – St. Lawrence River study area.
- Development of application and provide mock output data to the Department of Fisheries and Oceans (DFO) to allow them to build the secondary model to be used to assess fish health under proposed regulation plans.
- Calibration and verification of the thermal model to assess performance.

- Utilization of the thermal model to generate the final water temperature time series data sets.

Hydrodynamic Modelling of St. Lawrence River - Kingston/Cape Vincent to Cornwall Reach

The modelling aspect of this work is now complete. The only item remaining is to ensure that all water level and flow selections have enveloped the range of flow and levels employed for testing and simulation purposes. This work will be carried out following input from the hydrologic studies.

4.4 Environmental TWG

The Environmental Technical Working Group is continuing its work in two major areas:

1. Field investigations are ongoing to provide specific data for use in the development of predictive models of the effects of hydrological change on wetlands and on wetland plant and animal communities (muskrats, amphibians and reptiles and birds), and on the distribution of fish as effected by water management in the St. Lawrence River and Lake Ontario. These programs are directed by both Canadian and U.S. scientists and cover the entire area of study.

2. The development of integration models that connect the field research findings to the Shared Vision Model. Modeling efforts are being undertaken by a number of the research specialists with model integration undertaken by Limnotech. Inc, Ann Arbor, Michigan and by Environment Canada, Quebec Region.

Field programs began just after ice out in the spring, and have continued through the summer and fall. These studies are critical to our understanding of the seasonality of the effects of changes in water levels on the environment.

The TWG is also finalizing process steps, which will allow the Board to identify what are the environmental effects of specific water management plans, and the means to define which plan is better or worse than another for the environment.

A continuing program of quality review is also underway. Experts are, for the second year, reviewing the research programs to identify process and research strengths and weaknesses and provide advice on how best to improve the efforts of the TWG.

4.5 Hydro-Power TWG

There was no activity during the reporting period.

4.6 Recreational Boating TWG

Boaters: The survey mailings and data entry for the U.S. survey of boaters was completed during the last period; some work is currently ongoing on the Canadian side. Stage damage curves are being created for boaters based on their method of accessing the marina/yacht club, private dock, or boat launch ramp. These curves are being estimated for each month by the four performance indicators – days boated, people-days, local expenditures, and net economic value. The economic impact of recreational boating on local communities is being estimated. Similar work continues on the Canadian side, with efforts to ensure that a good sample of the population is incorporated in the final analyses.

Marinas: Some marina survey work is continuing on the Canadian side.

Charter boats: Data entries from the survey on the U.S. side were completed; the Canadian survey is ongoing.

4.7 Water Use TWG

The group worked with two consultants, one in Canada and one the U.S., to complete the development of the data bases for the water uses within the system for domestic, industrial, and municipal purposes. The consultants have nearly completed the surveys and analyses of impact relating to water level changes on water quantity. The group is also studying the potential impact on water-quality that can be related to water level fluctuations.

A meeting was held in Montreal with a group of "Experts" comprising scientists, researchers, and municipal administrators from the Lower St. Lawrence area. The experts provided valuable advise on the overall water-quality infrastructure and management in the region, which will be reflected in the study report.

Work is currently ongoing to address concerns relating to shore-wells in the river communities, particularly on the Upper St. Lawrence.

4.8 Plan Formulation and Evaluation TWG

The Plan Formulation and Evaluation Group (PFEG) used the Board's triangulation evaluation approach (described below) to design the first iteration of the Shared Vision Model; this was used in a practice decision meeting with the Board in September.

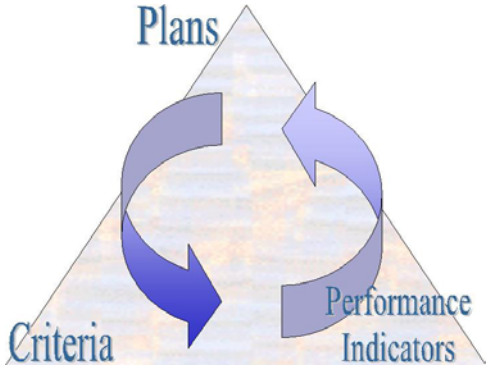
The model incorporated the draft criteria and several regulation plans, as well as the capability of modifying Plan 1958D and 1998. Performance indicators are

scheduled to be produced by the Technical Working Groups and incorporated into a March 2004 “Draft” Shared Vision Model.

PFEG also began the conceptual mapping of the TWG research and modeling into the Shared Vision Model, and continued to work with the economic experts panel to ensure the evaluations are defensible and capture all the important impacts of changes in plans and criteria.

The Triangular Approach

In March 2003, following a Study-wide workshop and a test evaluation process, the Study Board decided on a strategy to simultaneously evaluate regulation plans and the criteria used to judge the plans. The strategy is based on a triangular approach. The three vertices of the triangle (shown) include proposed Regulation Plans, the Criteria and Performance Indicators. The performance indicators (PIs) are numerical measures of the things society cares about that are affected by regulation (for example, economic benefits related to boating or changes in the area or quality of wetlands). The relationships between water levels and flows and the indicators are being developed from studies conducted by the Technical Work Groups.



The triangular approach is an iterative process. In March 2003, the PFEG held its first Study-wide decision process workshop. Another practice workshop was held with the Study Board in September 2003. Only the draft criteria and some generalized “mock-up” performance indicators could be included in the March and September 2003 versions of the model, since the TWGs continue working on their performance indicator studies which are planned to be completed in March 2004. In March 2004, the PFEG will host its second Study-wide workshop where the Study Board will conduct a draft decision process using the first cut of the real performance indicators based on best available data and information. The final Study-wide workshop will be in March 2005.

The Shared Vision Model

Over the past few months, PFEG began to develop a new shared vision model using STELLA® software. The PFEG had 16 regulation plans in the SVM presented at the September workshop. Last May, the PFEG members worked with the TWGs, Study Board, PIAG and Board of Control to develop a new set of draft criteria. These were based on best knowledge available and were incorporated in the SVM for use at the September workshop. Once the performance indicators are programmed into the SVM (March 2004), it can be determined if these hydrologic criteria make good sense. PFEG also began

working with the TWGs to agree on the conceptual approach of including their work in the shared vision model.

Economic Standards and Guidelines

To help support the TWGs in the development of their PIs, the PFEG has developed an economics standards and guidelines document for use by all TWGs. The purpose of this document is to ensure consistency amongst the TWGs in their economic valuations. A panel of four economic experts that make up the Economic Advisory Committee reviewed this document.

One issue that PFEG has paid some extra attention to is that of environmental valuation. PFEG hired Dr. Frank Lupi from Michigan State University to determine whether it is feasible to use environmental valuation to estimate monetary values for environmental effects of various plans and to assess the merits of valuation methods given the nature of environmental effects and available data.

Dr. Frank Lupi submitted his report to the PFEG and his findings were presented to the Study Board at the September 25, 2003 Montreal meeting for consideration.

PFEG also worked with the economic experts to determine whether studies of impacts that occur only with significant changes in releases are needed, for example, the increase in carbon emissions from reduced hydropower capacity.

PFEG conducted interviews with Board members to find and address their individual concerns about and ideas for the decision process.

5. COMMUNICATIONS

During the reporting period, Michelle Tracy joined the Canadian Section as the Communication Officer.

The communications team assisted the PIAG in the completion of the Years 4-5 Communication Plan, which includes a robust line-up of public meetings for the summers of 2004 and 2005. The Year-3 PIAG PowerPoint Presentation was finalized and translated. Copies were provided to all Board and PIAG members for their use in presentations to the public and interested stakeholder groups. PIAG members were also provided with tabletop displays to use at their small group meetings.

The team assisted the PIAG with public meeting preparations and follow-up, including gathering input from the public on the draft Performance Indicators,

which were also published in the September issue of Ripple Effects. The website was updated to reflect Year-3 TWG activities. Reports were added to the website, and a link was made to a new “Study Data” page, where users can view GIS data on the Study area.

Study brochures were distributed to over 100 marinas along the shoreline of Lake Ontario and the St. Lawrence River in the U.S. Packages of Study information were distributed to the "Participation in Government" instructors; and, through partnership with the Monroe County Soil & Water Conservation District, and to the Environmental Coordinators in the high schools in communities along the Lake and River in the U.S. It is hoped that some of the classes in these communities would use the Study issues and information as a project.

6. BUDGETS AND TIMELINE

Both the Canadian and U.S. Sections of the Board were guided by the Year-3 budget, which was formulated during the 12-13 March 2003 meeting held in Ottawa. The two tables below depict the financial summary for the Canadian and the U.S Sections as of the date of this report.

Year-3 Budget: Canadian
(In Canadian currency)

Lead Group / Organization	***Budgeted in March 2003***	***Committed (Contract-MOU's)***	***YTD Paid***
International Joint Commission - IJC	*200,000*	*200,000*	*200,000*
Study Board - General	*340,000*	*340,000*	*86,480*
Public Interest Advisory Group - PIAG	*340,000*	*340,000*	*47,016*
TWG - Environment	*1,300,000*	*1,115,500*	*236,749*
TWG - Coastal Processes	*700,000*	*1,085,410*	*270*
TWG - Recreational Boating	*190,000*	*50,000*	*2,245*
TWG - Hydrologic & Hydraulic	*500,000*	*76,000*	*0*
TWG - Commercial Navigation	*333,000*	*33,125*	*0*
TWG - Water Uses	*65,000*	*51,335*	*15,000*
TWG - Hydroelectric Power	*50,000*	*0*	*0*
TWG - IM (Common Data)	*175,000*	*30,000*	*0*
Plan Formulation & Evaluation	*280,000*	*160,000*	*4,733*
Unallocated / Contingency	*27,000*	*0*	*0*
TOTAL	***4,500,000***	***3,481,370***	***592,493***

Year-3 Budget: U.S. (In U.S. currency)			
Lead Group / Organization	**Budgeted in March 2003**	**Committed (Contract-MOU's)**	**YTD Paid**
International Joint Commission - IJC	100,000	106,720	100,000
Study Board - General	200,000	179,502	176,753
Public Interest Advisory Group - PIAG	240,000	169,000	164,630
TWG - Environment	694,000	707,280	707,280
TWG - Coastal Processes	670,000	501,529	483,062
TWG - Recreational Boating	208,000	219,000	215,810
TWG - Hydrologic & Hydraulic	81,000	81,471	81,471
TWG - Commercial Navigation	89,000	53,000	48,270
TWG - Water Uses	30,000	50,498	50,498
TWG - Hydroelectric Power	30,000	0	0
TWG - IM (Common Data)	97,000	97,000	95,000
Plan Formulation & Evaluation	215,000	215,000	210,430
Unallocated / Contingency	0	0	0
TOTAL	**2,654,000**	**2,380,000**	**2,333,204**

At the meeting held on 25 September 2003 in Montreal, the Board did a mid-term review of the funding requirements based on reports from the TWGs and accordingly revised the Canadian and U.S. budgets as follows:

Year-3 Budget as of 25 September 2003 ($'s shown in the currency of each country)			
Lead Group / Organization	**Canadian Budget**	**U.S. Budget**	**Remarks**
IJC	200,000	106,720	
Study Board - General	385,000	180,000	Canadian budget increased by $45K to allow for office relocation and other unforeseen items.
PIAG	150,000	175,000	US: increased with funding not used by Coastal and Comm. Nav. TWGs
TWG - Environment	1,300,000	707,280	US: includes funds for Akwesasne Marsh Study
TWG - Coastal Processes	1,246,000	490,000	Cdn: to allow for transfer to U.S. ongoing work by Baird and Asso. (US$346K) in U.S. Year 4
TWG - Recreational Boating	70,000	219,000	Cdn: $20K in addition to currently committed $50K for more sampling of boaters.
TWG - Hydrologic & Hydraulic	360,000	81,471	Cdn: About $200K work by Hydro Quebec – contract to come
TWG - Commercial Navigation	346,000	53,000	Cdn: Based on new contract value
TWG - Water Uses	75,000	50,498	Cdn: finalize PI's; US: Increased by $20,498 to investigate additional factors.
TWG - Hydroelectric Power	0	0	
TWG - IM (Common Data)	175,000	97,000	
Plan Formulation & Evaluation	280,000	215,000	
TOTAL	**4,587,000**	**2,374,969**	Cdn: Budget over committed by $87,000 U.S: Less than budgeted (March 2003) since all transfers from Canada were not req'd. in Year 3.

The Board will manage its activities in the remainder of year-3 within the overall budget indicated.

Respectfully submitted,

_____ DOUGLAS CUTHBERT Canadian Co-Director	_____ EUGENE STAKHIV U.S. Co-Director
_____ ANDRE CARPENTIER	_____ FRANK QUINN
_____ LYNN CLEARY	_____ PETE LOUCKS
_____ IAN CRAWFORD	_____ FRANK SCIREMAMMANO
_____ HENRY LICKERS	_____ SANDRA LeBARRON
_____ MARCEL LUSSIER	_____ DAN BARLETTA
_____ STEVEN RENZETTI	_____ JAMES SNYDER
_____ ED ERYUZLU Canadian General Manager	_____ ANTHONY EBERHARDT U.S. General Manager

Attachment 1

Attendance at Board Meetings

28 - 29 May 2003 - Greece, N.Y.

Doug Cuthbert
Lynn Cleary
Andre Carpentier
Ian Crawford
Marcel Lussier
Ed Eryuzlu
Pete Loucks
Frank Quinn
Franks Sciremammano
Dan Barletta
Sandra LeBarron
Tony Eberhardt

28 August 2003 – Buffalo, N.Y.

Doug Cuthbert
Lynn Cleary
Andre Carpentier
Ian Crawford
Elaine Kennedy (for Marcel Lussier)
Ed Eryuzlu
Pete Loucks
Sandra LeBarron
Franks Sciremammano
Frank Quinn
Dan Barletta
Tony Eberhardt

24 - 25 September 2003 - Montreal, Quebec.

Doug Cuthbert
Andre Carpentier
Lynn Cleary
Steven Renzetti
Marcel Lussier
Ed Eryuzlu
Eugene Stakhiv
Frank Sciremammano
Jim Snyder
Sandra LeBarron
Dan Barletta
Tony Eberhardt

Attachment 2

International Lake Ontario - St. Lawrence River Study Board

VISION, GOALS AND GUIDING PRINCIPLES

(Adopted by the Board at the meeting in Montreal on 24 September 2003)

Vision

To achieve economic, environmental and social sustainability of the Lake Ontario & St. Lawrence River System

Goal

To identify flow regulation criteria that best serve the wide range of affected interests and climatic conditions in the basin and that are widely accepted by all interests.

Guiding Principles

(a) Criteria and Regulation Plans will be environmentally sustainable and respect the integrity of the Lake Ontario-St. Lawrence River ecosystem.

(b) Criteria and Regulation Plans will produce a net benefit to the Lake Ontario-St. Lawrence River System and its users and will not result in disproportionate loss to any particular interest or geographic area.

(c) Criteria and Regulation Plans will be able to respond to unusual or unexpected conditions affecting the Lake Ontario-St. Lawrence River System.

(d) Mitigation alternatives may be identified to limit damages when considered appropriate.

(e) Regulation of the Lake Ontario-St. Lawrence River System will be adaptable to reflect the potential for changes in water supply as a result of climate change and variability.

(f) Decision-making with respect to the development of the Lake Ontario-St.

Lawrence River System Criteria and Plans will be transparent, involving and considering the full range of interests affected by any decisions with broad stakeholder input.

(g) Criteria and Regulation Plans will incorporate current knowledge, state-of-the-art technology and the flexibility to adapt to future advances in knowledge, science and technology.