

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

**Covering the period
21 September 2002 through 13 March 2003**



**Boldt Castle on Hart Island in the St. Lawrence River, as viewed from the Bonnie Castle Resort site
of a Study Board Meeting, January 23, 2003, Alexandria Bay, NY.**

Photo Courtesy of Wendy Leger

**13 March 2003
Buffalo, New York
Ottawa, Ontario**

INTERNATIONAL LAKE ONTARIO-ST. LAWRENCE RIVER STUDY BOARD

Buffalo, New York
Ottawa, Ontario
13 March 2003

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

Commissioners:

The International Lake Ontario-St. Lawrence River Study Board submits herein its fifth Semi-annual Progress Report, covering activities from 21 September 2002 to 13 March 2003.

1. SUMMARY

Since the last report, the Study emphasis has shifted from a data collection phase to a plan formulation phase. The Plan Formulation and Evaluation Group (PFEG) has become a prominent force for the Study, meeting with each Technical Work Group (TWG) to formulate performance indicators (PI) and develop a first set of alternative test plans. The Board held a pivotal workshop of the group in March 2003, to test the evaluation and decision process. The workshop also resulted in the development of several action reports that will help guide the Board during the remaining years of the Study.

Another milestone for the Study was the initiation of an information management (IM) strategy to both gather all data collected into a central repository and provide a vehicle for displaying, reviewing and archiving information generated by the Study. The Board is determining with the IM Group the protocol for the various levels of data and information, i.e., internal among Study participants, open to the public, and proprietary.

During the reporting period, the Board met three times: on 12-14 November 2002 in Amherst, N.Y., on 22-24 January 2003 in Alexandria Bay, N.Y. and 12-13 March 2003 in Ottawa, Ontario. The Study Board also held a conference call on 12 December 2002 to discuss budgets and retooling of funding for the remaining years of the Study. Attendance at these meetings is listed in Attachment 1.

The PIAG sponsored public workshops during the reporting period on 30 October in Belleville, Ontario, on 26 November in Trois-Rivières, Quebec and on 20 February on Akwesasne Nation Lands.

The following is a summary of main accomplishments during this reporting period.

- Development of test criteria and decision process used to evaluate and rank six test regulation plans using a special version of the Shared Vision Model (SVM) developed specifically for the Plan Formulation and Evaluation Group (PFEG) March 2003 Test Evaluation Workshop;
- Distribution of the third Study newsletter to more than 3000 individuals and the establishment of a corresponding database;
- Initiation of the information management strategy which will include three archival sites: Environment Canada at Ste-Foy, Quebec; Land Information Office (LIO) at Peterborough, Ontario; and the Great Lakes Commission (GLC) Office in Ann Arbor, Michigan;
- Completion of a draft flood and erosion prediction system;
- Completion of other research and studies relating to the impacts of water level and flow variations on the environment, recreational boating, commercial navigation and coastal processes.
- The Study Board has maintained a closer liaison with the International St. Lawrence River Board of Control.

2. BOARD ACTIVITIES

On 27 September 2002, the Board provided a letter to the IJC regarding its views on the observations and recommendations in the Edmonds Report, "Lake Ontario and St. Lawrence River Changes in the Institutional Structure and Their Impact on Water Levels, 1950-2001". A conference call was held on 3 March 2003 with the IJC legal advisors to discuss specific concerns regarding the Order and the Boundary Waters Treaty.

The Board conducted a workshop on 12-14 November 2002 in Amherst, N.Y. to hear from each of the TWGs regarding findings and conclusions based on the data collected and research performed to date. The event served as the beginning of the transition from the data collection phase to the plan formulation phase. All presentations from the workshop were posted on the Study FTP site.

On 12 December 2002, the Board discussed the preliminary Plan of Study estimates of funding for years 3 through 5. As a follow-up to this discussion, on 3 January 2003, the IJC was provided a proposal for retooling the Study funding allocations in light of changes that have become evident since the submission of the original Plan of Study (POS) document dated September 1999. Activities not addressed in that report included the extent and cost of data collection, information management, plan formulation and evaluation, and administrative, management and Board expenses. The Board approved the retooling of funding at its 22-24 January 2003 meeting and awaits confirmation by the Commission.

At its 12-13 March 2003 meeting, the Board reviewed the results of the PFEG workshop held on 10-11 March 2003 and agreed on an array of Board and Study actions arising from workshop deliberations. Specifically, the actions included:

- Defining new criteria, environmental impacts, plan formulation and model integration;
- Weighing dollar information and supporting the decision process;
- Spatial resolution, criteria integration explaining and displaying and presentation to the public; and,
- Overlapping concerns, post-Study monitoring and adaptive management, data access improvements, engaging the Board and PIAG, goals and principles, economics of coastal processes, commercial navigation issues.

The Board welcomed Ms. Michele Tracy as the new Canadian public information officer replacing Ms. Arianne Matte.

3. PUBLIC INTEREST ADVISORY GROUP (PIAG) ACTIVITIES

The reporting period started with a change in leadership of the PIAG. Fred Parkinson and Dalton Foster both resigned from the study. Elaine Kennedy filled in admirably for Fred until his permanent replacement was found in the person of Marcel Lussier, who is new to the study. Dr. Dan Barletta, a member of the PIAG since the study began, took over as the U.S. lead. The PIAG also lost Bruce Carpenter and Bea Schermerhorn. John Osinski moved from the PIAG to the Hydro TWG trading places with Paul Finnegan who was the Hydro TWG lead. Additional new PIAG members are Larry Field, John Montan and Michel Gagne.

The group's communication plan and budget for year three was approved by the PIAG in November. A contract was awarded to do a storyboard for a possible video highlighting the study in general. Public meetings were held on 30 October in Belleville, Ontario, on 26 November in Trois-Rivières, Quebec and on 20 February with the Akwesasne. Six public meetings are planned for 2003. A survey is being distributed at each meeting to receive feedback from the public as to how they would like to stay informed and become involved in the Study. Future meetings that are confirmed are Cornwall on 15 May and Sodus Bay on 20 September. In the works are a meeting in the vicinity of Lake St. Louis and a meeting in St Catherines, Ontario to be held in conjunction with a Mayoral conference.

The first of four quarterly editions in 2003 of the newsletter, Ripple Effects, was recently mailed out and the second edition is planned for a late March/ April publish date. The design of the magnet as a give-away item for future meetings was chosen and the item is being produced.

The PIAG power-point presentation used at the public meeting was revised to incorporate new information about the study in year two and to make it more understandable to the public.

The group is also working on developing a survey to be used to gather information from a wider population of residents in the basin. This will be coordinated with the TWGs. The PIAG liaisons are working with TWG leads to develop answers to questions that the PIAG has for their respective groups. The questions and answers will be incorporated into the Frequently Asked Questions list that the PFEG is developing for the website. Members of the PIAG have participated in two PFEG workshops regarding the SVM.

4. TECHNICAL WORK GROUP (TWG) ACTIVITIES

A list of currently appointed and proposed TWG members along with Board liaisons to the TWGs is included as Attachment 2.

4.1 Common Data Needs

The Common Data Needs TWG completed all scheduled data collection, except as noted below. Tasks accomplished during the reporting period included the following key points:

- Topographic and bathymetric data collected in 2002 and 2003 by airborne LIDAR and conventional hydrographic surveys along Lake Ontario shorelines and in the lower St. Lawrence River have all been reviewed, documented and posted to the study's FTP server site.
- Detailed topography for the 32-wetland study sites along the Lake Ontario and upper St. Lawrence River shorelines are mostly complete. This effort includes data compilation, review and metadata production of airborne LIDAR surveys for some sites and digitization of Ontario Flood Prediction Reduction Program (FDRP) maps for others. Additional digitization of FDRP maps will be completed in March 2003. All data will be documented with compliant metadata and served on the study's FTP server site.
- Bathymetric data collection at 7-wetland study sites was completed in August 2002. However, substantial difficulties were encountered in completing these surveys due to submerged and emergent vegetation growth in mid-summer and low water levels. Hydrographic surveys at the remaining 25-wetlands study sites are scheduled to be collected in April-May 2003. Quality review, documentation and serving of these data will be completed within three months after collection.
- Digital elevation models (DEMs), integrating the topographic and bathymetric data, are substantially complete for the erosion and flooding study sites. Production of DEMs for the wetlands study sites will be completed after collection of hydrographic surveys this spring.
- Digital aerial photography that was acquired on the southern shore of Lake

Ontario in early 2003 has been accepted, documented and distributed using the study's FTP site. Satellite imagery collected in 2002 for the Montreal archipelago area also has been made available.

A main focus of the group during the period, was to develop an information management (IM) strategy for the study. The TWG presented various IM strategy options to the Study Board which addressed issues of data ownership, updates and maintenance, quality control / assurance, metadata, database schema and formats, proprietary data and licensing issues, liability and security, and Internet-based access and distribution. Several concerns were voiced and addressed in the development of a comprehensive IM plan for the study. One major recommendation, which was adopted by the Study Board, was to rename the group the Information Management (IM) TWG, and modify its membership accordingly so that they could directly support the study through its conclusion.

4.2 Coastal TWG

The Coastal Technical Work Group (CTWG) held a joint meeting with the Environmental Technical Work Group on 12-13 September in Montreal. This was an excellent opportunity for each group to learn about each other's activities, share concerns and trade data and information. At the Study Board meeting of 12-14 November in Amherst, NY, CTWG consultants made presentations, which provided an opportunity for the board to learn more about the technical aspects of the study. Conference calls were held by the CTWG on 5 November and 14 January to review study progress and discuss future work activities. Lastly, the CTWG technical review committee met on 13 December in Ottawa to review progress and provide critical comments on technical aspects of the study.

Lake Ontario/Upper St. Lawrence River

Technical investigations being completed on Lake Ontario and the Upper St. Lawrence River can be grouped into four broad categories: 1) geo-spatial data collection for economic assessment, 2) detailed numerical modeling to document impacts of regulation on cohesive and bedrock shorelines, 3) development of an economic evaluation methodology for the six PI and, 4) completion of a system wide evaluation of impacts for the PI and integration of the results with the SVM developed by the PFEG.

One of the group's primary goals for the economic investigation is to complete the impact evaluation at a property-parcel scale for the lake and river. Consequently, significant effort has been expended to obtain complete shoreline coverage of digital property parcels and the associated tax assessment data. This data is presently being acquired and integrated into a large relational database in the Flood and Erosion Prediction System (FEPS). In addition, the tools in the FEPS are being utilized at the six study sites to evaluate the impacts and benefits of water level regulation on erosion at cohesive and bedrock sites on the lake and river. Ultimately, the data acquisition (i.e. property parcels) and

the detailed numerical modeling with the FEPS will be utilized to advance the economic impact methodology and system-wide evaluation for the different regulation plans. Interest satisfaction curves are in development for the six PI to transfer and integrate the findings of the FEPS application in the SVM.

Lower St. Lawrence River

The work by Pacific International Engineering in this period has focused on data collection and computational model development. Along with Environment Canada, a field campaign was undertaken in September and October to collect data on the physical properties of the shore and nearshore zone and to take direct measurements of wind waves and ship waves. This data has aided the continued development of a GIS-based database of shoreline characteristics and recession data, which includes the Canadian Wildlife Service (CWS) shore database. As well, the data collected has assisted in the development and refinement of a number of computational models, including a new one-dimensional model to predict the response of cohesive river banks to river flow, wind waves and ship waves. This model will be used to study the effect of water levels on shore stability and riverbank recession.

During this time, Environment Canada has also been collecting data on land use, land use management practices, and parcel and assessment for properties located within the study area. The data collected will be required when assessing economic impacts on the shoreline due to erosion and flooding. Computation of 1-20 and 1-100 year recurrence water levels and river discharges was done in order to run simulations for floodplain delineation. Floodplain mapping has been done for the entire study area for both recurrences. During this period, the CWS has completed the inventory of shoreline features and structures, which led to refinement, validation, and population of the shore classification database.

4.3 Environmental TWG

Work during the period has focused on several issues:

- Development of appropriate input for the SVM, including definition of interest satisfaction curves. In conjunction with better definitions supplied by PFEG of the type of data and input required by the SVM, researchers in the group have been moving to better quantify the results of their studies in ways that can be used effectively in the SVM. This process has been incorporated into the development and evaluation of proposals for year 3.
- Outside evaluation of work done so far and work in progress, and refinement of goals and schedules for future work. Two experts were commissioned to provide a comprehensive review of the work done by the ETWG, based on the original Plan of Study, proposals and work (and reports) already done,

and proposed work for the remaining years of the study. This process has helped to focus on missing reports as well as general areas of the study that are missing or need redirection.

- Development of process integration model, and discussion of modeling efforts in general. A modeling workshop was held in December to discuss further development of the process based integrated ecosystem model, how interactions (and data flow) between individual researchers and the model should be maintained, and how the model should interface with the SVM. These issues are still under development.
- Development of work plans for year 3. “Round one” proposals were submitted and presented at the January Study Board meeting. Proposed projects were either tentatively approved, approved with modifications, which include redirection, refinement of scope and/or deliverables, or declined, with significant redirection required.

The group met during the week of 24 February to further refine the work plan for year 3.

4.4 Recreational Boating/Tourism TWG

Marina survey

A survey of all Lake Ontario and St. Lawrence River (U.S. side) marinas and yacht clubs in operation during the summer of 2002 was conducted by the Human Dimensions Research Unit (HDRU), Cornell University, for the TWG. The survey included a personal interview with the owner or manager to inventory facilities and services and assess past experiences with high or low water levels. The survey also involved taking GPS and depth measurements to enable forecasting of impacts of high or low water levels in the future. The basic inventory of marinas and yacht clubs was presented to the TWG at their September meeting. Analysis of the economic impacts of changing water levels on marinas and yacht clubs was completed. A draft report on this analysis was discussed at the 12 March TWG meeting.

Boater survey

The study for the U.S. side used a two-stage survey approach. In Stage 1, begun 5 September and completed in late October 2002, screening telephone interviews were conducted with a sample of boaters (from New York State Department of Motor Vehicles boater registration listings) who identified a county bordering the Lake Ontario – St. Lawrence River shoreline in New York as the county of principal boat use, to determine if they boated on Lake Ontario or the St. Lawrence River. A total of 5,928 boaters were interviewed. Of those, 3,553 boated Lake Ontario or the St. Lawrence River in 2002 and were eligible to participate in a Stage 2 survey. In Stage 2, boaters were surveyed by mail to

determine boating use on Lake Ontario or the St. Lawrence River, expenditures, days lost to high or low water levels, the non-market value of the loss, etc. This mail questionnaire was sent out in two waves, beginning in early October and beginning again in early November 2002. This was done to minimize the time between the telephone interview and the receipt of the questionnaire in hopes of increasing recall of the phone interview and thus response rate to the mail questionnaire. The standard HDRU three follow-up reminder process was used for both waves, also to encourage response. Data from the questionnaires were entered onto computer for analysis. Preliminary results were discussed at the 12 March meeting.

Charterboat survey

The purpose of this survey was to assess the economic impact of changing lake levels on charterboat operators in New York. Great Lakes Sea Grant staff conducted a survey of charterboat operators in January 2003. HDRU researchers designed and added questions to questionnaires going to Lake Ontario and St. Lawrence River operators to assess the impact of water level changes and adaptations made. Data entry of these additional questions currently is being done at Cornell. All data collected will be available to HDRU researchers for use by the TWG.

4.5 Commercial Navigation TWG

Work during the period concentrated on two areas: developing commercial navigation vessel/commodity movement data for Lake Ontario and the Seaway, and awarding a contract for and executing an ice cover management study that concentrates on the management of ice cover operational procedures used throughout the St. Lawrence River.

Commercial navigation vessel/commodity data was developed for U.S. and Canadian movements that take place on Lake Ontario and the Seaway. The data collection focused on four main types of data: commercial vessels, voyages, the cargo carried and ports. This data was collected for the five-year period 1995 to 1999. These data would then be used in conjunction with similar commercial navigation data already collected for Montreal, to model economic impacts on commercial navigation from various water regulation plans.

The main goal of the ice management study is to obtain all information on the operational procedures used in the management of ice cover formation/maintenance throughout the System. Three main areas have been identified: the Moses-Saunders hydropower dam at Cornwall, Ontario; hydropower dams at Beauharnois-Les Cèdres, Québec and Montréal to Lake St-Pierre. Other locations will also be investigated if necessary.

Data will be developed for each area and will include such topics as: a description of the operational procedures presently used in the formation and

maintenance of ice cover in these areas; the rationale for the methods used including relationships between ice formation and Lake Ontario outflows and hydropower operations; the equipment used and location of the equipment, and an assessment of present ice management methods. The report is scheduled to be completed by the end of March 2003.

Also developed during this time period were U.S. and Canadian Year 3 work plans. The Year 3 work plans concentrate on developing a commercial navigation impact model. One of the key outputs of the model will be transportation impacts by channel depth, for a number of specified geographical areas.

4.6 Hydroelectric Power Generation TWG

During the period, the TWG completed a White Paper providing general information about the facilities and operations of the hydropower entities in both the International and Canadian portions of the St. Lawrence River in conjunction with the implementation of the current regulation plan. The White Paper also discusses ice management, and issues associated with the development of competitive electricity markets in both the United States and Canada. A series of appendices addressing additional issues related to power generation, initially prepared for other purposes, was also provided.

The TWG continued its development of modeling inputs and performance indicators that will be reviewed for use in the PFEG's modeling efforts. The performance indicators the TWG is developing will attempt to: maximize megawatts; maximize the dollar value of megawatts; assure flow predictability and stability; and provide ice management flexibility. Flow curves depicting efficient flows by season will be developed. They will incorporate assumptions of unit outages for maintenance. These factors were discussed at the 10-11 March Test Evaluation Workshop at which the TWG participated.

4.7 Domestic, Industrial and Municipal Water Uses TWG

The group met twice during the period; 25 September in Greece, NY and 30 January in Montreal, Quebec. The group has reviewed the work performed by Planning and Management Consultants, Ltd. regarding defining the municipal and industrial water supply infrastructure. They have also defined the next phase of work that the consultant will conduct including follow-up work at water treatment plants and defining shore well problems.

The Ecole Polytechnique of Montreal has been contacted to assist with the collection of plant intake information in lower St. Lawrence River. This work will conclude by the end of March 2003. The City of Kingston, Ontario will provide input to the group through active participation. As well, the City management has now proposed a technical staff person to participate as a formal member on this TWG.

4.8 Hydrologic and Hydraulic (H&H) Modeling TWG

During the period, the Hydrology and Hydraulics Technical Working Group was involved in nine projects.

Lower St. Lawrence River Level-Flow Relationships

The TWG developed a new simplified model to route flows from Lake Ontario and the Ottawa River around the Montreal islands. The group also began to develop methods to estimate other key downstream tributary outflows and has developed a complete set of tributary flow series for the historical case from 1900 to 2000. The group developed estimators for downstream ice hydraulic effects for the historical case and suggested a method to use for the stochastic and climate change cases.

Pre-project Outlet Hydraulic Relationships

The TWG has begun the development of a methodology to estimate pre-project ice retardation sequences on the Upper St. Lawrence River for use in stochastic and climate change hydrologic sequences. The work to date has shown that ice effects are not significantly correlated to Lake Ontario supplies.

Plan 1958D with Deviations Model

A computation model is being built to simulate Control Board deviations during the winter, discretionary departures, and Criterion (k) exceptions to Plan 1958D. This will be of use in comparison studies with candidate regulation plans, especially for the stochastic and climate change hydrologic cases.

2D Hydrodynamic Modeling of the Upper St. Lawrence River

A series of velocity measurements was taken for further model calibrations, three model reaches were integrated, and simulations were performed by increment of flow and Lake Ontario level. The TWG also conferred with other technical working groups to refine their hydraulic model needs.

2D Hydrodynamic Modelling of Lac Saint-Louis

The TWG again made velocity measurements for further model calibrations and has simulated a range of scenarios by increment. The group also conferred with other technical working groups to refine their hydraulic model needs.

Great Lakes-Ottawa River Inflows Stochastic Generation

Annual to monthly, quarter-monthly, and daily dis-aggregation models were developed for use in deriving smaller-time-increment time series from annual

series of meteorology, net basin supplies, and (ultimately) river flows. The stochastic model is also being applied to generate sets of supplies for the Great Lakes and Ottawa River.

GCM Climate Change Simulation for the Ottawa River

A recent general circulation model (GCM) scenario (i.e., Canadian Climate Model 2) is being used as a prototype in the development of methodologies to assess GCM scenarios in the future for the Ottawa River. This offers a comparison with existing studies completed for the Great Lakes system. It involves the extraction of GCM scenario changes (between the “present” and “future” scenarios) and interpolation of same to the Ottawa River basin. The TWG has reconfigured and re-calibrated the Ottawa River precipitation-snowmelt-runoff model for all subbasins. The group is generating runoff values and using the Ottawa River regulation-routing model (built in year 1) to produce an outflow series at Carillon.

Hydrologic Forecasts

Hydrologic forecasts for Lake Ontario (which involve all upstream Great Lakes), the Ottawa River basin, and St Lawrence River tributaries are being reviewed. The TWG held a user needs assessment workshop on 16-17 October, to look at what types of forecasts might improve regulation. Hydrologic and meteorological forecast methodologies and their needs were reviewed. The group also reviewed monitoring networks and their needs.

Water Temperature – Lake Ontario

The TWG is working with fisheries investigators to develop a scope of work to estimate water temperature time series needed for Environmental TWG evaluations.

4.9 Plan Formulation and Evaluation TWG

The Plan Formulation and Evaluation Group has adopted a three-phase process to lead the Study Board to a final assessment in March 2005 on both criteria and regulation plans. This current year of the plan formulation and evaluation process has been termed the “test” year. This year all products and methodologies are in test mode, meaning the outcome is not as important as getting the correct process and methodologies in place to develop and evaluate regulation plans. April 2003 will be the beginning of the “draft” year, where a real attempt will be made to get the right pieces in place towards making a real decision. April 2004 through March 2005, will be the “final” plan formulation and evaluation phase. During that year, the PFEG and all contributing TWGs will fine-tune the processes, methodologies, and all data and information to be incorporated in the final SVM and evaluation and decision process.

During this reporting period, all work conducted by the PFEG has been in support of the test phase of the study. The PFEG has developed a set of test Criteria proposed to replace the 1956 Orders of Approval during the test evaluation process. These test criteria include specific numerical measures of compliance to determine how well plans meet each criterion.

The PFEG held a plan formulation workshop in Burlington on 11-13 February with members of the TWGs, PIAG and Study Board to begin developing test regulation plans using an Interest Satisfaction Plan Formulator and Evaluator. This model allows the user to optimize a plan for different geographic areas, as well as for particular interest groups. Six groups representing each interest have worked cooperatively to develop their best test regulation plans. In developing the test plans the groups were directed to satisfy their specific interest while complying with the test criteria.

The test regulation plans were evaluated against the test criteria at a Study-wide workshop held on 10-11 March in Ottawa. At this workshop, the Study Board was given the task of understanding the test regulation plans, assessing the information from the SVM, running through a decision process and choosing a plan. On the second day of the workshop, a technique known as *Open Space* was used to explore ideas and issues and develop productive action plans for initiatives to be pursued in the draft phase of the study.

The PFEG is working with the Information Management TWG to build the links between the SVM and the data and information used in the evaluation process. The concept is to allow users to search from an evaluation score presented in the SVM to find the data and information that supports the outcome.

PFEG has developed a draft Evaluation Methods Standards document. This document is being reviewed and commented on by the Economics Advisory Committee and should be completed by Spring 2003. This document will help guide and provide consistency on economic studies conducted by the TWGs. In addition to the economics standards document, the PFEG is conducting an economics valuation feasibility study for the environment. The purpose of this feasibility study is to determine if there is a need for environmental economic assessments, and if so, whether they can be done within the budget and time frame of the study.

The PFEG continues to liaise with the TWGs and PIAG. A number of joint conference calls have been held in addition to PFEG members attending TWG meetings. The PFEG also hosted a workshop with the Study Board on 23 January in Alexandria Bay, NY titled "Designing for Success". The purpose of this workshop was to get the Study Board and other study participants talking and thinking about what they see as success and how best to get to that point.

PFEG developed a few versions of an Interest Satisfaction (IS) model to support the formulation and evaluation process that were used at the March workshops and also to explore concepts such as the use of forecasting that will be pursued in the Draft phase. Special purpose models were also developed to incorporate

plan formulation ideas that could not be modeled in the IS model.

4.10 Information Management

On 26 September 2002, the Information Management Group held a Metadata Workshop in Burlington, Ontario. The workshop was held with representatives from each of the TWGs, to outline the format in which the data and information will be archived.

At the Board's 22-23 January meeting in Alexandria Bay, NY, the IM strategy for the remaining years of the Study was approved. The strategy includes the establishment of three sites where data will be maintained: Environment Canada at Ste-Foy, Quebec; Land Information Office (LIO) at Peterborough, Ontario; and the Great Lakes Commission (GLC) Office in Ann Arbor, Michigan.

5. COMMUNICATIONS

The communication team assisted the PIAG in developing their year-three communication plan, budget and a survey for public meetings. The plan for years four and five is also being developed. The third volume of the study newsletter, Ripple Effects was published. The team also provided support to the PIAG for updating their presentation. Through a meeting with the storyboard committee, a list of concerned citizens and decision makers was developed for the contractor to interview. The citizens were contacted and permission was received to provide their names to the contractor for the interviews.

The study website was reviewed and updated to reflect the changes in study participants. Many of the PIAG members have been provided with additional study brochures to distribute at study-related events throughout the basin. A partnership with the U.S. Coast Guard Auxiliary made it possible for study brochures to be distributed at various boat shows this spring in New York State.

In the U.S., the PIAG database was updated to reflect the outcome of the November 2002 elections. With the assistance of the New York State Department of Environmental Conservation, many environmental groups were added to the database. In Canada, extensive work was done to consolidate the PIAG database. The communication team is also working closely with the Information Management TWG and the PFEG to help ensure effective communications with the public.

6. BUDGETS AND TIMELINE

The Year-3 budget was finalized during the 12-13 March 2003 meeting held in Ottawa. The table below shows the distribution of funds among the various Study groups. For comparison purposes, the table also gives the amounts and distribution among the various Study activities as they were initially estimated in the Plan of Study (POS) of 1999. While some variations from the initial Plan of Study estimates have taken place, the Board fully expects to deliver its mandate consistent with the intent of the Plan of Study.

	U.S. (\$1000 US)		Canadian (\$1000 Cdn)	
	POS	Budgeted at 3/12/03 Mtg.	POS	Budgeted at 3/12/03 Mtg.
Common Data	0	20	0	0
Environmental	575	697	1055	1300
Rec. Boating	160	208	160	190
Coastal (1)	670	670	570	700
Com. Navigation	105	89	638	333
Hydroelectric	0	30	0	50
Water Uses	32	30	52	65
H&H	185	81	385	500
PIAG	270	240	340	340
Inter. Review	50	0	50	0
PFEG	0	215	0	280
IM Strategy	0	77	0	175
Study Mgmt. / IJC	200	200	200	200
Secretariat	0	100	0	340
Grand Total	2247	2657	3450	4473

(1) Including transfers in U.S. Year 3 of Canadian Year 2 funding of approximately \$500,000 Cdn.

A Gantt chart, provided in Attachment 3, has been developed to map the progress of activities through Study completion. At this point, all activities are on schedule.

Finally, the Board has followed up on earlier discussions with the Commission regarding the re-tooling of the Plan of Study (POS) to better reflect the Study requirements and timelines consistent with the 5-year mandate. For example, one major consideration was to ensure that the information collection phase of the work would be virtually complete by the end of year-3 (March 2004). That would allow the Board to use the results in the actual plan formulation and plan evaluations that need to be the main priority in the last two years of the mandate.

The General Managers worked closely with the Study teams and the Commission staff and based on decisions at the 22-24 January 2003 meeting in Alexandria Bay, NY developed the proposed POS re-tooling. (At the 12-13 March meeting, the Board approved the year 3 budget on the basis of final work plans resulting in slight variations from the figures shown below).

U.S. (\$1000)	Year 3		Year 4		Year 5	
	POS	Proposed	POS	Proposed	POS	Proposed
Common Data	0	20	0	0	0	0
Environmental	575	694	475	200	220	50
Rec. Boating	160	208	0	50	0	30
Coastal (1)	670	670	0	50	0	30
Com. Navigation	105	89	89	42	74	20
Hydropower	0	30	120	0	80	0
Water Uses	32	30	0	19	0	4
H&H	185	81	80	80	75	40
Public Involvement	270	240	270	270	320	320
Interrelations Rev.	50	0	50	0	50	0
Plan F & E	0	215	0	125	0	125
Info. Management	0	77	0	55	0	39
Study Management	200	200	200	200	200	200
Secretariat	0	100	0	100	0	100
Grand Total	2247	2654	1284	1191	1019	958

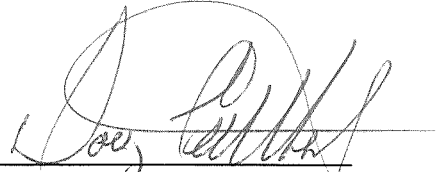
(1) Including transfers in U.S. Year 3 of Canadian Year 2 funding of approximately \$500,000 Cdn.

Canadian (\$1000)	Year 3		Year 4		Year 5	
	POS	Proposed	POS	Proposed	POS	Proposed
Common Data	0	0	0	0	0	0
Environmental	1055	1300	1085	825	935	49
Rec. Boating	160	140	0	40	0	25
Coastal	570	700	0	80	0	25
Com. Navigation	638	390	374	45	517	25
Hydropower	0	50	360	22	240	20
Water Uses	52	52	0	15	0	0
H&H	385	500	120	110	115	45
Public Involvement	340	340	340	340	415	415
Interrelations Rev.	50	0	50	0	50	0
Plan F & E	0	280	0	240	0	240
Info. Management	0	175	0	143	0	116
Study Management	200	200	200	200	200	200
Secretariat	0	340	0	340	0	340
Grand Total	3450	4467	2529	2400	2472	1500

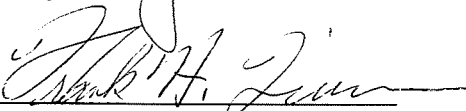
Respectfully submitted,



EUGENE STAKHIV
U.S. Co-Director



DOUGLAS CUTHBERT
Canadian Co-Director



FRANK QUINN



ANDRE CARPENTIER

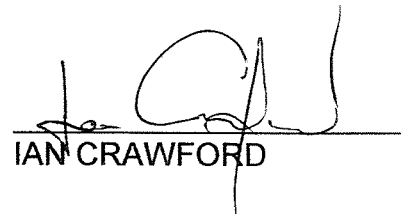
PETE LOUCKS



LYNN CLEARY



FRANK SCIREMAMMANO

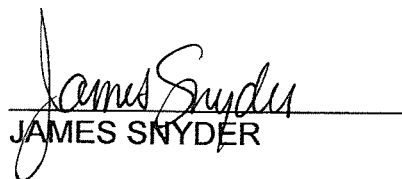


IAN CRAWFORD



SANDRA LeBARRON

STEVE RENZETTI

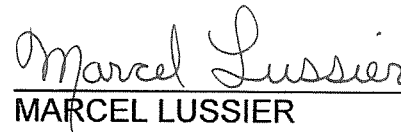


JAMES SNYDER

HENRY LICKERS



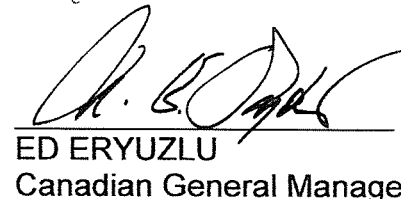
DANIEL BARLETTA



MARCEL LUSSIER



ANTHONY EBÉRHARDT
U.S. General Manager



ED ERYUZLU
Canadian General Manager

Attachment 1

Attendance at Board Meetings

12-14 November 2002 - Amherst, NY

Eugene Stakhiv
Pete Loucks
Frank Quinn
Frank Sciremammano
Sandy LeBarron
Jim Snyder
Dan Barletta
Tony Eberhardt

Douglas Cuthbert
Andre Carpentier
Ian Crawford
Marcel Lussier
Ed Eryuzlu

22-24-January 2003 – Alexandria Bay, NY

Eugene Stakhiv
Pete Loucks
Frank Quinn
Frank Sciremammano
Sandy LeBarron
Jim Snyder
Dan Barletta
Tony Eberhardt

Douglas Cuthbert
Andre Carpentier
Ian Crawford
Lynn Cleary
Marcel Lussier
Ed Eryuzlu

12-13 March 2003 – Ottawa, Ontario

Eugene Stakhiv
Frank Quinn
Frank Sciremammano
Al Sciavone (for Sandy LeBarron)
Jim Snyder
Dan Barletta
Tony Eberhardt

Douglas Cuthbert
Ian Crawford
Lynn Cleary
Andre Carpentier
Marcel Lussier
Ed Eryuzlu

Attachment 2

INTERNATIONAL LAKE ONTARIO – ST. LAWRENCE RIVER STUDY BOARD TECHNICAL WORKING GROUPS

(Note: Highlighted names are new members proposed)

COASTAL PROCESSES		
Last Name	First Name	Remarks
BENDER	Tom	US Lead, USACE, Buffalo, NY
POPE	Joan	USACE, ERDC
KLEIN	David	TNC (US member)
WOODROW	Donald	Hobart & William Smith, Menlo Park, CA
O'NEILL	Chuck	SUNY College, Brockport
SHEARER	Robert	NYSDEC
THIEME	Scott	USACE, Detroit
MOULTON	Ralph	Canadian Lead, EC, Ontario
LABUDA	Teresa	HALTON Conservation
CANTIN	Jean-François	EC, Quebec Region
BOYD	Ala	MNR, Ont.
SCIREMAMMANO	Frank	BOARD LIAISON
McKENNA	Anthony	PIAG CONTACT
STEWART	Henry	
STREIBEL	Max	

COMMERCIAL NAVIGATION		
Last Name	First Name	Remarks
HABERLY	Roger	US Lead, USACE, Buffalo
LAVIGNE	Thomas	SLSDC, Massena
ROBINSON	Dennis	USACE
LANGEVIN	Anjuna	Canadian Lead, Shipping Fed., Motreal
DUMONT	Stéphane	Canadian Coast Guard, Quebec
BÉDARD	Jean-Luc	Port of Montreal
D'AGNOLO	Flavio	CCG –Nav. Services
ERYUZLU	Ed	BOARD LIAISON
McAUSLAN	Tom	PIAG CONTACT
HUDON	Marc	

ENVIRONMENT

Last Name	First Name	Remarks
HAYNES	James	SUNY College, Brockport
KLEIN	David	TNC (US member)
SCHIAVONE	Albert	NYSDEC
WILCOX	Douglas	USGS
LAPAN	Steve	NYSDEC
MASON	Doran	GLERL
ATKINSON	Joseph	US Lead, U of Buffalo
DAVIS	Jack	USACE, ERDC
MANNO	Jack	SUNY-ESF
RANSOM	Jim	Akwesasne Mohawk Terr.
PARKER	Brad	Canadian Lead,
HUDON	Christiane	EC, CSL
DE LAFONTAINE	Yves	EC, CSL Montreal
LEHOUX	Denis	EC, CSL Montreal
MINGELBIER	Marc	Faune & Parc, Quebec
PATTERSON	Nancy	Cdn Wildlife Services
MINNS	Ken	DFO, Burlington
BARKO	John	USACE, Vicksburg, Miss.
LeBARRON STAKHIV CUTHBERT CLEARY	Sandra Eugene Doug Lynn	BOARD LIAISON
CARPENTER HALL HUDON KENNEDY LAWN WEISS	Bruce John Marc Elaine Sandra Stephanie	PIAG CONTACT

POWER GENERATION		
Last Name	First Name	Remarks
CHING	John	OPG
LAVEAN	Cindy	NYPA
ROBERT	Sylvain	Canadian Lead, H. Que.
FENLON	Brian	NYSDEC
OSINSKI	John	US Lead, NYPA
CRAWFORD	Ian	BOARD LIAISON
FINNEGAN	Paul	PIAG CONTACT

HYDROLOGY & HYDRAULIC MODELING		
Last Name	First Name	Remarks
CROLEY	Thomas	US Lead, GLERL
SHEN	Hung Tao	Clarkson University
YU	Paul	USACE, Buffalo
WERICK	Bill	USACE, IWR
FAY	David	EC Ontario
BELLEMARE	Jean-François	Min Env Que
FAGHERAZZI	Laura	Hydro Quebec
KLAASSEN	Joan	EC, Ontario
MORIN	Jean	EC, CSL Montreal
MORTSCH	Linda	EC, Ont. Region
MOIN	Syed	Canadian Lead - EC, Ont. Region
CAPONE	Ed	National Weather Services
LEE	Debbie	USACE, Buffalo, NY
LOUCKS CARPENTIER QUINN EBERHARDT	Pete Andre Frank Tony	BOARD LIAISON
		PIAG CONTACT

INDUSTRIAL, MUNICIPAL AND DOMESTIC WATER USES

Last Name	First Name	Remarks
STREPELIS	John	NYSDOH
SHOEMAKER	Clarence	NYSDEC
GOULD	Steven	Monroe County
MacLATCHY	Paul	City of Kingston (City management supports)
PELOQUIN	Denis	Montreal Metropolitan C.
EBERHARDT	Tony	BOARD LIAISON
ERYUZLU	Ed	
BARLETTA	Dan	PIAG CONTACT
STREIBEL	Max	

RECREATIONAL BOATING

Last Name	First Name	Remarks
BROWN	Jonathan	US Lead, USACE, Buffalo
WHITE	David	SUNY College @ Oswego
DEYOUNG	Gary	1000 Islands
BURNS	Rockne	Cape Vincent, NY
ST-MARTIN	Serge	Canadian Lead, Private, Quebec
BIBEAULT	Jean-François	EC -Quebec Region (CSL)
DONALDSON	Al	Ont. Marina Owners Asso
PETITPAS	Robert	Cnd Coast Guard, Auxiliary
ORR	David	1000-Islands
DIKE	Jim	Council of Commodores, Ontario
BROWN	Tommy L.	Cornell U., Ithaca
		BOARD LIAISON
McAUSLAN	Tom	PIAG CONTACT
LAWN	Sandra	

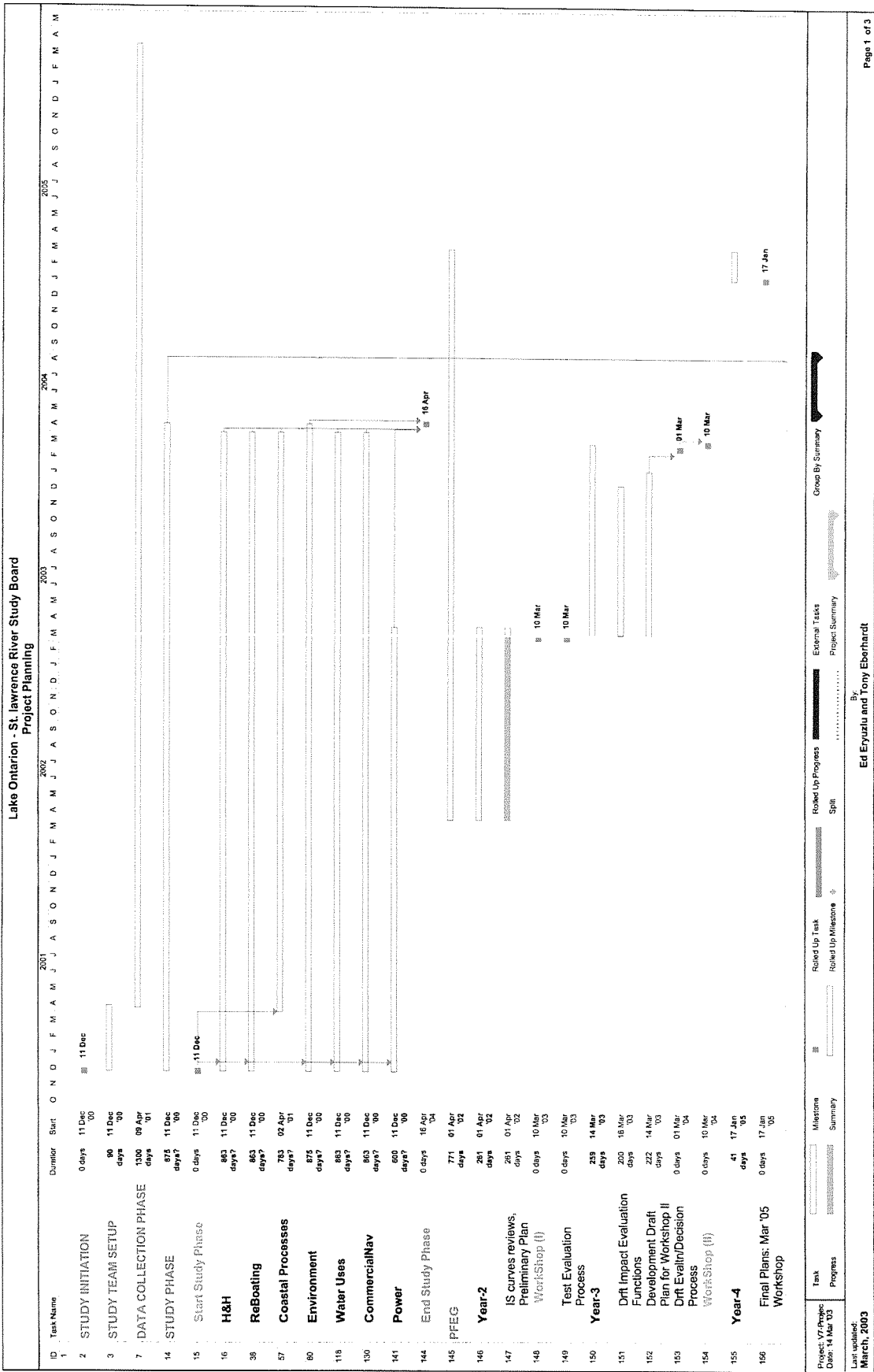
PLAN FORMULATION AND EVALUATION		
WERICK	Bill	US Lead, USACE
FAY	David	EC, Ontario Region
LEGER	Wendy	Canadian Lead, EC Ontario Region
EBERHARDT	Tony	U.S. GM
KING-FISHER	Paul	MNR, Ontario
PLANTE	Andre	EC – Quebec Region
LEE	Debbie	USACE – Cincinnati, OH
LORIE	Mark	USACE, IWR
CARPENTIER LOUCKS RENZETTI	Andre Peter Steven	BOARD LIAISON
TRIPOLI	Scott	PIAG LIAISON

INFORMATION MANAGEMENT		
GAUTHIER	Roger	US Lead, USACE, Detroit
POPE	Joan	USACE, ERDC
PLANTE	Andre	EC – Quebec R.
ROBERTSON	Mike	OMNR
GILLESPIE	Ian	Canadian Lead, EC
BARLOW	Roger	USGS - NY
		BOARD LIAISON
HALL	John	PIAG LIAISON

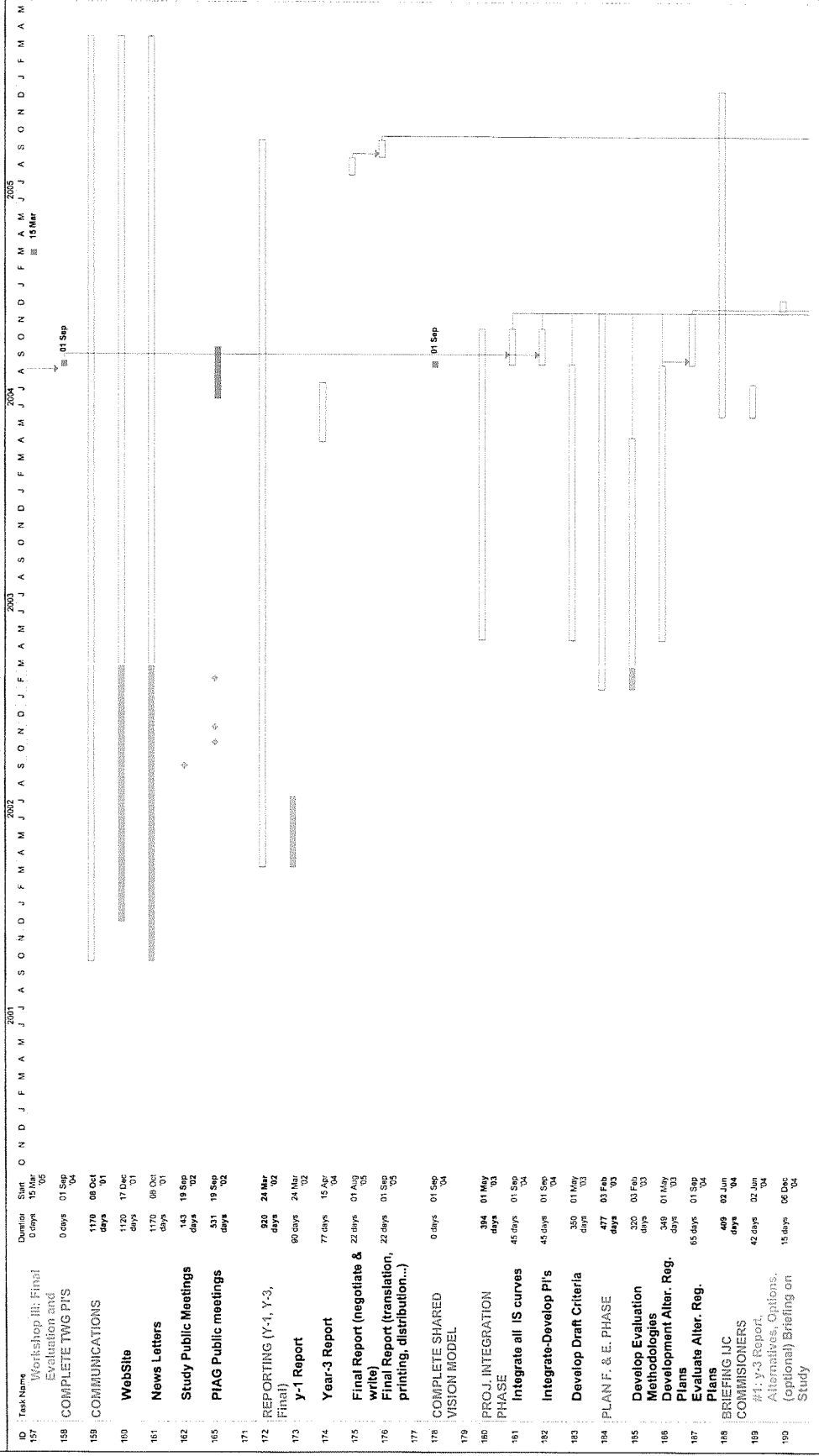
Submitted:
Ed Eryuzlu and Tony Eberhardt
March 13, 2003

Attachment 3

Study Gantt Chart



Lake Ontario - St. Lawrence River Study Board
Project Planning



Milestone Summary Task Progress
 Rolled Up Task Rolled Up Progress External Tasks Project Summary Group By Summary
 Split

Last updated: **March, 2003** By: **Ed Eryuzlu and Tony Eberhardt**

Lake Ontario - St. Lawrence River Study Board
Project Planning

