INTERNATIONAL LAKE ONTARIO-ST. LAWRENCE RIVER STUDY BOARD

Buffalo, New York
Ottawa, Ontario
14 March 2002

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

Commissioners:

The International Lake Ontario-St. Lawrence River Study Board submits herein its Third Semi-annual Progress Report, covering activities from 5 October 2001 through to 14 March 2002.

1. SUMMARY

Since the last report, the emphasis of the Study has been to establish performance indicators (PI) and tying them into hydraulic attributes for inclusion into the shared vision framework for evaluating alternatives. Members of the Plan Evaluation and Formulation Group (PFEG) met with each of the Technical Work Groups (TWG) establishing objective statements and PI in keeping with the approved methodology proposed by Peter Loucks. Also during the reporting period, work continued in all activities identified in the approved Year 1-work plans. Although difficult to establish, the Water Uses TWG met twice during the period and made progress toward identifying deliverables. The archiving and management of information and data was an activity requiring action and the Common Data Needs TWG was assigned the task of developing an information technology strategy. A contract with the University of Ottawa, Institute of the Environment, to discuss institutional changes that have taken place in the system since 1950 was completed.

The Study Board met three times, Peterborough, Ontario on 29-30 November 2001, Niagara Falls, New York on 4-6 February 2002 and Quebec City, Quebec on 13-14 March 2002. The meeting in Niagara Falls also coincided with a workshop sponsored by the PFEG regarding shared-vision modeling. Attendance during each of these events is included as Attachment 1. The PIAG sponsored two public workshops during the reporting period, Greece, New York on 11 October 2001 and Hamilton, Ontario on 8 November 2001. They also held a meeting with the Board on 6 February 2002 and their own meeting on 7 February 2002 both in Niagara Falls, New York.

During the reporting period, Shawn Martin resigned as a Member of the Board effective 12 March 2002. Fred Parkinson also informed the IJC of his pending resignation in June 2002.

The following is the list of accomplishments during this reporting period.

- Refinement of the Shared Vision Model by the PFEG for the evaluation of alternative regulation plans
- Establishment of performance indicators (PI) for each of the TWG
- Collection of public opinion through the first PIAG survey; 230 responses from the United States and Canada
- Distribution of the first newsletter to more than 3000 individuals and the establishment of a corresponding database
- Completion of the second newsletter with a Spring distribution
- Refining of the Study web site with more than 3700 hits to date
- Report entitled “Lake Ontario and St. Lawrence River-Changes in the Institutional Structure and Their Impact on Water Levels, 1950-2001” by University of Ottawa, Institute of the Environment and Clinton Edmunds and Associates Limited, January 2002
- Completion of all topographic, bathymetric and ortho-imagery data collection scheduled for Year 1 by the Common Data Needs TWG (CDNTWG)
- Initial development of a flood and erosion prediction system (FEPS)
- Approval of Year 2 Work Plans and funding allocations for U.S. activities

2. BOARD ACTIVITIES

On 20 November 2001, Mr. Clinton Edmunds presented his report on institutional changes to the IJC and Board in Ottawa. The report was well received and an executive summary will be included in the Board’s year-one report.

At it’s meeting on 29-30 November 2001, the Board began discussions of the Year 2 budget and work plans. Year 2 work plans were developed by TWGs and approved by the Board in meetings in Niagara Falls, New York in February and Quebec City in March.

The Board has been asked to co-sponsor a Center for Environmental Information Conference entitled “New York’s North Coast – A Troubled Coastline” and agreed to be a participant in the conference, which will be held in Rochester, New York on 3 May 2002.

The Board conducted a two-day workshop in February with representatives from each of the TWGs regarding the incorporation of performance indicators into an evaluation procedure developed by the U.S. Army Corps of Engineers, Institute for Water Resources referred to as Shared Vision Model. The workshop demonstrated the compromise required by interests when multi-decision making and multi-objectives are considered. The model will continue to be updated and input will be sought from the PIAG and its liaison with the various TWG.

During the reporting period, the Board reviewed the qualifications of candidates replacing TWG leads. On 4 February 2002, the Board selected Dr. Joseph

Atkinson, Director of the Great Lakes Program at the State University of New York at Buffalo as the U.S. Lead of the Environmental TWG, pending review by the Commission, to replace Dr. Mark Bain. The Board is still searching for a replacement for Dr. Christiane Hudon, the Canadian Lead of the Environmental TWG. Dr. Hudon will continue to be a member of the TWG. The Board is also considering candidates to replace Messrs. Steven Gould and Brian Kaye, U.S. and Canadian Water Uses TWG Leads, respectively, who have resigned but wish to continue to be members of that group.

3. PUBLIC INTEREST ADVISORY GROUP (PIAG) ACTIVITIES

The Public Interest Advisory Group (PIAG) held two public workshops during the period, 11 October 2001 in Greece, NY and 8 November 2001 in Hamilton, Ontario. Each workshop consisted of a roundtable with invited guests representing agencies and groups from the location followed by an evening meeting opened to all interested public. Both workshops attracted about 50 people.

A survey was sent out by the PIAG to individuals living within the geographic scope of the Study. More than 230 surveys were returned. There were varying opinions on the ideal conditions for the system with some favoring higher levels, lower levels, and either an increased or reduced range of levels. There was also confusion by individuals on the overall hydraulic and hydrologic nature of the system.

The first newsletter was distributed to over 3000 people and information regarding the Study was provided through the Great Lakes Water Level Bulletin produced by the Corps of Engineers and Environment Canada. More than 300 people responded with a postcard wishing to receive future copies of the newsletter and other information about the Study. The second newsletter was written during the period and made available on the Study website. Distribution will begin in early April.

The Study web site has been enhanced and over 3700 hits have been recorded since its establishment last year.

Members of the PIAG have given over 30 presentations to local groups regarding the Study.

The PIAG met with the Study Board on 6 February 2002 to discuss activities and outline plans for Year 2. They met on 7 February 2002 to formalize the Year 2-work plan, which was approved by the Board in Quebec City.

Fred Parkinson announced his resignation as Canadian Lead of PIAG effective June 2002 and the IJC is considering candidates for his replacement. The IJC is

also reviewing membership since terms end this July. Members were asked if they would like to continue to be members and the majority wish to remain.

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 (CDNTWG) has completed all scheduled data collection for year 1. The remaining topographic LIDAR collection for the St. Lawrence River from the Lakes of the Montreal Archipelago downstream to Trois Rivieres was completed in November 2001. Existing ortho-imagery required by the Coastal TWG for their priority zones for assessing top and toe of bluff and building footprints has been recently acquired where available. The CNDTWG is in the process of making arrangements for some new data collection in the spring of 2002. This will include topographic and bathymetric data for all 32 wetland sites on Lake Ontario not gathered in year 1 and new ortho-imagery for priority areas where existing data is not currently available.

A main focus of the TWG over the past few months has been in the development of an information management (IM) strategy for the study. To address this issue the CDNTWG has established an IM Strategy Team with experts from numerous agencies. In addition, a contractor (Pangaea Inc.) has been hired to assist in the development of an IM Strategy. The contractor has been contacting each of the TWGs to determine the types of data they are collecting and their information management needs. Together with the IM Strategy Team, and with the guidance of the Common Data Needs TWG, the contractor will develop a set of IM strategy options to be presented to the Study Board at their May meeting. The IM Strategy will address issues of data access and distribution, data ownership, updates and maintenance, quality assurance/quality control, database schema and formatting, proprietary data and licensing issues, liability, security, and long-term database management.

In the short-term, to address some of the immediate needs of the TWGs in working with geospatial data, the CDNTWG has developed a set of short-term Geographic Information System (GIS) Guidelines which outline some standards to be used for the collection, use, and distribution of geospatial data within the study.

The Common Data Needs TWG has prepared a year 2 work plan which has been submitted to and approved by the Study Board.

4.2 Coastal TWG

A classification of the shoreline is underway. This classification is determined by how the shoreline responds to varying water levels for regional site specific study areas (highly representative shoreline types of significant interest) plus other general shoreline reaches outside of the site specific areas. This work is over 90% complete for the Lake Ontario and upper St. Lawrence River shoreline.

The refinement of models and incorporation of existing data for the analysis of flood and erosion impacts on Lake Ontario and the St. Lawrence River have been initiated. Activities have included the development of historic erosion rates on the lower St. Lawrence River from aerial photos and the addition of shore classification and recession data to GIS databases.

Revisions to performance indicators for the coastal workgroup have been made. Refinements will continue to be made to these indicators throughout the study.

4.3 Environmental TWG

The Environmental Technical Working Group held meetings, participated in Board and Plan Formulation and Evaluation meetings and workshops, developed a general framework for environmental studies and completed an extensive planning process for Year 2 activities. Early in the period, group members were asked to propose performance indicators (PI) that could be further documented in the study, based on known relationships between hydrological factors and environmental components related to habitat or fauna. The 36 proposals received were then regrouped into 7 broad categories of PI: aquatic mammals, birds, amphibians and reptiles, fish, habitat quantity, habitat quality and water quality. The specific concerns related to each PI, planning objectives and linkages with hydrology were fully described in a report (Regulation and the Environment : a general framework, by C. Hudon and W. Werick, January 21, 2002).

The ENV TWG was subsequently divided into sub-groups to facilitate the coordination of the activities of specialists working in Lake Ontario, Upper and Lower St. Lawrence River, Canada and U.S. Coordinators were named for Wetlands Birds (Nancy Patterson), Wildfowl and Colonial Birds (Denis Lehoux), Amphibians and Reptiles (James Gibbs), Fish (Ken Minns), Habitat Quantity (Doug Wilcox) and Quality (Christiane Hudon). In addition to the creation of sub-groups within the ENV TWG, major changes in the group leadership occurred during the reporting period : Mark Bain was replaced by Joe Atkinson as U.S. co-lead and a new Canadian co-lead remains to be identified in place of Christiane Hudon.

Proposals for the year 2 Work Plan were solicited from each sub-group, putting the emphasis on strong linkages among specialists from different geographic

areas and between habitats and faunal sub-groups. Three sub-group meetings and one conference call were held to achieve this goal. PI proposals and projects were discussed, reviewed and ranked by the group, allowing a prioritization of the proposals according to studies that must be done, should be done and could be done. Final proposals were assembled into the Year 2 ENV TWG Work Plan representing 26 projects and over 35 participants, which were submitted to and approved by the Study Board in Quebec.

ENV TWG also initiated some activities towards the integration of its results into future regulation plans, although much remains to be done in this respect. The co-leads and some members participated at the workshops organized by the Plan Formulation and Evaluation TWG and provided input to the Common Data Needs Group on the issues of remote sensing (aerial photographs, satellite imagery), bathymetric and topometric data needs and data management. The integration of year 1 results into interim regulation criteria was carried out by twin studies for the St. Lawrence River (Hudon and Patoine, March 31, 2002) and is under way for Lake Ontario results (Bain, Fall 2002). An expert workshop to define the level of Hydrologic Alteration of Lake Ontario is also scheduled among US year 1 activities.

4.4 Recreational Boating/Tourism TWG

Work performed or currently in progress includes: 1) marina inventory on Lake Ontario and the St. Lawrence River (Canada and US (partial)), including physical data collection, water depths, etc. 2) developing a marina physical impact survey; 3) using preliminary data on socio-economic valuation and 4) working on a regional impact model and related topics.

Marina surveys and impact studies. The purpose of the physical marina survey was to obtain site characterization data (capacity, type of boats and water-depth needs, goods and services provided, etc.) in the study area. This will be key in relating water levels to boating activity impacts, especially with PI chosen by the TWG.

Physical data measurement was completed for Lake Ontario, Upper and Lower St. Lawrence River (Canadian side). All boat access sites were visited to insure a complete picture of all sites along the Lake and the River (downstream to Lake St. Pierre). The Lake Ontario and St. Lawrence River portion of the data is being geocoded. Data for the lower river has been put into a GIS. A modelization test was also performed for a specific marina in the lower river. For the U.S., the NYS Sea Grant inventory of marinas was used as a starting point for the GIS. All subsequent data collected at marina sites will then automatically have a geographic component.

Marinas and clubs physical impact surveys. Going further in the analysis of marinas and clubs impact, a survey was designed to review basic information

about supply of services and access, identify impacts and problems, review water level preferences, identify adaptation measures to cope with uncertainty of water level fluctuations, especially low water situations. A preliminary survey (open-ended survey) was performed in 2000 in order to test some question types and variability of response according to water level impact, economic situation and climatic factors and adaptation measures. The same survey form was used for Lake, Upper and Lower River (with a French translated version). Marinas and clubs operators were surveyed in autumn 2001, after a problematic summer for boaters due to low levels.

Developing a regional model. Previous works are all part of regional impact model for one specific group of interest (marinas and clubs operators). The type of data was defined according to regulation plans impact analysis. The first task was to identify a PI matrix that will be used to estimate impact according to different water level scenarios and regulation plans. This was done as an on-going process with input from TWG members, other technical working groups and the Board.

Evaluation of tourism. This year, a preliminary study was also done for the Lower River and more precisely on Old-Port of Montreal boat services in order to identify possible variability of impacts of water level variations.

4.5 Commercial Navigation TWG

Work during this time frame concentrated on: developing planning objectives, identifying key geographical areas within the study area (Lake Ontario to the St. Lawrence River through Becancour, Quebec), developing performance metrics and PI, coordinating the contract with CFoRT to develop commercial navigation data, and developing Year 2 Work Plans.

Five key geographical areas were identified for which impacts on commercial navigation from regulation of Lake Ontario outflows would need to be addressed: 1) Port Weller to Kinston (Lake Ontario); 2) Kingston to Cornwall; 3) Cornwall to Beauharnois; 4) Beauharnois to Montreal and 5) Montreal to Becancour. Each of these five geographical areas have their own concerns about water level changes resulting from regulation of Lake Ontario. Impacts from high Lake Ontario outflows, impacts from low Lake Ontario outflows, and impacts from timing of discharges were developed for each of the five geographical areas. Also ice management operations, especially in the downstream area (Montreal to Becancour), will impact commercial navigation.

Once the 5 geographical areas were identified, the potential impacts from various Lake Ontario outflows (high outflows, low outflows, and change in the timing of the outflows) were developed. Performance metrics were developed for each of the five areas to identify when these impacts would begin. A total of 42 metrics were developed which looked at identifying when impacts to

navigation are encountered (speed reductions, loading reductions, cessation of vessel movement due to unsafe cross current conditions, etc.).

Another major work item during this reporting period was coordination of the effort by CFoRT to develop commercial navigation data for the area between Saint Lambert and Sept Isles. A contract was developed and implemented that provided the objectives and scope of work associated with this data collection effort. 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.

4.6 Hydroelectric Power Generation TWG

During the reporting period, the Hydropower TWG met several times by conference call to discuss plan evaluation methodology for assessing the performance of new plan alternatives. The group is assessing the option of either performing its own evaluation of each alternative and providing the results to the Plan Formulation and Evaluation Group (PFEG) or providing simplified models to PFEG for preliminary plan evaluation. The group met with the PFEG Lead and PIs are being developed. The group is also developing its “White Paper” on the state-of-the-industry and is researching technical information papers, which will be provided to the Study Board.

4.7 Domestic, Industrial and Municipal Water Uses TWG

The Water Uses TWG held two meetings during the reporting period. Although, tentatively resigning, both U.S. and Canadian Leads were present at both meetings along with most members. The group outlined the actions required for evaluating this interest and discussed PI. It submitted a Year 2-work plan, which was approved by the Board in Quebec City. Work begun under a contract with Planning & Management Consultants in February 2002 to develop an inventory of water intakes along the Canadian and U.S. shorelines. A questionnaire to municipal water intake operators is being developed.

4.8 Hydrologic and Hydraulic Modeling TWG

The TWG met once during the reporting period to review the progress of the year one work and to develop their proposed work plan for the second year. The year 2 work plan was developed and approved by the Study Board in February.

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. For use in the development of the Shared Vision Model, the H&H group provided the sets of hydrologic results for five test plans based on 96 years of historical supplies.

A summary of progress on the projects in the year one work plan follows.

Extension of the Co-ordinated Great Lakes Regulation and Routing Model to the St Lawrence River to Trois Rivières: Relationships have been developed to determine quarter-monthly mean water levels at gauge sites on the lower St Lawrence River from Montreal to Batiscan using quarter-monthly mean outflows from Lac St Louis and key tributaries to the St Lawrence and tidal signals. A report was prepared illustrating the variation of hourly water levels about the quarter-monthly mean at these St Lawrence gauge sites.

Lake Ontario Pre-project Outlet Hydraulic Relationship: The existing relationship has been reviewed and documented. The estimate of the effects of crustal movement on the outflow relationship has been reviewed and updated with the latest science in this area. The estimation of ice resistance on the flows under pre-project conditions is being reviewed.

Review of Methods to Regulate Reservoir Outflows: A review of the published water resources engineering literature has been conducted. Several other North American agencies with responsibilities for large lake reservoir regulation have been contacted and their operational methods listed.

Ottawa River Regulation and Routing Model Upgrade: An extensive review and filtering of the hydrologic data for the Ottawa River system has been completed. Hydraulic ratings and capacities of equipment, channels and reservoirs have been reviewed and updated where necessary. The model software has been updated and calibration of the updated model is nearing completion.

Hydrodynamic Modelling of St. Lawrence River: Kingston/Cape Vincent to Cornwall Reach: A literature review has been completed identifying and examining all previous modelling on the St. Lawrence River. Bathymetry data for the model has been gathered and quality checked. Stage, velocity, discharge, and base mapping data have been gathered. An operational 2-D hydraulic model for the upper St. Lawrence River from Cornwall to Chippewa Bay has been constructed and calibration tests have commenced. The modellers have identified additional velocity measurement data needed to fully calibrate the model. The Chippewa Bay to Kingston reach will not be available until a later date as the Thousand Islands reach will be the most challenging to model.

Hydrodynamic modelling of St. Lawrence River: Lac Saint-Louis Reach: Bathymetric data for this reach has been gathered and is being quality checked. Initial model calibration has been completed.

Synthetic Generation of the Net Basin Supplies to the Great Lakes and the Inflows of the Ottawa River: An analysis has been completed of the relevant statistical characteristics of the hydrologic and climate series for use in the synthesis of Great Lakes Net Basin Supplies and Ottawa River inflows. This work has confirmed an apparent shift in the NBS series data for lakes Erie and

Ontario took place around 1970. No such shift has been detected in the NBS data for Lakes Superior and Michigan-Huron. Under a separate contract, a review was conducted of the type of stochastic model required to simulate the NBS series and a suitable multivariate shifting level model was updated. A workshop was held in January to review the findings of these two efforts and to plan the year two tasks necessary to synthesize a large number of realistic hydrologic sequences for use in regulation plan formulation and evaluation.

Climate Change Scenario Development: Three climate change scenario items will be completed within the first year. The first effort has extended the existing Great Lakes climate change scenario dataset to the Ottawa River basin. This will enable later comparisons of these climate change projections with others to be generated in subsequent study years for the entire study area, using the most current Global Circulation Model (GCM) scenarios available. The second effort has compared the results of a wide array of climate models and emission scenarios within the Great Lakes and St. Lawrence River study area. This work has identified those that produce future mid-range and extreme temperature and precipitation projections in the study area. The third effort is a description of current methods for constructing regional climate scenarios and recent advances in regional downscaling techniques for GCM outputs. The findings provide necessary guidance on selecting the appropriate downscaling techniques that will be used for the climate change impact assessments.

4. 9 Plan Formulation and Evaluation TWG

During the reporting period, the group wrote preliminary papers for the TWGs that summarize how the work of that TWG will be integrated into the overall planning process. These papers include the first set of planning objectives, hydrologic attributes, and performance metrics. The group met with all the TWGs and initiated an iterative process where planning integration issues are identified and addressed. Collaboration was made with the Canadian Environmental TWG Lead to review over two dozen environmental work proposals, and to publish a draft framework document to show how the proposals did and did not integrate with each other and the with the overall planning framework.

A “mock” shared vision model was developed in Excel. It accurately models the decision processes in Plan 1958D and Plan 1998, and uses releases calculated by the H&H TWG for several other plans. The model user can evaluate the performance of any of these plans against an extensive array of performance metrics from previous studies, including Interest Satisfaction curves and Preference Indicators from the 1997 International St. Lawrence River Board of Control study. The model will allow users to evaluate how changes in regulation will affect the many interests on the Lake Ontario and the St. Lawrence River. The Board intends that the model provide the Commission with sufficient information to determine the impacts of specific proposed changes and whether

they are consistent with the provisions of the Boundary Waters Treaty.

The group also conducted a plan formulation workshop in Niagara Falls in February, 2002 at which each of the TWG presented their planning integration issues to the Study Board and then participated in exercises where they tried to use the metrics from previous studies to determine the best plan for their interest group. The exercise showed that the old metrics did not always capture the strengths and weaknesses of a plan for a particular interest group.

5. Budget and Timeline

In December 2001, the Board was informed that Congress had approved $3,000,000 for U.S. Year 2 Study activities. Including funds retained in Year 1 by the IJC, the total amount available for Year 2 is $3,246,884. Attachment 3 shows the amount of funds committed and spent to March 14. This includes funds remaining from Year 1 (no-year funds) and those available in Year 2. All Year 1 U.S. activities are on schedule with most expecting completion by September 2002.

Regarding Canadian funding, a total of $4,000,000 is expected for Year 2 Study activities that will begin on 1 April 2002. Attachment 3 shows amounts committed and spent to March 14 for Canadian activities. All Year 1 activities will be complete by March 31, 2002 with considerable increases in year-end expenditures expected by that date. Descriptions of deliverables and a year 1 financial statement will be included in the Study's Year 1 report, which will be provided to the IJC in June 2002.

At its meeting in Quebec City, the Board approved the work plans of all TWG and other study activities for Year 2 funding totaling $3,188,000 U.S. and $4,006,600 Canadian. Planned expenditures being initiated by the Canadian sections of several TWGs are significantly higher than expenditures and levels of effort by U.S. participants in those TWGs. The Board therefore agreed to apply an offset of $400,000 of U.S. funds (approximately $600,000 Canadian) for the Coastal TWG and Common Data Needs work in Canada and the U.S. being initiated in the U.S. by international contractors. The values in Attachment 3 reflect the Year 2 budget .

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

HENRY LICKERS

DALTON FOSTER

FRED PARKINSON

R. SHAWN MARTIN

STEVEN RENZETTI

ANTHONY EBERHARDT
U.S. General Manager

ED ERYUZUU
Canadian General Manager

Attachment 1

Attendance at Board Meetings

29-30 November 2001 - Peterborough, Ontario

Eugene Stakhiv	Doug Cuthbert
Frank Quinn	Ian Crawford
Frank Sciremammano	Andre Carpentier
Dalton Foster	Henry Lickers
Sandra LeBarron	Fred Parkinson
Tony Eberhardt	Lynn Cleary
	Ed Eryuzlu

4-6 February 2002 – Niagara Falls, New York

Eugene Stakhiv	Doug Cuthbert
Frank Quinn	Ian Crawford
Frank Sciremammano	Andre Carpentier
Dalton Foster	Steve Renzetti
Sandra LeBarron	Fred Parkinson
Pete Loucks	Ed Eryuzlu
Tony Eberhardt	

13-14 March 2002 – Quebec City, Quebec

Eugene Stakhiv	Doug Cuthbert
Frank Quinn	Lynn Cleary
Al Schiavone	Andre Carpentier
for Sandra LeBarron	Ed Eryuzlu
Tony Eberhardt	

Attachment 2

International Lake Ontario – St. Lawrence River Study Board
Technical Working Groups

COASTAL PROCESSES		New not confirmed
Last Name	First Name	Remarks
BENDER	**Tom**	**US Lead, USACE, Buffalo**
POPE	Joan	USACE, ERDC
BONNANO	Sandra	TNC
ELLSWORTH	Joanne	Niagara County Planning
WOODROW	Donald	Hobert & William Smith
O'NEILL	Chuck	SUNY College@Brockport
SHEARER	Robert	NYSDEC
THIEME	Scott	USACE, Detroit
MOULTON	**Ralph**	**Canadian Lead, EC**
LABUDA	Teresa	HALTON Conservation
CANTIN	Jean-François	EC, Quebec Region
BOYD	Ala	MNR, Ont.
RONDEAU	Bernard	EC, CSL, Montreal
SCIREMAMMANO	Frank	**BOARD LIAISON**
McKENNA SESSLER STEWART STREIBEL	Anthony Sally Henry Max	**PIAG CONTACT**
COMMERCIAL NAVIGATION		
Last Name	First Name	Remarks
HABERLY	**Roger**	**US Lead, USACE, Buffalo**
LAVIGNE	Thomas	SLSDC, Massena
ROBINSON	Dennis	USACE
LANTZ	**Ivan**	**Cnd Lead, Shipping Fed.**
DUMONT	Stéphane	Canadian Coast Guard
VINCELLI	Pat	Cnd Seaway
OUELLET	Chantal	Transports Quebec
BÉDARD	Jean-Luc	Port of Montreal
D'AGNOLO	Flavio	CCG –Nav. Services
ERYUZLU	Ed	BOARD LIAISON
LANTZ MCAUSLAN	Ivan Tom	PIAG CONTACT
ENVIRONMENT		
Last Name	First Name	Remarks
HAYNES	James	SUNY College Brockport
BONANNO	Sandra	TNC
SCHIAVONE	Albert	NYSDEC
WILCOX	Douglas	USGS

LAPAN	Steve	NYSDEC
MASON	Doran	GLERL
ATKINSON	**Joe**	**US Lead, U of Buffalo**
DAVIS	Jack	USACE, ERDC
MANNO	Jack	SUNY-ESF
RANSOM	Jim	Akwesasne Mohawk Terr.
HUDON	**Christiane**	**Canadian Lead EC, CSL**
DE LAFONTAINE	Yves	EC, CSL Montreal
LEHOUX	Denis	EC, CSL Montreal
MINGELBIER	Marc	Faune & Parc, Quebec
PATTERSON	Nancy	Cdn Wildlife Services
STEWART	Tom	Ont MNR
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
FINNEGAN	**Paul**	**US Lead, NYPA**
CRAWFORD	Ian	**BOARD LIAISON**
OSINSKI	John	**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**	**Canadian Lead, EC**
BELLEMARE	Jean-François	Min Env Que
FAGHERAZZI	Laura	Hydro Quebec
KLAASSEN	Joan	EC
MORIN	Jean	EC, CSL Montreal
MORTSCH	Linda	EC, Ont. Region
MOIN	Syed	EC, Ont. Region

LEE	Debbie	USACE, Buffalo
LOUCKS CARPENTIER QUINN	Pete Andre Frank	**BOARD LIAISON**
FOSTER	Dalton	**PIAG CONTACT**
INDUSTRIAL, MUNICIPAL AND DOMESTIC WATER USES		
Last Name	**First Name**	**Remarks**
STREPELIS	John	NYSDOH
SHOEMAKER	Clarence	NYSDEC
GOULD	Steven	Monroe County
GAGNON	Christian	EC, CSL, City of Montreal
KAYE	**Brian**	**Cnd Lead; MOE,Ont.**
FOSTER	Dalton	**BOARD LIAISON**
BARLETTA	Dan	**PIAG CONTACT**
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
BIBEAULT	**Jean-François**	**Canadian Lead, EC**
DONALDSON	Al	Ont. Marina Owners Asso
PETITPAS	Robert	Cnd Coast Guard, Auxiliary
ORR	David	1000-Islands
DIKE	Jim	Concile of Commodors,On
BROWN	Tommy L.	Cornell U., Ithaca
PARKINSON	Fred	**BOARD LIAISON**
PARKINSON SCHERMERHORN,	Fred Bea	**PIAG CONTACT**
COMMON DATA NEEDS		
Last Name	First Name	Remarks
GAUTHIER	**Roger**	**US Lead, USACE, Detroit**
MURAWSKI	Paul	USACE, Buffalo
POPE	Joan	USACE, ERDC
LEGER	**Wendy**	**Canadian Lead, EC**
Kenny	Frank	Ontario MNR
Cantin	Jean-Francois	EC, Quebec Region
PLAN FORMULATION AND EVALUATION		
WERICK	**Bill**	**US Lead, USACE**
FAY	**David**	**EC**
Eberhardt	Tony	U.S. GM
CARPENTIER	Andre	MENVIQ, Quebec

Attachment 3
U.S. and Canadian Funds

	U.S.			Canada		
	FY 2001 "No-Year" Funds		Yr-2 Board Approved Feb 5 & March 14	FY 2001/ 02		Yr-2 Board Approved Feb 5 & March 14
	Committed	Spent		Committed	Spent	
H&H	31,800	31,800	110,000	311,767	174,040	436,000
Coastal	300,000	200,182	1,263,000	346,700	184,696	750,000
Common Data	635,000	517,483	522,000	728,980	210,000	400,000
Rec. Boating	126,000	59,254	193,000	200,400	149,058	291,000
Power	0	0	0	0	0	0
Water Uses	50,000	0	50,000	0	0	70,000
Com. Nav	50,000	9,197	0	55,000	0	325,000
Environment	276,593	93,184	454,000	660,500	502,000	982,000
Plan Formulation	80,000	7,520	150,000	0	0	100,000
PIAG	177,600	118,384	146,000	150,000	139,423	182,600
Management - Secretariat & IJC	256,123	218,890	300,000	483,000	256,479	470,000
TOTAL	1,903,116	1,255,894	**3,188,000**	2,936,347	1,615,696	**4,006,600**
Comments:						
1. Total available U.S. funding in Year 1 was $2,150,000; Balance remaining for use in Year 2: $246,884						
2. Year 2 approved values for U.S. Coastal TWG increased by $400,000 US ($600,000 Can) (approximate)						
3. Part of Year 2 transfer from U.S. for Canadian activities may be used by Common Data Needs Group						