

# Ripple Effects



Volume 4, May 2003

## Contents

Opening Letter . . . . .	1
Shared Vision Model . . . . .	3
Water Uses Technical Work Group . . . . .	4
PIAG Holds Meeting in Akwesasne . . . . .	6
Water Uses Group Needs Input . . . . .	6
Commercial Navigation . . . . .	7
Team Arrivals . . . . .	8
Team Departures . . . . .	9

*Dear Friend of Lake Ontario and the St. Lawrence River:*

*The International Lake Ontario-St. Lawrence River Study\* is now in its third year of reviewing the current regulation plan for possible improvement. The Public Interest Advisory Group members are working to ensure that all impacted interests and locations are considered.*

*During our recent meetings in Ottawa, Ontario, the group participated in a workshop with the Plan Formulation and Evaluation Group and the other Technical Work Groups. The Plan Formulation and Evaluation Group is developing a model that will combine the information from each of the Technical Work Groups so that various test regulation plans can be evaluated. For more information about the Model, please read the Shared Vision Model article on Page 3.*

*We held a meeting with the Akwesasne Nation in February and were able to listen to their concerns regarding the regulation of water levels and how it affects their fishing and their land.*

*The Public Interest Advisory Group will be holding meetings in the following locations this year:*

- St. Catharines, Ontario . . . . . June 18, 2003*
- Wilson, New York . . . . . June 19, 2003*
- Sodus Bay, New York . . . . . September 10, 2003*
- Montreal, Quebec . . . . . September 24, 2003*

*Please visit the Study website: [www.losl.org](http://www.losl.org) as the meeting dates approach for information about the time and location of the meeting nearest you.*

*It is increasingly important for us to receive your feedback as the Study progresses. Our members are available to meet with interest groups throughout the Study area. If your group is interested in a presentation, please contact one of our communication representatives.*

*Sincerely,*

**PIAG**

*Public Interest Advisory Group  
International Lake Ontario-St. Lawrence River Study*

\*The International Lake Ontario-St. Lawrence River Study was set in motion in 2000 by the International Joint Commission to assess and evaluate the Commission's Order of Approval used to regulate outflows from Lake Ontario through the St. Lawrence River. The current Order of Approval requires that the St. Lawrence Seaway Power Project be operated to meet certain conditions and criteria to protect the interests in both countries, including shoreline communities, domestic and industrial water uses, commercial navigation, and hydropower production. In addition, the Study is evaluating the impacts of changing water levels on environmental factors, shore erosion, flood damages, recreational boating, and tourism. The Study will also take into account the forecasted effects of climate change.

The Public Interest Advisory Group is a volunteer group appointed by the International Joint Commission to ensure effective communication between the public and the International Lake Ontario-St. Lawrence River Study Team. This newsletter is published by the Public Interest Advisory Group to help keep you informed about the Study.



*Snapshots from the  
Plan Formulation and  
Evaluation Group Workshop  
in Ottawa in March*



Photos - Chris Stewart

# Shared Vision Model

Bill Werick and Wendy Leger, PFEG co-leads

The Shared Vision Model is a study model that will integrate the information from each of the Technical Work Groups (TWGs). With this Model, various regulation plans can be run through an evaluation process and the results can be compared for different interests and locations. The Model, involving multi-objective, multi-stakeholder evaluation procedures, has been presented to, and has been endorsed by, the Study Board. The Shared Vision Model will use the relationships between performance indicators identified by each of the TWGs. A performance indicator is some measure of impact to an interest. For example, the Coastal TWG will use erosion damages in terms of dollars.



Team members record ideas generated from group sessions. The Study Board acted on the reports the following day.

Photo - Chris Stewart

All of the TWGs are working very hard to determine the most scientifically accurate assessment of the relationships between different water levels and flows across the Study area and over time to their chosen performance indicators. These relationships, whether expressed in terms of a stage/damage curve or some other mathematical formula, will go into the Shared Vision Model for the evaluation process. Regulation alternatives considered in previous evaluations will be tested as an initial comparison. Shared Vision planning procedures will assist with this comparison. They will also help build alternatives with stakeholder groups. Procedures and indicators will be enhanced and strengthened as the Study progresses.

The Plan Formulation and Evaluation Group is working closely with the Public Interest Advisory Group and the other Technical Work Groups to develop the Model. The Model is termed "Shared Vision" because each TWG helps build the section that measures their assessment of impacts resulting from changes to regulation of outflows from the Lake. Furthermore, all parties, including the Public Interest Advisory Group liaisons, work to assure that it correctly models the movement of water through the system.

*This level of involvement and trust cannot be achieved with an off-the-shelf "black box" model. A shared vision model must be built from scratch with the help of each of the TWGs, and it must be easy to use so that all parties can develop and evaluate their own ideas on managing the regulation of Lake Ontario outflows.*

The Shared Vision Model will go through several stages of development. At each stage the TWGs will evaluate alternative regulation plans and get another chance to determine if their performance indicators are the best measures of their preferences. We will continue to update you through this newsletter and our meetings as this Model evolves. The Study Team plans on having a series of Public Interest Advisory Group meetings with the public in 2004 to show you this Model and to present the Study's progress. We hope these meetings will improve our recommendations to the International Joint Commission in the final year of Study.

[www.losl.org](http://www.losl.org)



Pete Zuzek leads a discussion about shoreline erosion issues

Photo - Chris Stewart

# Water Uses Technical Work Group

Stuart Norvel, Planning and Management Consultants, Ltd

Lake and river levels can affect a variety of socio-economic and environmental factors, including the ways in which people use the lake or river. People rely on lake or river water for a variety of purposes. Households use it to wash, cook and clean, while businesses and industry rely on water for manufacturing, energy and trade. As part of the Study, the Domestic, Industrial, and Municipal Water Uses Technical Work Group is assessing how changes in water levels affect the people and industries that depend on lake or river water. More specifically, the Group is looking at how water levels influence the operation of critical municipal and industrial water-supply infrastructure such as water treatment plant intakes, wastewater discharge outlets, sewer and storm-water conveyances, and private residential systems such as shore wells.

To accomplish its mission, the Water Uses Technical Work Group is conducting several surveys of water and wastewater treatment facilities in areas that border Lake Ontario and the St. Lawrence River in Canada and the United States. In addition, the Group is researching the effects of water levels on shore wells and other private residential systems in areas where city water is not available.

[www.iosl.org](http://www.iosl.org)

*Many towns and cities have water treatment plants that draw water from the Lake and River from intakes that lie directly below the water surface. Based on information collected, 43 intakes are operational in Ontario and New York, and 29 have been identified in Quebec. Collectively, these facilities provide water to more than 10 million people in the U.S. and Canada.*

Along Lake Ontario in New York and Canada, Study data suggest that variations within long-term averages on Lake Ontario do not have widespread adverse impacts on the ability of municipal water-supply intakes to effectively draw water. Most public intakes, including the largest that serve most of the people who rely on lake water, are at depths and distances from shore that eliminate or greatly mitigate problems with respect to water quantity. For example, in the U.S., two regional water-supply systems account for roughly 90 percent of water withdrawn by municipal intakes. Intakes at both facilities extend 6,600 feet (1980 metres) offshore and lie in 40 to 48 feet (12 to 14.4 metres) of water. While most intakes are deep and long enough to avoid problems, there are a few

small facilities with intakes that rest closer to shore in comparably shallow water, which makes them more susceptible to problems that can be related to rising and falling water levels.

With respect to quality, algae was the most common problem reported by many water treatment plant operators, regardless of intake depth. Taste and odor problems associated with algae were reported by several water treatment facilities. Two naturally occurring chemicals, geosmin and methylisoborneol (MIB), produced by decaying blue-green algae and bacteria are the primary culprits. Research conducted by the Ontario Water Works Research Consortium (OWWRC) shows that geosmin and MIB occur primarily in depths up to about 100 feet (30 metres), and in general, there is an inverse relationship between depth, temperature and concentrations of geosmin and MIB. In addition, during surveys conducted by the Group some interviewees noted that algae seem to be more of a problem for facilities where a large plateau surrounds an intake and allows for a small temperature differential across the lake or river bottom.

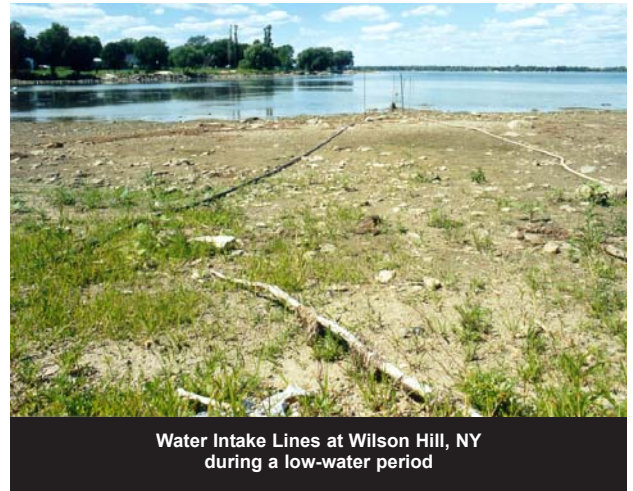
Taste and odor impacts vary in intensity each year; however, two notable and extended events occurred late in the summers of 1998 and 1999. The levels of taste and odor problems during these events were about ten times higher than historic levels. While it is true that 1998 was a low-water year, it is unclear as to whether Lake levels were a significant contributor. Studies by OWWRC, suggest that spring warming may be critical. Water temperatures rose more quickly in the spring of both 1998 and 1999 compared to 2000 and 2001, when levels of geosmin were substantially lower. During the Group's survey, many interviewees agreed that algae problems were not so much a function of water levels, but were more closely linked to seasonal increases in temperature and possibly to long-term climate change. Most of the large water utilities have installed activated carbon filters to trap geosmin and MIB. According to OWWRC, several of the chief water utilities in Ontario have invested upwards of \$25 million to remove the noxious compounds.

Another type of alga that has caused problems is a periphyte known as Cladophora. Floating mats of Cladophora can accumulate in warm, shallow waters and provide an ideal habitat for blue-green algae and bacteria growth. In general, intakes are far from shore and deep enough to avoid problems with Cladophora. However, one small facility with a comparably shallow intake (16 feet or 11.8 metres) reported that Cladophora had clogged intake screens on several occasions. According to OWWRC, Cladophora experienced explosive growth in the 1960s and 1970s. Research at that time showed that Lake Ontario was receiving an excess of phosphorus, which contributes to abnormal growth of Cladophora. During survey activities, many utility operators cited phosphorus run-off from urban and agricultural sources as a primary contributor to high levels of Cladophora.

During the winter, alga die off and are not a problem, but cold weather brings ice, which has been a concern for some utilities. In cold temperatures the water surface freezes. When water levels are low, floating ice and slush can form near intakes and clog screens that filter lake water before it enters

the water treatment plant. One facility along Lake Ontario in the U.S. reported that ice has clogged its intakes on several occasions in the past. Serving about 7,000 people, the facility is relatively small and has an intake with only 12 feet (3.6 metres) of water above it when measured based on chart datum (International Great Lakes Datum 1985). Several other facilities reported substantial problems with ice blockages in the past, but installation of newer and deeper structures resolved the problem.

*As a general observation, water levels in Quebec are more of a concern for operators of municipal water intakes, particularly downstream of the Moses-Saunders Dam in the Montreal and Trois-Rivières area. Issues are more complex relative to Lake Ontario because the St. Lawrence River is much shallower in many places.*



Water Intake Lines at Wilson Hill, NY during a low-water period

Photo - Dalton Foster



Water Outfall along Lake Ontario Shoreline

Photo - National Oceanic and Atmospheric Administration

Flow rates, which are affected by Lake Ontario outflows, can also affect conditions near intake structures. For example, a facility operator at Pointe Claire reported that low flows in the River increase treatment costs for algae. Another reported problem associated with flow is the relationship between upstream discharges and conditions near downstream intakes. Rates of flow can affect levels of wastewater dilution that in turn, can impact water quality for downstream users. Large ships passing through the St. Lawrence channel can also affect conditions near water intakes. Efforts are currently underway to collect and analyze additional data in Quebec.

Many of the same towns and cities that use Lake Ontario as a source of water also use it as a means to discharge treated sewage and wastewater from homes, businesses and industries. Water is treated at wastewater treatment plants and is discharged via outfalls in or near Lake Ontario or the St. Lawrence River. Studies are currently underway to determine if variations in water elevation affect the ability of businesses and cities to discharge wastewater into the Lake. For example, high water levels may cause discharge systems to back up and flood, while low water levels and flows could potentially reduce the assimilative capacity of waters near outfalls.

Other stakeholders of interest to the Domestic, Industrial, and Municipal Water Uses Technical Work Group are people who rely on private residential water systems. Most households in Canada and the U.S. are connected to public water utilities. However, for some, city water is not available. Water must be drawn directly from hoses placed in the Lake or River or from wells and cisterns located along the shoreline of Lake Ontario. Low water levels can cause problems for shore wells and intake hoses. Efforts are also underway to assess how water levels affect these systems.

# Public Interest Advisory Group Holds Meeting in Akwesasne

Stephanie Weiss, PIAG Member

On February 20, the Public Interest Advisory Group and some other Study Team members met with ten members of Akwesasne to explain what the Study is about and to listen to their concerns.

The community members indicated they would like the Study to consider the impacts of water-level regulation on their fishing grounds. When water is held back upstream on the St. Lawrence River to mitigate anticipated flooding of Montreal during the Ottawa River freshet, it impacts tribal fishing. The fishing takes place above the Moses-Saunders Dam since the fish below the dam are too contaminated. This impacts the community members who are commercial fishermen. The Environmental Technical Work Group will follow up with community fishermen to determine their water-level preferences.

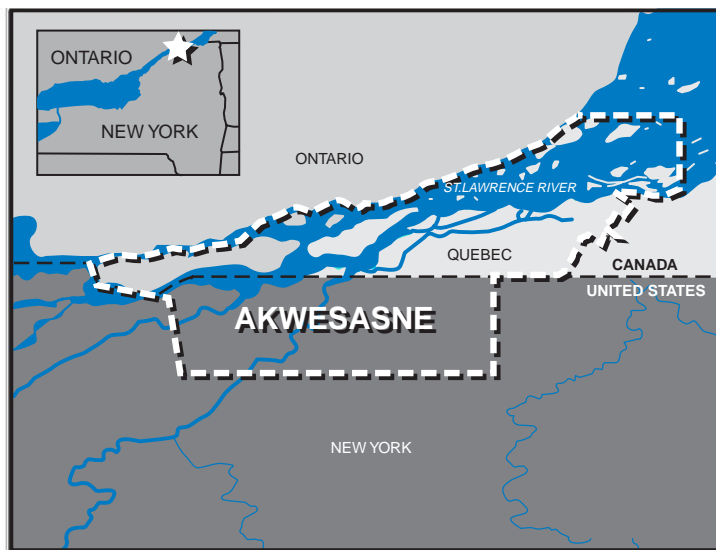
Ken Jock, Director of the St. Regis Mohawk Tribe Environment Division, asked, “Why take special account of the Ottawa River flooding? What about other rivers flooding into the St. Lawrence during the spring melt?” The Public Interest Advisory Group explained the potential impact of the freshet on flooding Montreal. The Ottawa River flooding is substantially greater than other rivers/tributaries flowing into the St. Lawrence; and its freshet is the earliest of the flooding that occurs during the spring thaw.

In turn, Chief Hilda Smoke indicated that many people living on the islands are losing their beaches and other land due to erosion.

“We will take your views into account,” said PIAG member Elaine Kennedy. “We will be interviewing community members to get specific information. If there are similar problems related to water-level regulation, we need to know about them.”

The opinions expressed by the community members provided valuable information that was relayed to the Study Team. The Public Interest Advisory Group will be returning to meet in Akwesasne during the fourth year of the Study to present the Study’s draft recommendations and again ask for input.

*We want to consider and include all interests and locations by holding meetings throughout the Lake Ontario-St. Lawrence River basin during the Study.*



[www.iosl.org](http://www.iosl.org)

## Water Uses Group Needs Input

*As you can see from the article on the previous page, the Domestic, Industrial, and Municipal Water Uses Technical Work Group is studying the impacts of water level fluctuations on water intakes, sanitary sewers, septic systems, and water treatment facilities. This includes investigating the impacts of varying water levels on near-shore wells along the Lake and River. The Group is gathering information on the extent and severity of the impacts on near-shore wells for further evaluation. If you have a shore well on Lake Ontario or the St. Lawrence River and are experiencing problems related to levels, please contact the communication representative in your country listed at the end of this newsletter to respond to these questions.*

- 1.) If you are not connected to a public water system, do you use Lake Ontario or the St. Lawrence as a water source via a shore well or lake intake lines?
- 2.) If you are not connected to public water and do use a shore well or intake lines, is this your only source of water or are there other options available such as a spring, pond, or water deliveries from a water company?
- 3.) Please tell us about any problems that you have experienced using Lake Ontario or the St. Lawrence River as a water source. Problems could include poor water quality or not enough water in your well. It is very important to tell us the dates when problems occurred.
- 4.) If you did experience problems, what corrective action did you take and how much did it cost?

# Commercial Navigation

*The Lake Ontario-St. Lawrence Study is conducting an exhaustive examination of the impacts of water levels on different stakeholder groups. Of these, the commercial navigation group has taken adaptive measures to compensate for low levels.*



Photo - Montreal Harbour

The two main adaptive measures used by commercial navigation to handle low levels are the following: the installation of electronic water-level monitors and the design of ships that can transport more merchandise without, at the same time, having a greater draft.

“Several million dollars have been invested in these measures to diminish the effects of low levels and to adapt commercial navigation to the St. Lawrence River,” says Michel Turgeon, Director of Communications for the Administration of the Montreal Harbour. “However, these measures only diminish the effects; they don’t eliminate them. They certainly don’t remove the necessity of good water-level management that takes into account the needs of commercial navigation.”

Ships have only rarely had to lighten their load due to low water levels. Thirteen electronic monitors have been installed in the channel between Montreal and Quebec City. These monitors give, in real time, the water levels in the channel and allow for the optimum loading of vessels. Data taken from these monitors permit the development of mathematical models to better predict levels, as predictability is very important. But whether or not the water is high or low, ships must, at all times, respect an underkeel clearance of approximately 35 inches (90 cm).

Although ships have rarely had to lighten loads, low levels can cause problems for commercial navigation. Low levels can prevent ocean transporters from using the full capacity of their vessels at deep draft. The more that water levels are low, the more that ships cannot navigate with a full load. In these conditions, ocean transporters cannot attain desired economies of scale to reduce their costs. “Diminishing the effects of low levels on commercial navigation thus results in rendering ocean

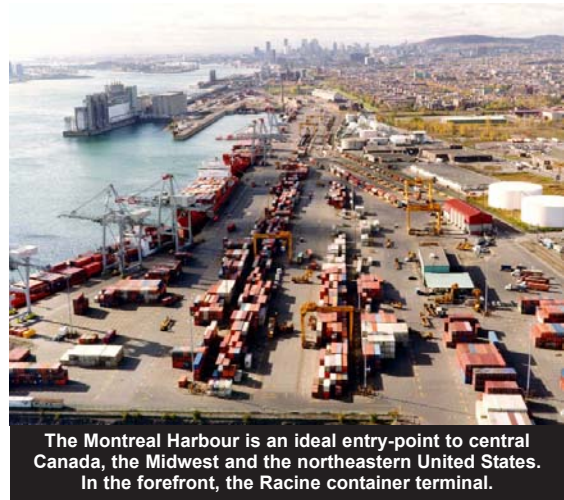


Photo - Montreal Harbour

transporters more competitive and, in turn, the Montreal Harbour, as well as all the Canadian and American exporters and importers who use the harbour,” adds Mr. Turgeon.

For ocean transporters and the active ports between Quebec City and Montreal, the chart datum is the critical threshold or minimum level. The acceptable water level would be at 12 inches (30 cm) above chart datum, and the comfort zone would be at 24 inches (60 cm) above chart datum.

“All of Montreal Harbour’s users, for instance, are conscious of the fact that we cannot always maintain acceptable or comfortable water levels,” says Mr. Turgeon. “The maritime community of the St. Lawrence is asking that the chart datum be considered the critical threshold and that situations of extreme low levels be avoided.” Extreme low levels are problematic not only for commercial navigation, but also for recreation, the environment and the procurement of potable water.



Photo - Montreal Harbour

# Study Announcements

## Team Arrivals

### New Public Interest Advisory Group Member

**Paul Finnegan** has worked for the Power Authority of the State of New York since 1994, in the Office of Governmental Affairs, as the State Legislative Liaison. His recent tasks included working to relicense the St. Lawrence–Franklin D. Roosevelt Power Project at Massena, New York. Paul is a native to the North Country. He was born and raised in St. Lawrence County, New York.

### New Public Information Officer

**Michelle Tracy** is the new Public Information Officer for the Study's Canadian Section. She holds a Master's degree in French literature and communication theory. Previously, she has worked as a project manager and editor for the National Library of Canada's Digital Library, as well as an academic and literary translator for the National Sciences and Engineering Research Council and the Université du Québec à Montréal. She has published a chapbook of poems, *Five Muses* (Mercutio Press, 2003).

### New Technical Work Group Leads

**Anjuna Langevin** is the new Canadian lead of the Commercial Navigation Technical Work Group. Anjuna has worked as a navigation officer on commercial vessels transiting on the Great Lakes and International waters. She completed a mastership in Maritime resources management at Université du Québec à Rimouski (UQAR) where she studied more particularly the interactions between shipping and the environment. After three years as a Fleet Operator for Fednav International, she joined the Shipping Federation team in 2002 as Director, Navigation and Environment.

**Syed Moin, Ph.D., P.Eng.**, is the new Canadian lead for Hydrologic and Hydraulic Technical Work Group. He is a water resources engineer for the Burlington offices of the Boundary Waters Issues Division for the Meteorological Service of Canada, Ontario Region, as a Senior Hydrologic Engineer. He also holds an adjunct appointment at McMaster University

where he teaches courses in hydrology, hydraulics and design of water resources system. Prior to our current Study, Syed has provided lead in an optimization study for the Great Lakes system and has directed hydraulic analysis of the Great Lakes connecting channels.

**John Osinski** is the new U.S. lead for the Hydroelectric Power Technical Work Group. John has been employed by the New York Power Authority since 1975, and is currently Executive Director of Regulatory Affairs in the Authority's Public and Governmental Affairs Department. John's involvement in Great Lakes issues dates back to his participation in the development of the New York State 25-Year Plan for the Great Lakes in the mid-80's. He participates in the New York State Governor's Great Lakes Basin Advisory Council and was formerly a member of the Study's Public Interest Advisory Group. John has MS and BS degrees from the State University of New York, College of Environmental Science and Forestry.

*The following participants were officially added to the Study during the March meetings in Ottawa, Ontario.*

**Roger Barlow** is a new member of the Information Management Technical Work Group. He has been with the U.S. Geological Survey (USGS) National Mapping Program for better than 25 years. Roger's role with USGS is as a Program Coordinator, seeking opportunities to link USGS mapping or other discipline requirements with State and other Federal activities. Roger is currently involved with the following states: New York, Pennsylvania, New Jersey, Delaware, Maryland, and the District of Columbia.

**Ed Capone** is a new member of the Hydrology and Hydraulic Modeling Technical Work Group. Ed is a Senior Hydrologist for the National Oceanic and Atmospheric Administration (NOAA) Northeast River Forecast Center. Ed has worked for NOAA for ten years; prior to that he worked in the private sector for twenty years as civil/hydraulic/hydrologic engineer. Ed has a Bachelor of Science Degree in Civil Engineering from Northeastern University and numerous meteorology courses. Ed's NOAA work responsibilities include precipitation forecasting using the applicable National Weather Service tools and hydrologic/hydraulic

modeling of the Northeast River Forecast Center (NERFC) watersheds in order to complete daily river forecasts.

**Paul King-Fisher** is a member of the Plan Formulation and Evaluation Group. He is the Water Valuation and Business Advisor in the Ontario Ministry of Natural Resources' Waterpower Project in Peterborough, Ontario. He is responsible for providing direction on how social and economic values contribute to decision-making in the preparation of water management plans for waterpower facilities in the province. Paul brings his expertise in natural resources management, environmental economics and multi-criteria decision-making to the Group.

**David Klein** is a new member of the Coastal Processes and Environmental Technical Work Groups. David is currently a Senior Field Representative for the Nature Conservancy, focusing on conservation of Lake Ontario's biodiversity, and coordinating a science council of Nature Conservancy staff in New York. He served as Director of The Nature Conservancy's Central and Western New York Chapter for twelve years. David has a Ph.D. in physical anthropology.

**Deborah Lee, P.E., P.H.**, is a new member of the Plan Formulation and Evaluation Group. She is also working on the Study Team as a member of the Hydrology and Hydraulic Modeling Technical Work Group. Deborah is a Hydraulic Engineer with the Water Management Team of the Great Lakes and Ohio River Division, U.S. Army Corps of Engineers, with 15 years of professional experience in water resources research and management.

**Mark Lorie** is a part-time Environmental Engineer in the Planning and Policy Studies Division of the Institute for Water Resources, where he is working with the Plan Formulation and Evaluation Group for the Study. He is a doctoral candidate in the Department of Geography and Environmental Engineering at Johns Hopkins University. Mark earned a Masters in Environmental Management and Economics from Johns Hopkins in May 2002.

**Paul MacLatchy, P.Eng.**, is a new member of the Industrial, Municipal and Domestic Water Uses Technical Work



Group. He is currently Manager - Environment Division for the City of Kingston. He has spent four years working on a diverse array of environmental projects for the City of Kingston, and nine years working as a consultant for industry in the fields of environmental monitoring and mine closure and reclamation.

**André Plante, M.Sc., Ing., and P.Eng.,** is a member of the Information Management and Plan Formulation and Evaluation Technical Work Groups. He works for the hydrology section of the Meteorological Service of Canada, Quebec region. His responsibilities lie at the intersection of hydrology, information management and computer modeling. He has contributed to different projects and committees through the development architectures for information management systems, work technique systems, and systems of software tools adapted to specific needs that have been impossible to address using traditional methods.

**Mike Robertson** is a member of the Information Management Technical Work Group. Mike spent twelve years as

a forest management technician working for Ontario's Ministry of Natural Resources (MNR) Conservation Authorities and as a private consultant. He attended the Cooperative MNR and Sir Sandford Fleming College Geographic Information Systems (GIS) Applications Specialist Program in 1991 and has been involved in a variety of GIS activities. Mike has worked as a District GIS Officer, Regional GIS Support and a Senior Data Analyst over the past ten years. As a Policy Analyst in the Land Information Ontario Project he has been responsible for the establishment of GIS partnership projects across the province and the Ontario Geospatial Data Exchange.

*Welcome everyone!*

## Team Departures

We sincerely wish to thank the following participants for all of the time and hard work that they provided to the Study. We appreciate you!

**Sandra Bonnano**

**Bruce Carpenter**

**Frank Kenny**

**Ivan Lantz**

**Arianne Matte**

**Tom Stewart**

*Thank you!*

## Next Issue

Our next issue will include a review of the progress made by the Recreational Boating and Tourism, and Coastal Processes Technical Work Groups.

[www.iosl.org](http://www.iosl.org)

## PIAG Speakers Bureau

The Public Interest Advisory Group membership would like to meet with you. A representative in your area can give a presentation about the Study to your group. Please contact the communications staff listed on the next page to request a presentation.

### United States

**Dr. Dan Barletta** - Rochester, NY

**Paul Finnegan** - Albany, NY

**Thomas McAuslan** - Oswego, NY

**Tony McKenna** - West Amherst, NY

**Jon Montan** - Canton, NY

**Henry Stewart** - Rochester, NY

**Max Streibel** - Rochester, NY

**Scott Tripoli** - Mannsville, NY

**Stephanie Weiss** - Clayton, NY

### Canada

**Marcel Lussier** - Brossard, QC

**Larry Field** - Downsview, ON

**Michel Gagné** - Montreal, QC

**John Hall** - Burlington, ON

**Marc Hudon** - Trois-Rivières, QC

**Elaine Kennedy** - St. Andrews W, ON

**Anjuna Langevin** - Montreal, QC

**Sandra Lawn** - Prescott, ON

**Michel Turgeon** - Montreal, QC

**Paul Webb** - North Augusta, ON

**Al Will** - Hamilton, ON



[www.losl.org](http://www.losl.org)



*Please share this newsletter with a friend. They can tear out and mail back the next page to receive future editions of this newsletter and notifications of meetings.*

## Contacting Us

If you are interested in sharing your concerns about water levels in Lake Ontario and the St. Lawrence River, would like to receive more information about the Study, or would like to participate in one of our meetings, please contact the communication representative in your country.

### U.S.

**Arleen Kreuzsch**  
Public Affairs Specialist  
1776 Niagara Street  
Buffalo, NY 14207-3199  
Tel: (716) 879-4438  
Fax: (716) 879-4486  
[arleen.k.kreusch@lrb01.usace.army.mil](mailto:arleen.k.kreusch@lrb01.usace.army.mil)

### Canada

**Michelle Tracy**  
Public Information Officer  
234 Laurier Avenue West • 22nd Floor  
Ottawa, ON K1P 6K6  
Tel: (613) 992-5727  
Fax: (613) 995-9644  
[tracym@ottawa.ijc.org](mailto:tracym@ottawa.ijc.org)

*Visit the Study website at: [www.losl.org](http://www.losl.org)*

---

1<sup>st</sup> fold here

Please  
affix  
first class  
postage

International Lake Ontario-  
St. Lawrence River Study Office  
1776 Niagara Street  
Buffalo, NY 14207-3199

---

2<sup>nd</sup> fold here

*Tape closed here*

Hello!

*I am interested in being added to the Study mailing list; my name and address are below:*

Name: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

*I am interested in being added to the electronic list service that will notify me when Ripple Effects is available on the Web.*

My e-mail address is:

\_\_\_\_\_



Printed on recycled, Chlorine-free paper with soy-based inks

---

International Joint Commission  
U.S. Secretariat Study Office  
1776 Niagara Street  
Buffalo, NY 14207-3199