2007 activities

Departing Commissioners
Former Commissioners Robert Gourd *at left* (served September 1, 1998 - August 31, 2007) and Dennis Schornack *at right* (served April 8, 2002 – July 10, 2007) contributed to the IJC activities described in this report.

ACTIVITIES RELATED TO THE GREAT LAKES WATER QUALITY AGREEMENT

Biennial Meeting

The 2007 Biennial Meeting and Great Lakes Conference attracted about 300 scientists, government officials and members of the public under the theme of Sustainable Cities, Healthy Watersheds. Held June 6-8 on the campus of the University of Illinois at Chicago, the conference took a critical look at issues of land use and the impact of urbanization on water quality in the Great Lakes basin.

In addition to a controversial, provocative and engaging keynote speech by Stewart Brand, founder of Earth Day and the Whole Earth Catalogue, on his brand of "Eco-pragmatism", this year's Biennial Meeting included presentations and panels on the emerging or persistent threats and opportunities in Great Lakes water quality issues:

- Urban policy
- Sewer and wastewater treatment infrastructure
- Green building and human health
- The mandatory review of the Great Lakes Water Quality Agreement
- Achievements and challenges in measuring and assessing progress
- Alien invasive species
- Remedial Action Plans and Lakewide Management Plans, and
- The management of groundwater resources.

Near-shore Waters

Near-shore waters are the critical ecological links between watersheds, tributaries and the offshore waters of the Great Lakes. They are also the part of the lakes that is most visible and accessible to the public. With this in mind, in 2007 the Commission began a full-scale effort to develop practical advice for governments regarding science, resource management, governance and policy needs related to near-shore waters. The objective is to follow up on its earlier recommendation that a new or revised Water Quality Agreement feature programs that target this zone. The Commission also urged governments to give the near-shore waters special attention during the remainder of the mandatory review of the Water Quality Agreement, and undertook to assist in this endeavour.

As a first step, the Commission issued a directive to its advisory groups – the Great Lakes Water Quality Board, the Great Lakes Science Advisory Board and the Council of Great Lakes Research Managers – calling on them to organize their work in the 2007-2009 priorities cycle under a near-shore waters framework. In addition, the Commission asked its Health Professionals Task Force and International Air Quality Advisory Board to help in this regard.

On November 19-20, the Commission's Great Lakes Regional Office organized a workshop of invited experts, advisory group members, Commissioners and staff to begin the development of a near-shore waters management framework and advice for incorporation into the Agreement review. Preliminary recommendations were provided to the governments in December. A second workshop in early 2008, together with ongoing work by the Commission, will lead to more detailed advice before Agreement review has ended.

Alien Invasive Species

Alien aquatic invasive species threaten the entire Great Lakes Basin ecosystem. Throughout 2007, the Commission advised and alerted governments to take action to protect the Great Lakes from this threat.

In February, Commissioners wrote to U.S. Secretary of State Condoleezza Rice to express concern that adequate preventive measures are not in place to keep Asian carp from invading the Great Lakes, and asking that she lend her voice in support of Congressional authorization and appropriation for the U.S. Army Corps of Engineers to complete work on electric fish dispersal barriers southwest of Chicago.

Subsequently, in July, the Commission joined with the Great Lakes Fishery Commission in writing to Secretary Rice to urge the State Department to accelerate schedules in pending legislative proposals for ballast water treatment.

The Rt. Hon. Herb Gray, the Commission's Canadian Chair, addressed participants in September at the 15th International Conference on Aquatic Invasive Species in Nijmegen, Netherlands. He recommended that they call on their governments to ratify the 2004 International Maritime Organization's International Convention for the Control and Management of Ships' Ballast Water and Sediments. Thus far, only 11 countries have ratified the convention, which the IJC considers to be an essential international instrument in controlling the spread of aquatic invasive species. It would require all ships to implement ballast water and sediment management plans.

International Watersheds Initiative

In 2007, the Commission continued to implement the International Watersheds Initiative, the aim of which is to promote an integrated, ecosystem approach to issues arising in transboundary waters through more local participation and capacity. The Commission conceived the initiative to facilitate the development of watershed-specific responses to emerging challenges such as intensified population growth and urbanization, global climate change, changing uses of water, pollution from air and land, and introductions of exotic species. At its core, the initiative is based on the principle that local people, given appropriate assistance, are often best positioned to resolve many local transboundary problems.

St. Croix River: The IJC board for the St. Croix drainage basin made progress toward engaging key stakeholders in an ecosystem approach to addressing issues. In April, the Board became the IJC's first full-fledged international watershed board. At its public meeting in August, the Board reported the completion of basic layers of mapping information — for example, rivers, lakes, reservoirs and gauging stations — combining Canadian and U.S. map data to produce a suite of seamless hydrographic information about the basin. This is one of the first efforts to harmonize these geographical information layers across an international boundary, serving as a pilot for other transboundary digital mapping efforts. The Board also reported progress in the refinement of a computer simulation of reservoirs in the watershed that incorporates available physical data and operational rules for the dams. Linked to this project is a model under development that processes existing topographic and land-use data to compute the volume of runoff generated by rain events. A State of the Watershed report neared completion. That report is expected to cover water use, water quality and quantity, land use, fisheries, wildlife and air quality. Also, the Board announced plans for the publication of a public awareness/education map of the watershed for use by schools and community groups.

Red River: The International Red River Board continued its focus on the factors that affect the water quality, water quantity, and aquatic ecological integrity of the Red River. The Board carried forward the work of monitoring fish pathogens and parasites in the watershed — part of a 2006-2008 research program following a binational agreement to address environmental issues arising from the diversion of water from Devils Lake into the Red River watershed. In March, the Board held a workshop in Winnipeg to review the results of the 2006 pathogens/parasites sampling campaign, to refine the experimental design and to discuss risk analysis methodologies. In other developments, the board proposed a process for setting nutrient objectives for the Red River at the international boundary, with the long-term aim of addressing nutrient loading issues in the river and Lake Winnipeg. The board outlined a proposed multi-year framework for the development and implementation of water quantity apportionment procedures. It also continued to investigate measures to alleviate flooding problems in the lower Pembina River basin and worked to develop a Comprehensive Flood Mitigation Strategy for the Red River basin.

Rainy River: In the Rainy River basin, the IJC works with two closely linked boards, one with responsibility for water quantity and the other for water quality, to build watershed capabilities through improved understanding of the hydrology and hydraulics of the system and broader engagement with local stakeholders. In 2007, with IJC funding, LIDAR and bathymetric mapping of the river between International Falls/Fort Franceis and the confluence with Lake of the Woods was completed. The resulting data will be used in the development and calibration of a hydraulic model for the main stem of the river and its flood plain. The IJC proposed organizing a Rule Curve Assessment Workgroup in response to the boards' concerns about the ability of resource agencies to continue monitoring the ecological and socio-economic impact of dam operation rules. In a noteworthy application of the watershed approach, the two Rainy River boards established an informal working group with relevant stakeholders to develop a cooperative mechanism to balance needs for hydropower with ecological requirements during the fish-spawning period.

Souris River: In April 2007, the Commission designated the International Souris River Board as a pilot international watershed board. The International Souris River Board combines the ongoing responsibilities of the International Souris River Board of Control and the Souris River aspects of the International Souris-Red River Engineering Board, . A work plan and organizational structure for the newly formed Board are under development. The Board has expressed strong support for the implementation of an Integrated Hydrologic Basin Mapping Initiative for the Souris watershed, modeled after the St. Croix digital mapping effort.

Osoyoos Lake – Okanagan River: In 2007, there was evidence of growing local interest in expanding cooperative watershed efforts, including transboundary aspects, in the Osoyoos Lake/Okanagan River Basin. Conceived by the IJC but prepared and carried out largely by Board members and interested scientists, regional officials, Native Americans, First Nations participants and others, the Osoyoos Lake Water Science Forum revealed, for the first time for many of the 190 participants, the value of binational watershed planning and the importance of harmonized basin mapping and data-sharing. Participants expressed a general interest in building on the initial progress and expanding cross-border dialogue.

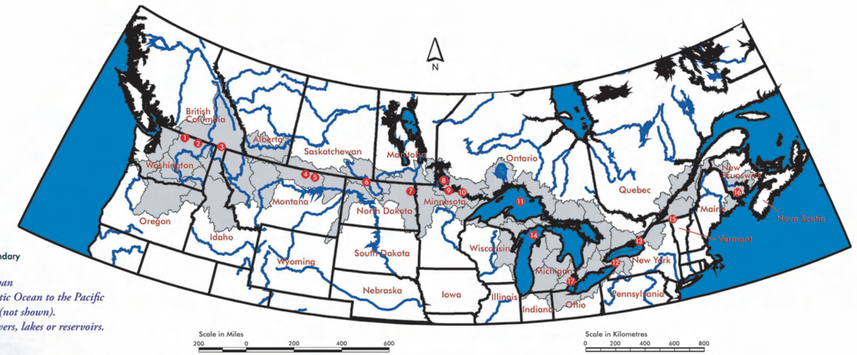
The Commission is examining ways to strengthen the watershed approach in the pilot basins and to expand it, where suitable, along the length of the U.S.-Canada border. More can be done with and through IJC boards to strengthen local participation, foster a more strategic approach, improve sharing of information, and speed up implementation, thereby contributing to the resolution or prevention of transboundary water conflicts and disputes.

TRANSBOUNDARY WATERSHED AND IJC BOARDS

1. International Osoyoos Lake Board of Control
2. International Columbia River Board of Control
3. International Kootenay Lake Board of Control
4. St. Mary and Milk Rivers Accredited Officers
5. St. Mary and Milk Rivers Administrative Measures Task Force
6. International Souris River Board
7. International Red River Board
8. International Lake of the Woods Control Board
9. International Rainy River Water Pollution Board
10. International Rainy Lake Board of Control
11. International Lake Superior Board of Control
12. International Niagara Board of Control
13. International St. Lawrence River Board of Control
14. International Upper Great Lakes Study Board
15. International Missisquoi Bay Task Force
16. International St. Croix River Watershed Board
17. Great Lakes Water Quality Agreement Boards
    Great Lakes Water Quality Board
    Great Lakes Science Advisory Board
    Council of Great Lakes Research Managers

Boards active along the entire boundary
International Air Quality Advisory Board
Health Professionals Task Force

Areas tinted grey represent transboundary basins



The United States and Canada share a boundary that extends over more than 8,800 kilometres (5,500 miles) running generally east-west from the Atlantic Ocean to the Pacific Ocean and north-south demarcating Alaska and Yukon/British Columbia (not shown). For 3,800 kilometers (2,400 miles) the boundary runs through or along rivers, lakes or reservoirs.

Air Quality

Progress to reduce transboundary air pollution was the subject of the Commission's call for public comment on a 2006 Progress Report under the 1991 International Air Quality Agreement. Overall, respondents were satisfied that both countries had made substantial progress to reduce sulfur dioxide, nitrogen oxides and volatile organic compounds. Nevertheless, most agreed on the need to further reduce the causes and effects of transboundary air pollution. Several suggested that targets for additional classes of pollutants, such as persistent organic compounds, should be incorporated into the Agreement. The two governments continued work to develop a Particulate Matter Annex to the Agreement.

In support of the Commission's alerting function , the International Air Quality Advisory Board produced a Summary of Critical Air Quality Issues in the Transboundary Region. The report analyzes and recommends action on six issues resulting from increased energy use in Canada and the United States. Emissions from aviation, shipping, energy development and expansion of urban and residential areas are contributing to a new mix of air pollution sources. At the same time, U.S. and Canadian air quality monitoring efforts are inadequate to support sound, science-based decision-making and lag behind European counterparts. The report says that, as world-leading energy users and producers, the United States and Canada should also lead the world in air pollution research and development.

Health Professionals Task Force

The IJC Health Professionals Task Force, continued its collaborative efforts with the IJC's Great Lakes advisory bodies to address microbiological and chemical groundwater quality issues, as well as urban environmental health issues relating to air and water. Additionally, the Task Force continued to provide advice to Commissioners on the latest research, guidance and the many uncertainties surrounding the benefits and risks of consuming fish. Further work on Great Lakes fish consumption will be carried out in the 2007-2009 Great Lakes priorities cycle.

History and Mission

The Boundary Waters Treaty of 1909 established the International Joint Commission (IJC) to assist the governments of the United States and Canada in preventing and resolving transboundary disputes, primarily regarding water and environmental issues, by undertaking investigations, and by providing advice and licensing certain works in boundary and transboundary waters. The IJC also brings emerging transboundary issues to the attention of the governments for their early action.

The IJC has section staffs in Washington, D.C. and Ottawa, Ontario (funded by the respective governments) and a binational, jointly-funded Great Lakes Regional Office in Windsor, Ontario. Generally, the day-to-day oversight of IJC-approved projects and IJC investigations are carried out by boards of control, investigative and surveillance boards, advisory boards, task forces and accredited officers. These groups, created by the IJC, also assess environmental quality in the Great Lakes and other transboundary watersheds and identify emerging transboundary air quality issues.

The Boundary Waters Treaty provides that the Canadian and U.S. governments may refer questions or matters of difference to the IJC for examination and report. When the IJC receives a "reference", it usually appoints an investigative board or task force to examine the facts and advise on the questions. Upon issuing a report, the IJC may be requested by governments to undertake a continuing role to monitor progress in implementing the report's recommendations. The IJC generally appoints a board for assistance in carrying out these functions.

Under the 1978 Great Lakes Water Quality Agreement, the IJC assists the two countries in implementing measures to enhance and protect the Great Lakes and evaluates the programs and progress of the U.S. and Canadian governments designed to improve environmental quality in the Great Lakes. The IJC reports to the federal, state and provincial governments, and the public, on achievements and shortfalls in meeting agreement goals. The IJC carries out this responsibility principally through its Great Lakes advisory boards and its Great Lakes Regional Office.

Under the Boundary Waters Treaty, the IJC acts on applications for hydropower dams and other projects in waters along the Canada-U.S. border to protect all interests from the effects of the projects. If the IJC issues orders of approval for such projects, it typically appoints a board to monitor operation of the project. The board ensures that the operation of the project meets the requirements of IJC orders.

The IJC monitors the flows through projects in the St. Croix, St. Lawrence, Niagara and Columbia rivers, and at the outlets of Lake Superior, Namakan Lake, Rainy Lake, Lake of the Woods, Kootenay Lake and Osoyoos Lake. The IJC also administers the apportionment of the waters of the Souris, St. Mary and Milk rivers.

— Photo: Lake Sherburne, St. Mary River. Credit: U.S. Parks

International Upper Great Lakes Study

Launched in early 2007, the International Upper Great Lakes Study (IUGLS) is examining the current plan for the regulation of outflows from Lake Superior (through the dams and control structures at Sault Ste. Marie) to see whether the plan could be improved to take into account a broader range of interests and likely effects arising from a changing climate. Planning for the Study IUGLS has been underway since the late 1990s, and the Commission revised its scope in 2005 to provide an early focus on possible erosion in the St. Clair River channel and whether changes in the water carrying capacity of the river might be the cause of lower water levels in Lakes Michigan and Huron.

In 2007, the Study Board published two semi-annual progress reports, engaged more than 100 scientists to work on key projects, and began work on more than a half dozen research initiatives related to the St. Clair River. In addition, the Commission appointed a Public Interest Advisory Group (PIAG), with members bringing extensive experience from various perspectives throughout the basin, including representatives of ecosystem and environmental organizations, tourism and recreational boating enterprises, municipal and industrial water users, operators of hydropower facilities, shoreline property owners and the shipping industry. During the year, PIAG met twice and is in the process of developing a schedule of public meetings and workshops to be held in 2008. PIAG will play a crucial role in the Study, providing an avenue for informing the public about the Study's findings, and serving as well as a conduit for stakeholders to provide feedback to the Study that could contribute to the development of draft regulation plans.

The Study has two basic scientific components, each led by a task team – one for the St. Clair River and another looking at the regulation of outflows from Lake Superior through the control structures at the Soo Locks from Lake Superior. Each task team supervises a series of technical working groups that advise on, coordinate and make decisions about specific research projects. For example, there is a Hydroclimatic Technical Working Group that is studying the degree to which hydrological factors and climatic variability might be contributing to changes in the amount of water flowing into the Upper Great Lakes. Another technical working group is looking at sediment processes and applying sediment models to determine if the river bed is eroding.

The scientific work of then IUGLS is already well underway, including the following activities.

- Video examination of the bed of the St. Clair River
- Cross-sectional river surveys
- Suspended sediment sampling
- Gathering data for an animated of model of river flows , and
- A study of the sensitivity of water levels to supply scenarios.

In addition, terms of reference for the 12 technical working groups have been defined. The Study Board has already recommended the installation of flow measurement gauges in the St. Marys, St. Clair and Niagara rivers. Importantly, the Study Team developed a plan for ongoing independent peer review of key aspects of the Study.

When the Study began, it was expected that the St. Clair River analysis would be published in 2010. At its semi-annual meeting in October, 2007, on the recommendation of the Study Board, the Commission supported expediting this part of the Study work so that a final report would be available in 2009 — a full year ahead of schedule — while regular progress reports would be published as planned in the interim. The first such progress report, released in November 2007, indicated that there is no ongoing erosion in the portions of the river bed that the Study Team had videotaped.

International Lake Ontario-St. Lawrence River Study

During the early part of 2006, the Commission continued to consider three options for regulating Lake Ontario outflows which its International Lake Ontario-St. Lawrence River Study Board had developed. As well, the Commission also asked the Study's team of plan formulators to develop additional options that might address the concerns expressed by affected interests during the public comment period.

In June the Commission announced that it would release its proposed decision and supporting documents on future regulation in September 2007. The Commission also said that it would continue to consult with the governments of the United States and Canada in view of their crucial roles as the applicants for the Moses-Saunders power project in the 1950s.

By early September, it became clear that any potential changes in regulation options raised sufficient questions to require additional time for discussions with governments in the Lake Ontario and St. Lawrence River basin. These discussions would need to occur before a fully informed public consultation process could be carried out. Accordingly, the Commission announced on September 10 that it would continue discussions with governments and would postpone the planned public hearings and public comment period.

Consultations are continuing. Commission staff held two workshops to explore technical issues with government representatives. The Commission is pleased with the progress so far and expects that public hearings will be held in 2008, followed by a Commission decision on future regulation of Lake Ontario outflows.

Management of Levels and Flows

Lake Superior hits historic lows — Drought eases in Rainy

Throughout the Great Lakes, and with only a few exceptions, the levels and supplies of water trended downward to near-historic lows, leading to widespread concern and media coverage. Among the more significant milestones, Lake Superior achieved its lowest monthly average on record since 1918, Lake Michigan-Huron fell 56 cm below long-term average in the last weeks of September, and the Port of Montreal fell below chart datum on August 11 and achieved a new low for November. Fortunately, there has been a minor rebound in Lake Superior with higher higher-than than-normal precipitation in September and October, raising the levels by 16 cm during October.

Rainy Lake fell into drought in spring and summer, setting a new low for inflows as measured since 1911 and dropping below the bottom range for the rule curves that the Board uses to set outflows. In response, the Commission issued a Supplemental Order on February 27, 2007 authorizing the International Rainy Lake Board of Control to reduce outflows to as low as 65 cms (2,300 cfs) until June 30, 2007. This allowed the Board to retain more water in the lake than would have otherwise occurred, bringing levels to back within rule curves. In September and October, Rainy and Namakan Lakes had experienced substantial rainfall, which restored levels in Rainy Lake and pushed Namakan Lake 8 cm higher than its normal operating band.

Kootenay and Osooyoos Rivers experienced higher water levels in March and April, but otherwise, operated within a normal range for the basin.

Elsewhere, conditions were stable in basins subject to the authority of the Commission.

St. Mary and Milk Rivers

In collaboration with the Canadian and U.S. field representatives and their working groups, the Commission funded an effort to update and improve the spreadsheet model used in the apportionment of water in the St. Mary-Milk River basins. The U.S. Geological Survey (USGS) led the development of the model that will illustrate how water is apportioned between the United States and Canada in the basins in Montana and the province of Alberta. The USGS will work in close coordination to develop and refine the spreadsheet model with counterparts from Environment Canada (EC) and other parties in order to achieve general acceptance of the spreadsheet model by both the United States and Canada. The IJC provided $70,000 of funding towards this effort. The results can be used in day-to-day operations by basin water managers in both countries. The product is due by June 30, 2008.

For copies of the IJC's reports, visit the IJC website at ***www.ijc.org*** *or contact one of the IJC offices.*

IJC U.S. SECTION
2401 Pennsylvania Ave. NW, Fourth Floor
Washington, DC 20440
Telephone (202) 736-9000
Fax (202) 467-0746
Email: commission@washington.ijc.org

IJC CANADIAN SECTION
234 Laurier Avenue West, 22nd Floor
Ottawa ON K1P 6K6
Telephone (613) 995-2984
Fax (613) 993-5583
Email: commission@ottawa.ijc.org

IJC GREAT LAKES REGIONAL OFFICE
100 Ouellette Avenue, 8th Floor
Windsor ON N9A 6T3
also: P. O. Box 32869
Detroit, MI 48232
Telephone (519) 257-6700 or
(313)226-2170
Fax (519) 257-6740
Email: commission@windsor.ijc.org

International Joint Commission

United States and Canada

2007 Annual Report

Highlights In 2007, the IJC:

- Worked for greater accountability in the implementation of the Great Lakes Water Quality Agreement
- Addressed the growing threats of alien invasive species
- Engaged the public and strengthened local capacity through the International Watersheds Initiative
- Heard from citizens in both countries on how best to further reduce transboundary air pollution
- Launched a five-year study of upper Great Lakes water levels
- Consulted with governments on a new order and regulation plan for the Lake Ontario – St. Lawrence River system.

We are pleased to provide our Annual Report describing the activities of the International Joint Commission in 2007. It has been a busy and productive year. In addition to monitoring, assessment and regulatory activities that we carry out routinely under our mandate from the two governments (see inset), we made important progress on several key initiatives and studies. These, we believe, stand to contribute significantly to future binational efforts to better understand and more effectively manage issues of environmental protection and sustainable development along our common border.

A hallmark of the IJC's approach to transboundary issues has been the involvement of researchers, businesses, government agencies at all levels, citizens' groups and the general public. We encourage readers of this report to consult our web site for further information about the work of the IJC, and we welcome your comments and suggestions, which may be directed to the addresses on the back of this report.

Herb Gray
Chair
Canadian Section

Irene B. Brooks
Chair
United States Section

Jack Blaney
Commissioner

Allen I. Olson
Commissioner