2022

ACTIVITIES REPORT OF THE INTERNATIONAL JOINT COMMISSION

ABOUT US

Canada and the United States created the International Joint Commission (IJC) because they recognized that each country is affected by the other's actions in lake and river systems along the border. Through independent science-based advice, the IJC helps the two countries manage these waters wisely and protect them for the benefit of today's citizens and future generations.

The IJC assists the two governments and is guided by the Boundary Waters Treaty between Canada and the United States, signed in 1909. The Treaty provides general principles for preventing and resolving disputes over waters shared between the two countries and for settling other transboundary issues.

The IJC has two main responsibilities: setting conditions for projects that affect water levels and flows on the other side of the boundary, and investigating transboundary issues and recommending solutions. Such transboundary issues are often related to shared waters and are addressed by the IJC when governments seek out the IJC's expertise. The IJC's decisions and recommendations strive to consider impacts on, and the needs of, a wide range of water interests, including sanitation and drinking water, commercial shipping, hydroelectric power generation, agriculture, industry, fish and wildlife, recreational boating and shoreline property. The IJC also has responsibilities under the Great Lakes Water Quality Agreement. These IJC responsibilities include assessing progress made by the governments toward protecting and restoring water quality, providing advice and facilitating binational coordination.

The IJC is funded by the Governments of Canada and the United States.

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ACTIVITIES REPORT OF THE INTERNATIONAL JOINT COMMISSION

OVERVIEW

Commissioner and US Co-Chair Rob Sisson delivers a keynote address at the Canadian Water Resources Association conference in Canmore, Alberta, in June 2022. Commissioner Béland also spoke at the event. Credit: IJC

PUBLIC OUTREACH ACTIVITIES

The IJC and its Commissioners traveled extensively across the transboundary in 2022, attending meetings and events both virtually and in-person. In June 2022, Commissioners visited the St. Mary River and Milk River basins to meet local irrigators and state, provincial and Indigenous officials, to the St. Croix River basin, as well as the Rainy-Lake of the Woods basin to meet with emergency personnel, local officials and those affected by flooding.

The Commissioners participated in multiple public meetings later in the year as well. In September 2022, Commissioners visited the Lake Champlain-Richelieu River basin for a pair of in-person public hearings on highly anticipated options to address the risks of extreme water levels in the basin. And from September into the first weeks of 2023, Commissioners participated in a series of in-person and virtual engagement activities to gather public input on the Progress Report of the Parties, a document published by the Canadian and US governments detailing programs, practices and activities completed in the past three years to implement the Great Lakes Water Quality Agreement.

In December 2022, the IJC unveiled its new quarterly newsletter, Shared Waters. This replaces, and builds upon the previous Water Matters and Great Lakes Connection newsletters, and is intended to feature IJC-related news from the entire transboundary region.

Commissioners attended numerous events across Canada and the United States in 2022. They gave presentations at the Canadian Water Resources Association conference in Canmore, Alberta; the Great Lakes Public Forum in Niagara Falls, Ontario; the Midwest Alliance of Sovereign Tribes annual meeting in New Buffalo, Michigan; the Chicago University Club's iSEE Critical Conversation 2022 event on climate insecurity; and the St. Lawrence River Institute's Annual River Symposium in Cornwall, Ontario. These gatherings provided opportunities for the IJC to engage with scientists and potential partners regarding the work being carried out by the organization.

INTERNATIONAL DIPLOMACY

In addition to public engagement in the Canada-US transboundary region, Commissioners participated in several global gatherings of transboundary water management practitioners. This included presentations at the World Water Week in Stockholm, Sweden; the International Conference on Aquatic

Invasive Species in Oostende, Belgium; the Global Water Diplomacy Lab in Berlin, Germany; and the International River Symposium in Vienna, Austria where Commissioners Béland and Lickers were invited speakers. Commissioners primarily participated in these events to meet with and learn from practitioners of transboundary water cooperation in other regions around the world, as well as share lessons by the IJC in its successful implementation of the Boundary Waters Treaty over the past century and the successful approach to watershed cooperation and diplomacy the IJC embodies.

RETURN TO IN-PERSON MEETINGS

2022 marked the year that the IJC, as well as its boards, started to gradually return to in-person meetings and events since the COVID-19 pandemic started in 2020. The IJC's spring semi-annual meeting in April was held in a hybrid format, both online and in-person in Washington, D.C. The October fall semi-annual meeting in Ottawa, Ontario, and a subsequent executive meeting in December in Washington were both primarily in-person, with virtual accommodations for those unable to make the trip.

The IJC's boards have also found hybrid virtual-and-in-person meetings to be a beneficial approach toward public outreach, allowing those who could not attend in-person for health, safety, work-related or weather reasons to still participate. The IJC continues to hold virtual, hybrid, and in-person events when interacting with the public.

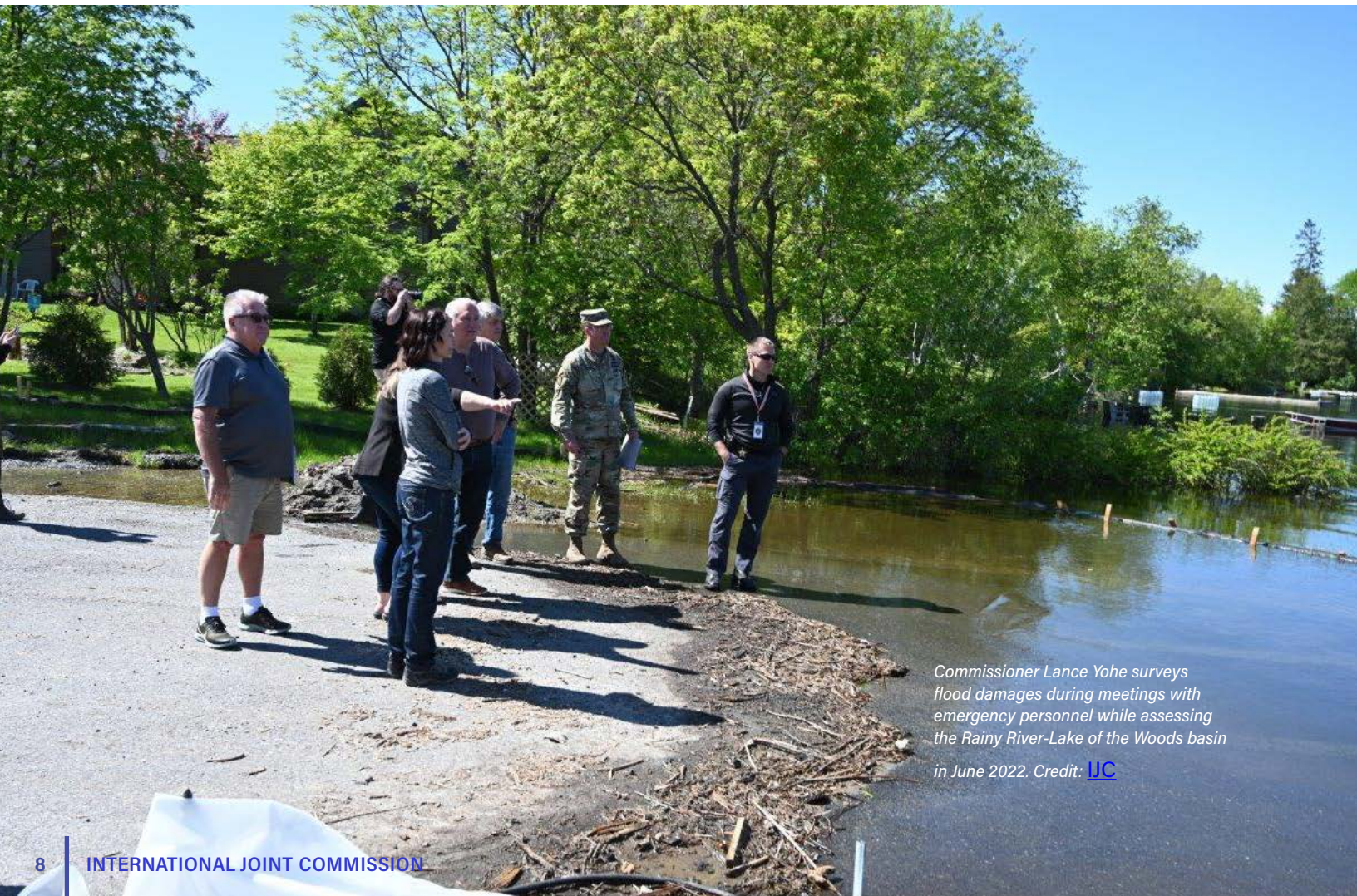
Commissioner Merrell-Ann Phare speaks at the October 2022 IJC's fall semi-annual meeting reception in Ottawa. Credit: IJC

TRANSBOUNDARY ISSUES

Extreme weather had an impact on transboundary watersheds in 2022 on both the high and low ends of the spectrum. Heavy April and May precipitation, an above-average snowpack, and a slow start to the spring melt caused major flooding in the Rainy-Lake of the Woods basin, and similar conditions also caused flooding to the west in the Red River basin.

Meanwhile, the Great Lakes saw a relatively dry year for much of 2022. While inflows remained high due to consecutive wet years in the Upper Great Lakes, Lake Ontario and the St. Lawrence River saw low water levels compared to the long-term average through much of the year. A wet fall brought water levels on Lakes Superior and Michigan-Huron above their long-term averages at the end of the year.

There were water quality developments in the transboundary this year as well. The federal governments gave a green light to IJC recommendations and approved new non-regulatory water quality monitoring objectives for the Red River. These objectives specify the desired levels of nutrients, phosphorus and nitrogen in the river where it crosses from the United States into Canada. Having such objectives encourages governments on the US side to take actions to lower nitrogen and phosphorus loadings. Reductions in nutrient loadings may lessen harmful algal blooms and other adverse impacts which are occurring in Lake Winnipeg.



Commissioner Lance Yohe surveys flood damages during meetings with emergency personnel while assessing the Rainy River-Lake of the Woods basin in June 2022. Credit: IJC

Lake Champlain, South Hero Area, Vermont. Credit: IJC

LOOKING AHEAD: GOALS FOR 2023

Building on the successes of 2022, the IJC has aspirational goals that it hopes to realize in 2023. A major focus is the third Triennial Assessment of Progress report, through which the IJC provides independent, scientific analysis of the Canadian and US governments' progress in implementing the objectives of the Great Lakes Water Quality Agreement.

With the IJC's International Watersheds Initiative (IWI) seeing its 25th anniversary in 2023, Commissioners and staff look forward to highlighting the program's successes and where they want to see it go in coming years. The holistic watershed approach, which stresses the importance of local involvement, promoted by IWI has proven successful in several transboundary regions in which the IJC has responsibilities, and Commissioners will continue to examine and promote its value in waterways across the entire international border.

More broadly, the IJC intends to continue meaningful engagement with stakeholders and Indigenous Nations in the basins in which it has responsibilities. The IJC will also continue raising the profile of the work being done by its boards and the organization itself at conferences and meetings over the course of the year.

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IJC, COAST-TO-COAST

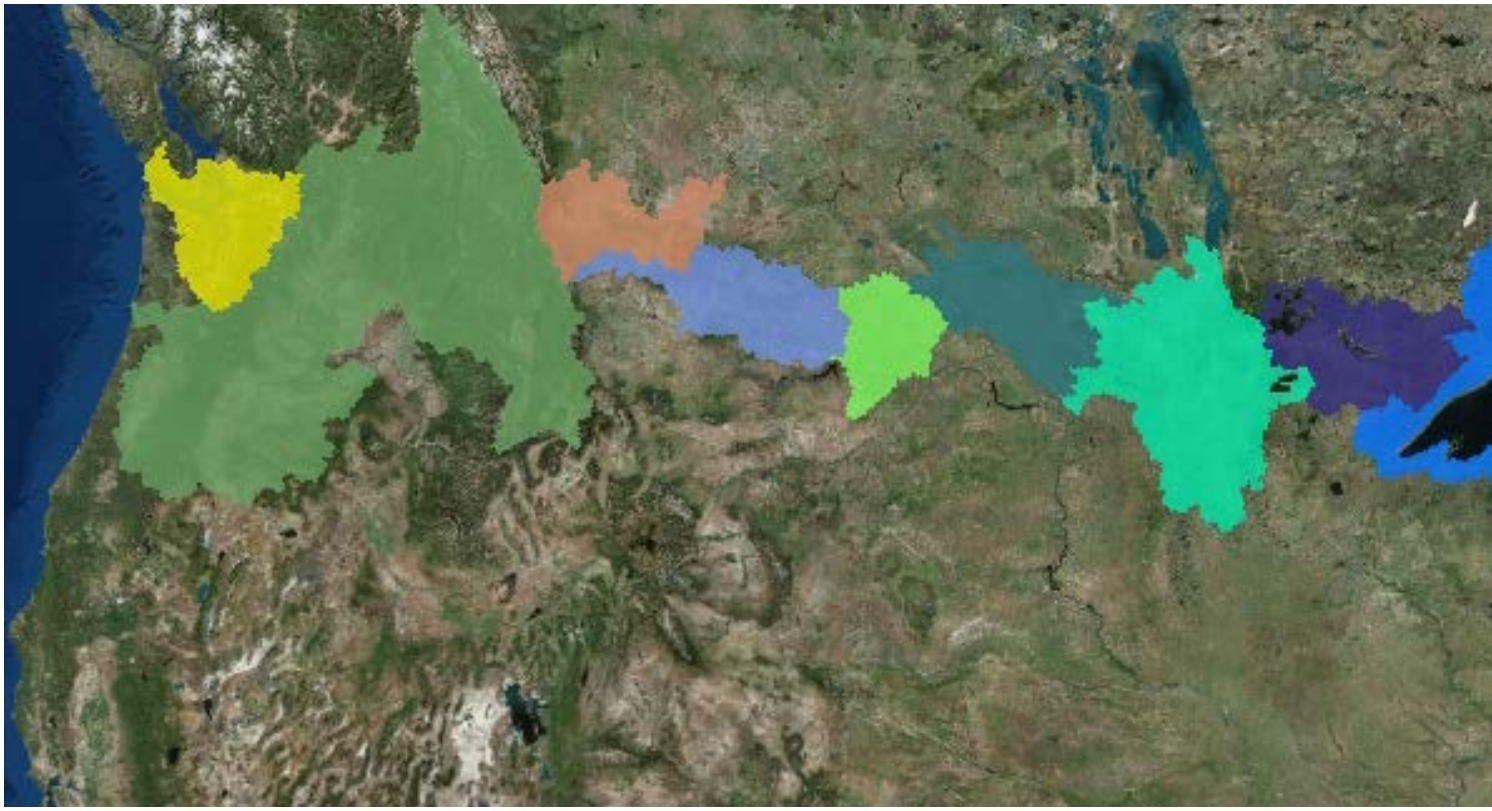
THE IJC, COAST-TO-COAST

The Columbia River basin covers about 668,000 square kilometers (258,000 square miles), touching seven US states and the Canadian province of British Columbia. The IJC has three boards overseeing specific operations within this system: The International Columbia River Board of Control monitors backwater effects from the Grand Coulee Dam; the International Osoyoos Lake Board of Control oversees the operation of Zosel Dam to manage waterels in Osoyoos Lake, which crosses the British Columbia-Washington border; and the International Kootenay Lake Board of Control oversees the Corra Linn Dam at the outlet of Kootenay Lake in British Columbia, which gets its water from tributaries flowing through Idaho, Montana and British Columbia.

The St. Mary and Milk rivers each wind through the Canadian province of Alberta and the US state of Montana. Article VI of the Boundary Waters Treaty sets out how the water in the two rivers is to be shared between Canada and the United States. A 1921 IJC Order of Approval sets out a process for the apportionment of the waters. The process of apportionment is overseen by the Accredited Officers of the St. Mary and Milk Rivers, the two countries' water accounting officers. The two rivers, while having distinct basins and sources, are connected through the approximately century-old St. Mary Canal, which allows water from the St. Mary River to enter the Milk River. The International St. Mary-Milk Rivers Study Board is looking at ways to improve the efficiency of apportionment.

The Souris River originates in Saskatchewan before winding its way through North Dakota and Manitoba to join the Assiniboine River. The International Souris River Board monitors water quality, aquatic ecosystem health and flow issues, and reports on the apportionment of water between the two countries.

The Red River flows northward between North Dakota and Minnesota, continuing into Manitoba before emptying into Lake Winnipeg. The IJC's International Red River Watershed Board monitors and makes recommendations regarding water quality, flood preparedness and other water-related issues in the basin.

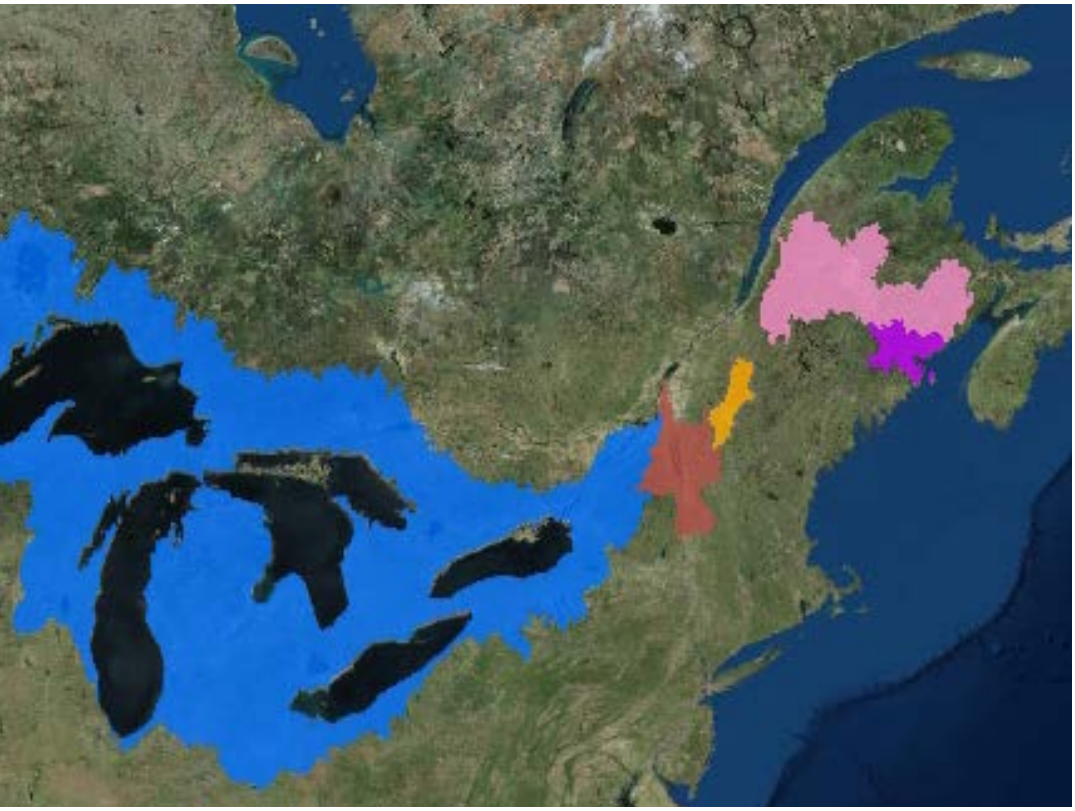


The Rainy-Lake of the Woods basin lies in northwestern Ontario, southeastern Manitoba and northern Minnesota. The basin responds quickly to changes in water supply conditions, such as extreme rainfall events and can go above and below the prescribed levels in the rule curves established by the IJC. The International Rainy-Lake of the Woods Watershed Board supports Canada-US coordination of water quality initiatives throughout the Rainy-Lake of the Woods basin and oversees the regulation of water levels on Rainy Lake and the Namakan Reservoir.

The Great Lakes and St. Lawrence River hold 20 percent of the earth's fresh surface water or 6 quadrillion gallons, cover a total area of 246,463 square kilometers or 95,160 square miles, and span 3,700 km (2,342 miles) or almost half of the North American continent. Within this basin, the IJC has three boards of control (Superior, Niagara and Lake Ontario-St. Lawrence River), and the Great Lakes-St. Lawrence River Adaptive Management Committee. Additionally, the Great Lakes Water Quality Board and Science Advisory Board assess the progress made by the governments towards achieving the objectives of the Great Lakes Water Quality Agreement. There are nine general objectives covering topics such as sources of drinking water, recreational water use, fish consumption, native habitat and species, reducing spread and impact of invasive species, eutrophication, toxic chemicals, groundwater and climate change impacts.

Lake Champlain sits between New York and Vermont, with its upper reaches entering Quebec. The lake flows into the Richelieu River, which in turn eventually meets with the St. Lawrence River. Due to the relatively flat topography in the region, the Richelieu River portions of the basin are susceptible to flooding. The IJC began studying flooding risks in 2016 through its International Lake Champlain-Richelieu River Study Board to develop recommendations to help mitigate future damages. A final report was submitted to governments at the end of 2022.

The St. Croix River forms the border between Maine and New Brunswick before emptying into Passamaquoddy Bay on the Atlantic Ocean. The International St. Croix River Watershed Board reports on water quality in the river and ecosystem health including reporting on the recovery of the alewife (or sea-herring) population. The St. Croix board also monitors the compliance with requirements of four Orders of Approval issued by the IJC for dams on the St. Croix River at Forest City, Vanceboro, Grand Falls and Milltown. A dam on the St. John River at Grand Falls is also under the purview of the board.



The Health Professionals Advisory Board works on both Great Lakes and transboundary watershed issues that intersect with water quality and human health. The board identifies and alerts the Commission to emerging human health issues associated with air or water quality in Great Lakes basin and other basins where the Commission has specific water quality responsibilities.

Audience members engage in Syilx facilitation exercises during the Osoyoos Lake Water Science Forum. Credit: Okanagan Basin Water Board

Shawn Young, aquaculture program manager of the Kootenai Tribe of Idaho's fisheries program, shows a sturgeon rearing tank to members of the International Kootenay Lake Board of Control. Credit: IJC

OSOYOOS LAKE, KOOTENAY LAKE AND THE COLUMBIA RIVER BASIN

The International Osoyoos Lake Board of Control hosted the Osoyoos Lake Water Science Forum in October. This event, entitled "Osoyoos Lake (Nk'Mip) – the Heart of the Watershed" was facilitated by members of the Syilx Nation. It brought together experts in the basin to discuss research and issues facing the region, with the overarching theme of bridging Indigenous and Western approaches to knowledge, science and management. More information is in the International Watersheds Initiative section of this report.

Additionally, the board completed hydrologic modeling work for the Similkameen River, part of the broader Osoyoos Lake watershed. This is part of an ongoing process to determine the impacts of climate change on the basin and on the board's work.

In the Kootenay Lake watershed, the International Kootenay Lake Board of Control completed an assessment of its 1938 IJC Order, which describes its responsibilities and roles. The board found that the Order should be formally reviewed considering the challenges the board has faced in the decades since it went into effect, as well as to reflect climate change's impact on its operations and the basin. The board is planning a climate change assessment as a first step in this process. The IJC also approved enlarging the board to welcome four new members, hopefully to include Indigenous members as well as the broader public.

Commissioner and Canadian Co-Chair Pierre Béland and IJC staff look over infrastructure on the St. Mary River near Cardston, Alberta. Credit: IJC

ST. MARY RIVER AND MILK RIVER BASINS

The International St. Mary and Milk Rivers Study Board issued its final work plan over the summer, following a public comment period on a draft version. This work plan outlines how the study board intends to carry out and complete the study, including the study's structure and the roles of advisory and technical working groups. Technical work on the study was underway in 2022. The study is expected to continue into 2025.

Commissioners visited the basin in June to tour the infrastructure in the region and meet with local officials and representatives from both countries and Indigenous nations. Separately, in October, the study board held a pair of public town hall meetings in Montana and Alberta to provide an update to local residents and irrigators on the study and answer questions that the public had for the board.

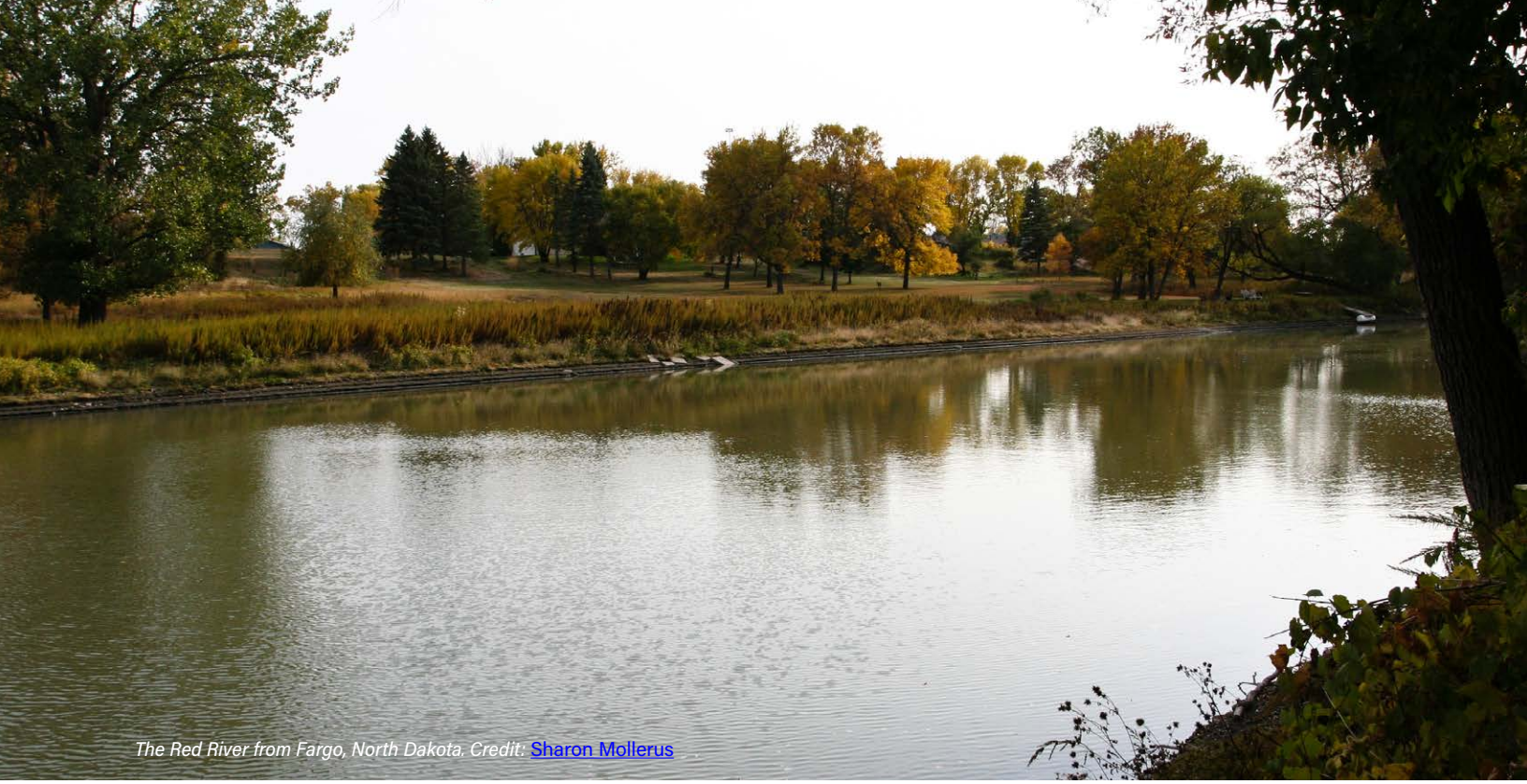
With regards to apportionment, there were no significant issues to report in 2022. The study board has been tasked with providing recommendations to improve the ability of the Accredited Officers (AOs) to meet the requirements of the 1921 Order.

SOURIS RIVER BASIN

In April 2022, the IJC submitted its final recommendations regarding flood control and water supply issues in the Souris River, based on the flooding study report completed in 2021 by the International Souris River Study Board. The IJC's recommendations include plain language revisions to the agreement managing the basin, an expansion of water quality sampling, further study of how climate change and agricultural drainage impact the basin and adjustments to the IJC's International Souris River Board to reflect the study's findings.

The International Souris River Board went through changes in November, when Commissioners had the board restructured to improve its effectiveness. The Public Advisory and Outreach Committee and Indigenous Advisory Committee, successful elements of the study board, were also established with the new permanent board to better ensure the presence of local voices in its work.

The Souris River in winter. Credit: Dano



The Red River from Fargo, North Dakota. Credit: Sharon Mollerus

RED RIVER BASIN

The IJC updated the International Red River Watershed Board's directive in 2022. When the board was designated as a full watershed board in 2021, Commissioners asked it to review its directive to reflect the new duties and responsibilities the board had with this designation. These changes primarily center around climate change monitoring and reporting duties for the board.

In October, the Canadian and US governments approved four additional water quality objectives to monitor at the international crossing of the Red River, all pertaining to the nutrients phosphorus and nitrogen. Excessive amounts of these two nutrients have been linked to water quality issues in the basin, including algal blooms on Lake Winnipeg. Monitoring the amounts of these nutrients will be vital as state, provincial and federal agencies work to reduce the phosphorus and nitrogen in the river to protect ecosystems. These new objectives stem from a multiyear study overseen by the board along with the recommendations forwarded to governments in 2020.

The watershed board also supported foundational collaborative work with Indigenous Nations in the region. More information on this effort can be found in the International Watersheds Initiative section.

RAINY-LAKE OF THE WOODS BASIN

Extreme inflows caused by heavy precipitation in April and May, a late spring freshet and above-average snowpack caused major flooding across the Rainy-Lake of the Woods basin in 2022. The International Rainy-Lake of the Woods Watershed Board's Water Levels Committee actively monitored the situation throughout the high-water event, providing guidance beginning in March to dam operators in case flooding conditions emerged, and following IJC approval in May, later directed operators to keep all gates open beyond the prescriptions of the rule curve to move water through the system as quickly as possible. With extreme high-water levels, the International Lake of the Woods Control Board was activated and assumed responsibility for maintaining water levels on Lake of the Woods when levels exceeded elevations established in the 1925 Lake of the Woods Convention and Protocol. When the lake level is within prescribed elevations, discharges are managed by the Canadian Lake of the Woods Control Board. The IJC's adaptive management program allows for consistent review of rule curves and regulations to mitigate the potential for floods, however no regulation plan can prevent flooding given the unprecedented weather conditions experienced in 2022. Water levels in the basin slowly returned to normal over the summer.

IJC Commissioner Lance Yohe visited the basin in June to observe the areas damaged by the flood and meet with local officials and residents across the region. The Rainy-Lake of the Woods Watershed Board held listening sessions in August and is developing an after-action report. The report will review activities during the flood and what improvements might be made. This report is expected to be completed in the first half of 2023. Nevertheless, no regulation plan could have prevented the flooding seen in 2022.

The third State of the Basin report was issued in March 2022, which provides an overview of the most pressing issues facing the basin today. Co-authored and edited by experts in both Western science and Indigenous ecological knowledge, the report uses a "two-eyed seeing" approach to review matters in the basin holistically. The report covers topics ranging from the effects of climate change to contaminants and excessive nutrient pollution, as well as emerging concerns and areas that require future study.

Accordingly, the watershed board hosted a climate change public engagement workshop in August in the basin during its summer meeting.

The International Rainy-Lake of the Woods Watershed Board's Water Levels Committee held listening sessions in the basin in August 2022 to discuss the flooding experienced across the region. Credit: IJC

IJC Commissioners attended public hearings in September 2022 in Saint-Jean-sur-Richelieu, Quebec, and Burlington, Vermont (below), to hear public views on flood mitigation recommendations issued with the International Lake Champlain-Richelieu River Study Board's final report. Credit: IJC

LAKE CHAMPLAIN AND THE RICHELIEU RIVER

The International Lake Champlain-Richelieu River Study Board wrapped up its work in 2022. Since 2016, the board had been looking into the causes and impacts of severe flooding in the basin and developing recommendations to help mitigate and prepare for extreme water levels in the future. Following a series of public meetings and a comment period in February 2022, the board delivered its final report to the IJC in August 2022. The board continued to publish associated technical reports describing specific parts of its work through the rest of 2022.

The board's recommendations were borne out of years of extensive and highly collaborative study and consultation with experts, partners, Indigenous Nations and the public in New York and Vermont and the Province of Quebec. The recommendations include evaluations of potential structural solutions, quantified the benefits and drawbacks of these alternatives on social, economic and environmental metrics, and development of a binational flood forecasting system.

The IJC launched a public comment period in the fall and held a series of in-person and virtual public hearings on the recommendations made by the study board. After receiving this feedback, the IJC issued its final recommendations to the Canadian and US governments on December 20, 2022. The IJC is encouraging governments to endorse and consider the implementation of all study recommendations .

ST. CROIX RIVER BASIN

The IJC held a public comment period for public awareness of the domestic permitting processes in both countries surrounding the proposed decommissioning and removal of the Milltown Dam in June 2022. The dam owner-operator, New Brunswick Power, delayed the planned 2022 start to the Milltown decommissioning and now anticipates starting in July 2023.

Commissioners Béland, Sisson and Yohe visiting Milltown Dam on the St. Croix River in June 2022. Credit: IJC

THE HEALTH PROFESSIONALS ADVISORY BOARD

The Dever and Carter Harrison crib intakes in Lake Michigan drinking water to Chicago, Illinois. The Health Professionals Advisory Board looked at data from drinking water intakes for their pilot study on Acute Gastrointestinal Illness from Great Lakes drinking water. Credit: vxla via Flickr

The Health Professionals Advisory Board published its Phase 2 report in 2022 for the multi-year project: A Proof-of-Concept Pilot Study of Acute Gastrointestinal Illness (AGI) in the Great Lakes to assess whether it is feasible to collect comparable, binational water quality and population health data for locations around the Great Lakes. The Board shared the findings in a one-page graphic, a webinar presentation and published a peer-reviewed journal article (in English only). The Board continued making progress on projects including its large basin microbial water quality study, a Great Lakes Beach Manager Survey, and development of a harmonized fish consumption advisory framework in the St. Lawrence River in partnership with the Mohawk Council of Akwesasne and the St. Regis Mohawk Tribe.

THE GREAT LAKES AND ST. LAWRENCE RIVER

The Great Lakes-St. Lawrence River basin is a massive watershed, containing 20 percent of the planet's fresh surface water and covering 246,463 square kilometers (95,160 square miles). The St. Lawrence River, which drains this system into the Atlantic Ocean, is 3,700 kilometers (2,342 miles) long. The Great Lakes Water Quality Agreement between the two countries promotes a binational approach to restoring and protecting this shared treasure.

Mink Bay, located on the northern shore of Lake Superior. Credit: Cocoabiscuit (Flickr)

2022

ACTIVITIES REPORT OF THE INTERNATIONAL JOINT COMMISSION

THE GREAT LAKES-ST. LAWRENCE RIVER BOARDS

TRI-BOARD TRIBUNE NEWSLETTER LAUNCHES

The IJC's three Great Lakes-St. Lawrence River water levels boards created a specialized newsletter called the Tri-Board Tribune in 2022. This newsletter is focused specifically on updates and information related to the International Lake Superior Board of Control, the International Niagara Board of Control and the International Lake Ontario-St. Lawrence River Board. The Tribune specifically targets the people who live and work in the Great Lakes and are most affected by water levels there.

LAKE SUPERIOR

On June 9, 2022, the Algoma Steel facility accidentally released lubricant oil to the St. Marys River. The International Lake Superior Board of Control quickly coordinated with first responders in both countries to contain the spill, closing the gates on the Canadian side of the Compensating Works entirely and partially closing gates on the US side of the structure. This reduced flow and made it easier to contain and clean up the oil spill quickly. By the next day, the gates were opened again to a degree prescribed in the regulation plan.

In 2022, the US Army Corps of Engineers started analyzing the results of a bathymetric study of the St. Clair River, which connects Lake Huron to Lake St. Clair. Since the regulation plan that manages Lake Superior outflows considers the levels of Lake Huron as well as Lake Superior, the board has been closely monitoring the results of this study in the event that they may impact the regulation plan.

View of Niagara Falls at night. Credit: IJC

NIAGARA RIVER

The New York Power Authority removed the ice boom, used to prevent ice jams from obstructing the Niagara River during the winter months, on March 29, 2022. Low water levels by December made installation of the full ice boom dangerous, so the IJC allowed an exception to have 21 of the 22 spans installed on December 20 for the 2022-2023 winter season. The International Niagara Board of Control solicited public comment on this amended ice boom installation plan in December 2022 and January 2023. The ice boom's installation and removal by the hydropower entities is prescribed in the IJC's 1999 Supplemental Order of Approval.1999 Supplemental Order of Approval.

LAKE ONTARIO AND THE ST. LAWRENCE RIVER

Despite sizable inflows coming in from the Upper Great Lakes and higher-than-average water levels in the first part of the year, Lake Ontario saw water levels drop from June through the rest of 2022 as abnormally dry conditions settled in. The International Lake Ontario-St. Lawrence River Board increased outflows from the lake in October to help raise levels on the St. Lawrence River, returning to the regulation plan's flow rates by the end of the month.

GREAT LAKES-ST. LAWRENCE RIVER ADAPTIVE MANAGEMENT COMMITTEE (GLAM)

Since the GLAM Committee completed the first phase of its expedited review of Plan 2014 in 2021, their efforts in 2022 were focused on reviewing public input received during the phase 1, and initiating activities for the second phase. The first phase was focused on how Plan 2014 works in extreme conditions on short-term time scales, such as weeks and months. Phase 2 will examine longer time scales, such as years and decades, and strive to find improvements for managing Lake Ontario outflows, especially during extremely wet or dry periods to reduce impacts on the various uses and interests throughout the Lake Ontario and St. Lawrence River system.

Additionally, in 2022 the GLAM Committee continued work on its review of Plan 2012, the regulation plan that guides outflows from Lake Superior.

Ice flows down the St. Lawrence River near Quebec City, Quebec. Credit: IJC

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THE GREAT LAKES AND THE WATER QUALITY AGREEMENT

NEW GREAT LAKES REGIONAL OFFICE DIRECTOR

In June 2022, Heather Stirratt was appointed director of the Great Lakes Regional Office of the IJC, a four-year term position. Stirratt comes to the IJC from the US National Oceanic and Atmospheric Administration, where she served more than 14 years as the Great Lakes regional lead in the Office of Coastal Management.

Stirratt has a great deal of experience with Great Lakes binational organizations and a solid background in cultivating partnerships and overseeing scientific studies, making her an ideal fit for this role.

GLRO Director Stirratt provides a keynote address at the 2022 Great Lakes Coastal Symposium in Sault Ste. Marie, Michigan. Credit: IJC

PUBLIC ENGAGEMENTS TO CONSIDER PROGRESS UNDER THE GREAT LAKES WATER QUALITY AGREEMENT

As part of its responsibilities under the Great Lakes Water Quality Agreement, the IJC gathered public input on the Canadian and US governments' 2022 Progress Report of the Parties (PROP). The public had the opportunity to share input on the progress being made toward more swimmable, fishable and drinkable Great Lakes in many ways: by email, through an online form, by completing an online survey, or by participating in virtual or in-person meetings.

The year 2022 marked the 50-year anniversary of the Great Lakes Water Quality Agreement. Canadian and US governments celebrated this milestone as part of their triennial Great Lakes Public Forum, held September 2022 in Niagara Falls, Ontario. The IJC hosted public input sessions as part of the Forum, as well as on the margins of the Forum, to gather input on the 2022 PROP report.

All the feedback received through the 2022 engagement process will inform the IJC's 2023 Triennial Assessment of Progress Report.

Commissioners receive comments at the public input meeting in Niagara Falls, Ontario. Credit: IJC

GREAT LAKES WATER QUALITY BOARD

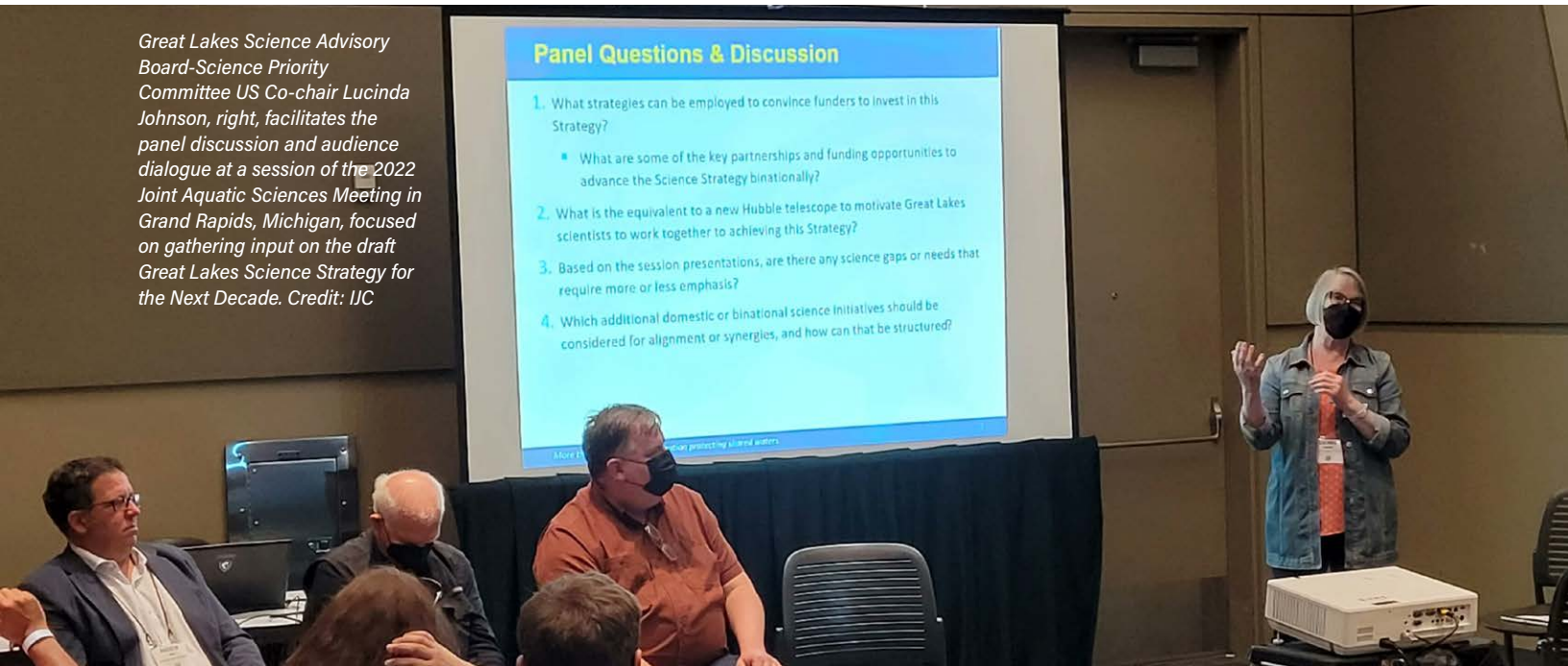
In 2022, the Great Lakes Water Quality Board completed its report on the Decommissioning of Nuclear Power Facilities in the Great Lakes Region, accompanied by a summary video and informational webinar. The board also held meetings with agencies and industries to gather additional insights on the feasibility of implementing the board's recommendations. In 2023, the board will tender further advice to the Commission regarding next steps to implement the report's recommendations.

Meanwhile, work continued on a number of other Water Quality Board projects, including the board's efforts to create a pilot Manure Nutrient Management Collaborative, and to study climate change adaptation for community resilience. The board also advanced its Great Lakes Horizons project, intended to identify key drivers, trends and trajectories facing the Great Lakes region over the next 30 years and describe future scenarios for the lakes in 2050.

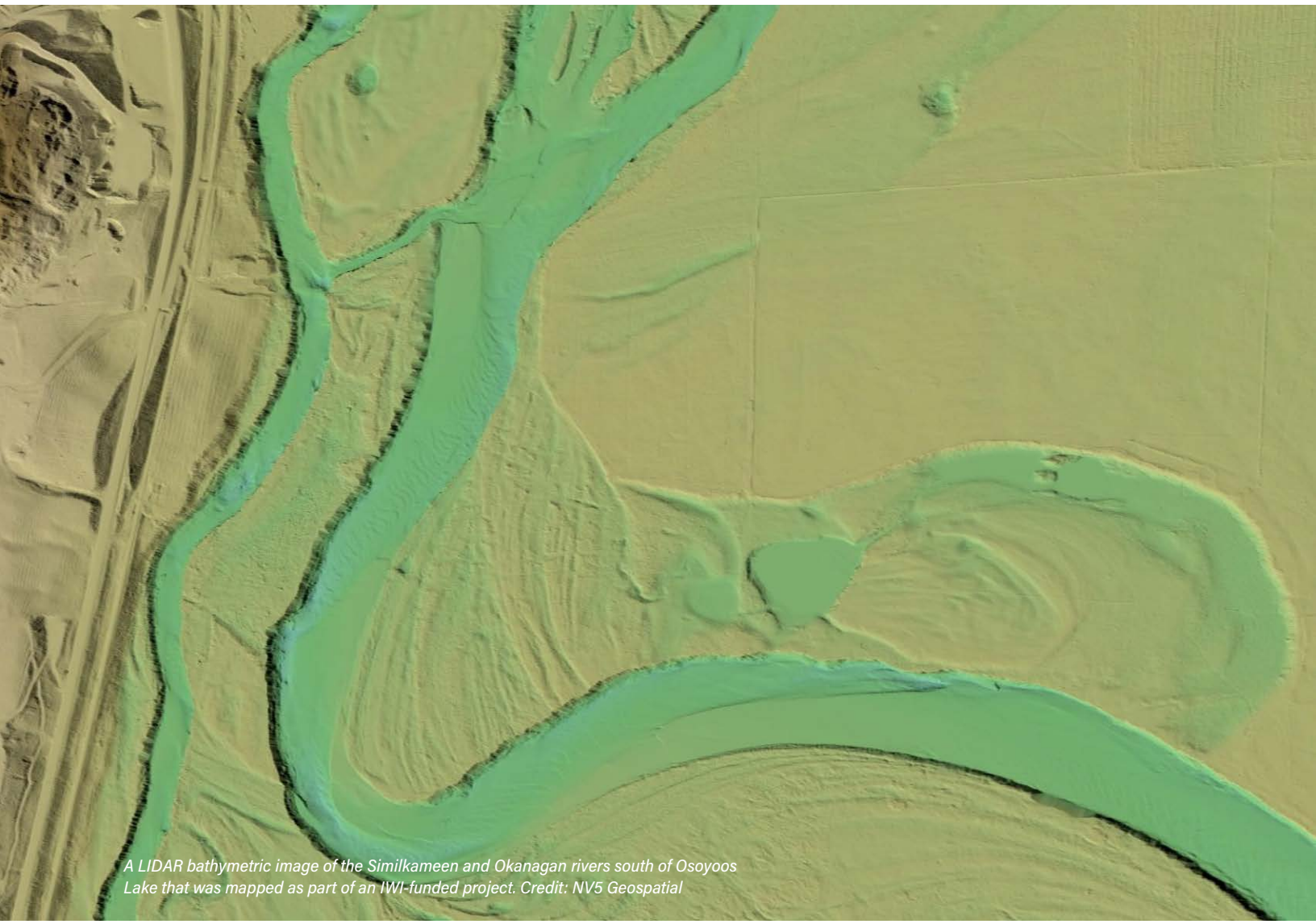
GREAT LAKES SCIENCE ADVISORY BOARD

The Great Lakes Science Advisory Board published two reports in 2022. The board completed its first phase of work defining the gaps and resource needs for science and monitoring in the Great Lakes, and published its Great Lakes Science Strategy for the Next Decade. The Strategy describes a framework to better define science needs to understand changes in the Great Lakes for the protection of the economic, social and environmental health of the region. The board will spend much of 2023 convening a partner collaborative to develop an actionable Science Plan as part of phase 2 of the project. The board also published its phase 2 report on Development of a Great Lakes Groundwater and Surface Water Conceptual Framework and hosted a public webinar outlining the report's findings. The report describes a conceptual framework for groundwater-surface water interactions and provides detailed scientific and technical guidance for numerical model development.

Additionally, the board advanced progress on several ongoing projects, including developing phase 2 of a Great Lakes Early Warning System, identifying winter science gaps and priorities, and advancing projects focused on nutrient inputs to the Great Lakes.



Great Lakes Science Advisory Board-Science Priority Committee US Co-chair Lucinda Johnson, right, facilitates the panel discussion and audience dialogue at a session of the 2022 Joint Aquatic Sciences Meeting in Grand Rapids, Michigan, focused on gathering input on the draft Great Lakes Science Strategy for the Next Decade. Credit: IJC



A LIDAR bathymetric image of the Similkameen and Okanagan rivers south of Osoyoos Lake that was mapped as part of an IWI-funded project. Credit: NV5 Geospatial

INTERNATIONAL WATERSHEDS INITIATIVE

The International Watersheds Initiative (IWI) is an approach to resolving transboundary water issues grounded on the belief that local communities, given appropriate assistance, are best placed to achieve solutions. This approach operates on an ecosystem focus, recognizing that ecosystems function as whole entities and should be managed as such, rather than being bound by traditional geographic boundaries. The IJC's watershed boards follow these principles in their work, featuring board and committee members who represent the diverse interests in the area, and who have the expertise necessary to resolve potential issues before they become larger problems. Additionally, through the IWI, IJC boards in watersheds along the Canada-US border carry out IWI projects to help manage resources, promote communication and conduct scientific studies consistent with board responsibilities, even if they are not watershed boards.

Osoyoos Lake: The International Osoyoos Lake Board of Control hosted the Osoyoos Lake Water Science Forum in October 2022. Funded in part through IWI, the forum was a cross-border gathering of residents, researchers, policymakers and water managers interested in the health of the lake. The theme for this year was "Bridging Indigenous and Western approaches to Knowledge, Science and Management." Previous water science forums took place in 2007, 2011 and 2015. IWI funds also went toward a nearshore bathymetry mapping project for Osoyoos Lake, which will help improve flood mapping and hydrological modeling.

Kootenay Lake: Through IWI, the International Kootenay Lake Board of Control is developing a visualization tool to describe how dam operations and a natural restriction at the Grohmann Narrows impacts water levels and flows in the lake. This tool is expected to be completed in 2023.

St. Mary and Milk Rivers: An initial study examining water isotopes as a method for measuring natural flow in the Milk River was completed in 2022. This study was started in 2020 when the Milk River was reduced to natural flows and used additional data from previous years; it found that this approach has promise to help with apportionment and recommended further study.

Red River: The IWI supported a study looking at fish passage in the Red River, and evaluating how effective connectivity in the system is for target species such as lake sturgeon, bigmouth buffalo and channel catfish that travel along its waters throughout their life cycles. Additionally, IWI supported foundational work toward strengthened Indigenous collaboration between the watershed board and Indigenous communities and governments in the region. Through workshops and meetings, the IJC can better understand the current priorities of Indigenous Nations and Tribes in the basin.

Rainy-Lake of the Woods: The third Rainy-Lake of the Woods State of the Basin Report was published in 2022; more information can be found in the IJC, Coast to Coast section of this report.

St. Croix: The final IWI-funded count of alewives and other fish crossing Milltown Dam took place in 2022, and was bundled with financing for a new telemetry tracking project to monitor how alewives move up through the broader St. Croix River system during their annual migration. The project counted 712,878 alewives crossing the Milltown Dam during 2022's spawning season. Additionally, IWI funding supported continued work studying water quality stressors and trends in the St. Croix River, which tracks and assesses nutrient loading into the river, ranks stressors in different parts of the watershed and describes overall ecosystem health in the basin.

ACKNOWLEDGEMENTS

COMMISSIONERS COMPLETING SERVICE

JANE CORWIN, 2019-2022

Jane Corwin served as Commissioner and the US Co-Chair from May 2019 until her retirement in June 2022. A longtime resident of Buffalo, New York, before coming to the IJC, Corwin served in the New York State Assembly from 2008 through 2016. There, she spent her tenure as a member of the Environmental Conservation Committee, focused on environmental issues such as water quality, invasive species and contamination cleanup projects. She carried these concerns into her role as IJC co-chair, prioritizing climate change adaptation, advocating for a holistic watershed approach across the shared border, and outreach and collaboration with those disproportionately impacted by pollution.

BOARD MEMBERS COMPLETING SERVICE

The IJC would like to acknowledge the following board members who completed their service in 2022:

Nicole Armstrong	International Souris River Board	Member since 2012
David Ashley	International Souris River Board	Member since 2021
Derrick Beach	International Niagara Board of Control	Member since 2014, Secretary
Russell Boals	International Souris River Board	Member since 2002
Ian Campbell	Great Lakes Science Advisory Board – Research Coordination Committee	Member since 2014
Jean-Francois Cantin	International Lake Champlain-Richelieu River Study Board	Member since 2016, Canadian Co-Chair
Gavin Christie	Great Lakes Science Advisory Board – Research Coordination Committee	Member since 2014
Réjean Couture	Great Lakes Science Advisory Board – Research Coordination Committee	Member since 2020
John-Mark Davies	International Souris River Board	Member since 2013
Eric Day	International Lake Champlain-Richelieu River Study Board	Member since 2016
Stephen Durrett	International Niagara Board of Control. International Lake Superior Board of Control, International Lake Ontario-St. Lawrence River Board	Member since 2019, U.S. Co-Chair
Erich Emery	Great Lakes Science Advisory Board – Research Coordination Committee	Member since 2018
Stephen Galarneau	Great Lakes Water Quality Board	Member since 2018
Scott Gangl	International Souris River Board	Member since 2011
Joe Goodwill	International Souris River Board	Member since 2016
Lorinda Haman	International Souris River Board	Member since 2016
Dr. Ann Holland	International Lake Champlain-Richelieu River Study Board	Member since 2020
Dave Hutchinson	International Columbia River Board, International Kootenay Lake Board of Control	Member since 2019
Col. Karl Jansen	International Souris River Board, International Rainy-Lake of the Woods Watershed Board	Member since 2019
Dwayne Jarman	Health Professionals Advisory Board	Member since 2020
Michel Jean	International Lake Champlain-Richelieu River Study Board	Member since 2016
Nathan Kestner	International Red River Watershed Board	Member since 2016
Peter LaFlamme	International Lake Champlain-Richelieu River Study Board	Member since 2018
Daniel Leblanc	International Lake Champlain-Richelieu River Study Board	Member since 2016
Irving Leblanc	Great Lakes Water Quality Board	Member since 2018

Deborah Lee	International Lake Champlain-Richelieu River Study Board	Member since 2020, U.S. Co-Chair
Kathy McKague	Great Lakes Science Advisory Board – Research Coordination Committee	Member since 2017
Debbie McMechan	International Souris River Board	Member since 2016
Dr. Carol Miller	Great Lakes Science Advisory Board – Science Priority Committee	Member since 2010, U.S. Co-Chair
Dr. Sharon Nappier	Health Professionals Advisory Board	Member since 2020
Tom Pabian	International Souris River Board	Member since 2020
Madeleine Papineau	International Lake Champlain-Richelieu River Study Board	Member since 2016
Dr. Alain Pietroniro	Accredited Officers of the St. Mary-Milk Rivers	Member since 2012, Canadian Accredited Officer
Dr. Mike Slimak	Great Lakes Science Advisory Board – Science Priority Committee	Member since 2020
Kristine Stepenuck	International Lake Champlain-Richelieu River Study Board	Member since 2018
Richard Turcotte	International Lake Champlain-Richelieu River Study Board	Member since 2016
Gregg Wiche	International Souris River Board	Member since 2002
Gayle Wood	Great Lakes Water Quality Board	Member since 2014, Canadian Co-Chair
Jeff Woodward	International Souris River Board	Member since 2022

STAFF MEMBERS COMPLETING SERVICE

The IJC would like to acknowledge the following staff members who completed their service in 2022:

Norman Barth	US Section	Senior Advisor
David Burden	Great Lakes Regional Office	Director
Shannon Bushinsky	Canadian Section	Junior Analyst
Rachel Horoschak	US Section	Administrative Specialist
Sydney McRae	Canadian Section	Junior Analyst
Lindsay Trottier	Canadian Section	Environmental Officer

FINANCIAL SUMMARY

The Commission is funded by Canada and United States as provided for in Article XII of the Boundary Waters Treaty of 1909. The Commission collective funding for major projects is reflected below for the US Fiscal Year Oct. 1, 2021-Sept. 30, 2022, and the Canadian Fiscal Year April 1, 2022 - March 31, 2023, and are reported in US and Canadian dollars with no adjustment for the exchange rate. Totals include $50,000 in 2022 for litigation fees.

St. Mary-Milk Rivers Study (SMM)	$598,478
Lake Champlain-Richelieu River Study (LCRR)	$1,730,387
Great Lakes Water Quality Agreement (GLWQA)	$3,198,759
Souris River Study (SOURIS)	$500,159
International Watersheds Initiative (IWI)	$ 684,863
Great Lakes Adaptive Management Committee Regulation Plan Reviews (GLAM)	$2,565,155
Boundary Waters Treaty (BWT)	$ 9,247,687
Total:	**$18,525,488**