

Great Lakes—St. Lawrence River Basin Water Resources Council

Meeting Summary

December 16, 2022

10:30 a.m. EST

Fairmont Le Château Frontenac

1 rue des Carrières CITQ No. 040703

Québec City, Québec

Canada

Remote participation is available to individuals registering at:

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Notice:

Notice of the meeting was provided to the public through the Great Lakes Information Network's distribution list on November 16, 2022. Notice was also posted to the Great Lakes-St. Lawrence River Water Resources Council (Compact Council) website at www.glscompactcouncil.org. The notice included an announcement that the meeting agenda, draft resolutions and materials to be discussed during the meeting were available on the Compact Council's website. Call-in information was also posted to the front page of the Compact Council website.

Call of Meeting:

10:30 a.m. EST— The meeting was called to order by Tim Bruno, Chief, Office of the Great Lakes, Pennsylvania Department of Environmental Conservation.

Roll Call:

The following Compact Council members, constituting a quorum, were present:

Illinois (alternate of Governor J.B. Pritzker): Loren Wobig, Director, Office of Water Resources, Illinois Department of Natural Resources.

Indiana (alternate of Governor Eric Holcomb): Ryan Mueller, Deputy Director, Indiana Department of Natural Resources.

Michigan (alternate of Governor Gretchen Whitmer): James Clift, Deputy Director, Michigan Department of Environment, Great Lakes & Energy.

Minnesota (alternate of Governor Tim Walz): Jess Richards, Assistant Commissioner, Minnesota Department of Natural Resources.

New York (alternate of Governor Kathy Hochul): James Tierney, Great Lakes Programs Coordinator, New York State Department of Environmental Conservation

Ohio (designee of Governor Mike DeWine): Brad Lodge¹, Water Inventory and Planning Program Manager, on behalf of Mary Mertz, Director, Ohio Department of Natural Resources.

Pennsylvania (designee of Governor Tom Wolf): Tim Bruno, Chief, Office of the Great Lakes, Pennsylvania Department of Environmental Protection.

Wisconsin (designee of Governor Tony Evers): Adam Freihoefer¹, Water Use Section Chief, on behalf of Preston Cole, Secretary, Wisconsin Department of Natural Resources

Actions Taken

Review of June 15, 2022 Compact Council meeting minutes

Mr. Ambs asked for a motion that the June 15, 2022 Compact Council meeting minutes be approved as posted. Mr. Freihoefer moved to approve, and Mr. Richards seconded the motion. The minutes were approved without objection.

Reports

Noting that the Regional Body meeting adjourned immediately prior to the Compact Council meeting, a motion was made by Mr. Wobig to incorporate minutes of the Regional Body reports into the Compact Council minutes. Mr. Lodge seconded the motion. The motion was approved. Pursuant to the approved motion, the following reports are incorporated by reference into the Compact Council's record and re-printed in their entirety below:

State updates on implementation of the Great Lakes—St. Lawrence River Basin Water Resources Compact (Compact).

Pennsylvania

Mr. Bruno submitted the following report:

Pennsylvania continues to implement the requirements of the Compact and Agreement through facilitating state and local programming on water use. The Pennsylvania Department of Environmental Protection (DEP) submitted the Great Lakes water withdrawal, consumptive use, and diversion statistics for Water Year 2021 to the Great Lakes Commission for compilation into the Annual Report of the Great Lakes Regional Water Use Database. Additionally, DEP submitted the 2022 Conservation and Efficiency Program Review to the Compact Secretariat.

Pennsylvania Great Lakes Basin observed a continued decline in overall water use during the 2021 Water Year, recording the lowest daily withdrawal amounts since the inception of the Compact and Agreement. Withdrawal amounts decreased from 30.5 million gallons per day (mgd) in 2020 to 29.3 mgd in 2021, representing a year-over-

¹ Proxy is available upon request.

year decline of 3.9 percent.

The change from the previous year was due to a 3.6 percent decrease in water use for public water supplies, from 27.5 mgd in 2020 to 26.5 mgd in 2021. Public water supplies accounted for 90 percent of Pennsylvania’s Great Lakes water use and consisted of 86 percent of the 3.1 mgd total consumptive use. The next largest water use sector was Self-Supplied Livestock with a total withdrawal amount of 2.4 mgd, followed by Self-Supplied Irrigation use of 0.4 mgd

DEP continues to maintain the Great Lakes Program webpages which include information about the Great Lakes and St. Lawrence River Basin Sustainable Water Resources Compact and Agreement. Resources available on the site include Pennsylvania Great Lakes Water Resources Inventory and Reporting document. Interested individuals can view registered water users within the Pennsylvania Great Lakes Basin and view their annual water use from the 2005 Water Year forward. This document and other information regarding DEP Great Lakes Program can be found at the DEP webpage dep.pa.gov and searching “Great Lakes Program”.

In 2022, DEP continued a partnership with Pennsylvania Sea Grant and Pennsylvania State University to update the Pennsylvania Lake Erie Water and Land Technical Resources website (WALTeR). This website provides a portal to DEP partner agencies and organizations that focus on land and water issues in the Pennsylvania Lake Erie Basin. WALTeR provides access to Great Lakes Basin specific spatial data, water conservation and efficiency information, materials, and outreach programs. It can be accessed at <https://pawalter.psu.edu>

By early 2023, DEP will conclude the active work portfolio of the Great Lakes Water Resources Regional Committee and complete updates to the Pennsylvania State Water Plan including those sections pertaining to the Great Lakes Basin (Lake Erie and Genesee River). The Committee is aiding in the collection and dissemination of data, prioritization of resource availability and protection, and the formation of water use policies in the Basin. Progress and updates can be followed at the DEP webpage dep.pa.gov and searching “State Water Plan”.

Illinois

Mr Wobig submitted the following report:

Lake Michigan Diversion

With very limited current staffing, the Illinois Lake Michigan Water Allocation Program continues to manage Illinois' diversion of water from Lake Michigan in response to a 1967 Supreme Court Decree amended in 1980. This Decree limits Illinois' diversion to 3,200 cubic feet per second (cfs) based on a 40-year running average authorized by the "LEVEL OF LAKE MICHIGAN ACT" [615 ILCS 50] and implemented by

the Illinois Department of Natural Resources, Office of Water Resources (hereafter Department) under their Part 3730 Rules ("ALLOCATION OF WATER FROM LAKE MICHIGAN"). Under those rules, any entity petitioning for a Lake Michigan water allocation must demonstrate acceptable standalone justification to support the petition regardless of other pending petitions for Lake Michigan water.

Illinois' Diversion Accounting is overseen by the U.S. Army Corps of Engineers (USACE). The USACE's most recent certified diversion report, water year (WY) 2017 (October 1, 2016, through September 30, 2017) states Illinois' WY2017 certified flow is **2677 cfs with a 40-year running average of 3041 cfs**. As the older, much higher water use numbers drop out the back end of running average, the running average continues to generally decline reflecting much improved water conservation in Illinois.

Lake Michigan Water Use Data Collection

The Department continues to collect potable water supply, consumption, and water loss information from each of its 219 Lake Michigan Water Allocation Program permittees on an annual basis as required by their allocation permits. The process is highly interactive and allows permittees and the Department staff to work together to evaluate water system performance and investigate ways to reduce water loss. All permittees submitted data to the Department for WY2017. Information for water years 2018 through 2021 is still being received and reviewed by the Department.

All direct diverters are required to provide monthly pumpage information including daily pumpage values and the amount of water exported/sold to other Lake Michigan allocation permittees. A direct diverter is a permittee who has an intake structure on Lake Michigan or is the first Illinois user of water diverted from outside of Illinois. There are currently 19 direct diverters. The Metropolitan Water Reclamation District of Greater Chicago submits monthly reports detailing Lake Michigan water used for Direct Diversion. Direct Diversion also includes releases at the Lake Michigan control structures including lockage, leakage, navigational make up, and discretionary flow. All data collected continues to be submitted to the USACE to be used for diversion accounting.

Water Conservation

The Department's regulatory threshold for non-revenue water is 10%. All Domestic permittees that exceed the Department's non-revenue water threshold are required to submit a water system improvement plan that outline actions the permittee plans to undertake, along with a timeframe, to reduce non-revenue water to the 10% threshold requirement. Currently about 43% of Illinois permittees are not in compliance with the Department's threshold requirement and increasing, primarily due to aging infrastructure. The Department is in the process of expanding the allocation program staffing to focus on water loss in the region and to evaluate the types of planning assistance that could be provided to permittees help reduce non-revenue water, particularly for economically marginalized and disadvantaged communities. The

Department has identified a need to help these communities bridge the gap between a water loss reduction plan and developing a set of bid documents that would be needed to seek potential project grants.

Lake Michigan Water Re-Allocations

Approximately every 10 years, the Department reviews each domestic water permittee’s Lake Michigan water allocation. The last comprehensive review was in 2008. Somewhat delayed by COVID, the primary goal of this review is to adjust each permittee’s allocation, as needed, to reflect future water demand through water year 2050. The water demand projections are developed based upon both historical use and future projections. In general, most allocations were reduced relative to the allocations developed in 2008 due to more comprehensive actual water use data being available over the last 14 years. Permittees were provided provisional revised allocations and offered an opportunity to contest and change the draft revised water allocation if better information was provided to support the need. The Department is currently working with its legal counsel to move forward with the prehearing and hearing process beginning in January 2023 to finalize revised allocations.

New Allocations and Requests

The Department received an application for a Lake Michigan allocation from the City of Joliet in September 2020 and issued an allocation permit to the City in November 2021. Joliet’s permit included a special condition requiring that their non-revenue water be reduced to 10% by WY2030 when the City anticipates beginning use of Lake Michigan water. This reduction in non-revenue water is primarily going to be achieved by replacing nearly 200 miles of existing water main. The Department continues to coordinate with Joliet to monitor the progress of their water main replacement and non-revenue water reduction efforts.

Between September 2021 and August 2022, the Department received nine applications for Lake Michigan water allocations. These include the following entities:

- Village of Lemont, IL
- Village of Romeoville, IL
- City of Crest Hill, IL
- Village of Oswego, IL
- Village of Channahon, IL
- Village of Minooka, IL
- Village of Montgomery, IL
- United City of Yorkville, IL
- Pekara System – Lake County, IL

Petition reviews, pre-hearings, and the hearing process is currently underway for all these entities.

In addition to the applications mentioned above, the Village of Oak Brook and Aqua Illinois, Inc. are working together to remove five non-contiguous areas from Oak Brook's current allocation and have Aqua Illinois, Inc. acquire the associated water systems. Aqua Illinois, Inc. has installed new monitoring equipment in these areas. After sufficient water use data has been collected, Aqua Illinois, Inc. will apply for five new allocations for the removed areas and own and operate the systems in the future. Oak Brook's current allocation will also be amended downward at that time.

Brandon Road

In collaboration with the US Army Corps of Engineers and with significant support from the state of Michigan, design of the Brandon Road Interbasin Project continues. The current plan involves a layered system of structural and non-structural control measures, to be constructed in increments, including technologies such as a flushing lock, an engineered channel with electric barrier, underwater acoustic deterrent, and air bubble curtain and other improvements. Design efforts to develop 65% complete plans for a focused "Increment 1A" standalone leading-edge sound and bubble deterrent system are ongoing. Most of the supporting infrastructure for Increment 1A will be located out of the floodway on the peninsula separating the lock channel from the Des Plaines River. Design team leadership continue to collaborate to address key project challenges including project costs, private land rights, potentially hazardous waste remediation, Project Partnership Agreement terms, and project regulatory matters.

The 2022 Water Resources Development Act (WRDA22) currently being reconciled in Congress includes provisions specific to a potential Brandon Road Project Agreement including non-federal cost share percentages, hold harmless considerations, and project operation and maintenance items. It is the state of Illinois understanding that the US Army Corps of Engineers is drafting a special project partnership agreement for consideration and discussion, however, completion of such a draft is predicated on the outcome of WRDA22 in Congress anticipated in December 2022. The state of Illinois has offered "accelerated non-federal sponsor funding" to the Corps of Engineers to allow the continued use of state resources provided for the Preconstruction, engineering and design (PED) and continued design efforts into the spring of 2023. Such an "accelerated funds" package must be approved by the Corps and Office of Management and Budget (OMB) and remains under consideration by OMB. Given the magnitude of the anticipated cost for design and implementation of this "Mega-Project", and the associated non-federal share of that cost, the Illinois has been clear that it will need support from others to satisfy that non-federal cost obligation. Accordingly, the states of Illinois and Michigan, with facilitation from the Great Lakes Commission supported by the Joyce Foundation, continue to hold regular Great Lakes State and Provincial Forums to advance collaborative discussions among state and provincial leaders toward shared non-federal project costs.

Coastal Management Program and Shoreline Resilience

Finally, on January 1st this year, the Illinois Coastal Management Program was reorganized under the Office of Water Resources. This move has already allowed for better collaboration and shared resources to benefit both the Lake Michigan Program and the Coastal Management Program.

The Department continues to work to increase coastal resiliency and improve coastal habitats via projects like the recent reconnection of Powder Horn Lake to Wolf Lake. Throughout 2022, the Department and partner agencies conducted biological and hydrodynamic monitoring at the Illinois Beach State Park (IBSP) “rubble ridge” shoreline protection project to gather data that will allow the Department to determine the efficacy of this novel intervention. These 750-foot-long “rubble stone ridges” are intended to work in concert to lessen storm waves and protect the unique dune and swale ecosystem while preserving views and enhancing fish habitat. The Department is also moving forward to construction of a large-scale shoreline break water protection project at IBSP that will protect nearly 2.2 miles of Illinois Beach State Park shoreline via creatively shaped and formulated islands and submerged reef structures, positioned to reduce the erosive force of incoming waves, redirect nearshore currents, and provide a new home to shoreline aquatic and avian species. Construction is expected to begin in early 2023.

The Department, along with agencies from the seven other Great Lake states, executed a cost share agreement with USACE to conduct the Great Lakes Coastal Resiliency Study. The study is a comprehensive watershed assessment of the Great Lakes coastal areas aimed at protecting the immense economic, environmental and social value of the Great Lakes coast. The Department also supported work of the Lake Michigan Coastal Resiliency Initiative, assisting communities with developing projects for engineering and design support from NOAA and the Great Lakes and St. Lawrence Cities Initiative. This resiliency initiative provides training and technical assistance to municipalities around Lake Michigan to support the development of nature-based solutions to impacts experienced in coastal areas, including erosion, flooding and severe storm events. Department staff are actively involved in associated project development.

Department staff were also actively involved in developing and coordinating applications for the various funding sources under the Bipartisan Infrastructure Law. Staff coordinated with municipal partners to gather project ideas and determine best funding sources. Staff also assisted with drafting applications. Although Illinois was not very successful in securing project funds for coastal resiliency projects, there were many lessons learned that can be applied in upcoming years to these funding sources.

Respectfully submitted on behalf of the Honorable JB Pritzker, Governor of Illinois,

Loren A. Wobig, P.E., CFM

Indiana

Mr. Mueller provided the following report:

Water use in the GL basin - Indiana reporting year 2021

- Currently there are 1071 Significant Water Withdrawal Facilities (SWWF) registered in the Basin.
- SWWF has the capacity to withdrawal 100,000 gallons a day.
- Have added about 30 new facilities in last two years, mostly irrigation
- Water use in the Basin for 2021- ~550 billion gallons total
- Decrease of about 250 billion gallons over the last 5 years, mainly driven by Energy Production/ Industrial use that have implemented conservation measures or that have ceased operations
 - o Nisource Baily station retired in May 2018 accounts for a significant portion of the reduction.
 - o Industrial decreases more gradual, likely due to conservation efforts, and portion of Arcelormittal Harbor East plant shut down in 2018.
- Of the 1071 SWWF:
 - o 1607 wells (a facility can have multiple wells / intakes) – Accounting for 33 BG
 - o 250 surface intakes – Accounting for 523 BG
- When you compare withdrawal vs. capacity:
 - o SWWF total – 19%
 - o Surface – 21.6%
 - o Wells – 6.6%

Thank you and this concludes my report.

Michigan

Mr. Clift submitted the following report:

Michigan’s Water Use Program (Program) continues to work with the Water Use Advisory Council (Council) to advance and improve Michigan’s Program. The Council continues to play a key role in water management and water conservation and efficiency in Michigan. Since the spring, the Michigan Legislature approved \$10 million to fund recommendations in the Council’s 2020 biennial report. The Program has worked with the Council through a consensus-based process to identify the highest priority activities necessary to continue and improve the water withdrawal assessment program’s functions and operations. The recommendations will bring more water efficiency educators in the agricultural sector, an assessment of all Michigan programs for water conservation, better data, better models, and better accessibility to data, among others.

The Council will submit its 2022 biennial report to the legislature at the end of December. The report includes maintaining and expanding the capacity of recommendations approved in 2020, implementing a pilot program to operate an on-

site educational and cost share program for agricultural irrigation efficiency and conservation, and conducting research into future improvements in data collection and modeling to improve the Program's ability to assess potential impacts of withdrawals that are more reflective of real-world processes. The recommended three-year pilot cost-share program will address agricultural irrigation water and energy efficiency opportunities through irrigation retrofits to reduce water consumption, greenhouse gas emissions and carbon emissions. The project estimates potential water conservation at 3.2 MG of water saved on a 100-acre irrigated field per year.

To date, in 2022, there have been 481 new large quantity withdrawals (LQW) registered or permitted. Program staff members staff conducted 192 reviews of withdrawal requests or permit applications, and 315 were self-registered via the Water Withdrawal Assessment Tool.

Michigan submitted its 2022 Water Conservation and Efficiency Program Annual Program Assessment in November. This year's assessment highlighted water infrastructure investments, research and integrated data management, and education and outreach initiatives. Some of the highlights include the Building Michigan Together Plan's \$1.9 billion for water infrastructure improvements that dedicates \$1.27 billion in federal funds to the state's drinking water and wastewater revolving funds over two fiscal years. Michigan continues to implement the changes to the State Revolving Fund statute to ensure overburdened communities have the capacity to access infrastructure financing. The Fiscal Year 2023 state budget also includes \$48 million in technical assistance to help communities seek funding to replace lead water lines or other water infrastructure, and \$7.9 million for drinking water permitting, both administered through the Department of Environment, Great Lakes, and Energy (EGLE).

EGLE is also generating new reliable groundwater data by funding the Michigan Geological Survey (MGS) to map the priority areas identified by EGLE, the Department of Natural Resources and the Department of Agriculture and Rural Development, plus other state and public recommendations, to correctly locate all well locations from current and historical data. In separate projects, MGS is also conducting more 3-D mapping in Southwest and South-Central Michigan to monitor aquifers and support the growth in demand.

EGLE divisions are collaborating through a Lean Process Improvement process to develop an agency-wide groundwater data warehouse. The Data Warehouse System will provide a common location and format for environmental data submitted by EGLE staff and external parties. The data warehouse system will be linked to Geographic Information System (GIS) data layers for visual presentation of data as well as being linked to other external databases (e.g., federal agencies' databases). Michigan has several new and ongoing outreach and education programs that provide information about water conservation and efficiency and promote water stewardship principles and practices. Planning for 2023 events is also taking place currently.

EGLE hosted the Source Water Protection Conference in Mount Pleasant on October 12-13, 2022. The event was attended by community water supplies, watershed organizations, local public health staff, consultants, and others to learn more about best practices for source water protection, water conservation, funding programs, and research on emerging topics.

EGLE is continuing its collaboration with the Michigan Department of Labor and Economic Opportunity's MiSTEM Network to expand the From Students to Stewards Initiative with funding from EGLE's Office of the Great Lakes, the U.S. EPA Great Lakes Restoration Initiative Program, and the MiSTEM Network. Phase 2 projects are currently underway in schools for the 2022 and 2023 academic year to develop a life-long culture of stewardship by integrating Great Lakes and freshwater literacy principles into standards-based school curricula through place-based, authentic-experience approaches.

EGLE's Office of Climate and Energy is planning the MI Healthy Climate Plan Conference for April 11-12, 2023, in Detroit. EGLE is hosting this two-day conference to bring together and mobilize engaged stakeholders, community and business leaders, advocates, and other partners around implementing the key action items in the MI Healthy Climate Plan.

Minnesota

Mr. Richards submitted the following report

OVERVIEW OF WATER USE IN MINNESOTA'S LAKE SUPERIOR BASIN

- There are currently 150 active water appropriation permits in the Minnesota Lake Superior Basin (one less than 2021). Most of Minnesota's water use in the Basin is for industrial uses, power generation and public water supply.
- Notably, Minnesota saw a 40 percent decrease in total diversions.
- Minnesota's diversions outside the basin totaled nine million gallons per day. The water is used for mine processing and discharged to tailings ponds outside the basin.
- Over the past year, water use (withdrawals) for industrial purposes is down slightly.
- Public water supply withdrawals remained fairly constant.
- Withdrawals for power generation purposes have increased markedly, with a 162 percent increase in water withdrawals for thermoelectric power production (once-through cooling) due to increased production at two facilities.
- A 38 percent decrease in withdrawal for off-stream hydroelectric power production is a change resulting from drought conditions in 2021.

PROMOTING EFFICIENT USE AND NATURAL RESOURCE CONSERVATION

- The Minnesota Dept. of Health, through the Drinking Water Revolving Fund, has approved over a dozen projects in the Great Lakes Basin that will provide a more sustainable water supply or improve water conservation. Total funding assistance to the communities in the Basin is nearly \$65 million dollars.
- The Minnesota DNR’s Invasive Species Program is currently proposing rule changes that would add species to the prohibited invasive species list. This will help strengthen our prevention efforts and align our invasive species classifications with the Great Lakes and St. Lawrence Governors and Premiers “Least Wanted Aquatic Invasive Species” list. The rulemaking will also fill critical gaps created by a 2015 legal decision that reinterpreted provisions of the national Lacey Act related to interstate species transport.

EDUCATION PROGRAMS

- Nature-Based Shoreline Protection demonstration sites help educate citizens on how to protect shorelines from coastal erosion.
- The new Certified Coastal Practitioner program requires participants to complete 10 educational courses including coastal management and best practices.
- Since 2016, the popular “We Are Water” traveling exhibit continues to provide water education.
- The new Sustainable Damage Playbook for Local Officials helps them understand their responsibilities and available resources after a natural disaster.
- A new learning toolkit on Water Equity and Climate Resilience has been developed for utility leaders.

New York

Mr. Tierney submitted the following report (read by Karen Stainbrook of the New York Department of Environmental Conservation):

Hi, I am Karen Stainbrook. I am the Director of the Water Resource Management Bureau in the Division of Water in the NYS Department of Environmental Conservation. And I am serving as proxy for Don Zelazny. Don retired from NY’S Great Lake’s Program after over 2 decades of service this past fall.

Approximately 80 percent of New York state’s fresh surface water, over 700 miles of shoreline, and nearly 48 percent of New York’s land, is contained in the watersheds of Lake Erie, Lake Ontario and the St. Lawrence River, including the Lake Champlain watersheds. More than four million New Yorkers depend on the fresh water of these watersheds for drinking water.

This year, 2022, marks the tenth anniversary of NYS’s Water Withdrawal Management Program that fully complies with the Compact & Regional Agreement. Implementation of our regulatory program evolved over the first five years as we worked to bring all eligible non-public water users into compliance with the new permit requirements and

water conservation requirements. Since then, we have focused on refining the quality and compliance of information reported to us by permitted facilities and improving the public accessibility to such information.

The state's Department of Environmental Conservation's Division of Water currently regulates by permit or registration all water withdrawal systems with the capacity to withdraw 100,000 gallons per day or more from either surface or groundwater sources within the Basin. For agricultural facilities, the threshold is the use of a 100,000 gallon per day average over a 30-day period. For all types of water withdrawal facilities, each permit has required the submittal of a water conservation plan. The main objective of the plan is to promote implementation of the most environmentally sound and economically feasible water conservation measures. Components of these plans must include, at a minimum, 1) customer and source metering, 2) water auditing, 3) leak detection and repair and 4) outdoor water use management for public water suppliers.

This past year, NYSDEC had several program achievements. First, we completed a focused outreach to agricultural facilities in the Basin and throughout the state to educate and update farm compliance with water withdrawal registration and permitting requirements. This resulted in several out of compliance farms receiving water withdrawal permits and more accurate reporting of agricultural water withdrawal data. Second, we are almost done adding facility information and all past annual reporting data to our online DECInfo Locator GIS web tool, which is available to the public.

All registered or permitted facilities are required to submit an annual water withdrawal report to NYSDEC. This includes over 700 actively reporting facilities within the Great Lakes Basin. Since the current regulations were passed in 2013, DEC has issued 566 water withdrawal permits, permit modifications, permit renewals, and permit transfers within the Great Lakes Basin and 1,528 permits statewide. The deadline for reporting 2021 water withdrawals was March 31, 2022. This year marked the debut of a new, online reporting system called nForm. While electronic reporting was one of several reporting options for its inaugural year, we hope to move completely to the online system within the next few years. We are currently updating our database and doing QA/QC on annual reporting data as necessary. As always, we share our data with the Council and Commission on an annual basis.

With that, I conclude my report.

Ohio

Mr. Lodge submitted the following report:

The Ohio Department of Natural Resources ("ODNR") collected and compiled data on Ohio's 2021 Lake Erie Basin water withdrawals, consumptive uses, and diversions pursuant to The Great Lakes Water Resources Compact protocols ("the Compact").

ODNR staff submitted this report to the Great Lakes Commission for the Great Lakes Water Use Database.

100 percent of registered Water Withdrawal Facilities within the basin completed and returned their annual water use reports.

Registrations and Permitting for 2022:

- Six new Water Withdrawal Registrations were applied for and registered within the Lake Erie Basin.
 - Two public water supply, two agriculture, and two livestock.
- No new diversion permits were applied for or issued within the Lake Erie Basin.
- On September 29, 2022, the Chief of the ODNR Division of Water Resources issued an Order approving a New Water Withdrawal and Consumptive Use Permit within the Lake Erie Basin. The Permit approved a new ground water withdrawal of up to 5.25 million gallons per day (MGD) for use at a proposed aquaculture farm in Williams County, Ohio. All water will be returned to the Basin less a consumptive use of .065 MGD.
 - The Permittee relinquished its existing Water Withdrawal and Consumptive Use Permit issued on March 14, 2022 which had authorized a new ground water withdrawal of up to 3.0 MGD for use at its planned aquaculture farm.
 - The Permit is expressly conditioned upon the Permittee obtaining a National Pollutant Discharge Elimination System (NPDES) Permit from the Ohio Environmental Protection Agency for its return of water back to the Lake Erie watershed as described in its Application.

Ohio's Annual Water Conservation & Efficiency Program Review document was compiled and submitted to the Regional Body and Compact Council.

ODNR staff is currently working on two new web applications that will be made available to the public on the Division of Water Resources webpage.

- A new online water withdrawal reporting website for new and existing registered water users. This application is expected to improve the accuracy of reported data by automatically checking for typos and inconsistencies within the data, and reduce the time required to input data into the Water Withdrawal Database.
- A new online facility locator application which will allow for water users or interested parties to access facility locations and their accompanying water withdrawal information.

ODNR staff continued its ex-officio membership with the Concentrated Animal Feeding Facility Advisory Committee. This committee advises the Ohio Department of Agriculture on problems the state faces with large-scale livestock farms. The current focus is on fertilizer contaminants and algae blooms in Northwest Ohio.

Last year, ODNR was pleased to announce its Water Withdrawal Atlas of Ohio. The atlas concisely summarizes the data collected from the Water Withdrawal Facility Registration Program to assist in answering commonly asked questions regarding water use and to promote conservation focused initiatives by providing a clearer understanding of how water is used in Ohio, where water is withdrawn from, and how water use varies in different regions across the state. Understanding these factors can inform conservation solutions for the entire state as well as localized initiatives that support communities and watersheds.

- The Atlas continues to grow with the launch of a Lake Erie Basin-specific map closely examining large scale water use within the region. The Application will soon reflect 2021 withdrawal data while preserving previous year's data for reference.

Summer of 2022, ODNR Director Mary Mertz rolled out the latest initiative in a host of efforts to expand natural resource conservation and awareness in Ohio. ConServe Ohio, a sustainability plan for Ohio State Parks is a call to action for park staff and visitors to implement sustainability practices across ODNR properties. ODNR committed to a seven-pillar plan which includes water conservation and education. Through water use tracking, mitigation techniques, and updated infrastructure, state parks can set a great example in water conservation to the millions of State Park visitors each year and future generations.

Water conservation and efficiency continues to be a high priority for ODNR. This year, our conservation webpages were updated with current conservation material, and we now have information for each of the water use sectors to use in their efforts. In an effort to create an open dialogue with Ohio's citizens, water use managers, and water withdrawal facility owners, the Division opened an online forum for those interested in submitting their best management practices and water conservation links. ODNR continues to accept and post submissions on our Water Conservation Education webpages.

In 2019, ODNR shared Governor DeWine's new H2Ohio initiative, which is a water quality initiative to ensure safe and clean water for all Ohioans. The Governor, along with the Ohio Department of Agriculture, Ohio Department of Natural Resources, Ohio Environmental Protection Agency, Lake Erie Commission, and many partners, including the Ohio Agriculture Conservation Initiative (OACI) have worked together to invest in projects across Ohio that will reduce nutrients and provide other long-term economic and water quality benefits to communities statewide. This program is a comprehensive, data-driven approach to improving water quality and is focused on reducing phosphorus, creating wetlands, addressing failing septic systems, and preventing lead contamination. Progress from each participating agency to date includes the following:

Ohio Department of Natural Resources (ODNR)

- Total investments rose to \$105.3 million with over 57 nonprofit conservation partners engaged- and rising.
- Total projects rose to 117 with over 81 of them located in the Lake Erie Basin. 30 total projects were completed at the end of 2022.
- Private landowners are eligible for additional funding through ODNR's Water Quality Incentive Program. This program provides a one-time payment of \$2,000 per acre for new enrollment in the federal Lake Erie Conservation Reserve Enhancement Program (CREP) for wetland restoration and forested riparian buffers that help improve water quality in the Lake Erie watershed. This program currently supports over 150 projects on private lands projects, representing approximately 3,000 acres of wetlands and 100 acres of forested riparian buffers in the Western Lake Erie Basin.
- The H2Ohio's Program's initial success in the Lake Erie Watershed prompted statewide expansion. This growth resulted in an initial round of Ohio River Basin H2Ohio Wetland Grant Program funding ten water quality improvement projects across the state in 2021. In 2022, Governor DeWine announced a second round of funding for \$3 million resulting in an additional nine wetland projects in the Ohio River Basin.

Department of Agriculture (ODA)

- ODA's H2Ohio efforts now extend into all ten Western Lake Erie Basin counties, including:
 - 1.6 million acres enrolled in Voluntary Nutrient Management Plans
 - An additional 620,000 acres enrolled through 809 contracts
 - Over 2400 total agreements secured
- In 2022, two-stage ditches will be added as an approved best management practice. These ditches help reduce sediment and nutrient loads, significantly reduce bank erosion, and provide additional water storage during runoff events.
- \$2 million in Great Lakes Restoration Initiative (GLRI) funding has been secured to help cover program staffing. A Western Lake Erie Basin Expansion Regional Conservation Partnership Program Grant for \$8 million will be utilized for the installation of manure management structures. Lastly, an application has also been submitted for a \$15 million Climate Smart Commodities Grant to support water quality improvements.

Ohio Environmental Protection Agency (OEPA)

- H2Ohio funding was announced for lead-focused work including service line replacement in Cleveland and Cincinnati. The next area of focus will be to help communities that need assistance with lead service line inventory and mapping.
- In 2022, \$3.9 million was spent to address nine critical water and sewer projects, including:
 - \$2.2 million on lead service line replacement in six communities
 - \$2.7 million on lead service line mapping in 70 communities

- Grants ranging from \$135,000 to \$750,000 were awarded to nine entities for drinking water infrastructure assistance. Grants are to be used for extending water and sewer lines to households in desperate need of service, provide capacity for additional growth and economic development, and consolidate utilities in neighboring communities for greater efficiency.

Ohio Lake Erie Commission (OLEC)

- In 2022 OLEC received initial funding under H2Ohio. These funds will be used to develop an H2Ohio watershed model analysis of the Western Lake Erie Basin.

Wisconsin

Mr. Freihoeffler submitted the following report:

The Wisconsin DNR is active on projects to improve data systems, update StoryMaps and develop new products related to sharing water use information with the public.

City of Waukesha Diversion

The City of Waukesha Diversion project continues to move forward. The City expects to complete construction of the water supply and return flow pipeline and transition to the Lake Michigan water supply by the Fall 2023.

Village of Somers

The Village of Somers in southeast Wisconsin received a diversion approval in February from the Wisconsin DNR and began diverting water in July 2022.

Administrative Rules

Wisconsin DNR has started the process of promulgating rules related to Water Supply Service Area Plans and Diversion applications. These rules do not change any of the Compact standards as the standards are codified in Wisconsin's Compact implementing statutes, but rather describe the application requirements and DNR review process for plans and diversion applications. The scope statement for the rules were approved by the DNR Board in June and the Wisconsin DNR has begun drafting rules. Draft rules will be provided to the Wisconsin DNR Board by Fall 2023, with subsequent opportunities for a public hearing and public comment. The Wisconsin DNR held an initial informational meeting on the process last week. More information can be found at <https://dnr.wisconsin.gov/topic/WaterUse/ImplementationRules>

Water Use

Wisconsin DNR submitted its water use data to the Great Lakes Commission for the annual Great Lakes water use report. Wisconsin withdrew approximately 3.7 billion gallons of water from the Great lakes in 2021. Wisconsin's Great Lakes water use has remained relatively consistent over the past 5 years, fluctuating by approximating ten percent from the 2021 withdrawal volume due to changes in water use related to

weather. More details on Wisconsin's Great Lakes basin water use are part of the Great Lakes Commission annual water use report.

Administrative reports.

Mr. Bruno invited Peter Johnson on behalf of the Regional Body's Secretariat, to give an administrative report. Mr. Johnson reported the following:

- In the days immediately preceding today's meeting, we held a two day conference of the Regional Body and Compact Council's Science Team.
 - It was open to members of the Tribes, First Nations and Métis Communities in Canada, as well as all of our Advisory Committee, Resource Group and Observers. I want to thank those who were able to join us.
 - We heard presentations on an assessment of drivers of municipal water use trends in the Great Lakes region; the work of the Alliance for Water Efficiency, and had a discussion about how we can better work together; Québec's groundwater authorization process and how they use indicators to evaluate cumulative impacts; heard an update on the USGS's work to provide enhanced water use information, and updates on some of the work that Michigan has been undertaking.
 - As reported at the December 2021 meeting, every five years, pursuant to the Compact and Agreement a comprehensive cumulative impact assessment needs to be created. These assessments focus on the water budget of the Great Lakes St. Lawrence Basin, and the impacts of humans on the budget.
 - We are in the process of creating the next Cumulative Impact Assessment, and heard from the researchers who are doing that work. We will be hearing a short update from them soon about the work they have been doing, but during the science team meeting we heard in great detail about the status of their research. I will again say that we are very appreciative of the incredible work that Jim Nicholas and the team at the University of Michigan lead by Dr. Drew Gronewold have been doing.
 - We are looking forward to the next meeting of the Science Team, where among other things we will be looking at potential updates to the Science Strategy.
- I am also pleased to report that the Regional Body and Compact Council have applied to host a session at the International Association for Great Lakes Research to be held in May in Toronto.
- I also want to note that we recently launched an update to the Compact Council website and encourage you to check it out.
- We are looking forward to getting back together again in June of 2023 in Milwaukee, and hope people will be able to join us in person for that meeting.

Mr. Bruno next invited James Polidori of the Great Lakes Commission to report on the 2021 Water Use Report released by the Great Lakes Commission. Mr Polidori reported the following:

Since 1988, the Great Lakes Commission has maintained a database of water use information in support of the Compact and Agreement. The 2021 Annual report of the Great Lakes St. Lawrence Water use database was now being presented. This report represents an ongoing collaboration between the Great Lakes Commission, the Great Lakes St. Lawrence Governors & Premieres, and the State and Provincial water managers in each jurisdiction who submitted detailed reports on 2021 water use to the Commission staff in August. The GLC staff reviewed the jurisdictional reports and held follow up phone calls with each water use manager during September to identify and correct any issues with the data submitted. These calls also helped clarify changes in water use from prior years. These changes are noted in the report. Drafts of the report were reviewed by water use managers and a draft of the full report was circulated to members of the Compact Council and Regional Body for review. The Commission received comments in early November and emailed the final report to the Compact Council and Regional Body on November 15th.

Compliance rates and reporting among water users continue to improve, which supports the quality of the report. He acknowledged the work done by the States and Provinces to achieve this.

There are several highlights from this year's annual report. In 2021, the States and Provinces withdrew about 37.5 billion gallons per day, or 142 billion liters per day from the basin. This represents about a 1% decrease from 2020 withdrawals. Self-supply, thermal, electric power production, ones through cooling, public water supply and self-supply. Industrial water use are the primary water use sectors, which combined represent almost 91% of total water withdrawals in 2021. The total reported diversion of water out of the Great Lakes St. Lawrence River Basin in 2021 was 1.1 billion gallons per day, or 4.2 billion liters per day. Over 88% of this amount, totaling 974 million gallons per day, was associated with the Illinois diversion, which takes water from Lake Michigan and discharges it into the Mississippi River watershed. The reported amount associated with the Illinois diversion decreased by about 3% from the 2020 report amount of 999 million gallons per day.

The largest incoming diversions are the Long Lac and Ogoki diversions, which contributed 3,182 million gallons per day, or 12,046 million liters per day to the basin in 2021. These diversions take water from the Hudson Bay Watershed and divert it into Northern Lake Superior. The reported amount associated with the Long Lac and Ogoki diversions increased by about 16% from the 2020 reported amount of 2,735 million gallons per day, or about 10,400 million liters per day.

Overall, the net diversion or outgoing diversions plus incoming diversions and returned water showed a gain of 2.1 billion gallons per day, or 7.9 billion liters per day, meaning more water was diverted into the basin than was diverted out of it. Consumptive use was 1.9 billion gallons per day, or 7.4 billion liters per day.

There was a 4% decrease from the 2020 total consumptive use amount of about 2 billion gallons per day, or 7.6 billion liters. The public water supply and self-supply industrial sectors had the greatest consumptive use, accounting for 57% of total consumptive use. However, the self-supply irrigation sector accounted for most of the decrease from 2020 consumptive use decreasing by about 16%.

Considering both consumptive use and diversions, the basin gained a total of 156 million gallons per day, or 589 million liters per day. By comparison, the basin lost 401 million gallons per day, or 1,519 million liters per day in 2020. The report and supporting data have been posted on the GLC website at [water use data.glc.org](http://water.use.data.glc.org).

Lastly, Mr. Polidori thanked the water use managers for their help throughout this process, as this work would not be possible without their coordination and expertise.

Mr. Bruno then invited Jim Nicholas of Nicholas-H2O to provide an update on the draft Cumulative Impact Assessment that is being drafted. Mr. Nicholas reported the following:

The Cumulative Impact Assessment is required every five years by the Compact and Agreement, and we are near completion of the third one covering the dates 2016 to 2020.

The conclusions on the cumulative impact during this time period are essentially the same as the two previous reports. The cumulative impact is determined by comparing inflows to the Great Lakes Basin, to the diversions, the three diversions into and out of the Great Lakes Basin plus consumptive uses.

During the time period for this report, the average inflow, which is runoff and precipitation on the lakes for 2016 to 2020, is 521,000 cubic feet per second. The diversions plus consumptive uses resulted in a net increase to the basin of 830 cubic feet per second. Accordingly, the cumulative impact of diversions and consumptive uses is about two thousandths of a percent of the natural inflows.

In past reports it's been noted that there are large uncertainties in flow calculations with a need to address those as these uncertainties are very high and larger than the measured cumulative impacts and diversions. It was also recognized that there was a need for an improvement understanding of climate change impacts. Accordingly the Regional Body/Compact Council contracted with Dr. Drew Gronewold at University of Michigan to address these two issues. Dr. Gronewold and his team developed a complex

model that very significantly reduces uncertainty and flow calculations in the cumulative impact assessment. This is a major step forward for the basin and this model is being used operationally by scientists on both sides of the U.S./Canada border.

Dr. Gronewold's team also noted increasing trends in both precipitation on the lake surface and evaporation from the lakes, and that these are expected to continue into the future. These increases are expected to balance each other over the long term, so that average lake levels would stay approximately within historical ranges over the long term. However, there will be more rapid changes between the high and low lake levels as has been seen in the past 10 to 15 years.

Opportunity for public comments.

Members of the public were given an opportunity to ask questions or provide comments.

Noting that the Regional Body meeting adjourned immediately prior to the Compact Council meeting, a motion was made by Mr. Freihoefer to incorporate reports made during the Regional Body meeting into the Compact Council minutes. Mr. Wobig seconded the motion. The motion was approved. Pursuant to the approved motion, the following public comments are incorporated by reference into the Compact Council's record and re-printed in their entirety below:

Mary Muter, Georgian Bay Great Lakes Foundation. Ms. Muter noted that she was on the Ontario Government's Annex Advisory panel during the negotiations of the Agreement, which your governing body is now enforcing. Ms. Muter asked if the Regional Body was aware that Ontario had passed Bill 23 allowing for increased housing in the North York region of Ontario, and that Premier Ford has also announced at the same time that York region will be increasing their intra-basin transfer by significantly sending more sewage and storm water from the Lake Huron watershed down to the York Durham sewage treatment operation facility on Lake Ontario.

Mr. Bruno responded by noting that the Regional Body/Compact Council Science Team members recently received on update on this proposal, although there wasn't much information at that time.

Ms. Muter responded by stating that she just wanted to ensure that the Regional Body members were aware of the proposal.

New Business.

Consideration of Resolution #51 Election of Chair and Vice Chair

Mr. Bruno noted that the first order of business is consideration of Resolution #51-- Election of Chair and Vice-Chair. The resolution would elect the Governor of Wisconsin to serve as the Compact Council Chair, and the Governor of New York to serve as the

Compact Council Vice-Chair, beginning immediately after this meeting until the next Annual Meeting of the Compact Council, to be held on or about December 8, 2023. Mr. Richards moved the resolution, and Mr. Lodge seconded the resolution. The resolution was adopted without objection.

Consideration of Resolution #51—Adoption of Fiscal Year 2024 Budget. The Chair noted that the proposed budget and the resolution granting approval of the budget were previously distributed to the members and were posted on the regional body website. Upon asking for a motion to grant approval of the resolution and a second, Mr. Freihoeffler moved that the resolution be adopted, with Mr. Wobig seconding the motion.

Because the vote must be unanimous, a roll call vote of all members was initiated:

Illinois—Yes

Indiana—Yes

Michigan—Yes²

Minnesota—Yes

New York—Yes

Ohio—Yes

Pennsylvania—Yes

Wisconsin—Yes

The resolution was adopted by unanimous vote.

Adjournment

Mr. Bruno invited a motion to adjourn and a second. Mr. Freihoeffler moved and Mr. Lodge seconded the motion. The motion to adjourn was then passed without objection and the meeting was adjourned at 10:38 a.m. EST.

The full text of the materials discussed at the meeting is available online at www.compactcouncil.org.

² Emily Finnell of the Michigan Department of Environment, Great Lakes and Energy was granted a proxy by Mr. Clift to vote on this matter.