

**Great Lakes—St. Lawrence River Basin Water Resources Council
Meeting Summary**

December 9, 2021

3:28 p.m. EST

Remote participation was available to individuals registering at:
<https://attendee.gotowebinar.com/register/767633257517416204>

Listen only mode is available by calling:

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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 9, 2021. 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:

3:28 p.m. EST— The meeting was called to order by Todd Ambs, acting as alternate of Governor Tony Evers.

Roll Call:

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

Illinois (designee of Governor J.B. Pritzker): John Rogner, Assistant Director, Illinois Department of Natural Resources.

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

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

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

New York (designee of Governor Kathy Hochul): Don Zelazny, Great Lakes Programs Coordinator, New York State Department of Environmental Conservation.

Ohio (designee of Governor Mike DeWine): 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): Todd Ambs¹, Assistant Deputy Secretary, on behalf of Preston Cole, Secretary, Wisconsin Department of Natural Resources

Actions Taken

Review of June 16, 2021 Compact Council meeting minutes

Mr. Ambs asked for a motion that the June 16, 2021 Compact Council meeting minutes be approved as posted. Mr. Rogner moved to approve, and Mr. Mueller 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. Bruno to incorporate minutes of the Regional Body reports into the Compact Council minutes. Mr. Richards 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).

Illinois

Mr Rogner submitted the following report:

2021 summary of the State of Illinois Lake Michigan Program’s activities related to the Compact.

Lake Michigan Diversion and Allocation Program:

The Illinois Lake Michigan Water Allocation Program (Program) continues to manage Illinois’ diversion of Lake Michigan Water in accordance with a 1967 Supreme Court Decree, amended in 1980. This decree limits Illinois’ diversion to 3,200 cfs based on a 40-year running average. Water Year 2020 (October 2019 – September 2020) was year 40 of Illinois’ diversion. Illinois’ Lake Michigan Diversion is regulated by the “LEVEL OF LAKE MICHIGAN ACT” [615 ILCS 50] and implemented by the IDNR/OWR’s Part 3730 Rules, “ALLOCATION OF WATER FROM LAKE MICHIGAN”.

The Lake Michigan Management Section continues to collect water use data from each of its 220 Lake Michigan Water Allocation permittees on an annual basis. The process is highly interactive and allows permittees and the Department of Natural Resources to

¹ Signed proxy forms for individuals participating on behalf of official member designees are available upon request.

work together to evaluate water system performance and investigate ways to reduce water loss.

Illinois' Diversion Accounting is overseen by the U.S. Army Corps of Engineers (USACE). The USACE's most recent certified diversion report, Water Year 2017 shows Illinois' certified flow as **2677 cfs with a running average of 3041 cfs**. In **water year 2020 total domestic Lake Michigan water use was 778 million gallons per day (mgd), a decrease of approximately 11mgd from water year 2019's pumpage**. In **water year 2020 the annual precipitation was 41.31 inches, 5.85 inches less than 2019's 47.16 inches**. For Water Year 2018, all 218 permittees have submitted annual reports. Water Year annual reports are still being collected and reviewed.

Water Conservation:

Since Water Year 2015 the Department's regulatory threshold for non-revenue water (NRW) to Water Supplied has been 12% reducing to 10% in Water Year 2019. All Domestic permittees that exceed the Department's regulatory limit must provide a Water System Improvement Plan (WSIP) which they feel will return them to compliance. In Water Year 2017 the average percent NRW for all Lake Michigan Water Allocation permittees was 12.8%. In Water Year 2017, 93 permittees were above the 12% threshold all have submitted new and or updates to existing Water System Improvement Plans. The Department is still compiling data for Water Years 2018 and 2019.

Illinois has seen a reduction in domestic Lake Michigan water use of 330 mgd between 1992 and 2017.

Lake Michigan Water Reallocation Updates:

Approximately every 10-years, the Department reviews all its Lake Michigan Water Allocation Permittees' allocations to determine if actual use is in line with allocation projections. COVID impacts slightly delayed this effort. The allocation information used for water year 2020 was based upon the 2008 reallocation study. The Department initiated a reallocation study in 2020 and is currently in the process of updating the new allocations. We anticipate having the revised allocations effective beginning in water year 2023 and the allocations will extend out through water year 2050. This reallocation reflects provisions of the state's Part 3730 Administrative Rules that specifies that system water losses do not exceed 10% of water supplied. Accordingly, many allocations were reduced to reflect this limitation. Those entities that experience water loss more than 10% are required to develop and implement a water system improvement plan to bring their system into compliance with this requirement.

The Department received an application for a new Lake Michigan water allocation from the City of Joliet in 2020. Joliet continues to rely on a deep aquifer well water supply

that groundwater modeling efforts indicate will not be able to meet the City's daily demands by 2030. The Department reviewed the application and issued a decision to grant Joliet an allocation permit on September 1, 2021 (LMO-20-01). The Department Order allocates the city of Joliet 15.615 million gallons per day (mgd) in 2030 increasing to 18.604mgd in 2050. A special condition of Joliet's permit requires that Joliet reduce their non-revenue water percentage from 34.5% (as reported for 2019 in Joliet's application) to 10% or less before they begin using Lake Michigan water. Joliet anticipates that they will begin using Lake Michigan water in calendar year 2030.

The Department also recently received an application for a Lake Michigan water allocation from the Village of Lemont and staff has begun reviewing the request.

The Department held educational webinars on October 20th and 22nd related to the reallocation process and on December 7th and 9th, 2021 explaining the Lake Michigan Allocation Program, especially for those communities still considering a petition to the state of Illinois for Lake Michigan water.

State Water Plan:

Illinois is currently in the process of updating its State Water Plan despite COVID delays. This updated will include many Lake Michigan related issues including water supply, resiliency actions, and social justice matters.

Water Supply Recommendations

Increase education and outreach related to water use and water conservation specially to disadvantaged and under resourced communities.

Simplify and improve annual water use reporting and data submittal processes including a shift to volume-based metrics from fiscal based metrics.

Expand IDNR Water Resources Lake Michigan Programs to include full time staff dedicated to working with all communities utilizing Lake Michigan Water, but especially under resourced and disadvantaged communities to assist them with their water supply system improvement plans and funding for those plans. Also work with the communities to improve water conservation programs. Implement water allocation fees to supplement program funding for these expanded program efforts.

Establish grant funds criteria as part of the state revolving fund operation and provide designated water system improvement plan implementation funding to under resourced and disadvantaged communities

Lake Resiliency and Economics Recommendations

Continue coordination with the Great Lakes Commission, NOAA, and the US Army Corps of Engineers to enhance coastal resiliency with a focus on regional breakwater protection for high lake levels

Support, increase, and promote sustainable coastal tourism and recreation opportunities including Great Lakes Cruise line industry access to Illinois ports

Promote increased maritime transportation of commercial goods between the Great Lakes and Gulf of Mexico via the Chicago Area Waterway

Protect, enhance, and restore important coastal habitats with an emphasis on public owned and accessible land and wetlands hydrologically connected to Lake Michigan

Improve economic viability and capacity of Illinois' Lake Michigan coastal ports, harbors, and marinas; promote resource-compatible development and community interests

Brandon Road:

The state of Illinois signed a Preliminary Engineering Design (PED) Agreement in December 2020 with the US Army Corps of Engineers following a negotiated Intergovernmental Agreement with the state Michigan for a cost-share partnership to cover the required non-federal share of the PED Agreement. With ample fiscal and technological support from the state of Michigan, the state of Illinois continues to work with the US Army Corps of Engineers on Project Design for the Brandon Road Project and has completed 4 Design Charettes for the project. The project Design Team is currently weighing the pro and cons of both a “short” and “long” options of an engineered channel. The state of Illinois is also currently negotiating a right-of-access agreement and non-disclosure agreement with local property owner Midwest Generation to allow the state to enter their property at the project site to investigate geotechnical and environmental characteristics of the property. The project design team has met with navigation industry representatives 3 time thus far and has initiated the first of several public and stakeholder outreach newsletters and follow-up webinars. The Corps Engineers' Engineering, Research and Development Center (ERDC) in Vicksburg, MS has constructed a 1:100 scale existing conditions model of the Brandon Road Lock and Dam and the Des Plaines River in the vicinity of the lock.

The states of Illinois and Michigan also created a States and Provinces Forum with facilitation provided by Kearns and West Inc under contract with the Great Lakes Commission. This Forum provides representatives of the Great Lakes states with key project updates and transparency into project design issues. This forum is also working to collaboratively press for full federal funding of remaining project design and construction.

Indiana

Mr. Mueller submitted the following report:

Annual partnering meeting – IN State Agencies and US Army Corps of Engineers

On December 10, 2021, Indiana State Agencies including the Department of Natural Resources, Department of Environmental Management, Department of Homeland Security and the Indiana Finance Authority will meet with Executive Leadership from the Louisville, Chicago and Detroit Districts of the US Army Corps of Engineers. The annual partnering meeting provides an opportunity to share programmatic updates, discuss Federal and State water management priorities and seek to improve process efficiencies. Topics of interest during this meeting will include:

- Federal Infrastructure Bill;
- Permitting of construction activities along the Lake Michigan shoreline; and,
- Opportunities to leverage state funding through USACE programs such as PAS, FPMS, etc.

Water Use in the GL basin - Indiana reporting year 2020

- Currently there are 1057 Significant Water Withdrawal Facilities (SWWF) registered in the Basin.
- SWWF has the capacity to withdrawal 100,000 gallons a day.
- Have added about 20 new facilities in last two years, mostly irrigation
- Water use in the Basin for 2020- ~500 billion gallons total
- Decrease of about 250 billion gallons over the last 5 years, mainly driven by Energy Production/ Industrial use
- Nisource Baily station retired in May 2018 accounts for a significant portion of the reduction.
- Industrial decreases more gradual, likely due to conservation efforts, and portion of Arcelormittal Harbor East plant shut down in 2018.
- Of the 1057 SWWF:
 - 1581 wells (a facility can have multiple wells / intakes) – Accounting for 34 BG
 - 250 surface intakes – Accounting for 465 BG
- When you compare withdrawal vs. capacity:
 - SWWF total – 19.2%
 - Surface – 21.5%
 - Wells – 8%

Michigan

Mr. Clift submitted the following report:

The Michigan Departments of Environment, Great Lakes and Energy (EGLE), Natural Resources (DNR), and Agriculture and Rural Development (MDARD) continue to function during the COVID-19 pandemic with most of staff working remotely except for field and lab staff. Michigan’s Water Use Assessment Program continues to work with the Water Use Advisory Council (WUAC) to advance and improve Michigan’s Program. The WUAC

submitted its first biennial report to the Legislature in December 2020. The WUAC's recommendations, reached by unanimous consensus, will advance and improve conservation, data collection, modeling, research, refinement and administration of the water withdrawal assessment process. In all, the recommendations include funding requests to the Michigan Legislature totaling \$5.2 million in Fiscal Year 2022 and \$4.9 million in Fiscal Year 2023. These recommendations are with the Michigan legislature for consideration.

The WUAC's Models Committee also has a technical work group studying the issues involved with tracking cumulative stream flow depletions from the headwaters to the mouths of the rivers discharging to the Great Lakes. These issues include revising return flow estimates for various water use sectors. The Models Committee is also reviewing recent research to determine if there is a more appropriate method of apportioning stream flow depletions from large quantity groundwater withdrawals between nearby stream reaches. To date, over 7,600 large quantity withdrawals have been registered through Michigan's program. The program recently hired additional staff to focus on site specific reviews and an additional groundwater modeler.

Michigan has continued its focus on addressing the impacts of climate change, including high water levels, reducing the state's carbon footprint, and addressing aging water infrastructure. All of this work is done through the lens of environmental justice, equity, diversity and inclusion. To date, nearly \$1 billion in infrastructure grants and low-interest loans have been authorized to Michigan communities in 2021, marking an almost six-fold increase in funding since 2018 from the State Revolving Fund.

The development process for the *MI Healthy Climate Plan*, a comprehensive plan meant to protect public health and the environment while helping to develop new clean energy jobs by making Michigan fully carbon-neutral by 2050, has been ongoing. The Michigan Council on Climate Solutions, a multistakeholder group created to advise EGLE in the development of the *MI Healthy Climate Plan*, has held numerous meetings over the last months. Topic-specific recommendations from the Council are out for public comment and listening sessions were held December 1st and 2nd to gather input on the recommendations. The Plan is expected to be released in Spring 2022.

Michigan submitted its 2021 Water Conservation and Efficiency Program Annual Program Assessment. A few highlights from this year's report include EGLE's efforts to advance a number of projects related to the water energy nexus. The Water Energy Nexus project led by the Michigan Municipal Association of Utility Issues was created to quantify the energy used to treat and pump drinking water to end users, in order to determine how much energy could be saved if service line leaks were reduced. Initial results show the potential to save over 21 billion gallons of water a year and enough energy to power 5,000 homes for year by reducing service line leaks.

The WUAC created a standing subcommittee, the Water Conservation and Efficiency Committee (WCE), which has been meeting monthly to improve and enhance Michigan's water conservation and efficiency program and support sustainable water use. The WCE has been working with a Dow Sustainability Fellows Team to assess Michigan's new and existing climate, energy, and water infrastructure programs and initiatives to identify opportunities to further advance Michigan's water conservation goals and objectives.

The Office of the Clean Water Public Advocate has continued its Focus on Water Initiative including completing the Water Leak Pilot in the cities of Benton Harbor and Highland Park to reduce water waste, save energy and save money for residents. Initial data has shown that in Highland Park half of homes with completed repairs have reduced residents' water consumption by 50% or more. The project work is still ongoing but has been well received by the communities, and lessons learned will be applied to future projects.

EGLE's Office of the Great Lakes and Michigan Sea Grant are co-funding a project to develop a Water User Committee (WUC) guide and convene the first WUCs as case studies. The competitive review process has been completed, and a project team has been selected for approval by the National Oceanic Atmospheric Administration. The WUC guide will be developed using a stakeholder-driven approach with surveys and focus groups to successfully incorporate the diverse perspectives of the state's water users and builds capacity for local collaborative governance of water resources in Michigan. The project will begin in February 2022.

Michigan continues to pursue opportunities to improve data collection and sharing to manage state's surface water and groundwater resources. This year EGLE has begun to coordinate and collaborate across divisions to understand what we already know about groundwater quality and quantity and what data gaps exist. Mapping is an important component for the development of a comprehensive and collaborative groundwater framework for Michigan. Presently, data related to groundwater exists in many locations, but it is difficult to share or access outside of its host location. As part of this effort, EGLE has begun a mapping project of existing groundwater data from databases within the department. This is the first step in moving to a more complete compilation of the department's groundwater data in a visual format to gain a greater understanding of Michigan's groundwater resources.

EGLE also has two pilot projects with Michigan State University which will be complete by March 31, 2022. The first pilot project involves using transit sonar surveys to map the bathymetry of inland lakes more accurately in Michigan. Michigan has approximately 16,000 inland lakes that have areas of at least five (5) acres. Only 2,700 of those lakes have bathymetry maps, most of which date from the 1940s and 1950s, prior to the widespread use of sonar technology for bathymetry mapping. The other pilot project involves using geographic information system (GIS) analyses to edit out non-perennial

stream reaches from the high-resolution National Hydrography Dataset. Teams field verify stream those stream reaches using EGLE’s procedure for conducting perennial versus non-perennial stream evaluations.

Minnesota

Mr. Richards submitted the following report:

OVERVIEW OF WATER USE IN MINNESOTA’S LAKE SUPERIOR BASIN

- There are currently 151 active water appropriation permits in the Minnesota Lake Superior Basin.
- Most of Minnesota’s water use in the Basin is for industrial uses, power generation and Public water supply.
- Over the past three years, water use (withdrawals) for industrial and power generation purposes has declined markedly, while public water supply withdrawals remained fairly constant.
- Minnesota’s non-hydropower withdrawals totaled 218 million gallons per day.
- Minnesota’s diversions outside the basin totaled 15 million gallons per day. All diversion amounts in 2020 are from existing activities that were in place at the time of the Compact.
- The pandemic caused some local industrial market decline and industrial water use was down in the Lake Superior basin. The DNR Water Conservation Report shows that statewide, the change in residential vs. non-residential water use during the pandemic is fairly dramatic. From 2019 to 2020, residential water use increased approximately 8% in Minnesota and non-residential water use decreased nearly 5%.

RESTORATION, DROUGHT AND EDUCATION WORK

- Four important habitat restoration projects were completed in 2021 within the St. Louis River Area of Concern (SLRAOC) near Duluth. Over the last three years, about 230 acres of coastal wetland habitat were restored by the DNR at the Kingsbury Bay and Grassy Point sites, at a combined cost of \$18 million. (*See page 10 of the 2021 Water Conservation Report for details*).
- At least 17 other restoration and sustainability projects are funded and underway.
- In the basin, moderate to Extreme drought conditions persisted through November. Over the summer, stream flows dropped below minimum protective flow levels throughout much of the basin, resulting in temporary permit suspensions. Most permits have now been reinstated.
- November 2021 is the third-straight month of Lake Superior being well below average water level. The lake usually declines from September to April and then

rises over the summer. Lake Superior is now 2.4 inches below the average for Nov. 1 and is 11.4 inches below the lake’s level in 2020.

- Minnesota DNR staff gave a lightening presentation at yesterday’s Great Lakes Science Team on the state’s Water Conservation Reporting System.

Details on Minnesota Water Use (prepared and submitted by Sean Hunt)

The Minnesota portion of the Lake Superior watershed encompasses approximately 6,800 square miles.² Major river watersheds in the basin include the Cloquet, Nemadji and St. Louis River systems, as well as the north shore tributaries to Lake Superior. Excluding in-stream hydroelectric water use (2,131 mgd or 8,066 mld), the total withdrawal amount from the basin for Minnesota was 1,866 mgd (7,065 mld), a decrease of 19 percent from the total withdrawn amount for 2019 (2,318 mgd or 8,775 mld). This change in use is largely due to a decrease in water use for off-stream hydroelectric power production, which is the sector with the greatest water use (1,648 mgd or 6,239 mld in 2020). The second largest use sector is self-supply industrial at 148 mgd (561 mld), which also decreased in use from 2019 and contributed to the overall decrease in Minnesota water use.

² Minnesota Pollution Control Agency. <https://www.pca.state.mn.us/water/watersheds>

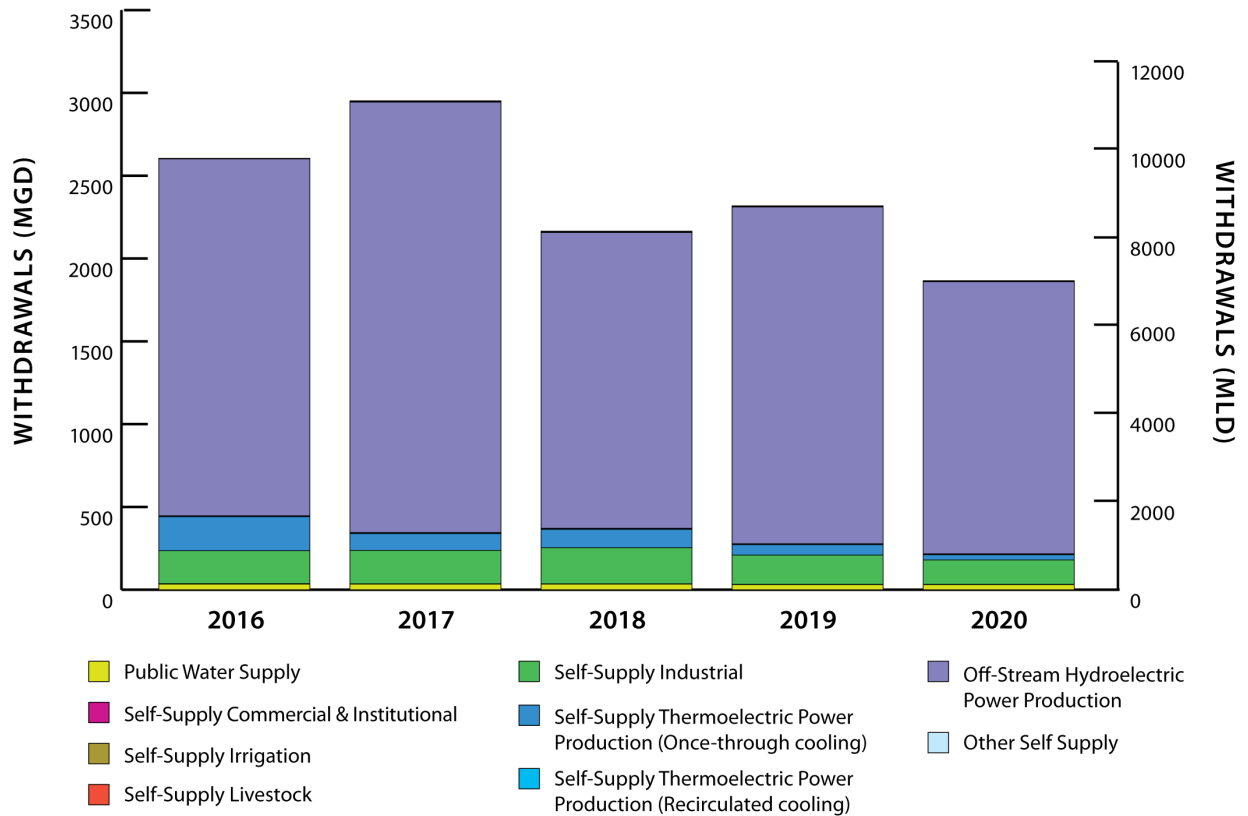


Figure 20. Minnesota water withdrawals by sector the last five years (excluding in-stream hydroelectric water use)

95 percent of total withdrawals came from other surface water within the Lake Superior watershed (1,777 mgd or 6,727 mld), while less than 5 percent, or 84 mgd (318 mld), came from Lake Superior. Less than 1 percent of withdrawals (5 mgd or 20 mld) were groundwater withdrawals. The large relative use of ‘other surface water’ comes from water use for off-stream hydroelectric power production along the St. Louis River.

The total reported diversion amount of 15 mgd (56 mld) was almost exclusively for self-supply industrial purposes. A small amount of the outgoing diversion (0.03 mgd or 0.1 mld) was also reported for the self-supply irrigation sector. Total consumptive use was 19 mgd (71 mld), the majority of which was for industrial purposes (15 mgd or 56 mld).

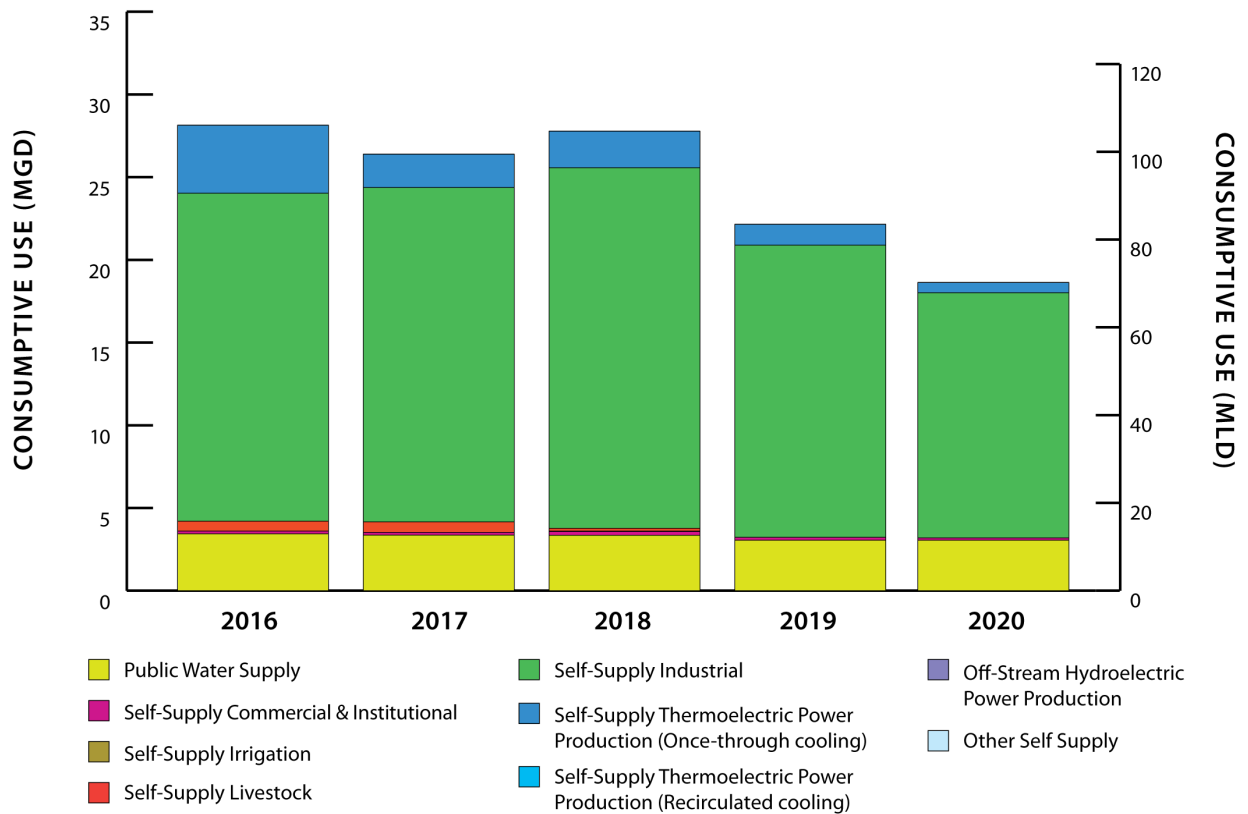


Figure 21. Minnesota consumptive use by sector the last five years

The water use data was provided by the Minnesota Department of Natural Resources, which collected measured water use data from water withdrawal permit holders with 100 percent reporting compliance from permitted water withdrawal facilities.

Notable changes from 2019 water use by Minnesota facilities include:

- A 50 percent (32 mgd or 120 mld) decrease in water use for thermoelectric power production (once-through cooling) due to decreased use at two utilities, consistent with standard fluctuations and market demand.
- A 16 percent (28 mgd or 197 mld) decrease in self-supply industrial sector water withdrawals, with corresponding decreases in consumptive use (3 mgd or 11 mld decrease). This reduction is largely attributed to reduced water use for mining.
- A 19 percent (391 mgd or 1480 mld) decrease in withdrawal for off-stream hydroelectric power production, a change resulting from normal fluctuations in river flow.

New York

Mr. Zelazny submitted the following report:

Water Withdrawal Permit program. NYS DEC'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 within the Basin. This includes 695 actively reporting facilities within the Great Lakes Basin and through ongoing permit enforcement we have achieved 100% compliance in required reporting. 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.

A couple additional updates related to our water resource management include:

Drinking Water Source Protection Plans (DWSP2). This program pairs communities with department staff and consultants at no cost to evaluate potential threats/contaminants through the development of an overview of their water supply system. Communities, with special emphasis on Environmental Justice communities, then work with staff to identify protection and management methods as well as an implementation timeline all specific to their municipality. Participants typically develop a Project Management Team made up of community stakeholders, local government officials, and agricultural/industrial/business representatives to develop and promote implementation of the Plans. The thing I like most about this program is that it puts local officials in the driver's seat to learn about and protect their own drinking water sources while building capacity by working side by side with state staff and consultants. Communities with approved plans also receive extra credit for the state's Water Quality Improvement Program grant program. DEC runs this program in conjunction with DOH, DOS, and Agriculture and Markets. <https://www.dec.ny.gov/chemical/115250.html>

Community Impact Grant program (CIG). Although this program is not specific to water use and conservation, State funds are available from the Department of Environmental Conservation's Office of Environmental Justice to qualified community-based organizations for grant-based projects that address the exposure of underserved communities to multiple environmental harms and risks. Applicants are able to apply for amounts up to \$100,000.

These grants have helped to:

Draft—For Discussion Purposes Only

- Empower and involve economically disadvantaged communities into finding solutions to public water supply contamination, developing alternate or back-up supplies, and promoting innovative water conservation methods;
- Engage residents in addressing and understanding environmental challenges they face; and
- Provide opportunities for improving community health, safety, and sustainability.

To be eligible for the grant they must be a community group working on a project that is located in or serves an environmental justice community.

<https://www.dec.ny.gov/public/31226.html>

Ohio

Director Mertz submitted the following report:

The Ohio Department of Natural Resources (“ODNR”) collected and compiled data on Ohio’s 2020 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.

Over 99 percent of registered Water Withdrawal Facilities within the basin completed and returned their annual water use reports. We hope to collect the remaining few by the end of the year with the help of the Ohio Attorney General’s Office.

Registrations and Permitting for 2021:

- No new diversion permits were applied for or issued within the Lake Erie Basin.
- On October 6, 2021, the Chief of the ODNR Division of Water Resources received a Water Withdrawal and Consumptive Use Permit Application (Application) from AquaBounty Farms Ohio, LLC for a proposed well field near Pioneer, Ohio with a new capacity for ground water withdrawals in the Lake Erie watershed of 3 million gallons per day (gpd) for use at its planned aquaculture facility. The Application is currently under review.
- No new Water Withdrawal Registrations were applied for within the Lake Erie Basin.

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 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 North West Ohio.

ODNR is 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.

Users of the Water Withdrawal Atlas can choose to view water withdrawal information by county or by basin. In each breakdown of the state, the same data is provided:

- All quantities are presented in millions of gallons.
- Withdrawals by source – a table displays the amounts (MG) and percentage of water withdrawn from surface and ground water sources for the reported year. Additionally, percentages are presented in an accompanying pie chart.
- Location of the county/basin within the state of Ohio.
- Location of water withdrawing facilities within the selected county/basin that are required to report to ODNR under ORC 1521.16 are color coded by surface water or ground water withdrawal operations.
- Withdrawals by use category – reported withdrawals in Ohio are grouped into one of eight water use categories (agriculture, golf courses, hydro fracturing, industry, mineral extraction, miscellaneous, power, and public utility). Withdrawals for the given year and county/basin are graphed according to use category. Additionally, a table of exact water withdrawal amount and source is provided for each use category.
- Water withdrawal trends – a graph showing historical surface and ground water withdrawals by year since 1990, when the program began.

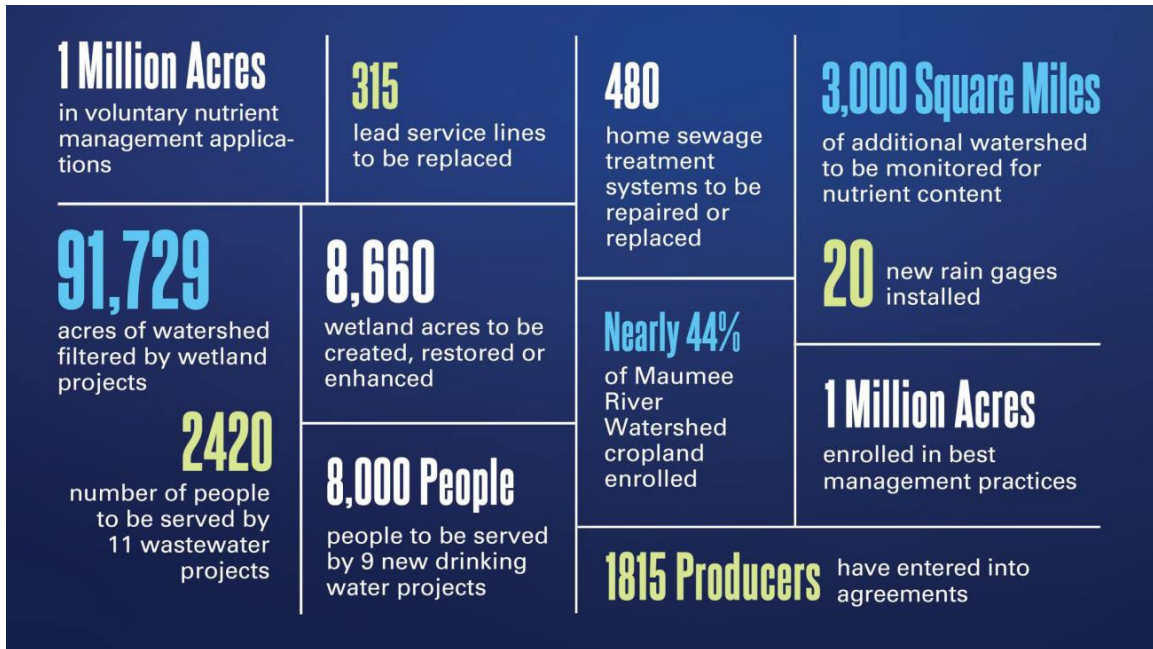
In 2019, ODNR shared Governor DeWine's new H2Ohio initiative, which is a water quality initiative to ensure safe and clean water for all Ohioans. The Governor, the

Ohio Department of Agriculture, the Ohio Department of Natural Resources, the Ohio Environmental Protection Agency, the 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.

Some of the progress to date includes the following initiatives:

- Total investments rose to \$89.5 million with over 30 nonprofit conservation partners engaged- and rising.
- Total projects rose to 72, with 62 of them in the Lake Erie Basin
- Private landowners are now eligible for additional funding through ODNR’s Water Quality Incentive Program. Through this no cost share competitive application process, the Program provides a payment of \$2,000 per acre for new Lake Erie wetlands and forested riparian buffers to help improve water quality in the Lake Erie watershed. Projects can include, but are not limited to, the restoration and enhancement of wetlands, coastal marsh and floodplain reconnection, capturing storm water, and stream band improvements.
- With the success of the initial projects in the Western Lake Erie Basin, the program is now expanding into other reaches of the Lake Erie Watershed. Governor DeWine also announced that \$5 million in grants now available for wetland projects in the Ohio River Basin.

H2Ohio by the numbers:



Ontario

Ms. Keyes submitted the following report:

In June of this year, our Ministry of Natural Resources and Forestry merged with the Ministry of Northern Development and Mines to become the Ministry of Northern Development, Mines, Natural Resources and Forestry. Through this process, we were appointed a new Minister, the Honorable Greg Rickford, who also oversees Ontario’s Ministry of Indigenous Affairs this new integrated Ministry, we remain committed to responsible use of our natural resources, including protecting the waters of the Great Lakes – St. Lawrence river basin and delivering on Ontario’s commitments under the Great Lakes – St. Lawrence River Basin Sustainable Water Resources Agreement in partnership with the Ontario Ministry of the Environment, Conservation and Parks. It is also worth noting that in June 2022 there will be an Ontario provincial election. At a strategic level, Ontario is currently reviewing its overarching Great Lakes Strategy for the province that covers the full spectrum of great lakes issues. The *Great Lakes Protection Act (GLPA), 2015* strengthens the province’s ability to restore and protect the Great Lakes and St. Lawrence River, as well as the rivers and streams that flow into them. Ontario’s Great Lakes Strategy was first released in 2012. The GLPA requires Ontario to report on progress made under Ontario’s Great Lakes Strategy every three years. The first report on Progress was released in 2016. Ontario is also required to undertake a review of its Great Lakes Strategy every six years. A review of the Great Lakes Strategy is currently underway. The ministry is also working on the second progress report on the 2012 Great Lakes Strategy, which is expected to be released in the coming months. In preparing a renewed Great Lakes Strategy, Ontario is engaging the Great Lakes community to gather input on priorities to further the

environmental, social and economic health and well-being of the Great Lakes basin for present and future generations.

In line with this strategy, Ontario administers a Great Lakes Local Action Fund that provides up to \$50,000 for innovative projects with a positive environmental impact on the Great Lakes and their communities. In 2021, 44 projects have received a total of \$1.9 million dollars. All projects are currently underway, and are being led by community-based organizations, municipalities, conservation authorities and Indigenous communities and organizations across Ontario. Ontario is preparing to launch a second round of the Fund soon.

As mentioned in June 2021 update, this year Canada and Ontario signed a new 2021 Canada- Ontario Agreement on Great Lakes Water Quality and Ecosystem Health (2021 COA). The Agreement is effective June 1, 2021 to May 31, 2026 and sets out specific actions that each government will take as they work together to restore, protect and conserve the Great Lakes. The focus of the COA is on water quality, but it recognizes the link between water quality and quantity. Commitments in the groundwater annex of the COA include developing an improved understanding of groundwater-surface water interactions. Related priorities for provincial science include: supporting the development of surface water-groundwater conceptual and numerical models at Great Lakes, basin, watershed and aquifer scales; undertaking and promoting monitoring and research to improve understanding of groundwater influences on Great Lakes water quality and ecosystem health; maintaining provincial integrated groundwater-surface water-climate change monitoring.

A successful monitoring season undertaken by Ontario's Ministry of Environment, Conservation and Parks (MECP) during 2021 is just coming to an end. Working with staff at the Great Lakes Observing system, Ontario successfully implemented data loggers that directly send data being generated at one of our Lake Erie water monitoring buoys to the Seagull Platform for real time data sharing on the Great Lakes Observing System - the first buoy to do this. MECP intends to focus scientific studies on the western basin of Lake Ontario over the next 5 years to study urban inputs of pollutants to the lake and their effects to nearshore water resources and better understand the ecology of the land-lake interface in this area of substantial population growth.

This past summer Ontario completed its 2020 Water Management Use Report to the Great Lakes Regional Water Use Database. Only minor data variations were seen compared to the previous year's reported data from 2019, including a less than 0.5 percent change in report water withdrawal volumes and an increase in consumptive use primarily related to the irrigation water use sector due to the dry conditions in 2020. There was about a 93 percent reporting compliance rate by facilities through the province's Permit to Take Water program. This is a lower than usual compliance that may be due in part to the measures taken by Ontario to ease pandemic pressures for

businesses, but is an improvement from the previous year. This only had a minor effect on the reported total volumes of water taken. We are currently completing our 2021 Conservation and Efficiency Program Assessment to provide updates on Ontario's activities that support water conservation and efficiency commitments under the Agreement, to be submitted prior to the end of the year.

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. Pennsylvania submitted the Great Lakes water withdrawal, consumptive use, and diversion statistics for Water Year 2020 for compilation into the Annual Report of the Great Lakes Regional Water Use Database. Additionally, Pennsylvania is preparing to finalize and submit the 2021 Conservation and Efficiency Program Review to the Compact Secretariat.

During the 2020 Water Year, Pennsylvania observed a significant decline in overall water use, recording the lowest daily withdrawal amounts since the inception of the Compact and Agreement. Withdrawal amounts decreased from 38.1 million gallons per day (mgd) in 2019 to 30.5 mgd in 2020, representing a year-over-year decline of 20 percent.

The change from the previous year was due to a 13 percent decrease in water use for public water supplies, from 31.4 mgd in 2019 to 27.5 mgd in 2020, in addition to the closing of a large Self-Supply Industrial facility in late 2019. Much of this public water use decline is a success story. The largest public water supplier in the Pennsylvania Great Lakes Basin, the Erie City Water Authority, reduced non-revenue water loss by 3.2 mgd during the 2020 Water Year. Public water supplies accounted for 90 percent of Pennsylvania's Great Lakes water use and consisted of 83 percent of the 3.3 mgd total consumptive use.

The next largest 2020 water use sector was Self-Supplied Livestock with a total withdrawal amount of 2.4 mgd. There are no diversions in Pennsylvania.

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 2021, DEP continued the process of reviewing and updating the State Water Plan in accordance with the Water Resources Planning Act (Act 220 of 2002, P.L. 1776, No. 220,

27 Pa.C.S. §§ 3101 et. seq.). The update uses the eight Water Conservation and Efficiency Program goals as benchmarks to craft revisions adhering to the objectives, policies, and purposes of the Water Resources Planning Act. Revisions will address regional and state-wide priorities; filling gaps from the previous plan and examining emerging issues. The Great Lakes Water Resources Committee, consisting of members from government, non-governmental organizations, and private industry are conducting meetings to review and update the Great Lakes Basin sections of the plan (Lake Erie and Lake Ontario-Genesee River Basins). The final update to the Plan is scheduled for 2022. More information about the Pennsylvania State Water Plan can be found at the DEP webpage dep.pa.gov and searching “State Water Plan”.

Wisconsin

Mr. Ambs submitted the following report:

City of Waukesha Diversion (City) update:

- City of Waukesha Diversion project continues to move forward, with an expected completion date in 2023.
- At the June meeting we provided an update of the permits received and the permits that were still outstanding.
- Since the June meeting, the City of Waukesha has received all the necessary approvals including the the final state diversion approval incorporating the Compact Council diversion approval. This approval was issued June 29, 2021.
- Information on permits is available on the Wisconsin DNR website, [City of Waukesha diversion page](#) and Wisconsin DNR representatives are happy to discuss any aspects of City of Waukesha’s diversion approval and implementation further with interested parties.

Village of Somers

- At the June meeting provide an update that the Wisconsin DNR received a straddling community diversion application from the Village of Somers to divert up to 1.2 MGD from the Lake Michigan Basin to the Mississippi River basin with return flow to Lake Michigan.
- The Wisconsin DNR requested additional information from the Village. The Village provided the information in September 2021.
- The Wisconsin DNR held a public hearing on November 10th and the public comment period closed on November 30, 2021.
- The Wisconsin DNR has followed all requirements of the new Regional Body and Compact Council procedures with this application.
- The Wisconsin DNR expects to issue a decision on the Village of Somers within the next month.

Water Use

- Wisconsin submitted data to the Great Lakes Commission for the annual water use report. In 2020 Wisconsin withdrew 3.5 billion gallons per days from the Great Lakes Basin. 99% of this withdrawal is from the Lake Michigan basin. Wisconsin’s primary water uses are cooling water for thermoelectric power generation, public water supply and industrial water use. Wisconsin’s overall water use decreased by almost 10% from 2019 due to decrease water use at one power plant, however irrigation water use increased by about 40% due to periods of dry weather during the 2020 growing season,
- Wisconsin anticipates higher water use reports for 2021 with dry conditions in the Great Lakes Basin for much of the year.

Wisconsin Review of High Capacity Wells

- High Capacity wells are wells withdrawal 100,000 gallons per day
- Wisconsin receives approximately 200 high capacity well applications annually.
- The review criteria for these applications has varied over the past 20 years since the passage of Wisconsin’s 2003 Groundwater quantity law, subsequent court decisions, attorney general opinions and additional legislation.
- In July 2021, the Wisconsin Supreme Court issued a 4-2 decision affirming DNR’s constitutional duty and statutory authority to consider cumulative environmental affects when reviewing of high capacity well applications.
- As a result of the Court’s Decision, DNR will continue its careful case-by-case analysis of high capacity well applications. The analysis will consider both the needs of the property and the environmental effects that the proposed high capacity well, when combined with existing environmental impacts, may have on waters of the state.
- Anticipate issuing some denials in applications in areas where the water budget is believed to be overdrawn.

Todd Ambs will be leaving state service at the end of this month, he will continue to serve as chair of the Great Lakes Commission, has been involved in this in 42+ years.

Administrative reports.

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

- Despite the pandemic over the last year, this last year has been very busy and there is a lot of work that has been ongoing and will be undertaken going forward.
- As you know, over the last year, in the middle of the pandemic, the Regional Body and Compact Council finished off the updates to the Regional Body Procedures, Compact Council Guidance, and the Compact Council’s Rules of Practice and Procedure. In addition to numerous discussions with Tribes, First Nations, Métis, and our Advisory Committee, we held a public feedback session and public comment session and then reached consensus on what the final

versions would include. In December the final Regional Body Procedures and Compact Council Guidance amendments were adopted, and in a special meeting held in April, the Compact Council adopted final Rules of Practice and Procedure. Some minor edits were made, including the correcting of typos and adding page numbers to the table of contents, and have been posted to the Compact Council website. A comment and response document is in the final stages of review, and barring something unforeseen, should be posted to the Compact Council and Regional Body websites in the next few weeks.

- Now that we have almost reached the end with the Procedures Updates, we are in a position to more fully focus on Science Strategy implementation and other such activities.
- To date, we've hosted several webinars, the recordings of which can all be found on the Compact Council and Regional Body websites. We also hosted another session at this year's virtual IAGLR, where we had five speakers talking about water budgeting and water balance in one form or another.
- We are now prepping for the next Cumulative Impact Assessment, which has to be done by December 2023, but which we are hoping to get done sooner than that—in 2022. Through it, we're looking to expand our understanding of impacts, including the effects of changes in the system do to climate change, as well as reduce uncertainty around some of the water budgeting.
- I want to thank in particular the members of the Science Team, and the Co-Chairs—Judith Kirby of Québec, Don Zelazny of New York, and Shaili Pfeiffer of Wisconsin. In particular I want to thank Judith for also Chairing the IAGLR session and generally working closely with me particularly while Québec serves as Chair of the Regional Body to work through some of the implementation issues.
- On a more esoteric note, we've also done some updates on the Science Strategy layout that should make it easier to share with others, which is something we strongly encourage everyone to do. You can find it on the Regional Body and Compact Council websites under the Science sections.
- On a final note—as you know, today's meetings of the Regional Body and Compact Council are taking place virtually. Normally it's the summer meeting that takes place in person, but for obvious reasons we aren't doing that. Assuming we stay on the current trajectory for the pandemic, we are planning on meeting in person in Québec City this December, and then meeting next summer in Erie, Pennsylvania after Pennsylvania assumes the Chairmanship. This actually works out nicely because Québec City is beautiful in the winter, and if you want to stay over afterwards there is skiing nearby, and Erie is also a beautiful city along the lakefront and with Presque Isle nearby, and that's something you would want to take advantage of in the summer.

Ms. Bordeleau invited Tom Crane on behalf of the Great Lakes Commission, which serves as the Regional Water Use depository, to report on the 2020 Water Use report which had just been released earlier that day and was posted to the Commission's water use database website.

Mr. Crane began by noting that this is a long standing partnership, and that the Commission has maintained a database of water use information since 1988. He stated that this report represents an ongoing collaboration between the Great Lakes commission, Great Lakes Governors and Premier's and the State and Provincial water managers in each jurisdiction who submit jurisdiction specific water use each year to the commission staff. Mr. Crane noted that data is usually submitted to the Commission in August. In August and September, Great Lakes commission staff reviewed the jurisdiction reports, and then convened phone calls with each water use manager to identify and correct any issues with the data submitted. These calls also helped clarify changes in water use from the previous year. Drafts of the report were reviewed by water use managers and a draft of the full report was circulated to the members of the Compact Council and Regional Body for review in October. The Commission received comments in early November and mailed the final report to the Compact Council and Regional Body on November 15.

Mr. Crane stated that he was pleased to report that compliance reporting among water users continues to improve and this supports the quality of the overall report. He noted that the region is at or nearly at 100% compliance for the major water use categories and the Commission is still working with the State and Provincial water managers to improve reporting compliance each year. He noted that this is a real testament to the hard work of the staff working on the water use programs at the State and Provincial level.

Mr. Crane provided a few highlights from this year's report. Specifically, in 2020 the States and Provinces withdrew nearly 38 billion gallons per day, representing about a 3% decrease from 2019 withdrawals. Self supply thermoelectric power production public water supply and self supply industrial are the primary water use sectors combined, representing more than 88% of the total water withdrawals in 2020. Total reported outgoing diversions in 2020 was 1.2 billion gallons per day, with more than 85% of this amount was associated with the Illinois Chicago diversion. The Long Lac and Ogoki interbasin diversions into Lake Superior totaled 2.74 billion gallons per day, which is about a 27% decrease from the 2019 reported interbasin diversion amount of 3.5 billion gallons per day. Overall, the net diversion showed a gain of 1.6 billion gallons per day, meaning that more water was diverted into the basin than was diverted out of the basin, and this has been common over the last many years. Consumptive use was 2 billion gallons per day, which represents about a 5% increase from 2019 consumptive use. The public water supply and Self Supply industrial sectors had the greatest consumptive use in terms of volume, accounting for about half of the total consumptive

use. Also, the Self Supply Irrigation Sector accounted for most of the increase from the reported 2019 consumptive use, increasing by about 32%. This was due to the relatively hot and dry weather conditions experienced in much of the basin in 2020. In 2019, there was a net gain of water to the basin, and while the basin lost water in 2020, primarily because of increases in consumptive use and the decrease of the interface and transfer of water into Lake Superior from Long Lac and Ogoki.

Considering both consumptive use and diversions, the basin lost a total of 377 million gallons per day in 2020. By comparison, the basin gained a total of 444 million gallons per day in 2019. So based on this net water loss between 2020 and 2019, and in accordance with the Compact and Agreement protocols, an interim cumulative impact assessment was conducted as part of the 2020 annual report. The interim cumulative impact assessment is available as Appendix C of the report. The interim assessment focuses on the hydrologic effects of consumptive uses and diversions on water supply and flow relative to other aspects of the water budget at watershed and basin scales. Mr. Crane noted that the data submitted to the Great Lakes St. Lawrence water use database indicate a reported increase in incremental water losses to the base in between 2019 and 2020 of 1270 cubic feet per second, and this translates into 821 million gallons per day for both 2019 and 2020. Diversions and consumptive uses were very small compared to total inflows or total outflows between 2019 and 2020. Mr. Crane pointed that in fact the contribution of diversions and consumptive uses to total inflows and outflows of the entire base and was less than .02%. He also noted that a more detailed description of the changes from 2019 to 2020 are provided in the report.

Opportunity for public comments.

Noting that the Regional Body meeting adjourned immediately prior to the Compact Council meeting, a motion was made by Mr. Bruno to incorporate reports made during the Regional Body meeting into the Compact Council minutes. Mr. Richards 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:

Todd Brennan, Alliance for the Great Lakes: Todd began his comments by thanking all the members for their updates, which he indicated were very good, as they are helpful for tracking everything that the members up to. He also commended the science team for a good discussion the day before and appreciated their focus on water quantity, cumulative impacts, and thinking forward to conservation and efficiency standards. He noted the participants talked a lot about the effects of climate change and adaptation, which was good to see.

Mr. Brennan also added that he had heard that there was some discussion amongst Regional Body members on environmental justice needs and improving access to proceedings and decision making for disproportionately impacted and disadvantaged

communities. Accordingly, he thanked the Regional Body and the Compact Council for their willingness to explore those considerations more.

He also encouraged the Regional Body and Compact Council to consider taking a second look at the Village of Somers application in Wisconsin. He raised a number of concerns, which reflect comments submitted in writing to the Wisconsin Department of Natural Resources during the public comment period. Specifically, he said that the primary concerns are that the Village of Somers possibly did not engage in a systemic comparative review of identified alternatives and the proposed diversion, including economic and environmental which is required to meet the straddling community and exception standard requirements contained in the Great Lakes Compact as well as State implementing statutes. In addition, a consideration of whether the Village or Wisconsin DNR's interpretation of public water supply fits the expectation of the Compact. He noted that the Village's projected water use at full build out in 2050 indicated a disproportionate increase in the amount of water being used for industrial and commercial purposes as opposed to residential purposes.

Accordingly, the Alliance encourages the Wisconsin DNR and possibly the Regional Body and Compact Council to subject the Village's water use projections to further scrutiny and analyze whether even under the DNR interpretation of the "public water supply" criteria will be satisfied for the Village's proposal. He indicated that ultimately one resolution could be for the DNR to condition any approval of the proposed diversion with a continuing obligation that the Village of Somers meets the public water supply purposes requirements. This could also become a tenant by which Regional Body and Compact Council could consider using for reviewing diversions--the idea of whether those volumes so designated for the project initially are still needed in a future where land use changes and the use provisions have changed significantly, that they're not being used for that. So just an area, I think that is right for you to focus and because of this proposal, allowing us to consider that I think it's a good time, and a goo

New Business.

Consideration of Resolution #49 Election of Chair and Vice Chair

Mr. Ambs noted that the first order of business is consideration of Resolution #45-- Election of Chair and Vice-Chair. The resolution would elect the Governor of Pennsylvania to serve as the Compact Council Chair, and the Governor of Wisconsin 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, 2022. Mr. Mueller moved the resolution, and Mr. Rogner seconded the resolution. The resolution was adopted without objection.

Consideration of Resolution #50—Adoption of Fiscal Year 2023 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. Richards moved that the resolution be adopted, with Mr. Mueller seconding the motion.

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

Illinois—Yes

Indiana—Yes

Michigan—Yes

Minnesota—Yes

New York—Yes

Ohio—Yes

Pennsylvania—Yes

Wisconsin—Yes

The resolution was adopted by unanimous vote.

Adjournment

Mr. Ambs invited a motion to adjourn and a second. Mr. Rogner moved and Mr. Richard seconded the motion. Mr. Richards also provided his congratulations to Mr. Ambs on his pending retirement. The motion to adjourn was then passed without objection and the meeting was adjourned at 3:37 p.m. EST.

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