

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

June 17, 2020

2:45 p.m. EDT

Remote participation was available to individuals registering at:

<https://attendee.gotowebinar.com/register/7914992089611490061>

Listen only mode is available by calling:

Canada: +1 (647) 497-9429

United States: 1 (213) 929-4221

Passcode: 642-383-456

Notice:

Notice of the meeting was provided to the public through the Great Lakes Information Network's distribution list on May 18, 2020. Notice was also posted to the Great Lakes-St. Lawrence River Water Resources Council (Compact Council) website at www.gislcompactcouncil.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:

3:15 p.m. EDT— The meeting was called to order by James Clift, alternate of Governor Gretchen Whitmer.

Roll Call:

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

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

Indiana (alternate of Governor Eric Holcomb): Chris Smith, 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 Andrew Cuomo): Don Zelazny¹, on behalf of James Tierney, Assistant Commissioner, New York State Department of Environmental Conservation.

Ohio (designee of Governor Mike DeWine): Mary Mertz, Director, Ohio Department of Natural Resources.

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

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

Wisconsin (designee of Governor Tony Evers): Adam Freihoefer², Water Use Section Chief, on behalf of Preston Cole, Secretary, Wisconsin Department of Natural Resources

Actions Taken

Review of December 6, 2018 Compact Council meeting minutes

Mr. Clift asked for a motion that the December 6, 2018 Compact Council meeting minutes be approved as posted. Mr. Bruno moved to approve, and Mr. Freihoefer 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. Rogner to incorporate minutes of the Regional Body reports into the Compact Council minutes. Mr. Bruno 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).

Michigan

Mr. Clift provided the following report:

The Department of Environment, Great Lakes and Energy, Department of Natural Resources and Michigan Department of Agriculture and Rural Development continue to function during the Covid-19 with most of staff working remotely except for field and lab staff. Michigan's Water Management Program continues to work with the Water Use Advisory Council to review the 69 recommendations a previous version of this council made in its December 2014 final report, prioritize those recommendations, identify any other issues that are a priority, and provide direction and feedback to EGLE on its implementation of Part 327 of the NREPA. Several committees have been formed to evaluate recommendations including models, data collection, implementation strategies and new topics. The council is required to report biennially to Michigan's legislature, with the first report due in December 2020. The report will include requests for additional funding or other resources are necessary to implement some of the recommendations.

The Data Collection and Models Committees are also discussing results of the Cass County Pilot Study, a public private collaborative study of a heavily irrigated county in Southwest Michigan. The committees' discussions include the lessons learned from the study and how the study's results can be used to improve additional data collection and

² Signed proxy forms for individuals participating on behalf of official member designees are available upon request.

groundwater modeling efforts in other areas in Michigan. The U.S. Geological Survey completed another study in two other watersheds in the west central Lower Peninsula, whose final report is under internal agency review. This study included the use of fiberoptic cables and thermal imaging cameras to identify groundwater discharge zones in streams, groundwater, stream flow, and streambed conductance data, as well as a groundwater/surface water model.

To date, over 4,000 large quantity withdrawals have been registered through Michigan's program. Additional staff have been hired to focus on site specific reviews and the program hopes to hire an additional groundwater modeler in the future.

Michigan's continues to implement its water conservation and efficiency program which is founded on the water withdrawal assessment requirement that applies to all new or increased large quantity withdrawals.

In January, the Office of the Great Lakes launched the [From Students to Stewards Initiative](#) a collaboration between the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Michigan Department of Education (MDE), and the [MiSTEM Network](#) (Michigan Department of Labor and Economic Opportunity) at Grand Valley State University. The From Students to Stewards Initiative prepares students for high-quality water-focused STEM careers and connects them with community organizations and local businesses that are dedicated to freshwater stewardship. Six school districts in Michigan have been selected for grants under the From Students to Stewards initiative that will teach elementary through high school students about the Great Lakes, Michigan watersheds and the impact people have on water resources across the state. This project is intended to make progress toward closing the water literacy gap in Michigan and growing the next generation of water stewards, leaders, skilled workers, and decision-makers needed to solve complex water issues in a changing world.

Michigan like other Great Lakes states and provinces has been heavily impacted by high waters. In February, Governor Whitmer convened a Michigan High Water Coordinating Summit to allow state, federal, and local officials to collaborate closely on how to respond to public health and safety challenges created by high water levels. A multi-agency Michigan High Water Action Team was formed to identify assets that are available in response to high water incidents. The team is also coordinating communications across agencies and levels of government to ensure residents receive information in a timely, accurate, and consistent fashion, including through town halls around the state. Several virtual townhalls have been held this spring to provide information to the public that have been well attended with over 650 participants.

Illinois

The following report was given by Mr. Rogner on behalf of Illinois

Lake Michigan Water Use Reporting:

Illinois supplies the Great Lakes Commission annual Lake Michigan basin water use data for use in their Great Lakes Water Use Database. Calendar year 2019 data is due in mid-August 2020.

Lake Michigan Diversion:

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) is year 40 of Illinois' diversion. Much has been done to reduce water loss and conserve water use since the first years of the accounting, so the running average should reflect that reduction going forward. 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".

Illinois' Diversion Accounting is overseen by the U.S. Army Corps of Engineers (USACE). The USACE's most recent certified diversion report, Water Year 2015 shows Illinois' Water Year 2015 certified flow as 2,441 cfs with a running average of 3,070 cfs.

Lake Michigan Allocation Program:

The Lake Michigan Management Section continues to collect water use data from each of its 218 Lake Michigan Water Allocation permittees on an annual basis. The process is highly interactive and allows permittees and the Department of Natural Resources to work together to evaluate water system performance and investigate ways to reduce water loss. For Water Year 2018, all 218 permittees have submitted annual reports. Water Year annual reports are still being collected and reviewed.

In addition, all direct diverters must submit a monthly pumpage form (LMO-3) which shows daily pumpage numbers and the amount of water sold to other Lake Michigan allocation permittees. A direct diverter is a permittee who has an intake structure in Lake Michigan or, if the intake structure originates in a neighboring state, the direct diverter is the first Illinois user of that water. Illinois currently has 19 direct diverters. The Metropolitan Water Reclamation District of Greater Chicago submits a monthly report detailing Lake Michigan water used for Direct Diversion. All water use data is submitted to the U.S. Army Corps of Engineers for use in Illinois' Lake Michigan diversion accounting.

Water Conservation:

Since Water Year 2015 the Department has had a regulatory threshold for non-revenue water (NRW) to Water Supplied (WS). NRW includes water that has not been metered, water lost through leaky infrastructure, and similar instances where water has not been specifically monitored for usage. The regulatory threshold for NRW to WS 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 is designed to 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 the average percent NRW for all Lake Michigan water allocation permittees was 12.8%, with 93 permittees above the 12% threshold. All have submitted new and or updated WSIP's. The Department is still compiling data for Water Years 2018 and 2019.

Domestic Lake Michigan water use in Illinois has seen a steady decline over the past 25 years by about 330 MGD between 1992 and 2017. This is due to a number of factors including declining population, increasing costs for water, and conservation measures.

Lake Michigan Water Allocation 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. The Department has begun its current systemwide Lake Michigan Water Allocation review and expects to be finished by the Spring of 2021.

Also, the Department has had preliminary meetings with the City of Joliet concerning a new Lake Michigan water allocation and expects to receive an application in summer of 2020. Joliet has been on a deep well water supply that groundwater modeling projects will not be able to meet the City's maximum daily demands by 2030.

Lake Michigan High Water Issues:

Illinois is also dealing with both diversion and erosion issues related to recent near-record high water levels in Lake Michigan. These have negatively affected Illinois' Diversion of Lake Michigan Water in a couple ways. High water levels increase the amount of water entering the Chicago Area Water Systems (CAWS) during lockages at the Chicago River Controlling Works and the Thomas J. O'Brien Lock and Dam. Also, more frequent and intense rainfall in Northeast Illinois has resulted in an increase in the amount of runoff in the diverted portion of the watershed that is a component of the Illinois Lake Michigan Diversion.

High lake levels have resulted in an increase in Lake Michigan shoreline damage due to wave attack, including significant loss of dune and swale habitat at Illinois Beach State Park, which is the only remaining significant natural shoreline in the Illinois portion of Lake Michigan. High water levels have led to an increase in applications-for-permit for

shore protection. The Department's Lake Michigan Management Section has seen an average increase of 40% in applications for construction since 2016. High Lake Michigan water levels has also caused a decrease in the size and sometimes complete disappearance of most public beaches.

State Water Plan:

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

Brandon Road:

The state of Illinois continues to work with the US Army Corps of Engineers on appropriate wording of a Preliminary Engineering Design (PED) Agreement that acknowledges Illinois' Public Water laws and interests in accordance with the 1979 Mackinaw Decree US District Court Settlement Agreement. The Corps is still in the process of seeking approval of an accelerated funds provision in the PED Agreement offered by the state of Illinois. Approval of the accelerated funds provision must be approved by the federal Office of Management and Budget and the associated appropriating committees of Congress. No timeline has been established for this federal approval process. The state of Illinois is also negotiating an Intergovernmental Agreement with the state Michigan for a cost-share partnership to cover the required non-federal share of the PED Agreement. COVID-19 response efforts in the state of Michigan have caused delays in the appropriation of Michigan funds to support the draft Intergovernmental Agreement.

Staffing:

The Lake Michigan Management Section currently has an opening for one Engineer In Training and one Public Service Administrator. The interviewing process for these two positions have been delayed due to the Corona-19 pandemic.

Indiana

Mr. Smith reported that similar to the two previous reports given today, the State of Indiana has been spending a lot of time dealing with issues related to high water levels, with shoreline erosion being the biggest concern, with major problems occurring in the Beverly shores, Long Beach and Ogden dunes area where high water levels have been impacting either roadway infrastructure or residential structures. Indiana has seen an increase in permitting requests or authorization for emergency projects to shore up those pre existing sea walls to prevent homes from taking too much damage. Mr. Smith reported that the Department of Natural Resources and its partners at the Departments

of Environmental Management and Homeland Security are continue to work with federal and local officials as well in an effort to kind of address all these concerns.

With regard to the Joliet proposal reported on by Illinois, Indiana's DNR and Department of Environmental Management had been contacted as well. It was Mr. Smith's understanding that initially there were 14 different proposals for water sources identified, and it has been reduced to five at this point. One of those five proposals is for a potential installation of an intake near Hammond, Indiana to provide water to Joliet. An intake on the Indiana border or Indiana lake shore of Lake Michigan, transitioning that water to supply to Joliet. The Indiana DNR has had two conversations with the project's consultants, both of which have been limited to discussing the process involved, including questions related to permitting requirements and the permitting process. Because no plan has been selected, the discussions have been very broad, and the details have not been solidified. Mr. Smith reported that it was his understanding that in December 2020 a final proposal will be considered by the Joliet city council. If the project is selected for placement, potentially along the Indiana Lake Shore, we'll be having discussions will be held with Illinois as this proposal would have an impact on their Supreme Court decree which could impact the review process in Indiana.

Mr. Smith concluded by discussing the State's Lake Michigan permitting and water resources process. He noted that before the Covid-19 pandemic began, both Indiana DNR and Department of Environment and management began a review of their permanent programs. Together, the two agencies brought in a consultant to help go through the management process to identify efficiencies and reduce the time needed to review and issue permit decisions. The review process began before Covid-19 restrictions began, so the State was able to hold a series of meetings with its traditional customer base, identifying what they saw as their pain points as an applicant, and began discussing where it would be helpful to see changes in process to help smooth permit process with both of the agencies.

As part of the process, the State went through and diagrammed each of the steps of the permitting process. So from application through final action, the State ran through the line process, identifying the seven wastes and trying to have only efficient steps in there. The idea is to remove redundancy and identified a handful of things the agency could immediately do to help reduce the time needed to permit. Items for future action were also identified. Mr. Smith reported that because of Covid-19 and the negative impact on the economy, several of those actions are going to be temporarily placed on hold as we wait for the economy to rebound on that, but it was extremely helpful to go through process of reviewing how permits are issued, and strongly encouraged the other States to undertake similar actions.

Minnesota

Before Mr. Richards began reporting on water management in the Minnesota, he wanted to note that the State of Minnesota and the U.S. has been facing very difficult times not only with COVID-19, but also with the tragic killing of George Floyd and the unrest that's occurred since then. He noted that such actions have exposed deep scars in our community, and stated that it's going to require thoughtful and swift action to improve. He noted that Governor Waltz and leaders across the entire State of Minnesota are committed to improving not only the City of Minneapolis but really entire State to try to break down systemic barriers to racial equality, and to really try to help lift all Minnesotans up, regardless of their race, ethnicity, or background. He closed by stating that we need to do better, and we're going to do better.

Mr. Richards than noted that one example of how the Minnesota Department Natural Resources is working to try to improve is with their relationships with Minnesota's tribal nations. He noted that since the last meeting in December, the Department brought on a new tribal liaison, Brad Harrington, and he's a registered member of the Mille Lacs Band of Ojibwe. Mr. Richards noted that he most recently served as the Tribes natural resource director. He also noted that the Department has taken efforts to create better partnerships with the State's tribal nations on review of major projects, such as mining projects, or pipeline projects. Mr. Richards reported that recently there was a new tribal adaptation menu that was created. The Great Lakes Indian Fish and Wildlife Commission led the development of this tool in collaboration with the northern Research Station, Northern Institute of Applied climate science, as well as tribal members, academic, other governments, Minnesota, Wisconsin and Michigan, creating a new climate adaptation menu that can be used to help develop plans and strategies.

Mr. Richards reported that with regard to COVID-19 the State has had challenges getting some of its work done. He did note that the Department has been able to get hydrologists designated as exempt staff and out in the field doing groundwater investigation type work, and the Department has been able to get our coastal program staff out to monitor erosion in Lake Superior.

On the issue of water conservation, Mr. Richards reported that the State is on its third year of its water conservation reporting system. Through the program users serving over 1000 people report on the program. Small cities are serving under 1000 customers also report as part of the program. The Department also sets goals, such as a goal of water distribution loss of being less than 10%. Currently, the data shows that the State is at 9%, water loss which is good. Similarly, the State sets a goal for cities to have a goal of less than 75 gallons per capita daily of use and residential use and currently the State is at 49 gallons per capita daily.

The Department is involved in significant litigation regarding White Bear Lakes, which is currently before the state Supreme Court. The case is about the DNR management of water appropriations for municipal drinking water uses and how they should be

balanced against recreational uses in a lake. In this case, the lake had been experiencing drawdowns resulting in reduced water levels, and consequently there is a legal challenging how the DNR is managing the withdrawals. While the dispute is not located in the Lake Superior basin, it is potentially precedent setting for the State and how it manages water resources. Mr. Richards noted that there should be a decision soon from the Supreme Court, which will in turn inform how the State manages some of our water resources.

Mr. Richards next reported that the 2020 water availability and assessment report that will be completed this fall. He noted that it is something the Department provides to the legislature every year about the availability of groundwater in Minnesota and the corresponding assessment needs. He also reported that the Department will be looking at guidance on addressing climate change and conservation, and will also begin some drought planning efforts. He also noted that the Minnesota Pollution Control Agency is completing public review of the St. Louis River area of concern remedial action plan, and that as of this time, approximately 46 of 80 management actions have been completed.

Lastly, Mr. Richards reported that the State's environmental quality board is producing a 2020 water plan that's expected to be completed this fall. This is a long range long range water resource planning effort that the Department does on a five year basis and then submits to the legislature. The purpose of this plan is really to present a clear vision for water action in response to climate change for the coming decade.

New York

Mr. Zelazny reported the following:

- As we reported in December, New York continues to respond to the elevated water levels this year in Lake Erie & Lake Ontario. Implementation of Governor Cuomo's Lake Ontario Resilience and Economic Development Initiative is now well underway as state agencies work with local municipalities, homeowners and the business community to provide \$300 million in relief and mitigation of flooding and shoreline erosion.
- New York is proud to be actively participating in the Procedures Update Team's Phase II efforts and will continue to do so as public feedback is received. Unlike many of our other regulatory programs, where a plethora of applications are received and processed during and after new rules and regulations go into place, we don't have an expansive body of situations to learn from. We believe that moving adaptively and strategically to adopting long-term procedures is the most prudent course of action to implementing the Regional Agreement & Compact.
- The 2019 Annual Water Withdrawal reports have been received from permittees and are being evaluated for compliance. Water withdrawal data will be shared

with the Commission as in previous years and reports will be available later this year on the Department of Environmental Conservation's website.

- Since New York's Water Withdrawal regulations went into effect in 2012, the Initial Permit Program has concluded. That 5-year program focused on transferring self-reported water withdrawal registrations into withdrawal permits, containing specific parameters that enable us to monitor for compliance with the principles and metrics of the GL-SLR Basin Regional Agreement and Compact. Concurrently, we updated our existing Municipal Water Supply Permit Program to ensure all water withdrawals and diversions within New York meet the Regional Agreement and Compact requirements. Combined, NY has nearly 600 permitted water withdrawals in its Great Lakes watersheds. Through this long and challenging process to get all withdrawals under updated permits, our staff learned much about the complexities of withdrawals, estimating non-metered amounts and application of water conservation/efficient use methods. We are continually working to refine our program and management of the state's waters.
- Recently, New York State has enacted two new laws that will further the goals of the Compact and Agreement.
 - The first amends NYS ECL §15-0314 to raise standards for water-efficient plumbing and appliances to align with federal standards issued by the Environmental Protection Agency (EPA).
 - The second amends NYS ECL §15-1503 to require NYS DEC to post information regarding public water supply permits to the DEC website including information on water usage and water conservation. Information for the 2018 reporting year has been posted on the Department's InfoLocator GIS website at <https://www.dec.ny.gov/pubs/109457.html>.

Ohio

Director Mertz reported the following:

The Ohio Department of Natural Resources has collected and is compiling data on Ohio's 2019 Lake Erie Basin water withdrawals, consumptive uses, and diversions pursuant to Compact protocols.

- So far, 95% of the facilities in the Lake Erie Basin have reported their withdrawals, consumptive uses, and diversions.
- To date, in 2020:

Draft—For Discussion Purposes Only

- No new water withdrawal facilities were registered in the Lake Erie Basin.
- No new diversion, consumptive use or water withdrawal permits were applied for or issued within the basin.

The Ohio Department of Natural Resources is in the process of updating the agency's webpage.

- Planned within this newly designed product will be a new and improved "Water Conservation" presence will have links to water conservation tips, Best Management Practices, and money saving methodologies for households, agricultural irrigation, small farms and gardens, commercial buildings, industries, and backyards. In addition, this site will include links to educational resources for K-12 students, teachers, and home schoolers, and more. The Division's fact sheets developed specifically focused on water conservation efforts have also been reviewed and will be updated on this site.

The Ohio Department of Natural Resources staff are continuing to participate on the Compact Council and Regional Body Procedures Update Team and Science Strategy Team.

The Ohio Department of Natural Resources would like to share that during this past year Governor Mike DeWine announced his H2Ohio Water Quality initiative to ensure safe and clean water for all Ohioans.

- H2Ohio is a comprehensive, data-driven approach to improving water quality over the long term. This initiative focuses specifically on reducing phosphorus, creating wetlands, addressing failing septic systems, and preventing lead contamination.
- The program is being administered and funded through the Ohio Department of Agriculture (ODA), the Ohio Department of Natural Resources (ODNR), and the Ohio Environmental Protection Agency (OEPA), and in collaboration with the Lake Erie Commission.
- Although this is a statewide initiative, the main-focus of the program is to help Ohio achieve a 40% reduction of phosphorous loading into the Maumee River Watershed and the Western Lake Erie Basin by using 10 of the most effective and cost-efficient best management practices that have been proven to reduce agricultural phosphorous runoff.

Draft—For Discussion Purposes Only

- The ODA is working with the agricultural community, soil and water conservation districts, and many more to get their program moving forward this next season.
- The ODNR focused on wetlands and since last summer, 26 projects have been identified representing a \$33 million commitment to create, restore or enhance more than 3,500 acres of coastal Lake Erie and inland wetland ecosystems which will be absorb and filter nutrient-laden waters. Most projects are in northwest Ohio counties that comprise the Western Lake Erie Basin watershed, therefore providing water quality benefits to Lake Erie.

The Ohio Department of Natural Resources is also closely watching water levels again this summer.

- The April 2020 mean level for Lake Erie was 574.31 feet (IGLD-1985), 0.33 foot above the March level, 0.72 foot above the April 2019 level and 2.72 feet above normal. This level is a record high April level, surpassing the previous record set during 1985. May levels continued their seasonal rise, although the rise was less than normally expected. Preliminary data indicates the mean water level on Lake Erie during May was 574.41 feet (IGLD-1985), 0.10 foot above the April level, 0.10 foot above the May 2019 level and 2.56 feet above normal. The May 2020 mean level is a new monthly high record for the month of May, surpassing the previous record which was established during May 2019.

Pennsylvania

Mr. Bruno reported that the Commonwealth of Pennsylvania continues to implement the requirements of the compact and agreement through facilitating state and local programming on water use. Beginning in March of 2020 due to the Covid-19 pandemic, Pennsylvania DEP as well as other state agencies began teleworking. Accordingly the focus began on coordinating Great Lakes work items and assuring continuity. He noted that staff are assembling data for the 2019 water year, and that the submissions are expected to be on time.

Mr. Bruno reported that there is good news that 20 plus members of the Pennsylvania State Water plans, including the Great Lakes Regional Water Resources Committee, met on January 29 to begin revisions to the State water plan. He noted that these are long overdue revisions to the State Water plan for not only the Great Lakes Basin but all other river basins inside of Pennsylvania. He noted that the members to the Great Lakes committee represent state regional local entities and cover a wide range of disciplines. He indicated that the existing state water plan for the Great Lakes Basin and the goals are being reviewed right now for continued relevance, both for 2020 as well as

in the next five years. He also noted that they also discussing and looking at new components and enhancements to the plan for the Great Lakes Basin. Accordingly the State is continuing on, via remote meetings, the next which is slated for July 29, to continue that work with the committee. The target date for finalizing all the revisions to the plan in 2021.

Additionally, Mr. Bruno stated that the Pennsylvania DEP began an internal review committee, consisting of staff from multiple program areas, to examine the implementation of the Compact and agreement in Pennsylvania, ad to determine if additional state regulatory provisions would be helpful to better manage withdrawals, consumptive use on wastewater returns. This new committee has met once, which means the Department is at the very beginning of reviewing how all these programs are integral to a comprehensive response to the Commonwealth’s obligations to the Compact and Agreement.

Finally, Mr. Bruno noted that Pennsylvania, like all of the other Great Lakes States and Provinces, is dealing with the high lake levels inside of Pennsylvania, where the predominant geographical feature is high bluffs. He noted that with the high waterthey have seen decreased beaches, and storm events have lead to higher erosion events. Because of these issues they have had some pretty substantial changes to how lateral movement happens and in and around not only private property, but also on Pennsylvania's most visited State Park, Presque Isle State Park. Accordingly, they are not only looking at coastal resilience inside of Pennsylvania, but how they coordinate with other states in multiple venues and forums across the Great Lakes so that they can have a comprehensive and shared approach to resilience into the future.

Wisconsin

Mr. Freihoefer reported the following:

Water Use Data: Wisconsin completed at Water Use [StoryMap](#) to present and describe Wisconsin Water Use data. The StoryMap provides a data visualization and narrative of Wisconsin’s Water Use data. So far ninety-four percent of water users have reported their 2019 water withdrawals. Seventy-one percent of those reports were submitted online. Online reporting continues to increase annually by 1-3%.

City of Waukesha Diversion (City) update: The department manages the City of Waukesha diversion project as it manages other complex projects that involve multiple agencies and programs within the Department of Natural Resources. The project manager meets with the applicant, consultants, and agency staff regularly.

The City continues to work on the approvals needed for the diversion. The City received its Wetlands and Waterways permit on December 13, 2019 and its Wisconsin Pollution Discharge Elimination System permit on December 30, 2019. The Wisconsin DNR issued

the determination on Wisconsin Environmental Policy Act compliance and released the final Environmental Impact Statement December 13, 2019.

The City received its Certificate of Authority from the Public Service Commission of Wisconsin to construct a water transmission main, a booster stations, reservoirs and a water supply control building for the Lake Michigan water supply on March 10, 2020. The City requested that the application be reopened on a limited basis to request approval for an alternate site for a booster pumping station, ground storage reservoirs and a water tower on May 29, 2020. The request for the change was due to the City of New Berlin denying a conditional use permit for the City of Waukesha for the original proposed pumping station and reservoir tanks location. While the City of Waukesha had challenged the permit denial in court, they also collaborated with the City of New Berlin to identify a new site for the pumping station and reservoir tanks.

The City's water transmission main will run from the City of Milwaukee, through the City of New Berlin to then connect to the City of Waukesha's water distribution system. As part of the agreement between the City of New Berlin and City of Waukesha to move the location of the booster pumping station and reservoirs, the City of New Berlin requested that the Waukesha transmission main include a tee connection in the City of New Berlin. The tee connection would be capped at the time of construction, but it would allow for the possibility for New Berlin to install a metered connection at a future date to connect to the Waukesha transmission main and purchase water from the City of Milwaukee. The proposed location of the tee connection is in New Berlin's diversion area and the City of Milwaukee currently sells water to the City of New Berlin to supply the City of New Berlin, including the diversion area. Several approvals would be required before New Berlin could pursue connection to the future Waukesha transmission main, and any such connection would be regulated under the New Berlin diversion approval.

The City has received its stormwater and erosion control permit for pipeline construction and applied for its US Army Corps of Engineers Permit. The City has submitted engineering plans for the water transmission main to the Wisconsin DNR and the DNR expects those plans to be approved soon. The City of Milwaukee's application for Authority to Construct a water supply pumping station and pipeline to connect to the City of Waukesha water transmission main is currently being reviewed by the Public Service Commission of Wisconsin. The City has also submitted applications for permits from WisDOT for activities in the I-43 right-of-way. Currently, the City anticipates receiving approvals for all the necessary permits by fall or winter 2020. The Wisconsin DNR will issue the state diversion approval only after all the permits have been issued. The Wisconsin DNR is also working with the City on their monitoring plan for the Root River. The switch to Lake Michigan water is still expected to occur in 2023. 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.

Administrative reports.

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

In his administrative report, Mr. Johnson noted that the Secretariat has also been working in an atmosphere of COVID-19 in recent months, which has meant less travel and fewer face to face meetings. He also noted that despite the challenges, they continue to move forward on all the project work that was committed to by the Regional Body and Compact Council.

He indicated that Procedures Update Phase II process was initiated in December of 2018, and kicked off in earnest in the summer of 2019 after appointments were made by the new recently elected Governors. He noted that over the Fall drafts were developed by the Procedures Update Team, and drafts were shared with Tribes, First Nations, Metis, and the Advisory Committee at the end of February. The plan was to hold a meeting in Detroit in March to discuss the drafts to solicit feedback, but that meeting got cancelled for obvious reasons. Instead, a remote meeting which still allowed for some good back and forth with those who are able to participate. Changes were made to the drafts based on the feedback received during that meeting, and a draft was put out for public feedback on May 18. Mr. Johnson noted that with the public feedback period ending today, the team will be reviewing any comments received and making changes over the summer. He also noted that only the Compact Council guidance went out for public feedback, but the corresponding Regional Body Procedures version will also be updated to mirror changes made to the Compact Council guidance. It is then anticipated going out for formal public comments in the Fall, followed by adoption at the December meeting of the Regional Body and Compact Council.

Mr. Johnson noted that with regards to the Science Team, again the plan was to have some face to face meetings in connection with summer meeting of the Regional Body and Compact Council, previously scheduled to meet in Grand Rapids. But since then, the Science Team has been reconfiguring and making additional changes and strategizing on how to continue the momentum of implementing the science strategy. He noted that to that end, the Secretariat and the Science Team have been sharing the science strategy with the academic and research community had direct conversations with the IJC, USGS and other government agencies to work together. He also noted that, though we normally make a presentation at the International Association for Great Lakes research conference, a virtual session was hosted that included presentations from Mr. Johnson, Bob Smail of the Wisconsin DNR, and Drew Gronewald of the University of Michigan. He indicated that we hope that we'll be able to participate in the regular session next year.

Mr. Johnson also noted that there is a continuing review of State and Provincial Water Management and Conservation program reports, and that the members are working to have the Declarations of Finding ready for consideration by December of this year.

Mr. Johnson also noted that in the December 2019 the updated Regional Body and Compact Council websites were about to be launched. They have since been launched, and Mr. Johnson encouraged folks to take a look and see what is new on the website.

Mr. Clift then noted that as was discussed in many of the State and Provincial reports, we've all been faced with the issue of high water levels across the Great Lakes in the St. Lawrence River. Mr. Clift then introduced Drew Gronewald of the University of Michigan to talking briefly about forecasting Great Lakes water levels across multiple time scales.

Mr. Gronewald began by pointing out that much of the work on forecasting is done by the federal agencies across the United States in Canada, in particular, the Canadian hydrographic service, Environment and Climate Change Canada, as well as the United States Army Corps of Engineers and National Oceanic and Atmospheric Administration. He noted that these are the groups that are primarily responsible for issuing official forecasts.

He next provided an overview of the categories of forecasting, noting that when people talk about Great Lakes water level forecasting, there are actually several different time horizons they might talk about. Specifically, there are three general timescales that people look at when you think about water level forecasting on the Great Lakes. The first time scale is on the order of hours and days. The second time scale is the seasonal time scale forecasting of water levels. To that end, he noted that each of the lakes have an extremely strong seasonal cycle. In the spring, water levels rise primarily because snow across the region is melting and contributing to runoff. But in the fall, the lakes are evaporating in through the winter prior to the formation of ice, noting that that is what drives the seasonal cycle, though it can be challenge to forecasters to get the seasonal timing right.

He then noted that the third and the final sort of time horizon is what we refer to as multi decadal forecasting. He noted that the take home message from this scale of water level forecasting on the Great Lakes is that we're trying to reconcile a push and a pull on the Great Lakes. He noted that a lot of climate models suggest that precipitation across the Great Lakes is going to continue to go up, but also temperatures are going up, which leads to increased evaporation, which leads to water loss. To summarize, he noted that most of the models in the future have a tug of war or trade off between increases in precipitation and increases in evaporation. In general, though, he noted that there's not a strong trend in any of the models over time about a precipitous decline in water levels, or a precipitous increase. Instead, what's most important that we've seen is the variability that is likely to happen over shorter timescales from year to year, and from month to month.

He then noted that when it comes to seasonal forecasting that middle time range again, this is where we're getting most questions from the general public. He noted that there are two pieces of the puzzle. The first has to do with being able to forecast the large air

masses that come across the North American continent that bring changes in air temperature, and bring changes in moisture. For example, a lot of the recent moisture we've gotten has come from the maritime tropical air mass, as well as maritime polar air, noting that they're bringing tremendous amounts of moisture to the Great Lakes region. He also noted that in two of the past winners over the past decade we've had outburst of cold arctic air that have come down over the Great Lakes that causes freezing and ice cover on the Great Lakes. With that in mind, he indicated that step one is being able to forecast the movements of these air masses over monthly timescales. The second piece of the puzzle is the water balance of the Great Lakes. He indicated that forecasters have to take changes in air temperature, changes in moisture, and turn them into changes in rivers and streams coming into the lakes, precipitation falling on the lakes, and evaporation of water leaving the lakes. He again emphasized that seasonal forecasting is a real challenge, because you can't really understand or forecast how changes in runoff, precipitation and evaporation are going to come about if you can't forecast those air masses well five months in advance.

Mr. Gronewold closed out by noting that water levels on the upper Great Lakes have been approaching record highs on Lake Ontario. He also noted that all time record highs were broken in 2017 and in 2019. Mr. Gronewold noted that in 2019, Lake Ontario and Lake Erie hit an all time record high, and there was extensive flooding across the lakes. He noted that NOAA's spring flood risk potential for the country map shows extensive threat of flood risk across the Mississippi River Basin, which did in fact experience a lot of flooding, but no indication of flood risk across the shoreline of the Great Lakes, which reflects a need for improved research in binational forecasting. He noted that a lot of the geopolitical boundaries for how services are rendered for water level forecasting do not align with the boundaries of the Great Lakes Basin. So for example, to understand the Great Lakes Basin in the United States, you have to put together information from three river forecasting centers, and then cobble together information from the Canadian federal government. Consequently, there's a need for continued research and analysis of ways to develop binational seasonal and multi decadal forecasting systems to better understand this problem.

Mr. Bruno asked if there were one or two recommendations that would allow for us to better coordinate between the United States and Canada as well as between the states and the provinces on water level forecasting.

Mr. Gronewold noted that boards of control within the International Joint Commission actually do a great job coordinating data. But he indicated that there needs to be a better job of communicating that information more broadly beyond just the decisions for the Boards of Control, including more broadly to the public, to research institutions and to State and community level research programs like Sea Grant and other groups.

Mr. Clift then noted that in 2017, Jim Nicholas, formerly of the USGS, wrote a report on the potential changes in water use resulting from the retirement of thermoelectric

power plants. Looking at another sector of water use, Mr. Nicholas has now developed a report on changes on withdrawals for public water supplies in the Great Lakes Basin 1998 to 2018. The report can be found on the Regional Body and Compact Council websites. Mr. Nicholas provided an overview of the report. No questions or comments were received.

Opportunity for public comments.

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

Steve Edlund. Mr. Edlund made comments about the City of Waukesha Water Utility, and stated that the Compact Council and Regional Body should reconsider their approval or at least modify the final decision regarding the City of Waukesha. He noted that Waukesha has entered into a water purchase agreement with the City of Milwaukee, and that we are coming up on the fourth anniversary of the approval of the Waukesha application, with conditions.

Mr. Edlund said that he would like to share with the members of the Regional Body and Compact Council two contracts Waukesha entered into with other communities that demonstrate Waukesha's future planning for growth and development in Waukesha County outside the approved service area, and that such plans and contracts demonstrate contempt towards the Compact Council's final decision and that Waukesha engaged took steps to implement the final decision in bad faith.

He noted that Waukesha notified the Council of the change of Lake Michigan suppliers from Oak Creek to Milwaukee, but that Waukesha did not include in the notification the water purchase agreement with Milwaukee. He noted that in the agreement a section is devoted to a procedure to adjust the water service area, which includes expansion by up to 1704 acres. He stated that with the approval of the council, Waukesha will not ask for an increase in volume, just the service area. He asked the Compact Council to reconsider the final decision. He further stated that Waukesha negotiated this volume to include the expanded service area at full build out in bad faith. He also stated that it's noteworthy that Waukesha has not identified the use or quantity required at full build out for the additional 1704 acres in the Milwaukee water purchase agreement, but that is material to determining the true required quantity for full build out in route and rendering a revised final decision.

Mr. Edlund also stated that Waukesha is now entered into an intergovernmental agreement with the City of New Berlin. He stated that Waukesha will own, operate and construct the entire pipeline from Milwaukee to Waukesha. He alleged that the

installation of a T connection to New Berlin will result in a diversion outside of the approved service area by the city of Waukesha, which he believed is in violation of section two, chapter five of the finding section in the Council's Final Decision.

Mr. Edlund asked the Compact Council to establish a fact finding of this connection because it is currently before the Wisconsin Public Service Commission, requesting a limited reopening of the final approval. Mr. Edlund stated that it is his concern that the T connection will be approved in the State's construction application without having been reviewed by the Public Service Commission or the Compact Council.

Mr. Edlund closed by noting that he thinks that's very important because Waukesha is trying to do something as an end round of the final decision of the Compact Council, and if there is no intervention a very dangerous precedent will be set on the very first diversion application (Waukesha).

Mr. Bruno asked for a copy of the written comments, and Mr. Edlund stated that he would send them to the Secretariat for distribution.

New Business

There was no new business.

Old Business

Consideration of modified resolution number 43, adoption of the Fiscal Year 2021 Budget.

Mr. Clift noted the budget includes resources to be used during fiscal year 2020 for phase two of the procedures update. He also noted that an earlier version of the budget was preliminarily approved at the December meeting of the Regional Body, but because of the travel restrictions put in place due to ongoing Covid-19 pandemic as well as an effort to lower costs over the next year, the proposed budget is reduced by about 20% for fiscal year 2021.

Mr. Clift invited a motion to grant approval of the resolution and a second. Mr. Freihoefer moved to approve, and Mr. Rogner seconded. Mr. Clift asked if there was any discussion. Mr. Clift then called a roll call vote on the budget resolution:

Illinois—Yes

Indiana—Yes

Michigan—Yes

Minnesota—Yes

New York — Yes

Ohio—Yes

Pennsylvania—Yes

Wisconsin—Yes

Adjournment

Mr. Clift invited a motion to adjourn and a second. Mr. Smith moved and Mr. Freihoefer seconded the motion. The motion passed without objection and the meeting was adjourned.

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