

**Great Lakes-St. Lawrence River Water Resources Regional Body
Great Lakes-St. Lawrence River Basin Water Resources Council**

RESOLUTION NO. 2015-1

ADOPTING JOINT DECLARATION OF FINDING

For the Water Management Program Review and
Water Conservation and Efficiency Program Review
State of Illinois

I. BACKGROUND AND PURPOSE

The Compact

A. The Great Lakes-St. Lawrence River Basin Water Resources Compact (“Compact”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin and the Commonwealth of Pennsylvania, and was effective on December 8, 2008.

B. Section 3.4 of the Compact requires each Party State to submit a report to the Great Lakes-St. Lawrence River Basin Water Resources Council (“Compact Council”) and the Great Lakes-St. Lawrence River Water Resources Regional Body (“Regional Body”) on actions taken by that State to meet the provisions of the Agreement and Compact regarding that Party State’s Water management and conservation and efficiency programs.

C. Following the Compact Council’s review of such reports in cooperation with the Provinces pursuant to Section 3.4 of the Compact, the Council shall determine whether that State’s programs (1) meet or exceed the provisions of the Compact; (2) do not meet the provisions of the Compact and, if not, what options may exist to assist the jurisdiction in meeting the provisions of the Compact.

D. Section 4.2 of the Compact requires the Compact Council to adopt Basin-wide conservation and efficiency objectives, which were adopted by the Compact Council on December 8, 2008. Section 4.2.2 of the Compact requires each Party State to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State’s goals and objectives.

E. While certain provisions of the Compact do not apply to the State of Illinois (see Section 4.14 of the Compact), Illinois is subject to the requirements of Section 4.2 of the Compact, entitled “Water Conservation and Efficiency Programs.”

The Agreement

F. The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (“Agreement”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin, the Commonwealth of Pennsylvania, the Province

of Ontario, and the Government of Québec, and certain provisions of the Agreement began to more fully come into force on March 8, 2015.

G. Article 300 of the Agreement requires each Party State and Province to submit a report to the Regional Body on actions taken by the State or Province to meet the provisions of the Agreement regarding that State's or Province's Water management and conservation and efficiency programs.

H. Following the Regional Body's review of such reports pursuant to Article 300 of the Agreement, the Regional Body shall determine if that State or Province's programs (1) meet or exceed the provisions of the Agreement; (2) do not meet the provisions of the Agreement; or (3) would meet the provisions of the Agreement if certain modifications were made and what options may exist to assist the jurisdiction in meeting the provisions of the Agreement.

I. Because Article 300 of the Agreement came into force as of March 8, 2015, the first report will be due March 8, 2016 and the five-year report will be due March 8, 2021. Therefore, all such reports submitted prior to March 8, 2016, as well as the Declaration Of Finding issued thereon, are recognized as voluntary, and the submission of such reports and the issuance of Declaration Of Finding shall not be interpreted to indicate that Article 300 of the Agreement requires such reports at this time.

J. Article 304, Paragraph 1 of the Agreement requires the Regional Body to identify Basin-wide Water conservation and efficiency objectives to assist the Parties in developing their Water conservation and efficiency programs by December 13, 2007, which were adopted by the Regional Body on December 13, 2007. Article 304, Paragraph 2 of the Agreement requires each Party State and Province to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State's or Province's goals and objectives.

K. While certain provisions of the Agreement do not apply to the State of Illinois, which is governed by the United States Supreme Court Decree in *Wisconsin, et al., v. Illinois, et al.*, Illinois is subject to the requirements of Article 300 of the Agreement, entitled "Water Management Program Review," and Article 304 of the Agreement, entitled "Water Conservation and Efficiency Program."

II. SUBMISSIONS BY STATE OF ILLINOIS

A. To the Compact Council. The Compact Council has received the State of Illinois' report on its Water management and conservation and efficiency programs under the Compact, which is attached to this Resolution as Attachment A.

B. To the Regional Body. The Regional Body has received the State of Illinois' voluntary report on its Water management and conservation and efficiency programs under the Agreement, which is attached to this Resolution as Attachment A.

III. DECLARATION OF FINDING

Upon review of the submissions of the State of Illinois, the terms of the Compact and the Agreement, the Compact Council and Regional Body find as follows:

- A. Based on the report submitted by the State of Illinois, the Water Management Program presented by the State of Illinois meets or exceeds the current requirements of the Compact and the Agreement.
- B. Based on the report submitted by the State of Illinois, the Water Conservation and Efficiency Program presented by the State of Illinois meets or exceeds the current requirements of the Compact and the Agreement.

***Adopted and approved on December 3, 2015 by
the Great Lakes-St. Lawrence River Water Resources Regional Body and
the Great Lakes—St. Lawrence River Basin Water Resources Council***

Draft—For Discussion Purposes Only

November 3, 2015

ATTACHMENT A

Five-Year Review of Illinois' Water Management and Conservation and Efficiency Programs—
Report to the Compact Council and Regional Body
Dated December 8, 2014



Illinois Department of Natural Resources

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Pat Quinn, Governor
Marc Miller, Director

Five Year Review of Illinois' Water Management and Conservation and Efficiency Programs - Report to the Compact Council and Regional Body

December 8, 2014

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Water Management Program Report

The construction (circa 1900) of the Chicago Area Waterway System (CAWS) resulted in the reversal of the direction of flow of the Chicago and Calumet Rivers away from Lake Michigan. This project created a diverted watershed area of around 673 square miles, leaving a very small (around 75 square miles) area in Illinois that still drains to Lake Michigan. In both the diverted watershed and the watershed that still drains to Lake Michigan in Illinois, Lake Michigan water is the predominant water supply source.

No regional organization, municipality, political subdivision, agency or instrumentality, or any other organization, association or individual desiring to use water from Lake Michigan shall divert or use any such water unless it has previously obtained from the IDNR/OWR a valid allocation permit. In addition, since January 1, 2010, the State Water Survey's water use inventory program has required all high capacity (100,000 gpd or greater) surface intakes and groundwater wells to annually report water withdrawn to the State Water Survey.

Laws and Regulations

Illinois was the second state to pass legislation adopting the Great Lakes/St. Lawrence River Basin Water Resources Compact. Public Act 095-0238 was signed into law on August 17, 2007. No additional implementing legislation was necessary as Illinois already had all the authorities needed to fully implement Illinois' commitments under the Compact.

A U.S. Supreme Court Decree [Wisconsin v. Illinois, 388 U.S. 426 (1967), as modified, 449 U.S. 48 (1980)] limits Illinois' diversion of Lake Michigan water to an annual average

of 3200 cubic feet per second (cfs) or 2.1 billion gallons per day. The Illinois law regulating this diversion is the “LEVEL OF LAKE MICHIGAN ACT” (615 ILCS 50). The Department of Natural Resources, Office of Water Resources (IDNR/OWR) implements this law using its Part 3730 Rules “ALLOCATION OF WATER FROM LAKE MICHIGAN”. These rules can be found at <http://www.dnr.illinois.gov/adrules/documents/17-3730.pdf>.

The Illinois State Water Survey (ISWS) operates a surface and groundwater use reporting program. The “WATER USE ACT OF 1983” (525 ILCS 45/1) as amended by Public Act 096-0222, effective January 1, 2010 requires high capacity well owners and high capacity intake owners, defined as a withdrawal in excess of 100,000 gallons per day (gpd) to participate in the State Water Survey’s Water Inventory Program.

Together these two statutes and the programs that implement them ensure that Illinois collects all the water withdrawal and diversion data needed to demonstrate compliance with the water use reporting protocols required under the Compact and Agreement (Compact Section 3.4/Agreement Article 300, and Compact Section 4.3/Agreement Article 301). In addition, the Level of Lake Michigan Act and implementing rules provide the necessary authority to establish a water conservation and efficiency program for all diverters of Lake Michigan water as required by Compact Sections 4.2(2), 4.2(4) and 4.2(5) (Agreement Article 304). Per Compact Section 4.14/Agreement Article 207(paragraphs 10-14), Compact Sections 4.3, 4.8, 4.9, 4.10, 4.11 and 4.13/Agreement Articles 200, 201, 206, 207 and 208 do not apply to Illinois and its’ water management program.

Allocation Process

Illinois’ Lake Michigan water allocation process consists of the following key elements:

- Applicants evaluate water supply options, and submit an application for a Lake Michigan water allocation permit. The application form is available at: <http://www.dnr.illinois.gov/WaterResources/Pages/LakeMichiganWaterAllocation.aspx>
- Northeastern Illinois has three primary water supply sources – Lake Michigan, deep aquifer groundwater and shallow aquifer groundwater (and very limited other surface water supply). The administrative rules designate applicants who demonstrate that Lake Michigan water is the most cost effective water supply source as a high priority.
- Evaluate water demands throughout the entire forecast period. This can include the use of a regression equation that utilizes historical water use and three primary variables – population, household size and employment. Applicants also develop their own water demand forecast. The forecast period currently extends out to the year 2030.
- Hold formal allocation hearings for all applicants. This process is administrative in nature, and a formal record is established for all applicants. The IDNR/OWR’s decision is based on the record.
- Allocation permits are based on an annual average use for a given year, along with conditions/requirements that promote efficient use of the Lake Michigan water allocated.

- This process includes provisions for adjustments in water allocations. For most public water supplies, the primary data (population and employment projections) used to develop long-term demand forecasts carries a high degree of uncertainty. The allocation program needs to be flexible to accommodate shifts in water demand as time goes on and conditions change.
- All applicants must submit annual water use audit reports to monitor compliance with allocation limits and track compliance with the Department's standard on water loss.

Lake Michigan water allocation applicants are divided into the following categories:

- **Category IA** – Applicants whose primary water needs are residential, commercial or industrial and whose future or continued use of Lake Michigan water is the most economical source of supply.
- **Category IB** – Applicants whose primary water demands are residential, commercial and industrial and whose use of Lake Michigan water would reduce regional use of the deep aquifer.
- **Category IIA** – Applicants whose primary water demands are for the minimum flows necessary to meet navigation requirements and minimum discretionary dilution flows necessary to maintain the CAWS in a reasonably satisfactory sanitary condition.
- **Category IIB** – Applicants whose water demands are for the minimum discretionary dilution flows necessary to meet water quality standards in the CAWS.
- **Category III** – Applicants whose water demands do not fall into Categories IA, IB, IIA, or IIB. Category III applicants do not qualify for an allocation of water from Lake Michigan.

In determining priorities within Categories IA and IB, the IDNR/OWR considers the following items:

- Adequacy of supply from sources other than Lake Michigan.
- Economics of alternative supplies.
- For new applicants, priority will be given to allocations for domestic purposes.
- For new applicants allocation of Lake Michigan water will be made with the goal of reducing the withdrawals from the Cambrian-Ordovician Aquifer (deep aquifer).

In determining priorities within Categories IIA and IIB, the Department will consider the following items:

- A limitation of 270 cubic feet per second for discretionary dilution for water quality purposes in the CAWS.
- The need to meet navigation requirements in the CAWS.
- The minimum discretionary diversion needed to keep water quality in the CAWS in a reasonable satisfactory sanitary condition.

The IDNR/OWR will normally make allocations to meet the full water needs of any category as determined by the Department before any water is allocated to applicants in categories of a lower priority.

In determining the amount of water available for allocations to Categories IA, IB, IIA and IIB, the Department will consider the amount of water that must be reserved for storm water runoff, lockage and leakage and a reserve for future increases in demands and storm water runoff.

Sectors

- 1) **Public Water Supply:** All public water supplies which use Lake Michigan as their water supply are required to have a Lake Michigan water allocation permit, regardless of the amount needed (i.e. there is no minimum threshold). Currently, there are approximately 210 public water supply systems using Lake Michigan water as their source of supply, serving over 7 million Illinois residents. In Water Year 2013, public water supply systems in Illinois withdrew and diverted about 871 million gallons per day (mgd).

There are no public water supplies within the Lake Michigan watershed utilizing a groundwater supply. If there were, and they withdrew at least 100,000 gpd, they would be required to report this water use to the ISWS.

- 2) **Self-Supply Commercial and Institutional:** Like public water supply, any self-supply commercial or institutional user requires a Lake Michigan water allocation permit if they are diverting Lake Michigan water. Currently there is only one active Lake Michigan water allocation permit in this sector, with an average water use of less than 10,000 gpd. There is also a military facility that withdraws and diverts Lake Michigan water (2013 reported use was 2.165 mgd). As a federal facility which directly withdraws Lake Michigan water, they are not covered by the U.S. Supreme Court Decree and are not included as an Illinois diversion.

There are two small self-supply commercial/institutional users within the Lake Michigan basin that withdraw groundwater. Together their 2013 withdrawal was 4,000 gpd.

- 3) **Self-Supply Irrigation:** There are no Lake Michigan water allocation permits issued for this water use sector (irrigation water use is not a diversion). The ISWS collects data from three self-supply irrigation water users within the Lake Michigan basin; however none reported withdrawing 100,000 gallons/day or more. In 2013 total self-supply irrigation use was 0.116 mgd.
- 4) **Self-Supply Livestock:** There are no self-supplied livestock facilities in the Lake Michigan watershed either utilizing groundwater or Lake Michigan water.
- 5) **Self-Supply Industrial:** Requires a Lake Michigan water allocation permit if they are diverting Lake Michigan water. There is only 1 permit issued in this sector, and that industry is no longer in operation.

The ISWS data base lists 5 industries withdrawing Lake Michigan water for cooling/consumptive use; only 3 exceeded the threshold of 100,000 gpd. Total withdrawal in 2013 was 20 mgd.

- 6) Self-Supply Thermoelectric Power Production (once through cooling): This water use sector, by definition, does not result in a diversion; hence no Lake Michigan water allocation permit is required. The ISWS data base list includes 4 power facilities that withdraw Lake Michigan water for once-through cooling. Total withdrawal in 2013 was 627.450 mgd.
- 7) Self-Supply Thermoelectric Power Production (recirculated cooling): There are no self-supply thermoelectric power production facilities that utilize recirculated cooling in the Lake Michigan watershed.
- 8) Off-Stream Hydroelectric Power Production: There are no off-stream hydroelectric facilities within the Lake Michigan drainage basin in Illinois.
- 9) In-Stream Hydroelectric Power Production: There are no in-stream hydroelectric facilities within the Lake Michigan drainage basin in Illinois.
- 10) Other: The Metropolitan Water Reclamation District of Greater Chicago has a Lake Michigan water allocation to divert Lake Michigan water in order to maintain navigation and water quality in the CAWS. Water is diverted into the CAWS at three lakefront locations. In 2013 a total of 196.6 mgd was withdrawn and diverted into the CAWS for these purposes. Water is also diverted into the CAWS to operate two lakefront locks. These locks are operated by the U.S. Army Corps of Engineers and thus have no Lake Michigan water allocation permit. However, this water is included in Illinois' allowable diversion. In 2013 the amount of Lake Michigan water diverted to operate the two lakefront locks was 41.35 mgd.

Reporting and Database

All Lake Michigan water allocation permittees are required to submit annual reports (LMO-2 Report) accounting for how Lake Michigan water is used within a public water supply system. In addition, all permittees with an intake structure on Lake Michigan or who are the first Illinois user of water diverted from Lake Michigan outside Illinois must report their water use both annually and monthly (LMO-3 Report) to the IDNR/OWR. The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) submits monthly (LMO-6) reports for the amount of Lake Michigan water they divert for the purpose of maintaining the Sanitary and Ship Canal. The IDNR/OWR maintains a database which stores this information going back to 1989 and has hard copies going back to the 1970s. The IDNR/OWR produces an annual report which summarizes water use by all permittees. This is distributed to all Lake Michigan water allocation holders with an annual newsletter. All pumpage numbers provided on the LMO-2 and LMO-3 reports are metered numbers. The MWRDGC diverts water into the Sanitary and Ship Canal using sluice gates and by opening the Chicago River Controlling Works and the O'Brien Locks. Therefore, the numbers they report on their LMO-6 reports are not metered but calculated.

For many years, the ISWS has maintained a voluntary reporting program for surface and ground water use. On January 1, 2010, that program became mandatory for all surface

and groundwater withdrawals averaging 100,000 gallons/day or greater. The ISWS has its information on a database.

Initiatives

Over the years, the ISWS has been an active participant in various National Water Use Program studies done by the United States Geological Survey and are now working on the Illinois portion of the 2010 report. The ISWS and the IDNR/OWR have also been involved with the Chicago Metropolitan Agency for Planning in their ongoing work on the “Northeastern Illinois Regional Water Supply Plan”.

Water Conservation and Efficiency Program Review

A. Program Legal Basis

As stated earlier, Section 4.2 of the Compact (Agreement Article 304) applies to Illinois. The U.S. Supreme Court Decree [Wisconsin v. Illinois, 449 U.S. 48 (1980)] that limits Illinois’ diversion of Lake Michigan water also contains language directing Illinois to implement a water conservation program. The Level of Lake Michigan Act [615 ILCS 50] incorporates the Decree language which states that:

“all feasible means reasonably available to the State and its municipalities, political subdivisions, agencies and instrumentalities shall be employed to conserve and manage the water resources of the region and the use of water therein in accordance with the best modern scientific knowledge and engineering practice.” [615 ILCS 50/5]

This is the operative judicial and statutory language that directs the Illinois Department of Natural Resources (Department) to develop and implement a water management and conservation program covering all permittees of Lake Michigan water.

B. Program Objectives

Illinois’ first report to the Compact Council and Regional Body (dated December 8, 2009) reviewed the water conservation requirements that all domestic users of Lake Michigan water must comply with as a condition of receiving a Lake Michigan water allocation permit. In 2010, the Department developed and posted on our website Illinois’ Lake Michigan Water Conservation Goals and Objectives, as required by the Compact and the Regional Agreement.

<http://www.dnr.illinois.gov/WaterResources/Pages/LakeMichiganWaterAllocation.aspx>

The Department’s water conservation and efficiency program objectives are:

- Enforce the adoption of standards that require the efficient use and conservation of Lake Michigan water by the end user (homeowner, business/industry).
- Establish standards for good water system management and leakage control by the owner/operator of a water supply system.
- Ensure that Lake Michigan water diverted directly into the Chicago Waterway system for various purposes is kept to a minimum.

- Collect water use data annually; monitor changes in water use patterns. Encourage public water supply systems to evaluate the effectiveness of their conservation efforts.
- Prepare and maintain long-term water demand forecasts.
- Promote the adoption of water rate structures that encourage conservation and water efficiency.
- Encourage water suppliers to invest in water infrastructure and the use of innovative technology to improve water systems management.
- Encourage research, development and implementation of water efficient technologies. Develop linkages with organizations such as USEPA's WaterSense Program, the Alliance for Water Efficiency and others, to keep abreast of the latest conservation technologies.
- Inform, educate and increase awareness regarding water use, conservation and efficiency via newsletters and other such means of communication.
- Work with our Lake Michigan water allocation permittees and our Great Lakes basin partners to enhance information sharing.

C. Program Activity – Updating Administrative Rules

This has been a major program activity for the Department over the last 5 years. Updating the Lake Michigan Water Allocation Rules and Regulations, which were first adopted back in 1980, is a significant undertaking, and has included several lengthy public review and comment periods. More recently, on March 7, 2014, proposed changes to the Rules and Regulations for the Allocation of Water from Lake Michigan (IL Admin. Code, Title 17, Part 3730) were published in the Illinois Register. This began the official rulemaking process. An initial 45 day review and comment period was extended an additional 30 days until May 12, 2014. The Department responded to the comments received during the notice period, and in response made several minor changes to the proposed rules. The new rules should become final before the end of this year.

The updated Lake Michigan water allocation rules will improve Illinois' water conservation and efficiency program. Here is a very brief summary of the substantive changes to the rules.

- Since 1977 the Department has had an 'Unaccounted-For-Flow' standard for all domestic Lake Michigan water supplies. This standard will be replaced with a 'Non-Revenue Water' standard, which will allow public water supplies to utilize the water audit methodology recommended by the American Water Works Association (AWWA M36 water audit methodology), and to better track the value of water loss.
- Water systems not in compliance with the non-revenue standard will be required to prepare and submit a water system improvement plan.
- Local/Municipal plumbing codes/ordinances will be updated to require that new and replacement plumbing fixtures be a labeled WaterSense product.
- The classification system has been revised so that a water applicant that utilizes deep aquifer groundwater is a higher priority use than the use of water from Lake Michigan to meet navigation requirements and minimum discretionary dilution flows necessary to maintain the CAWS in a reasonably satisfactory sanitary condition.
- Additional guidelines for lawn sprinkling have also been included, as well as

recommendations for sub-metering in new multi-family building construction where practicable and feasible and setting water rates to reflect full cost pricing.

Guidance for Preparing Water System Improvement Plans

The focus of this rule change is to be a catalyst to assist communities in addressing water loss problems, utilizing the best methods of water accounting and loss reduction. A water system improvement plan will be a locally developed plan of action that identifies the causes of water loss, what measures need to be implemented to reduce water loss and an estimated timeframe to implement those measures.

The Department has contracted with the Chicago Metropolitan Agency for Planning to prepare guidance materials to assist communities that will need to prepare a water system improvement plan. The Department is also working with the Illinois Environmental Protection Agency, who has retained the Illinois Section of the American Water Works Association and the Illinois Rural Water Association to conduct at least 35 water loss audit training sessions throughout the state, including at least 12 within the Lake Michigan water service area. This will be an excellent opportunity to take advantage of their expertise in water audit methodology.

D. Program Activity – Lake Michigan Water Allocation Newsletter

The Department's most recent newsletter was distributed in September 2014, and is available on the Lake Michigan Water Allocation homepage: <http://www.dnr.illinois.gov/WaterResources/Pages/LakeMichiganWaterAllocation.aspx> The newsletter, in addition to containing timely information concerning the Lake Michigan water allocation program, also includes a summary of water use for the most recent Water Year. The newsletter has been one of the primary means utilized to communicate with Lake Michigan water systems.

E. Program Activity – Develop Linkages with other Conservation Organizations

Over the past 5 years the Department has developed several new partnerships with other groups/organizations to further our water conservation program efforts. These include:

- Becoming a USEPA 'WaterSense Partner' and updating our rules to require the use of 'Water Sense' labeled plumbing fixtures in our standard for water efficient plumbing fixtures.
- Working with regional organizations such as the Chicago Metropolitan Agency for Planning, the Northwest Water Planning Alliance, the Northeastern Illinois Regional Water Supply Planning Group, the Center for Neighborhood Technology and the Metropolitan Planning Council to further our outreach to communities in the areas of water supply planning, drought management, water loss control and sustainable water resource management.
- Working with the Illinois Environmental Protection Agency (IEPA) to better integrate our water conservation program with their administration of Governor Quinn's Clean Water Initiative Fund, a \$1 billion low interest loan fund that significantly expands Illinois' State Revolving Fund. These funds are available to help Illinois communities improve their water and wastewater infrastructure, and will be particularly useful for Lake Michigan communities that need to upgrade

- their water infrastructure in response to our new non-revenue water thresholds.
- Work with the Illinois Section AWWA, the IEPA, the Illinois Rural Water Association and others to develop and hold at least 35 water loss control workshops throughout the state beginning in the fall of 2014.

F. Program Activity – Water Rate Survey

The Department recommends that Lake Michigan water providers adopt water rate structures that 1) are based on metered water use, 2) discourage excessive water use, and 3) reflect the full cost of water, including the long term cost to properly maintain and operate the water supply distribution system in such a manner as to keep system losses to a minimum.

Our long term practice has been to undertake a water rate survey of all Lake Michigan water providers every 5 years. Our last water rate survey was published in 2010. Since then it has become apparent that water rates have been increasing steadily and a 5 year cycle is no longer able to keep pace with water rate changes. Over half of our Lake Michigan water systems purchase water from the City of Chicago, which increased its water rate, effective January 1, 2014 to \$3.32/1000 gallons. Ten years ago Chicago's rate was only \$1.26/1000 gallons.

Our next 5 year water rate survey will be in 2015. Our goal thereafter is to collect water rate information every year as part of our annual water use audit reports.

G. Program Activity – Water Use and Water Loss Monitoring

Throughout the last 5 years we have continued to collect, analyze and regulate the reported unaccounted-for-flow (UFF) of all our domestic Lake Michigan water suppliers. In 2013, the average UFF in the Lake Michigan water service region was about 5.5%, a slight increase over that reported in 2012.

Concerned with the number of communities that continued to struggle with high rates of water loss, in 2013 the Department entered into a Memorandum of Agreement with the Chicago Metropolitan Agency for Planning to utilize their Local Technical Assistance program to conduct an analysis of the obstacles and constraints faced by public water supplies in managing/minimizing water loss. The Center for Neighborhood Technology also collaborated on this project. Their analysis and recommendations were presented to the Department in a report titled "An Assessment of Water Loss Among Lake Michigan Permittees in Illinois", and can be accessed at: <http://www.cmap.illinois.gov/programs-and-resources/ita/idnr>. Their analysis confirmed that water loss is becoming more pervasive throughout the Lake Michigan water service area, and that the allowance for maximum unavoidable leakage was masking the severity of actual water loss. They also found that 74% of our permittees have no formal water loss control policy.

The report supports the proposed changes to the water allocation rules that will switch to a non-revenue water threshold/water audit accounting system utilizing the AWWA M36 methodology. This water audit methodology will provide good information on the value of lost water, and supports our goal to encourage our permittees to operate, maintain and upgrade water system infrastructure to promote the efficient use and conservation of

Lake Michigan water.

Prior to the approval of our updated administrative rules in late 2014, the 2013 and 2014 Annual Water Use Report forms were modified to allow our domestic permittees to estimate and report the value of their non-revenue water. Combining the total amount of unaccounted-for-flow and maximum unavoidable leakage will approximate a non-revenue water quantity, and by using their wholesale cost of water they can develop a conservative estimate of the value of lost water. This is the first time we are asking our permittees to translate their water loss data to a dollar amount, which should serve to illustrate the value of undertaking infrastructure improvements to a water system.

H. Program Activity – Control of Direct Diversion into Chicago Waterway System

The total amount of Lake Michigan water diverted into the Chicago Waterway System for discretionary diversion and navigation makeup flow was 304.1 cubic feet per second (cfs) in water year 2013. At the end of the 2013 water year, the five year running average of these two components of direct diversion stands at 294 cfs, or 11 cfs below the combined allocation (305 cfs) for these two components of direct diversion. The Metropolitan Water Reclamation District of Greater Chicago holds the Lake Michigan water allocation for both discretionary diversion and navigation makeup.

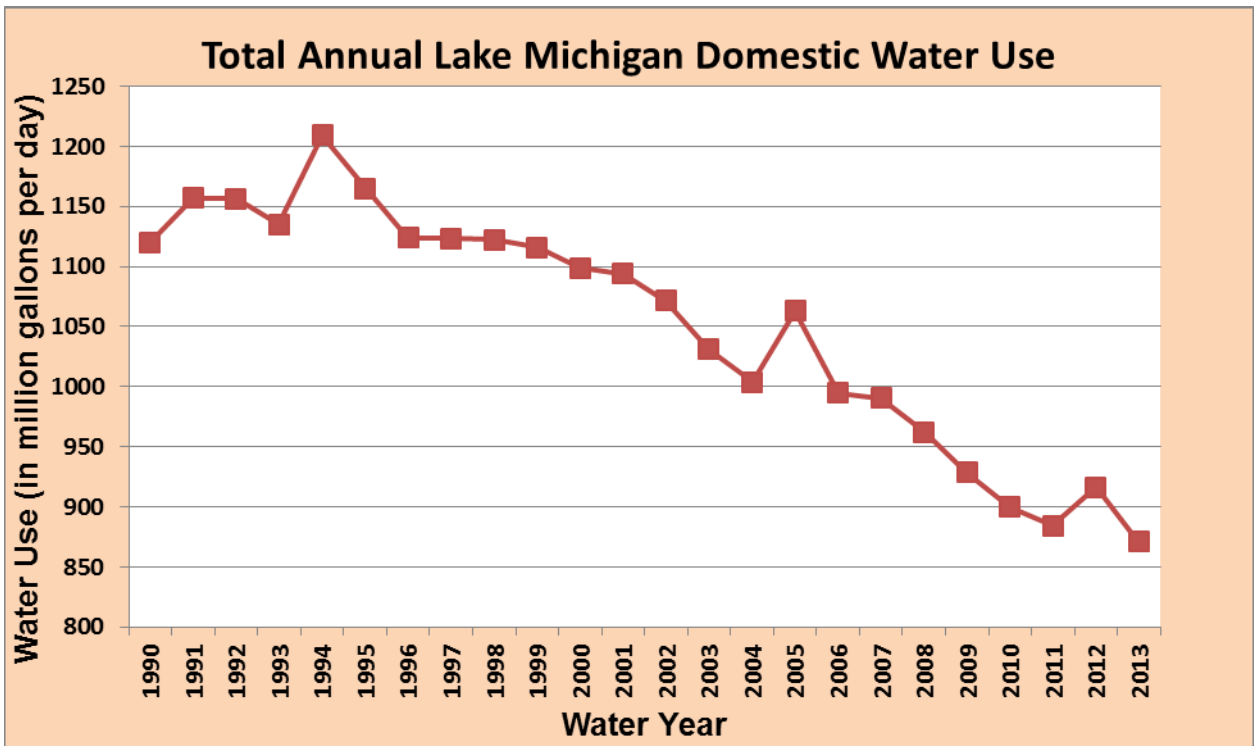
The other primary use of Lake Michigan water diverted directly into the Chicago Waterway System is to operate the navigation locks at the mouth of the Chicago River and on the Calumet River. Both of these lock facilities are operated and maintained by the U.S. Army Corps of Engineers. Illinois does not have any control over the amount of water diverted for lockage or for leakage through these structures, although this water is included in the accounting for Illinois' diversion under the U.S. Supreme Court Decree. Lake Michigan water levels have a significant impact on the amount of water diverted for the operation of the navigation locks.

I. Project Activity – Status of Water Demand Forecasts and Water Use

In 2008, the Department completed a comprehensive water reallocation for all our water supply permittees. As part of this reallocation, water demand forecasts for each year, out to the year 2030, were developed and ultimately included in the Department's updated Lake Michigan water reallocations. A primary reason for this long timeframe is to ensure that the Department's water allocation program is sustainable over the foreseeable future, and will continue to keep Illinois' total diversion below the authorized U.S. Supreme Court Decree limit of 3200 cfs. It is anticipated that sometime during the next 5 years the Department will undertake another comprehensive water reallocation and extend allocations out to at least the year 2040.

Over the last 5 years, the Department has issued a total of thirteen new water allocations, ten of which were for new regional water supply development in central Lake County.

Water use summaries for the 2010 through 2013 Water Years are on our website: <http://www.dnr.illinois.gov/WaterResources/Pages/LakeMichiganWaterAllocation.aspx>. This information was obtained from the Annual Water Use Audit Reports (LMO-2), and is reported to the Great Lakes Regional Water Use Database. In Water Year 2013 total domestic Lake Michigan water use was 871 million gallons per day (mgd).



This table clearly shows the long term decline in total domestic use of Lake Michigan water. While the drought years of 1994, 2005 and 2012 are clearly visible, this downward trend in water use that has occurred over the last 20 years is significant, a 300 mgd reduction since 1992. In 2013 the annual precipitation was 34.6 inches, slightly below the 23 year average of 36.7 inches.

J. Project Activity - Water Infrastructure

In the fall of 2013 the City of Chicago released a report entitled “2015 Sustainable Chicago”, http://www.cityofchicago.org/city/en/progs/env/sustainable_chicago2015.html which outlines a number of major initiatives the City plans to undertake with the overall goal of becoming a more sustainable city. A major component of this report is the City’s commitment to upgrading their water, wastewater and stormwater infrastructure. They expect to achieve a 2%/year reduction in water use from this effort.

A number of other Lake Michigan communities have also developed, or are working on conservation/sustainability initiatives. The northeastern Illinois region has a number of organizations who work with local government to help them become more sustainable. These initiatives are also moving outside the Lake Michigan water service region. During this past year a community that applied for a Lake Michigan water allocation included a water infrastructure improvement plan as part of their application submittal.

Conclusion

Illinois has had a Lake Michigan water conservation and efficiency program for over 30

years. Our program is consistent with and fully supports the Great Lakes-St. Lawrence River Basin Water Conservation and Efficiency Objectives. The unique nature of Illinois' Lake Michigan water use and diversion as allowed under a U.S. Supreme Court Decree has resulted in a water conservation and efficiency program that is implemented primarily as a regulatory program, with additional measures, such as conservation pricing, conservation education and information sharing, implemented through a non-regulatory effort.