

PENNSYLVANIA GREAT LAKES WATER CONSERVATION AND EFFICIENCY PROGRAM REVIEW

2015 Report
December 2, 2015

The following information summarizes Pennsylvania's efforts regarding its Water Conservation and Efficiency Program, and is being submitted by the Commonwealth to the Regional Body and Compact Council pursuant to the requirements in the Agreement Article 304 and the Compact Section 4.2.2.

1. Lead agency and contact person(s)

Pennsylvania Department of Environmental Protection (DEP): Timothy Bruno, Chief, Office of the Great Lakes (814) 835-1477, David Jostenski, Assistant Director, Interstate Waters Office (717) 772-5659.

2. Status of the State or Province's Water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives.

Pennsylvania continues to achieve its Water Conservation and Efficiency Goals/Objectives through a mix of voluntary efforts combined with state-wide regulatory requirements.

Pennsylvania's Act 43 of 2008 (32 P.S. Section 817.25) authorized the Commonwealth to join the Compact and established that the Water Conservation and Efficiency Program, required under Section 4.2 of the Compact, shall be a voluntary program. As part of its State Water Planning Program, Pennsylvania has eight key goals that support the Basin-wide and regional objectives of the Compact. Pennsylvania's water conservation and efficiency goals are articulated in our State Water Planning Program, (27 Pa.C.S 3120(a).)

As reported in prior updates, the eight goals are:

1. Establish guidelines for developing voluntary water use reduction in Critical Water Planning Areas.
2. Identify and compile principles, practices, and technologies to assist all water users in conserving water.
3. Identify and compile principles, practices, and technologies to encourage groundwater recharge.
4. Develop a statewide program to promote voluntary reduction of water loss.
5. Establish a voluntary statewide conservation program for all users.
6. Develop educational programs for households, industry, and other water users.
7. Facilitate Governor's Water Conservation and Efficiency Award Program.
8. Establish voluntary water use reduction goals for all users.

Completion of previous State Water Planning work did not result in the designation of Critical Water Planning Areas within the Great Lakes Basin. However, any updates to the State Water Plan may include work that will re-evaluate water availability and designation of Critical Water Planning Areas in the Lake Erie Basin. DEP Secretary Quigley stated that updates to the State Water Plan may commence as early as 2016.

To help achieve all eight goals in the Lake Erie watershed, Pennsylvania is working in conjunction with Pennsylvania Sea Grant and Pennsylvania State University toward the creation of a Pennsylvania Lake Erie Water and Land Technical Resources website (WALTER). This website will provide a portal to DEP partner agencies and organizations that focus on land and water issues in the Pennsylvania Lake Erie basin. An intended component of WALTER will be water conservation and efficiency information, materials, and outreach programs. In the first quarter of 2015, DEP awarded a state grant to Pennsylvania Sea Grant and Pennsylvania State University which included over \$155,000 for development of the WALTER framework. Website and GIS development has commenced with an anticipated WALTER launch date of late 2016.

To implement goal six during 2015, PA DEP convened a Lake Erie water conservation planning team to explore ideas that promote water conservation in the Erie area. Consisting of representatives from PA DEP, Erie County Planning Department, Penn State Extension, Environment Erie, Erie County Conservation District, PA DCNR, PA Rural Water Association and the Regional Science Consortium, members conducted and participated in several activities during the 2015. In addition, PA DEP is a partner with EPA's WaterSense program, which encourages water conservation and promotes water efficient products. The WaterSense program promotes and supports events throughout the year, and the planning team expects to coordinate some events in the Erie area next year in conjunction with WaterSense events.

The planning team members accomplished the following activities in 2015:

1. Pennsylvania Lake Erie Children's Water Festival: PA DEP and the planning team cooperated with the Water Systems Council to hold the 2015 Children's Water Festival on the campus of Penn State Behrend in Erie, PA. Over 1700 fifth-grade students participated in the Festival which highlighted water conservation and efficiency and also included a special appearance from DEP Secretary Quigley.
2. Environment Erie's Begin ANEW Program: PA DEP provided over \$30,000 to Environment Erie, a local non-profit organization, to conduct the Begin ANEW program that focuses on water conservation and urban stormwater management. Numerous public education and outreach sessions were conducted to encourage the use of rain barrels and cisterns, rain gardens, lawn and garden BMPs, roof gardens and green roofs, and riparian buffers.

3. PA DEP provided over \$370,000 to Pennsylvania Sea Grant to acquire high-resolution digital orthophotography and LIDAR of the Pennsylvania Lake Erie watershed in an effort to evaluate changing land use and impacts on tributary water quality and potential water users.

Pennsylvania has several regulatory programs, administered by the Department and the Public Utility Commission, that support the objectives of water use reduction, water loss reduction, and overall water conservation. These regulatory programs are established on a state-wide basis, independent of the Great Lakes Compact, and are implemented on an on-going basis. The programs, which primarily involve Public Water Supply Agencies and water users who withdraw 10,000 gallons of water per day or more on a 30 day average, are discussed in further detail in Section 4 of this paper. A chart showing withdrawals, diversions, and consumptive use in Pennsylvania's portion of the Great Lakes watershed is attached at the end of this report (Source: Great Lakes Commission based on data supplied by PA DEP).

During 2015, PA DEP developed a standard operating procedure for applications submitted by other states requiring consideration under the Regional Review provisions of the Great Lakes Compact and Agreement. In 2016, PA DEP will undertake the development of a standard operating procedure for coordination of any Regional Review applications that originate in Pennsylvania.

As previously reported, DEP implemented an electronic web-based Drought Emergency Application for use by golf courses, public water suppliers and athletic field operators who must submit plans for water use to the Department in meeting regulations under the Pennsylvania Emergency Management Agency towards conserving water and ending non-essential water uses during drought emergency declarations. This system allows submission of electronic plans via the Department's website, and it generates notifications to known entities to provide information, guidance, and requirements during a drought emergency. This new system has been in place since 2014.

3. Water Conservation and Efficiency Program Overview.

Pennsylvania's Water Conservation and Efficiency Program is implemented through a mix of voluntary efforts combined with state-wide regulatory requirements. Pennsylvania's Act 43 authorizes the use of a voluntary water conservation and efficiency program. As part of its State Water Planning Program, Pennsylvania has eight key goals that support the Basin-wide and regional objectives of the Compact. In addition, regulatory programs that support and complement water conservation and efficiency goals and objectives are already in place through other statewide laws and policies of the Commonwealth. The majority of water use in Pennsylvania's Great Lakes basin is attributable to Public Water Supplies. Public water supply agencies throughout the Commonwealth are required to obtain a water allocation permit for

surface water sources, with approvals of systems metering, use justification, drought management, and water conservation and efficient use elements included in the permitting process that implements the Water Rights Act, (P.L. 842 No. 365), 32 P.S. SS 63, et seq..

Pennsylvania regulatory programs with citations and summaries include the following:

The Great Lakes-St. Lawrence River Basin Water Resources Compact—32 P.S. Section 817.21 et seq. Section 5 (Powers and Duties of department) of that PA statute, 32 P.S. Section 817.25, states, inter alia, that, “The department shall have the power and duty to”: (2) Administer and implement within the basin a water conservation and efficiency program required under section 4.2 of the Compact. Such a program shall be a voluntary program, utilizing the provisions of 27 Pa.C.S. Section 3120 (relating to water conservation).”

Water Resources Planning Act of 2002 (P.L. 1776, No. 220), 27 Pa.C.S. 3101 et. sq. Act 220 authorizes DEP to build capacity to the water use reporting system to develop a program for water users to record their voluntary water conservation and efficiency efforts.

<http://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2002&sessInd=0&act=220>

Water Rights Act, P.L. 842 (Act No. 365) Pennsylvania Surface Water Allocation Program—under this act, public water supply agencies must obtain Water Allocation Permits from the DEP to acquire rights to use surface water sources in Pennsylvania. Included in the review of permit applications, the DEP considers the conservation, development, and use to the best advantage of existing sources of water supply. Permits generally contain requirements to implement water conservation programs, adopt drought contingency plans and submit annual permit compliance reports.

<http://www.legis.state.pa.us/WU01/LI/LI/US/PDF/1939/0/0365..PDF>

4. A description of how Pennsylvania promotes Environmentally Sound and Economically Feasible Water Conservation Measures consistent with the regional objectives follows:

| OBJECTIVES | LEGISLATIVE OR PROGRAM CITATION |
|--|--|
| <p>Guide programs toward long term sustainable water use</p> | <ul style="list-style-type: none"> ➤ Water Rights Act, 32 P.S. §§ 636-637.—Under this act, public water supply agencies must obtain Water Allocation permits from DEP to acquire rights to surface water in PA. In its review of the permit applications, DEP considers water conservation and use of existing water supplies. ➤ Water Resources and Planning Act (Act 220), 27 Pa.C.S. §§ 3117; 3120, authorizes DEP to build capacity of the water use reporting system to develop a program for water users to record their voluntary water conservation and efficiency efforts. ➤ PA Public Utilities Commission (PUC) has provisions in the PA Code for water conservation measures for public water suppliers (52 Pa. Code § 65.11) in the event of short term water supply deficiencies. In addition, public water suppliers are to encourage customers to implement cost-effective water conservation measures. Rates for water utilities are set with consideration for the following factors: customer education, efficient plumbing fixtures, leak detection, water audits for large non-residential customers, unaccounted for water, and metering (52 Pa. Code § 65.20). This section also requires public water suppliers to file mandatory conservation contingency plans. |
| <p>Adopt and implement supply and demand management to promote efficient use and conservation of water resources</p> | <ul style="list-style-type: none"> ➤ A DEP regulation, which establishes water withdrawal and use registration, monitoring, record-keeping and reporting requirements at 25 Pa. Code §§ 110.201; 110.301, became effective upon its publication in the Pennsylvania Bulletin on November 15, 2008. ➤ This regulation requires water users who withdraw 10,000 gallons or who purchase water through interconnection in excess of 100,000 gallons of water per day or more on a 30 day average to report their water use to DEP. <i>See also</i>, Water Resources and Planning Act (Act 220), 27 Pa.C.S. § 3118. |

| | |
|---|--|
| <p>Improve monitoring and standardize data reporting among State water conservation and efficiency programs</p> | <p>➤ Pennsylvania participates in the Great Lakes Regional Water Use Database process. Currently this process is administered by the Great Lakes Commission in consultation with the Council of Great Lakes Governors, to meet the goal of standardizing data reporting among the Jurisdictions. A reporting requirement has been imposed in the Commonwealth on all water uses over 10,000 gallons per day; and any water use for oil and gas development requires submission of a water management plan. Oil and Gas Act, 58 Pa. C.S. § 3211(m). Water Resources and Planning Act (Act 220), 27 Pa.C.S. §§ 3117; 3118. 25 Pa. Code §§ 110.201; 110.301.</p> |
| <p>Develop science, technology and research</p> | <p>➤ DEP plans to continue to seek the assistance of Pennsylvania Sea Grant and Penn State University to focus on developing science, technology, and research in the Great Lakes Basin.</p> |
| <p>Develop education programs and information sharing for all water users</p> | <p>➤ Water Resources Planning Act (Act 220), 27 Pa.C.S. §§ 3117; 3120, authorizes DEP to build capacity of the water use reporting system to develop a program for water users to record their voluntary water conservation and efficiency efforts.</p> <p>➤ Pennsylvania is considering new ways to increase water conservation and efficiency awareness and enhance commitments made in Resolution 5 of the Compact Council and Resolution 6 of the Regional Body. DEP plans to continue to seek the assistance of Pennsylvania Sea Grant and Penn State University to increase the level of water conservation and efficiency outreach and education in the Great Lakes basin and promote an existing Penn State Extension website for water conservation and continue to publish articles in the Erie Times News In Education series regarding Water Conservation, particularly as it applies to the Lake Erie watershed.</p> <p>➤</p> |

5. Description of the State or Provincial Water conservation and efficiency program implementation timeline and status.

- a. With the completion of a pilot training session on AWWA Water Audit procedures to a number of public water suppliers in PA’s Great Lakes area, DEP is exploring opportunities during 2016 towards continuing and expanding the education course that was rolled out state-wide beginning in 2014 that targeted smaller water systems with information on water leaks and losses and an introduction in the AWWA Water Audit process. An additional course is being considered that would go beyond introductory level topics into specific system

- level training on conducting actual water audits. This training will help Pennsylvania meet its conservation and efficiency goals through reductions in leakage and increased efficiencies by public water suppliers.
- b. Penn State University has Federal designation and support from USGS as the state's official water resources research center. A possible initiative under consideration is working with Penn State University through Penn State Agricultural Extension offices, Pennsylvania Sea Grant, and the Water Resources Research Center to develop an outreach and educational program for the Great Lakes basin.
 - c. DEP created and convened the Lake Erie Water Conservation Planning Team to build local capacity in the planning and implementation of water conservation events and initiatives. The Team consists of members from state, county, and local governments as well as local non-profit, non-governmental organizations.
 - d. In 2016, DEP will be working towards implementing Goal No. 7 (Facilitating a Governor's Water Conservation and Efficiency Award Program), by evaluating the promotion of water conservation and efficiency successes through the current Governor's Award for Environmental Excellence. This award is open to any Pennsylvania business, farm, government agency, educational institution, non-profit organization and individual that have created, or participated in the development of a project that promotes environmental stewardship and economic development in the state. Information on the 2015 awards may be found at: <https://www.governor.pa.gov/governor-wolf-announces-2015-environmental-excellence-award-winners/>

PA Great Lakes Reported Water Withdrawals

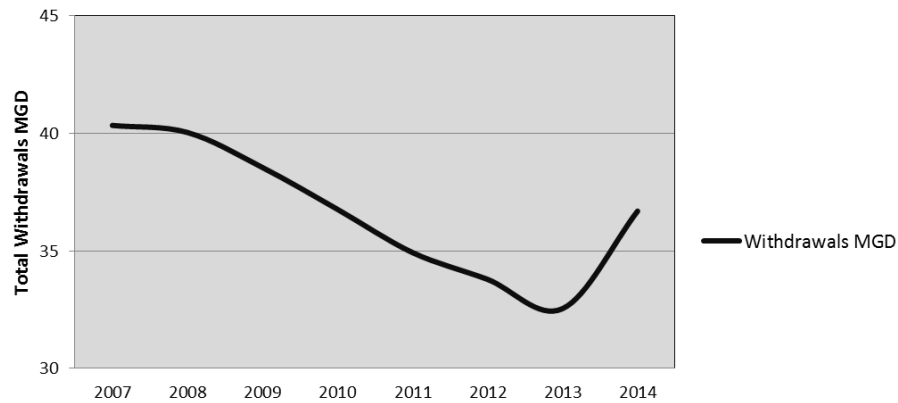


Chart: Withdrawals, Diversions and Consumptive Use 2014

| Sector | Withdrawals | | | | Diversions | | Consumptive Use |
|--|-------------|------|------|-------|------------|------------|-----------------|
| | GLWS | OSW | GW | TOTAL | Intrabasin | Interbasin | |
| Public Water Supply | 28.24 | 0.1 | 1.93 | 30.27 | 0 | 0 | 3.03 |
| Self-Supply Commercial & Institutional | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Self-Supply Irrigation | 0 | 0.06 | 0 | 0.07 | 0 | 0 | 0.06 |
| Self-Supply Livestock | 0 | 1.89 | 1.36 | 3.24 | 0 | 0 | 2.6 |
| Self-Supply Industrial | 2.74 | 0 | 0 | 2.74 | 0 | 0 | 0.27 |
| Self-Supply Thermoelectric Power Production (Once-through cooling) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Self-Supply Thermoelectric Power Production (Recirculated cooling) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Off-Stream Hydroelectric Power Production | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| In-Stream Hydroelectric Water Use | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Self Supply | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 30.98 | 2.05 | 3.29 | 36.32 | 0 | 0 | 5.96 |

In millions of gallons per day

Water Sources: Great Lakes surface water (GLSW), other surface water (OSW) and groundwater (GW)

Note: Values as shown submitted to Great Lakes Commission and should be considered preliminary until publication.

Consumptive use: that portion of water withdrawn or withheld from the Great Lakes basin and assumed to be lost or otherwise not returned to the Great Lakes basin due to evapotranspiration, incorporation into products or other processes

Diversión: a transfer of Water from the basin into another watershed, or from the watershed of one of the Great Lakes into that of another by any means of transfer, including but not limited to a pipeline, canal, tunnel, aqueduct, channel, modification of the direction of a watercourse, a tanker ship, tanker truck or rail tanker but does not apply to water that is used in the basin or Great Lakes watershed to manufacture or produce a product that is then transferred out of the basin or watershed (Agreement Article 103; Compact Section 1.2)

Intrabasin transfer: a transfer of water from the watershed of one of the Great Lakes into the watershed of another Great Lake (Agreement Article 103; Compact Section 1.2)

Mgd: million gallons per day

Principal facility: facilities withdrawing in excess of the Great Lakes Charter uniform trigger level of 100,000 U.S. gallons/day (380,000 liters/day) averaged over a 30-day period. A principal facility is determined by its total withdrawal (or consumption) from all sources combined (Great Lakes surface water, other surface water, and groundwater). The combined withdrawals (or consumption) of separate wells or operations undertaken by the same facility or company will be evaluated separately for the purpose of determining principal facility status unless those operations are covered under the same registration (or permit) or are physically contiguous. Principal facilities are a subset of all facilities in the database.

Withdrawal amount: water removed or taken from surface or groundwater (including hydroelectric use)