



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION



Compacts and Commissions Office

# **Citizens Advisory Council**

## ***DEP Great Lakes Program***

*“Working with binational, interstate, and local partners toward effective management of the Great Lakes.”*

October 2019

# DEP Great Lakes Program

- Located at the Tom Ridge Environmental Center at Presque Isle State Park.
- Co-located with DEP Northwest Region Waterways and Wetlands technical staff covering an array of environmental technical and policy areas.
- A focus on Great Lakes water quality and linking the community with the resource.
- Forming community partnerships to encourage municipal and county cooperation and protect the environment.



*Photo Credit: Pennsylvania DCNR*

# Meeting Regional Commitments



*Photo Credit: NASA -Taken by astronaut Drew Feustel on the ISS on May 3, 2018. From Wikimedia Commons.*

- Coordinate with U.S. and Canadian federal agencies, other states and provinces to address water use and quality challenges.
- Work within the Great Lakes governance structures to assure PA has a strong voice.
- Develop water and land protection programs and prioritizing funding.
- Fulfill a role in the continued development of stronger communities both now and in the future.

# The Great Lakes Basin and PA

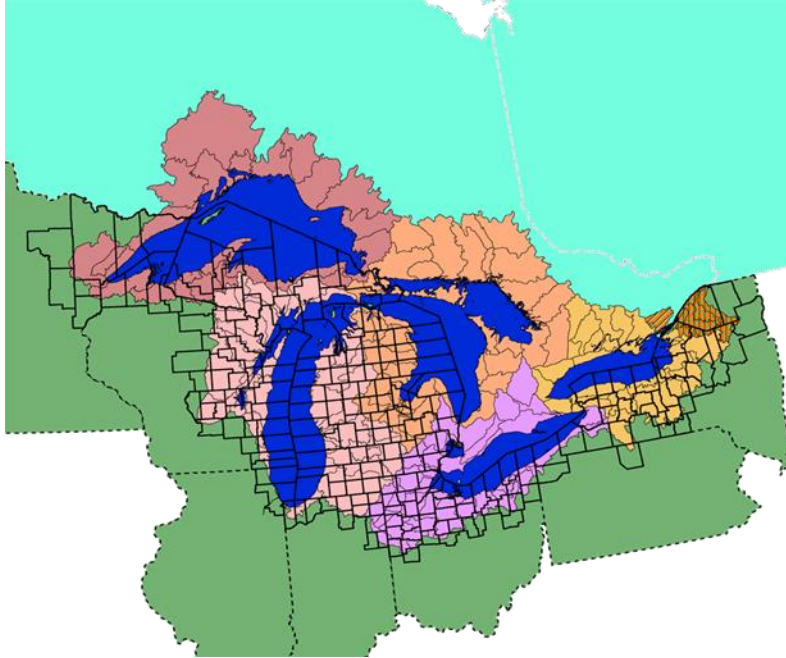


Photo Credit: United States Environmental Protection Agency

- 511 square miles of watershed.
- 77 miles of coastline.

Pennsylvania Lake Erie Sub-Watersheds

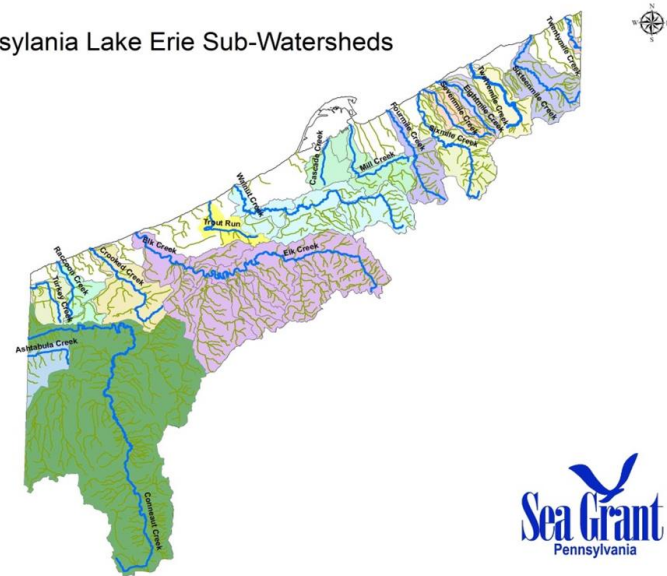


Photo Credit: Pennsylvania Sea Grant

# Great Lakes Water Quality Agreement History

- ***First GLWQA signed between US and Canada in 1972***
  - Focused on reducing algae through a coordinated approach to reducing phosphorus inputs.
  - Established basin-wide water quality goals and formed the Great Lakes Water Quality Board and Research Advisory Board.
- ***GLWQA of 1978:***
  - Reaffirmed and replaced the 1972 Agreement.
  - Focused on an “ecosystem approach” with an end goal of restoring and maintaining chemical, physical, and biological integrity of the Great Lakes.
  - Included additional emphasis on toxic substances.

# GLQWA History

- **2012 Amendments:**

- Reorganized how Agreement functions and methods to address emerging issues. Organized into Articles and Annexes.
- Emphasized General and Lake Ecosystem Objectives.
- Created the Great Lakes Executive Committee to oversee progress on water quality protection and restoration efforts.

1972	1978	1983	1987	2012
<ul style="list-style-type: none"><li>• Phosphorus loadings</li><li>• Visible pollution</li></ul>	<ul style="list-style-type: none"><li>• Persistent toxic substances</li><li>• Ecosystem approach to management</li></ul>	<ul style="list-style-type: none"><li>• Updated phosphorus reduction strategies</li></ul>	<ul style="list-style-type: none"><li>• Remedial Action Plans for Areas of Concern</li><li>• Lakewide Management Plans</li></ul>	<ul style="list-style-type: none"><li>• Modernized</li><li>• Enhanced governance</li><li>• New and/or expanded issue annexes</li></ul>

# GLWQA 2012 – Annexes



- Special section that deals with a specific topic.
- There are 10 Annexes in the 2012 Agreement.
- Aside from AOCs, the **Nutrients Annex** is a high-interest topic on the Great Lakes, with focus on Lake Erie.

# Lake Erie Phosphorus Status

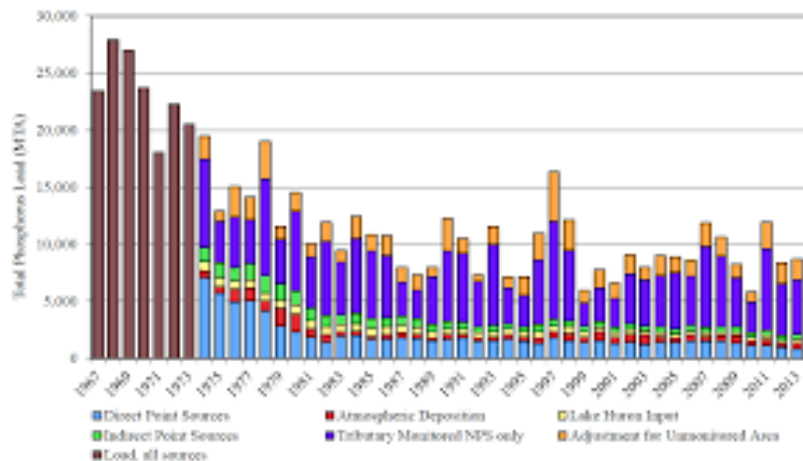
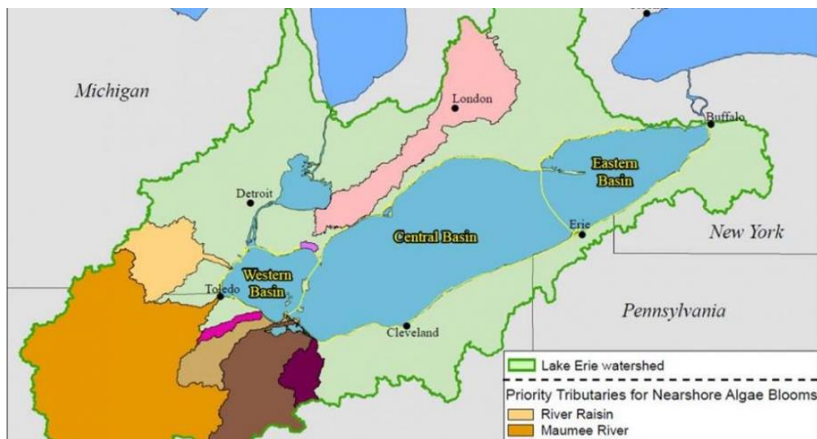


Photo Credits: United States Environmental Protection Agency

- Major sources include Maumee River Basin and other priority tributaries.
- Concerned with algal blooms in Western Basin and hypoxia (lack of oxygen) in the Central Basin.
- Loading trended downward, but is dependent on precipitation during March – June and phosphorus runoff.
- 2019 Western Basin HAB extent expected 7.5 out of 10.
- Won't affect Pennsylvania.

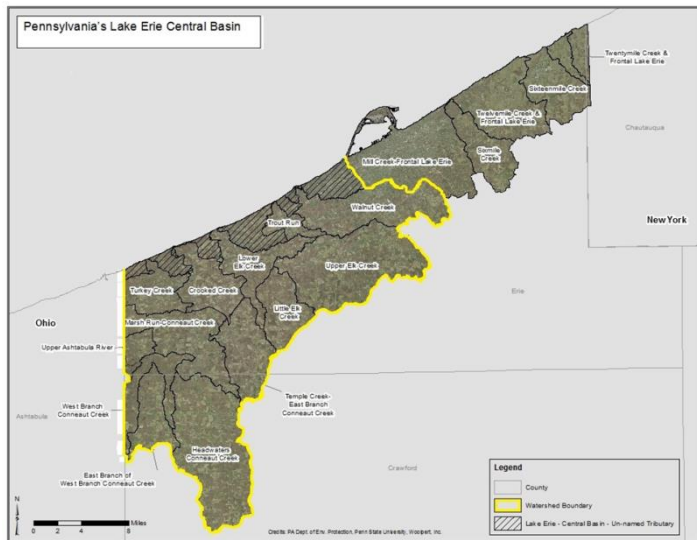


# PA Phosphorus Reduction Domestic Action Plan

Commonwealth of Pennsylvania



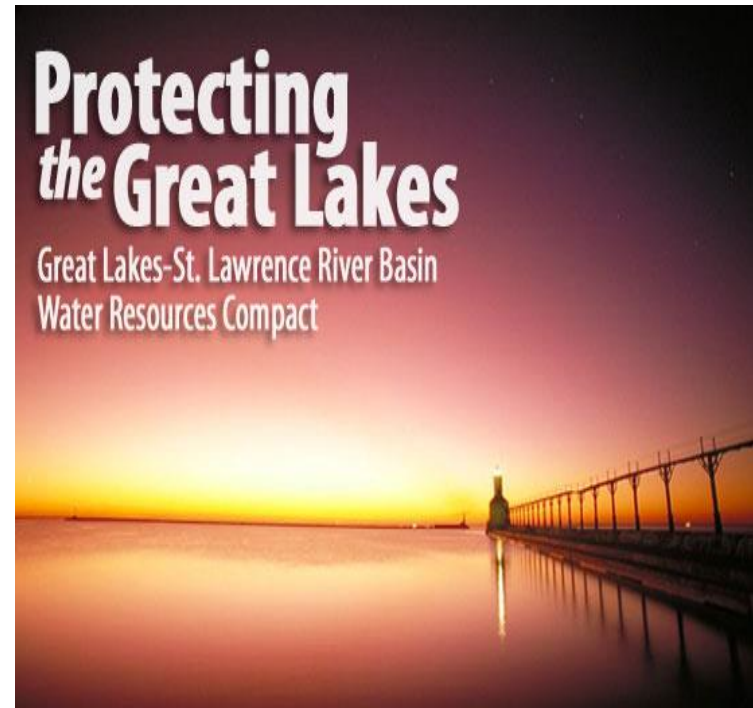
## Final Pennsylvania Lake Erie Phosphorus Reduction Domestic Action Plan



- Covers 375 square miles of watershed that contributes to the Lake Erie Central Basin.
- Examines tributaries, land uses, point source and non-point source loading characteristics.
- Identifies data needs/gaps.
- Identifies programs to help reduce phosphorus from Pennsylvania tributaries and sources.
- PA only contributes approximately 0.51% of the Total Phosphorus to LE Central Basin.

# Great Lakes and St. Lawrence River Basin Water Resources Compact and Agreement

- Governs water use and diversions within the Great Lakes Basin. Designed to protect resource and reduce conflict between political jurisdictions.
- **Compact** is signed between the states, ratified by Congress, implemented by states.
- **Agreement** is between states AND provinces. Has same language as the compact.
- Both were formalized in 2008.



*Photo Credit: Great Lakes & St. Lawrence Governors and Premiers*

# Compact and Agreement Provisions

- Created Water Resources Council (Compact Council) and the Regional Body.
- Pennsylvania maintains two alternates and designees of Governor Wolf.
- Each state must implement a water resources inventory, registration and reporting program.
- Each state must implement a water conservation and efficiency program.



*Photo Credit: Great Lakes & St. Lawrence Governors and Premiers*

# Great Lakes and St. Lawrence River Basin Water Resources Compact and Agreement



- All new or increased withdrawals must meet criteria.
- Ban on all new or increased diversions from the basin with exceptions:
  1. Straddling Communities
  2. Intra-Basin Transfers
  3. Straddling Counties
- Established Regional Review process for evaluating withdrawals and diversion exceptions.

# Pennsylvania Lake Erie Basin and Water Use

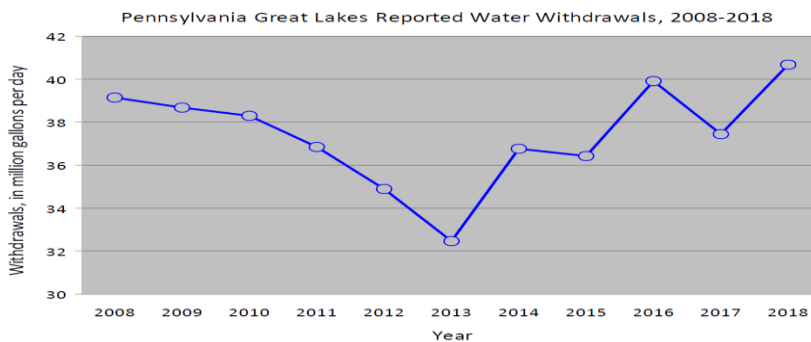
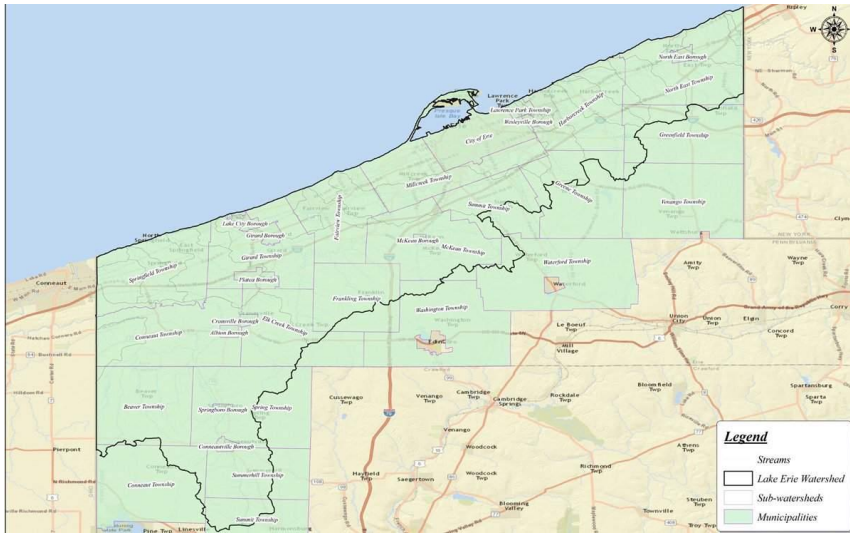


Photo Credits: PA DEP

- Water users in the Pennsylvania Lake Erie Basin currently use approximately 40.6 MGD.
- Erie Water Works largest public water utility - serves 221,000 customers approximately 25 MGD.
- No immediate or mid-term diversion concerns.
- Pennsylvania conducts a Water Conservation and Efficiency Program.
  - Water Operator Education
  - Childrens Water Festival

# Great Lakes Restoration Initiative (GLRI)



- Federal program administered by US EPA.
- Accelerates efforts to protect and restore the largest system of fresh surface water in the world.
- Provided over \$2 Billion to assist in restoration activities.
- Helped delist Presque Isle Bay from the Great Lakes Areas of Concern.
- Provides capacity on the state level for Great Lakes functions and programs.
- Impactful in Pennsylvania.



# GLRI Partners – Erie County Conservation District



## VinES PROGRAM

Pennsylvania Vested in  
Environmental Sustainability

- Cooperative environmental and economic sustainability program.
- Works directly with vineyard owners and farmers to evaluate operations through an assessment workbook.
- Physical and operational improvements are identified.
- Cost-sharing of on-the-ground improvements.
- Recognition of vineyards successfully completing sustainability program.

## Small Flow Treatment Facility Program



- Allows for geospatial understanding of the scope of SFTF in the Lake Erie Basin.
- Provides for owner outreach and education.
- Enables inspection and sampling of SFTF outfalls into our streams.
- Helps owners identify pollution causes and fix systems to improve public health.



# GLRI Partners – Erie County Department of Planning

## Municipal Stormwater Assistance Program



- Increases the capacity of MS4s to understand infrastructure.
- Digitizes infrastructure under common format and allows for analysis.
- Allows for meeting permit conditions through economies of scale.
- Protects water quality and provides for sustainable municipal management of infrastructure.

# GLRI Partners – Regional Science Consortium

## Harmful Algal Bloom Monitoring Program



- Provides for monitoring and detection of HABs along Pennsylvania's shores.
- Increases public awareness and public safety.
- Enhances scientific understanding of how our systems react and respond.
- Informs management actions to improve water quality.

# GRLI Partners – Pennsylvania Sea Grant

## Lake Erie Environmental Forum



- Opportunity to learn about public policy issues in the Great Lakes and Pennsylvania's role.
- Provide input on contemporary management issues.
- Increase awareness of actions across the Great Lakes.
- Learn about local programs and partners.
- Become involved!



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