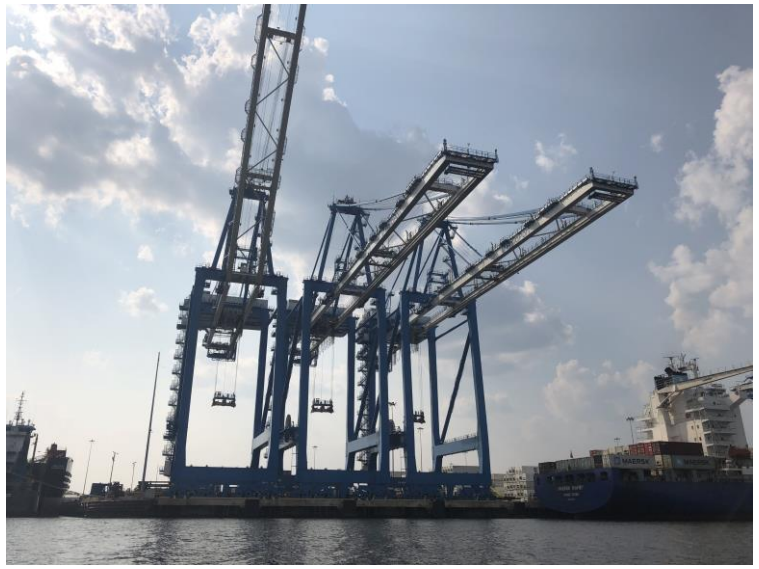


Managing Our Shared Water Resources

Kristen Bowman Kavanagh, P.E.
Executive Director

David Kovach, P.G.
Manager of Project Review

Water Resources Association of the Delaware River Basin – Value of Water Technical Conference

University of Delaware, DE
October 15, 2025

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

The Delaware River Basin Commission is a federal-interstate Compact agency established in 1961.

Our Mission

Manage, protect, and improve the water resources of the Delaware River Basin.

Our Vision

Provide trusted, effective, and coordinated management of the Basin's shared water resources.

The Delaware River Basin Compact charges the Commission to balance progress and protection.

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

The Basin state Governors and the USACE NAD Commander are the DRBC Commissioners.

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

Delaware Governor, Matt Meyer,
DRBC Chair

Pennsylvania Governor, Josh Shapiro
DRBC Vice Chair

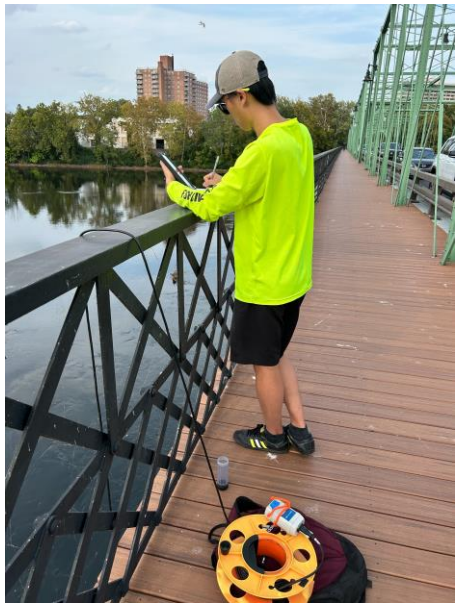
New Jersey Governor, Phil Murphy

North Atlantic Division Commander
US Army Corps of Engineers, Col. Jesse Curry

New York Governor, Kathy Hochul

Staff effectuate Commission policies & programs with a limited budget.

- Professional scientists, engineers, and planners
- 40 budgeted staff (10% vacancy rate)
- FY2025 budget = $9 million
- Located in West Trenton, NJ



Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

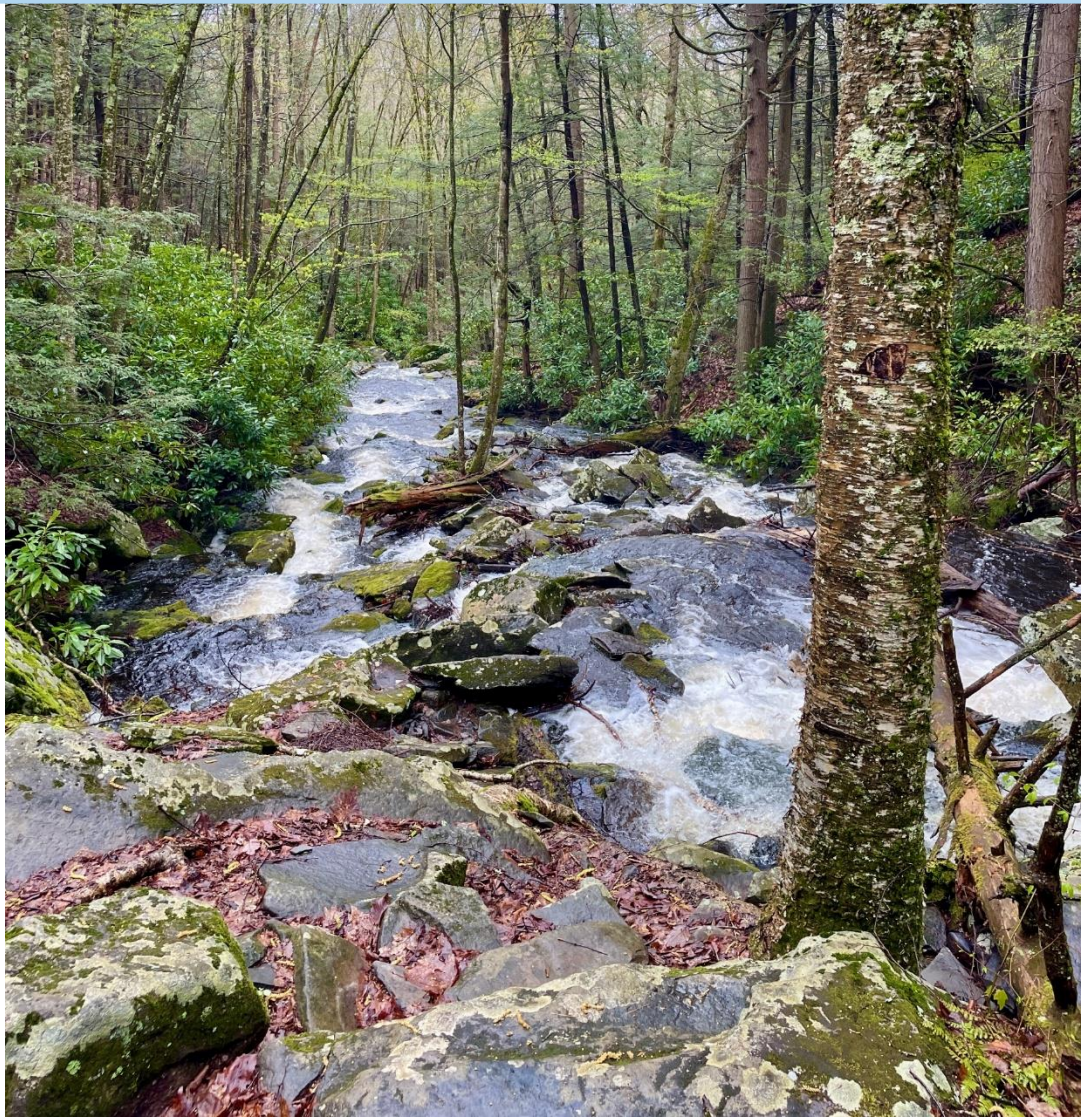
DRBC's programs address two broad topics.

WATER QUANTITY

An adequate and sustainable supply of water

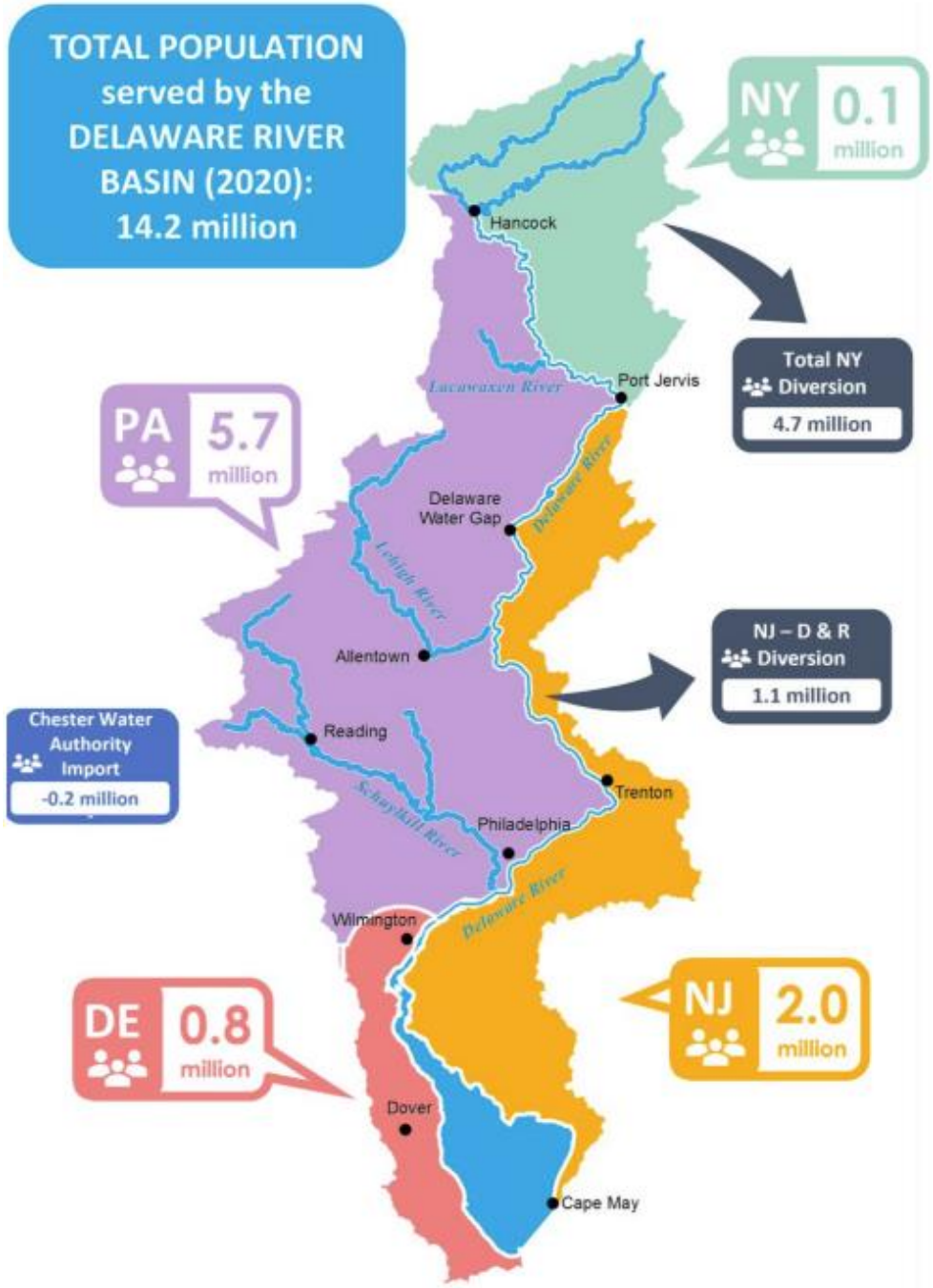
WATER QUALITY

Clean and healthy water resources



The waters of the Basin are a critical resource for the mid-Atlantic region:

- Drinking water for >14 million people (~5% of U.S.)
- 2nd highest electric-producing watershed in the nation
- Largest freshwater port in U.S.
- Critical habitat
- Over $21B in economic value

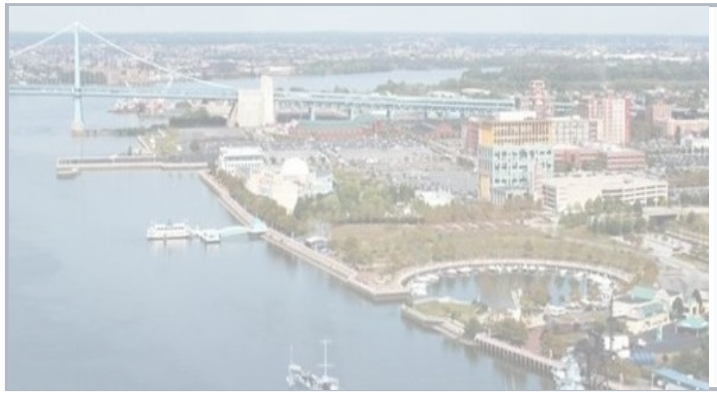


How is water used in the Basin?

How does DRBC regulate discharges & withdrawals?

What's next?

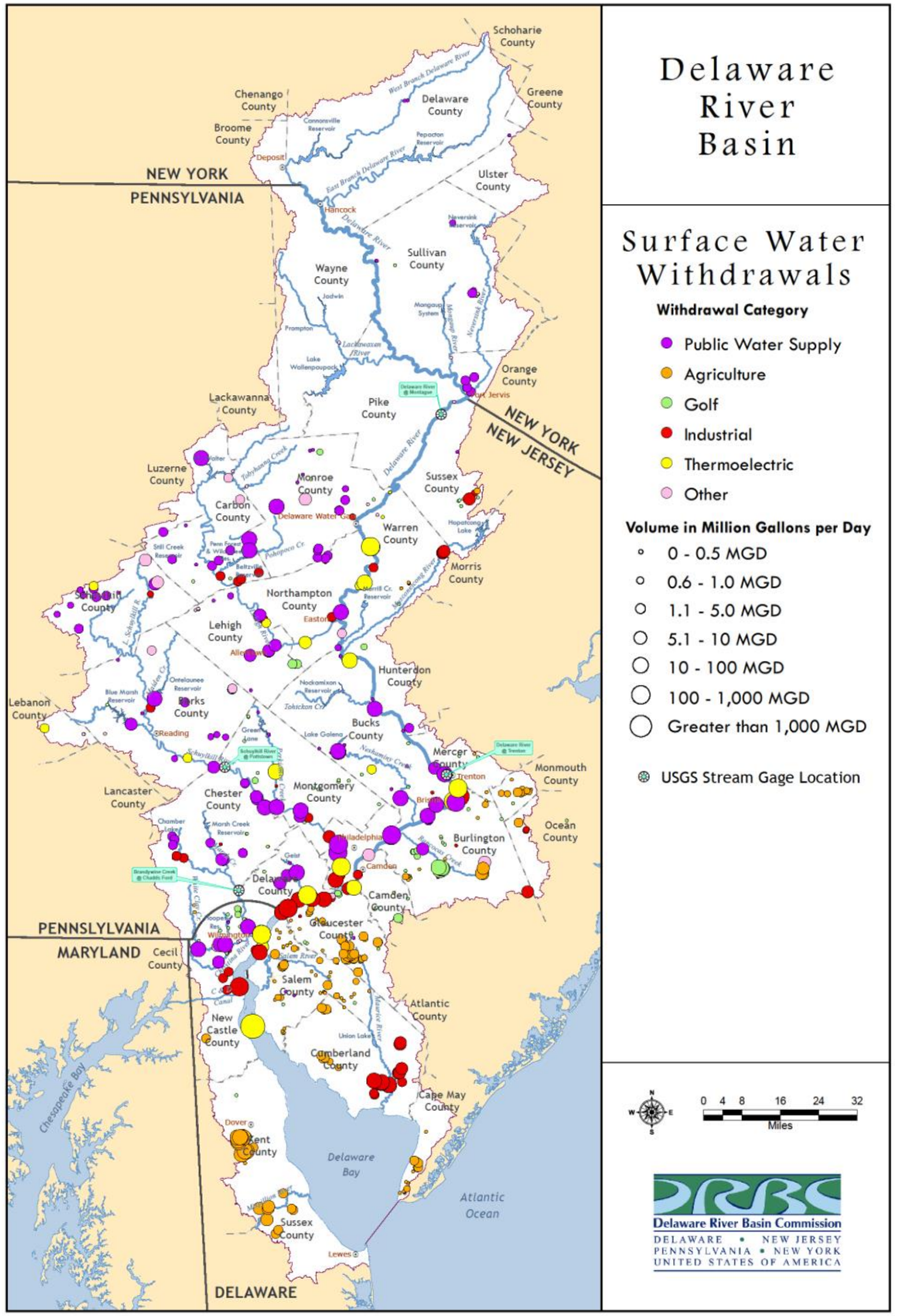
How is water used in the Basin?



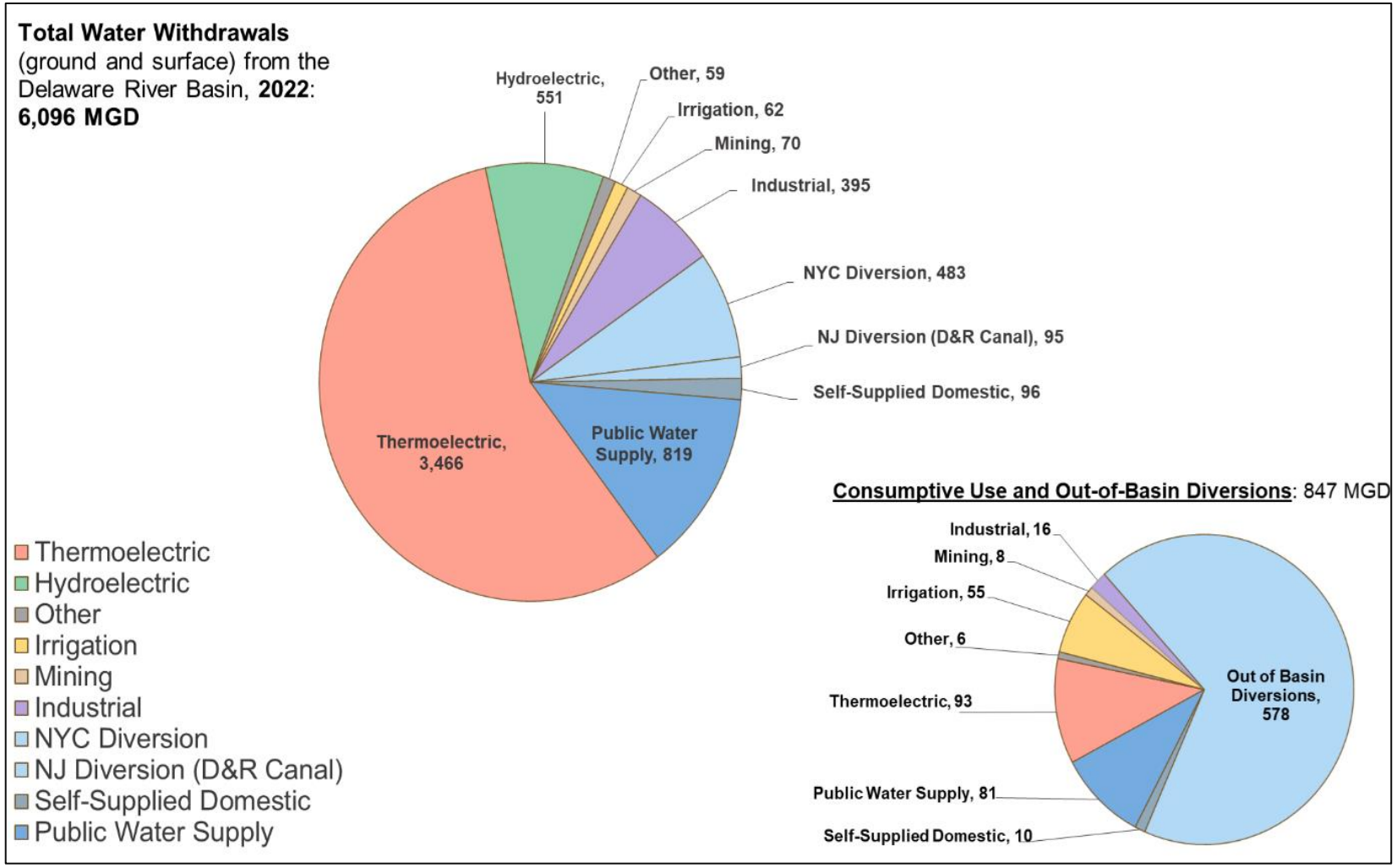
How does DRBC regulate discharges & withdrawals?

What's next?

Water withdrawals occur throughout the Basin for a variety of purposes.



Waters from the DRB are withdrawn for multiple – and sometimes competing – uses.



- 2022 withdrawals
  - ~6 BGD total
  - ~847 MGD consumptive use

Water is consumptively used when it is withdrawn and not returned to surface waters of the basin.

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

Since 1990 total water withdrawals in the Basin have decreased.

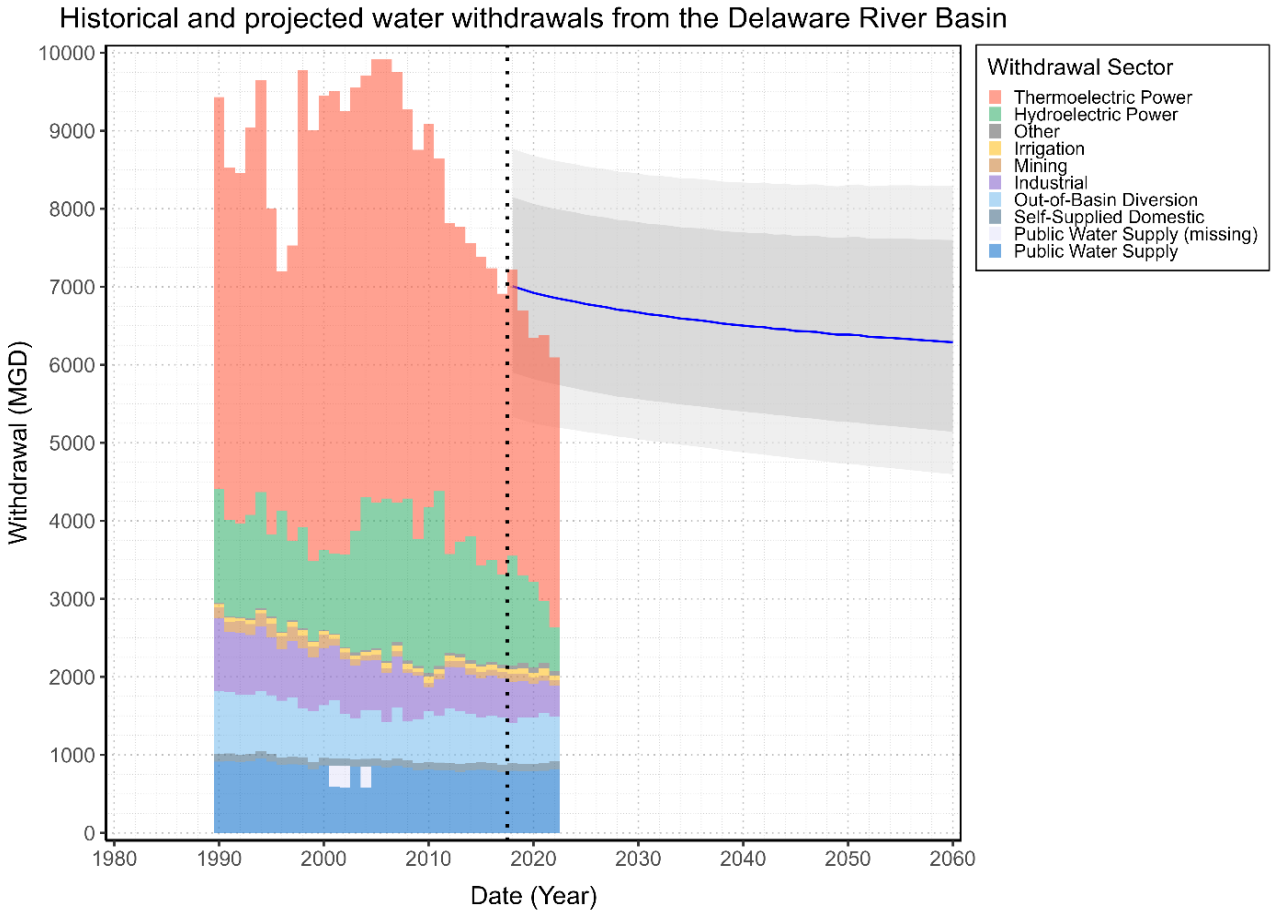


Figure 8. *Historical and projected water withdrawals from the Delaware River Basin, initially published in Thompson & Pindar, 2021 through 2017. The predictive interval shown represents the aggregated predictive intervals for all sectors. The figure has been amended with complete years of data through 2022.*

Water Withdrawals 1990 - 2022

~ 10,000 MGD in 2005 (10 BGD)

~ 6,000 MGD in 2022 (6 BGD)

~ 4,000 MGD decrease (4 BGD)

Decrease Projected to 2060

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

Consumptive water use in the Basin has also decreased since 1990.

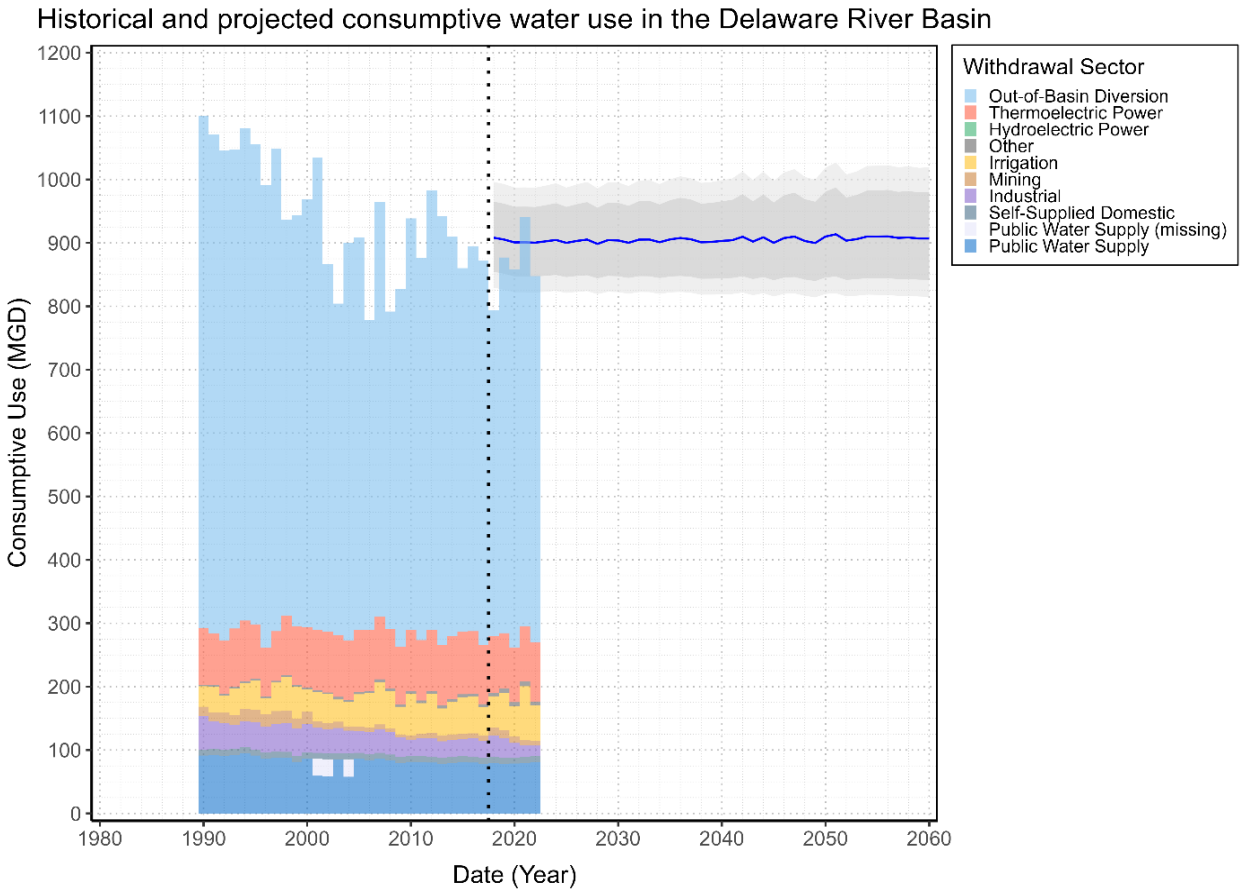


Figure 9. *Historical and projected consumptive use of water in the Delaware River Basin, initially published in Thompson & Pindar, 2021 through 2017. The predictive interval shown represents the aggregated predictive intervals for all sectors, excluding the out-of-Basin diversions which did not have a calculated predictive internal. The figure has been amended with complete years of data through 2022.*

Consumptive Water Use

~ 1,100 MGD in 1990 (1.1 BGD)

~ 850 MGD in 2022 (0.850 BGD)

~ 300 MGD decrease (0.3 BGD)

Projected to remain constant

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

Projected withdrawal trends vary by sector.

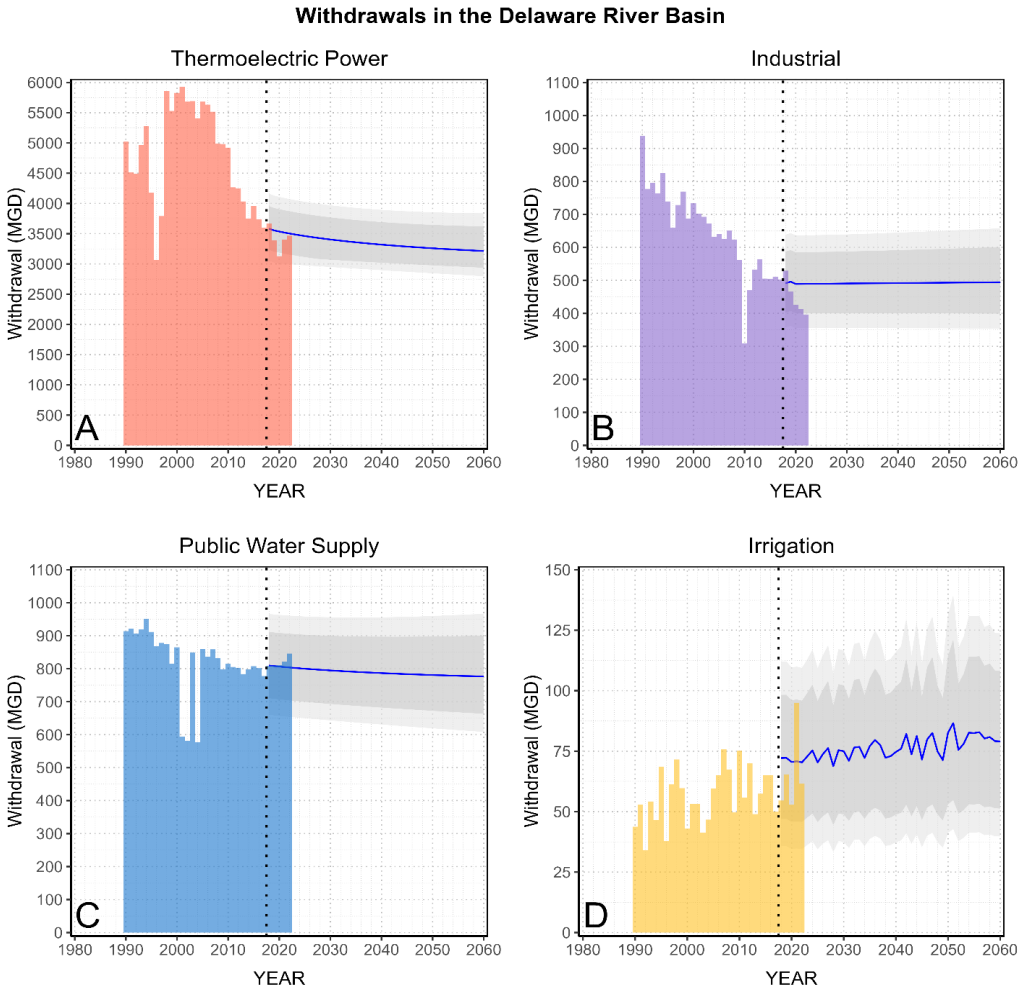


Figure 10. *Historical and projected water withdrawals for the major sectors within the Delaware River Basin. These data used to generate these figures have been adopted from Thompson & Pindar, 2021 through 2017; however, the historical data has been updated through 2022.*

Notes

- Thermoelectric at projection
- Industrial below projection
- PWS shows increase
- Irrigation shows increase

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

Data centers may be an emerging sector in the Basin with significant direct water demands.

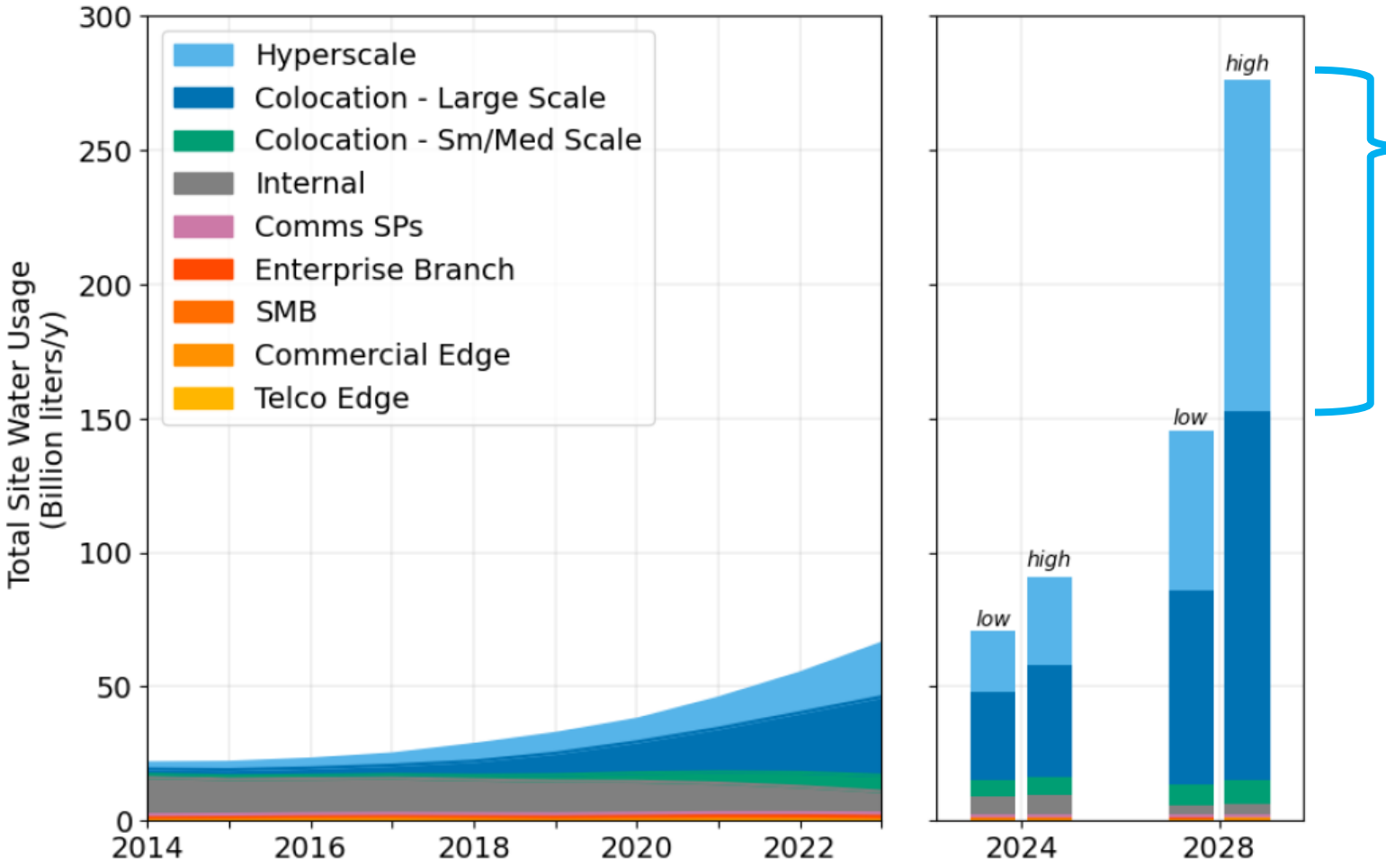
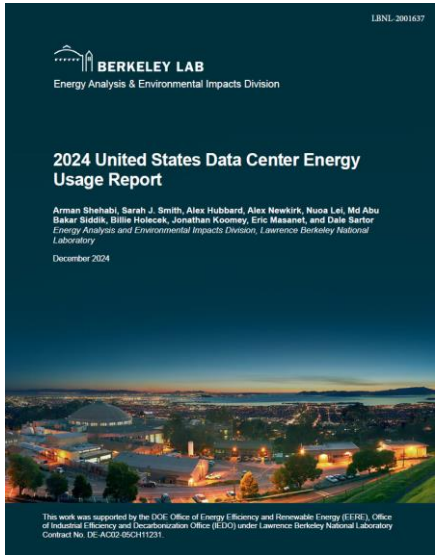


Figure 5.9. Direct water consumption by data center type.

40 -73 BGY for data centers in the U.S. – future data centers dominated by Hyperscale and Large Colocation



Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

https://eta-publications.lbl.gov/sites/default/files/2024-12/lbnl-2024-united-states-data-center-energy-usage-report.pdf?utm_source=substack&utm_medium=email

Electric consumption by data centers may have a significant indirect water footprint in the Basin.

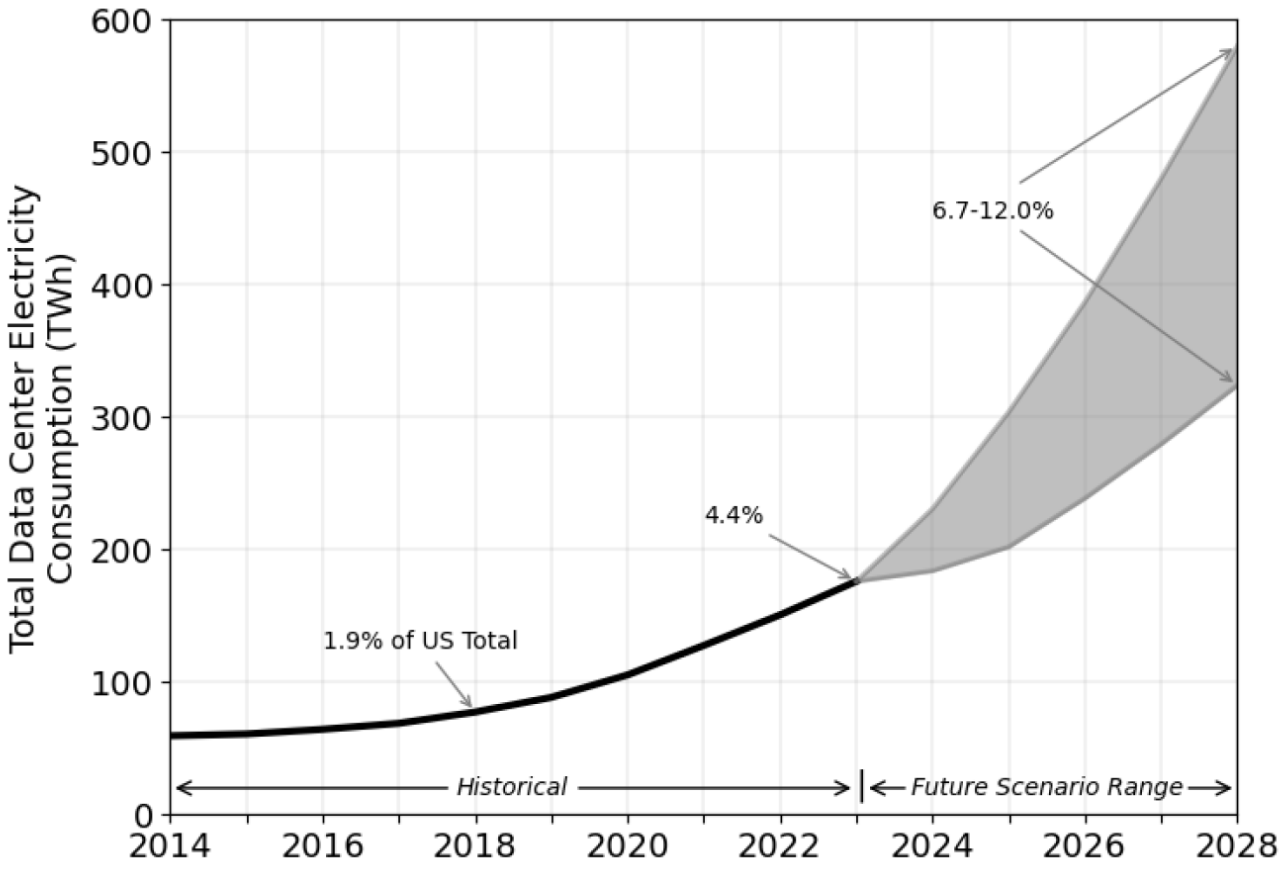
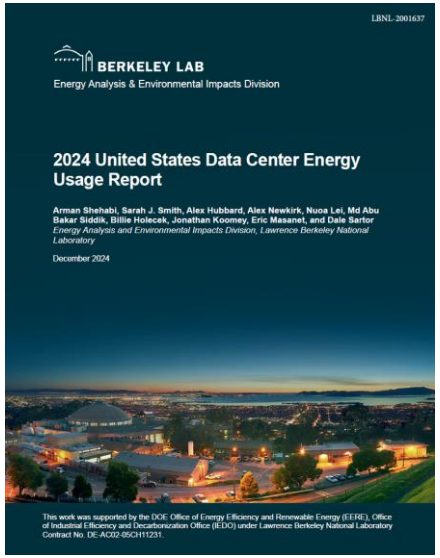


Figure ES-1. Total U.S. data center electricity use from 2014 through 2028.

Increase in electricity consumption may impact water withdrawals from thermoelectric generators in the Basin.



Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

https://eta-publications.lbl.gov/sites/default/files/2024-12/lbnl-2024-united-states-data-center-energy-usage-report.pdf?utm_source=substack&utm_medium=email

Work is underway to better understand water resources considerations for data centers in the DRB.

- Are water use trends changing?
- Do we have adequate protections for surface & ground water?
- Are our drought management plans sufficient?
- What are potential impacts to wastewater discharges?

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

How is water used in the Basin?

How does DRBC regulate discharges & withdrawals?

What's next?

What projects are reviewable by the DRBC?

- Any project which may have a substantial effect on the water resources of the Basin (Compact, Section 3.8)
- 18 CFR 401.35 includes classifications of reviewable projects including WWTP discharges & withdrawals:
  - WWTP Discharges:
    - >=50,000 gpd design capacity
    - *Exception: >=10,000 gpd design capacity in Special Protection Waters (SPW)*
  - SW & GW Withdrawals:
    - >100,000 gpd during any consecutive 30-day period
    - *Exception: >10,000 gpd GW in SE PA Groundwater Protected Area*

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

Review of Projects may differ depending on Administrative Agreement (AA) with State.

- New Jersey – AA - under One Permit Program (2024)
- New York – AA - under One Permit Program (2016)
- Delaware – Administrative Agreement (2011)
- Pennsylvania – Administrative Agreement (1976)

NJDEP and NYSDEC have AA with DRBC under One Permit Program.

- Eligible projects include withdrawals and WWTP discharges in NJ and WWTP Discharges in NY.
- managed through **single, more efficient process** resulting in one approval (permit) issued by the state.
- Achieves same or improved environmental results

Does not change the authority and/or regulatory standards of the DRBC or state agency

What does the One Permit Process look like for discharges?

- Applies to Domestic and Industrial WWTPs:
  - >=10,000 gpd design capacity in Special Protection Waters (SPW)
  - >=50,000 gpd design capacity in Non-SPW
- **NJDEP and NYSDEC lead** agencies
- Regular collaboration between State and DRBC
- NJPDES/SPDES permit includes finding, based on DRBC staff's recommendation, that project does not substantially impair or conflict with DRBC Comprehensive Plan
- **One permit** – issued by State that includes State *and* DRBC requirements, relying on the most protective/stringent

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

What does the DRBC/NJDEP One Permit Program look like for withdrawals?

- Applies to Withdrawals of Surface Water or Groundwater:
- >100,000 gpd average over any consecutive day period
- **NJDEP lead** agency
- Regular collaboration between State and DRBC
- Water Allocation permit includes finding, based on DRBC staff's recommendation, that project does not substantially impair or conflict with DRBC Comprehensive Plan
- **One permit** – issued by State that includes State and DRBC requirements, relying on the most protective/stringent

What to expect in a One Permit Program permit?

- DRBC Recommendations within 30 days of issuance of pre-draft or draft permits
- Standard DRBC conditions in Permit
- **Additional effluent monitoring** for DRBC effluent limitations
- **Additional DRBC conditions or requirements** (PCB monitoring, toxicity or thermal mixing zone analysis, etc.)
- Section 3.8 FINDING statement

DNREC and DRBC have an Administrative Agreement.

- Eligible projects include withdrawals and WWTP discharges **not located in interstate waters (intrastate projects)**.
- Managed through **single, more efficient process** resulting in one approval (permit) issued by the state with all state requirements.
- Achieves similar environmental results.

Does not change the authority and/or regulatory standards of the DRBC or state agency

PADEP and DRBC have an Administrative Agreement (AA) for discharges & withdrawals.

- Old Agreement (1976)
- Any project can be covered under it, but it is generally onerous and not efficient.
- Exempts some projects from review entirely (mine drainage, sanitary landfills, M&R to existing projects, and extensions of water distribution systems).
- Working with PADEP to Update Agreement.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

Electric Generating and Cogenerating Facilities (Power producers) are regulated by DRBC under 18 CFR 401.35

- When consumptive use of water is >100,000 gpd over any 30-day period.
- “Water” includes anything purchased or withdrawn.

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

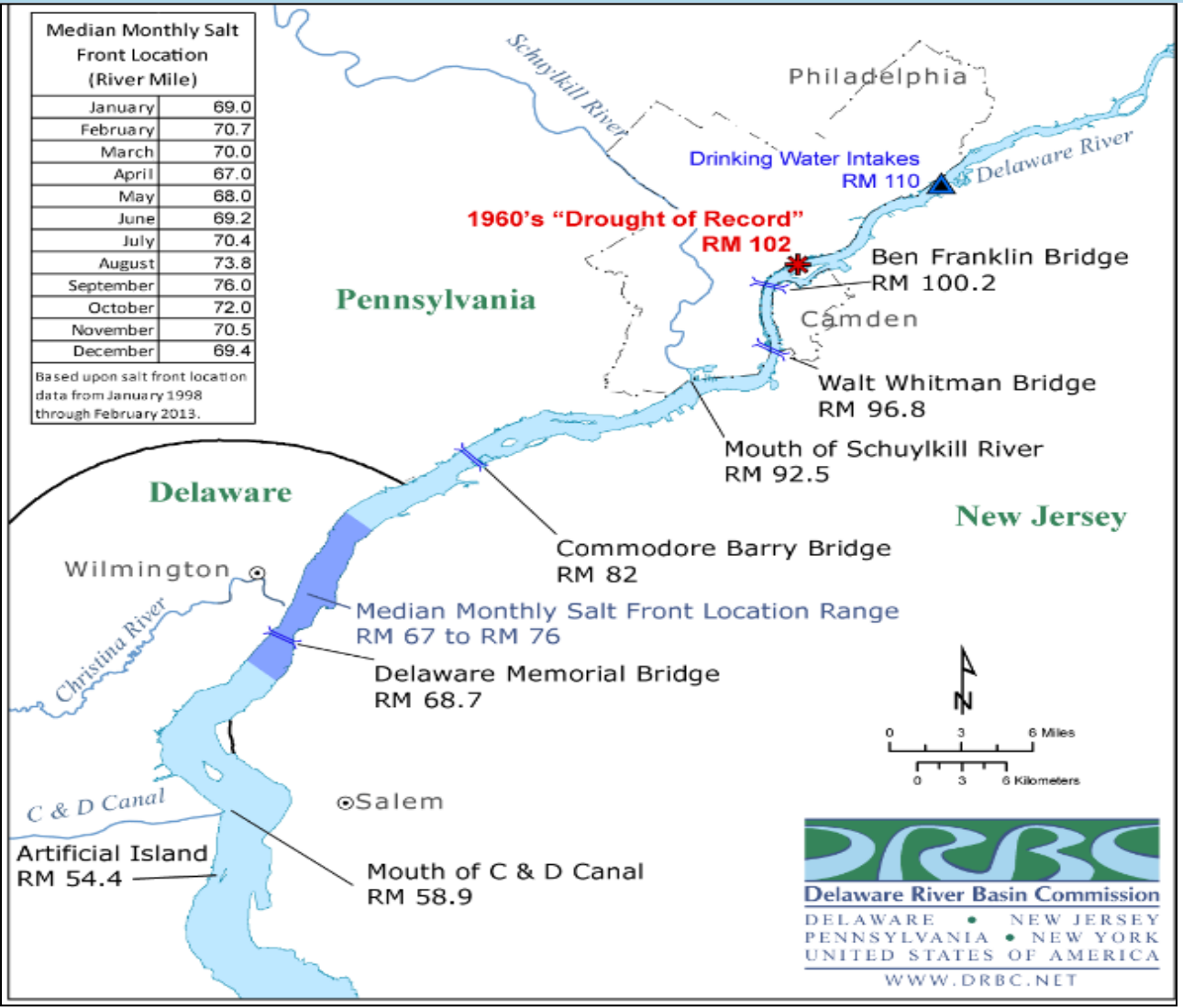
Power producers are required to mitigate their consumptive use during critical hydrologic conditions.

Acceptable replacement sources:

- groundwater not under direct influence of surface water
- imported water
- reservoir storage (other than Beltzville and Blue Marsh)

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

The goal of the Consumptive Use Replacement Policy is to increase Basin resiliency to droughts.

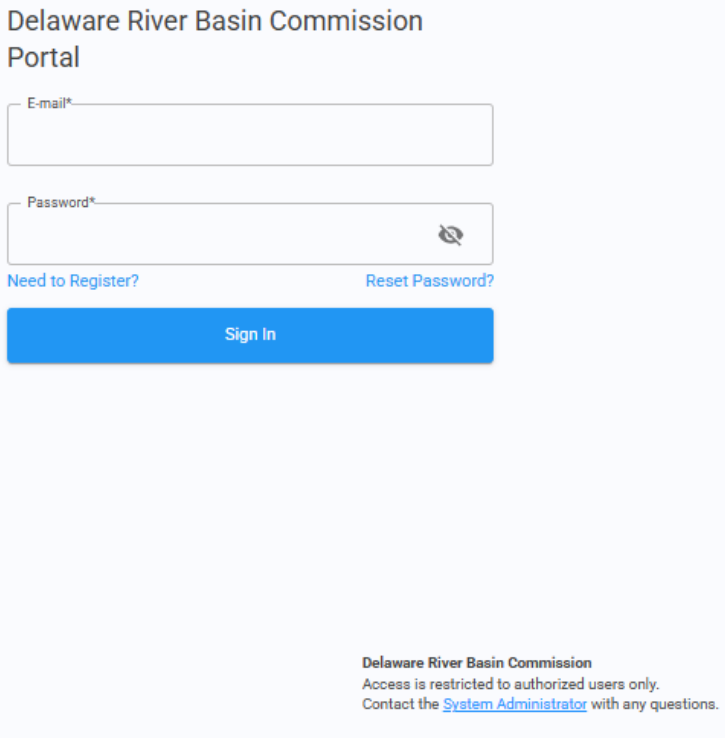


Benefits of policy:

- protect intakes in Estuary from salt encroachment
- ensure power generation does not exacerbate low flows
- avoid power curtailment during drought

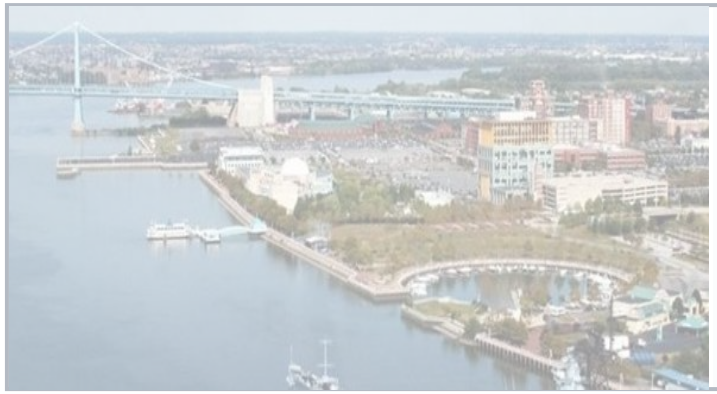
Keep an eye out in 2026 for DRBC's new online applicant portal.

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA



Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

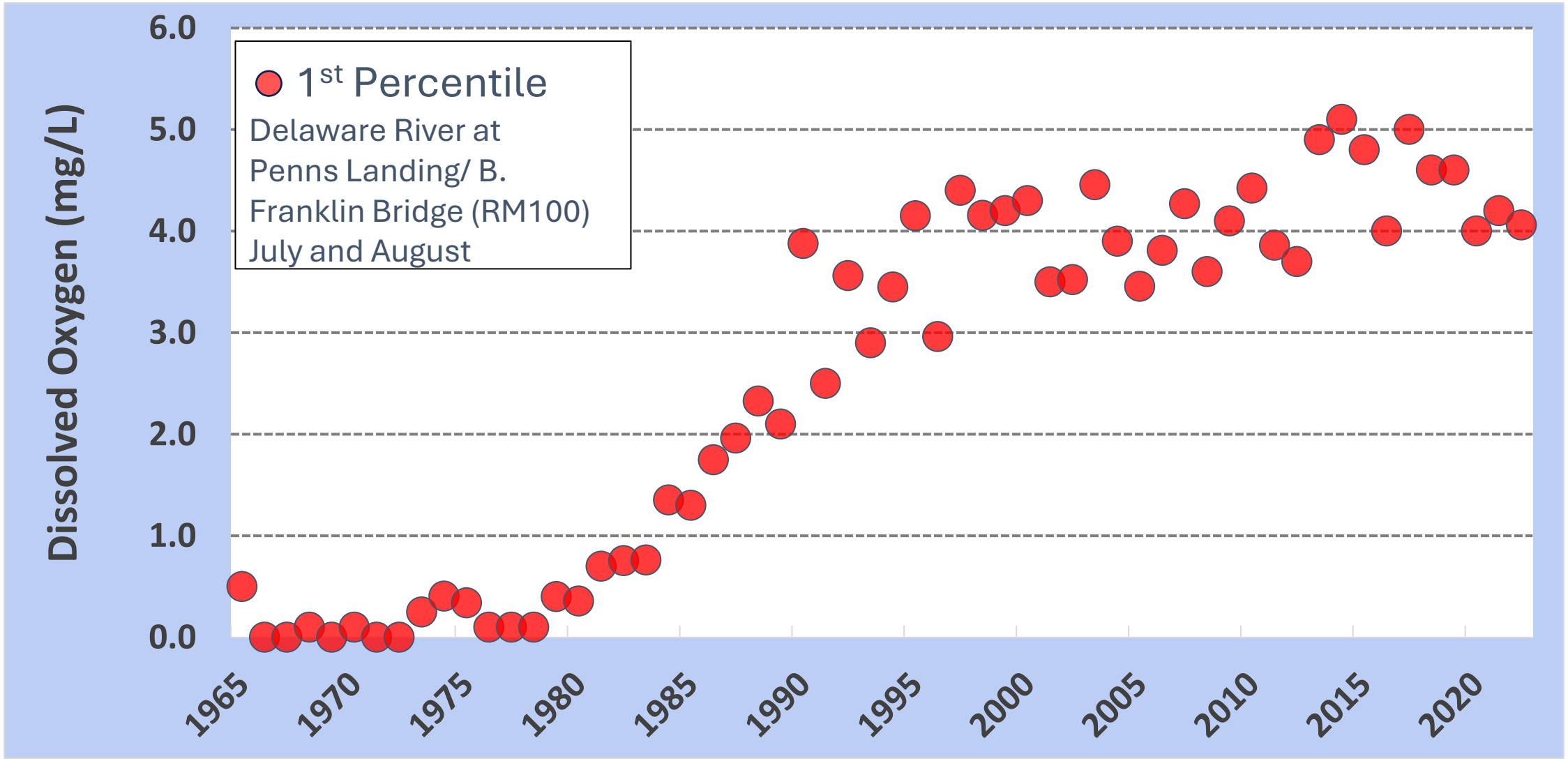
How is water used and managed in the Basin?



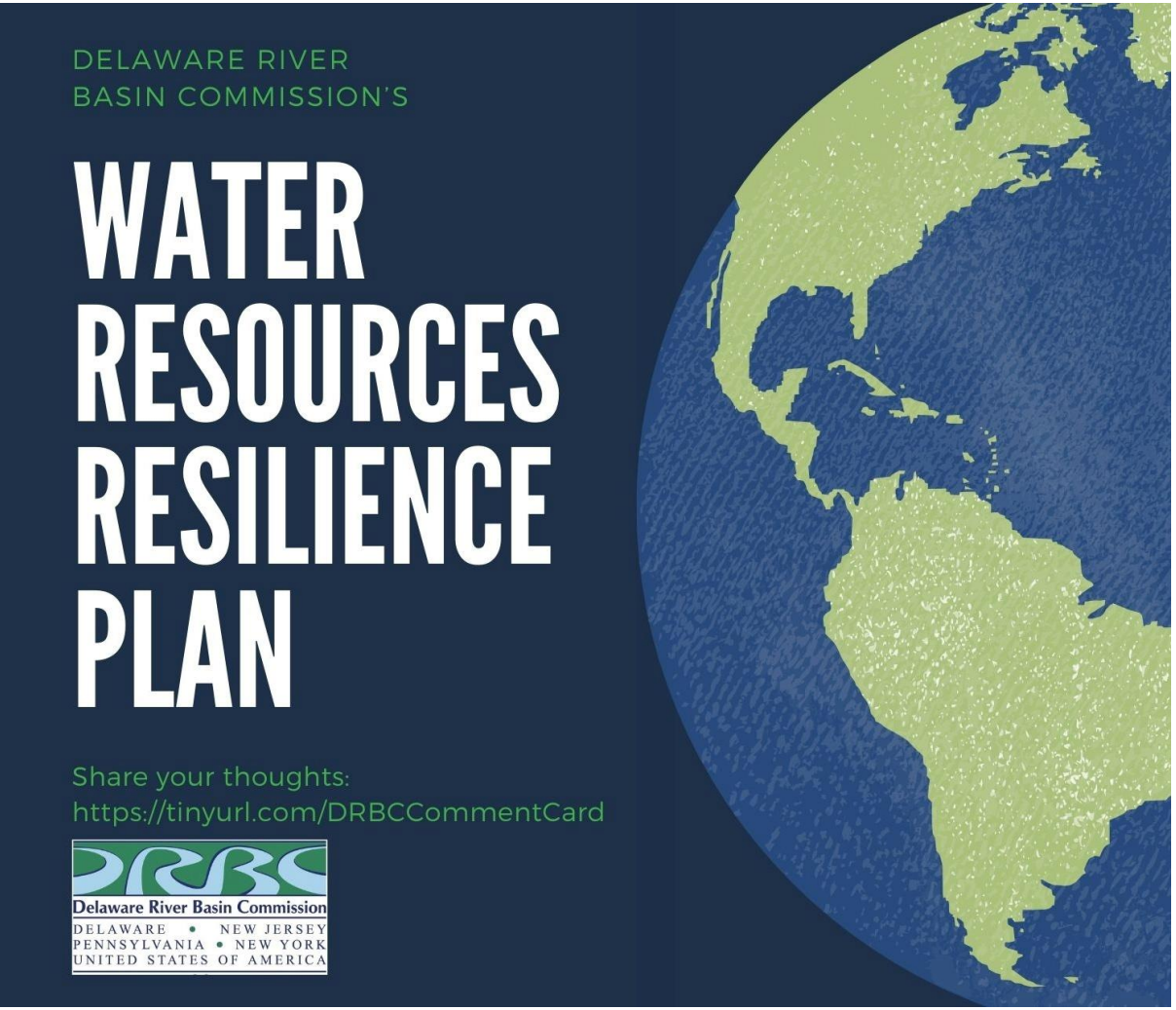
How does DRBC regulate discharges & withdrawals?

What's next?

DRBC will continue to support state co-regulators in implementing new EPA water quality criteria for DO.



DRBC is planning for water resources resilience.



- Climate change and extreme weather impacting Basin
- Phase 1 work underway
- Phase 2 begins next year
- Seeking public input

Scan the code to begin!

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

Check out our upcoming advisory committee meetings.

- Monitoring Advisory & Coordination Committee (MACC) – 12/9
- Regulated Flow Advisory Committee (RFAC) – 12/15
- Water Quality Advisory Committee (WQAC) – tbd (Dec)
- Advisory Committee on Climate Change (ACCC) – tbd (Dec)

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

Stay engaged with the DRBC.

Follow DRBC on Social:

- @drbc1961
- Delaware-River-Basin-Commission
- @drbc1961
- @DRBC_1961

Kristen Bowman Kavanagh, Executive Director

Kristen.B.Kavanagh@drbc.gov, 609.414.3302

David Kovach, Manager of Project Review

David.Kovach@drbc.gov, 609.477.7264