

Delaware River Basin Commission

DRBC Storage Feasibility Study

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Friends of the Upper Delaware River
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Photo: C. Haupt



Welcome to the Delaware River!

Fast Facts:

- Main stem is **330 miles long**
- Forms an interstate boundary over its entire length
- **Drains 13,539 square miles** in 4 states
- **13.3+ million people** (about 4% of the U.S. population) rely on the waters of the Delaware River Basin
- Water **withdrawal** in the Basin = **6.4 billion gallons/day**
- **Significant Exports:** NYC (up to 800 MGD) and NJ (up to 100 MGD)
- Longest, un-dammed U.S. river east of the Mississippi
- **Contributes over \$21B** in economic value



Delaware River Basin Commission Founded by Compact in 1961

■ Five Equal Members:

➤ Delaware



➤ New Jersey



➤ Pennsylvania



➤ New York



➤ Federal Government

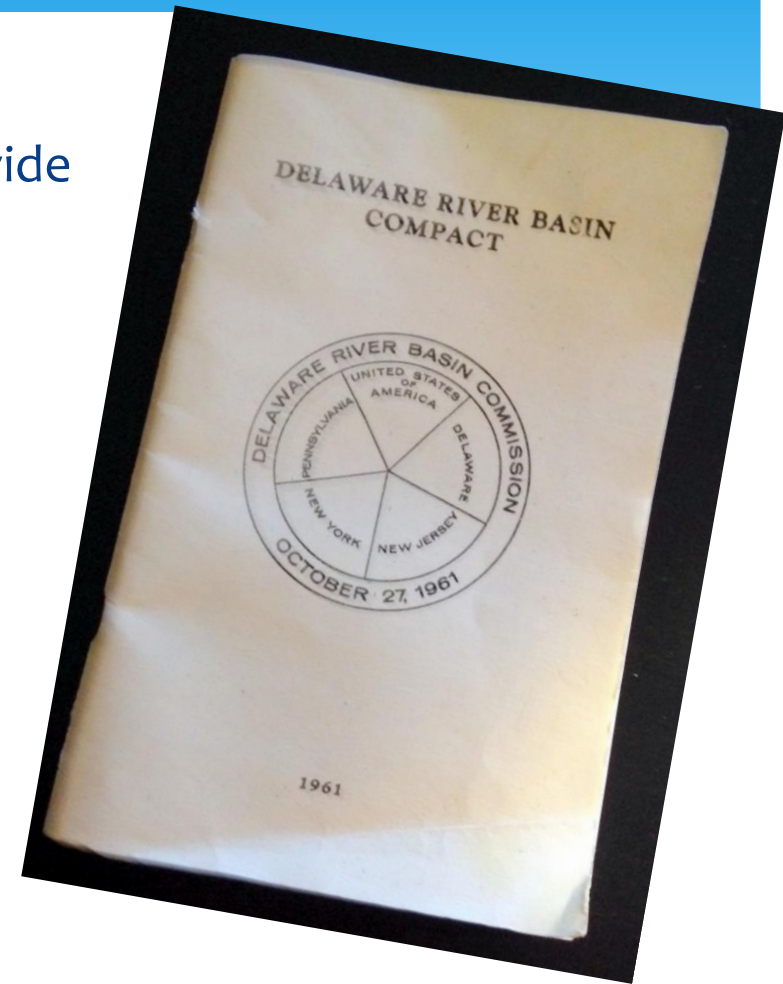


- Four Governors are the Commissioners
- Commissioner may select alternates
- Federal Commissioner is Commanding General, USACE, NAD
- Majority rules in most voting
- Meets quarterly

Note: New York City and Philadelphia are “advisors” and not members

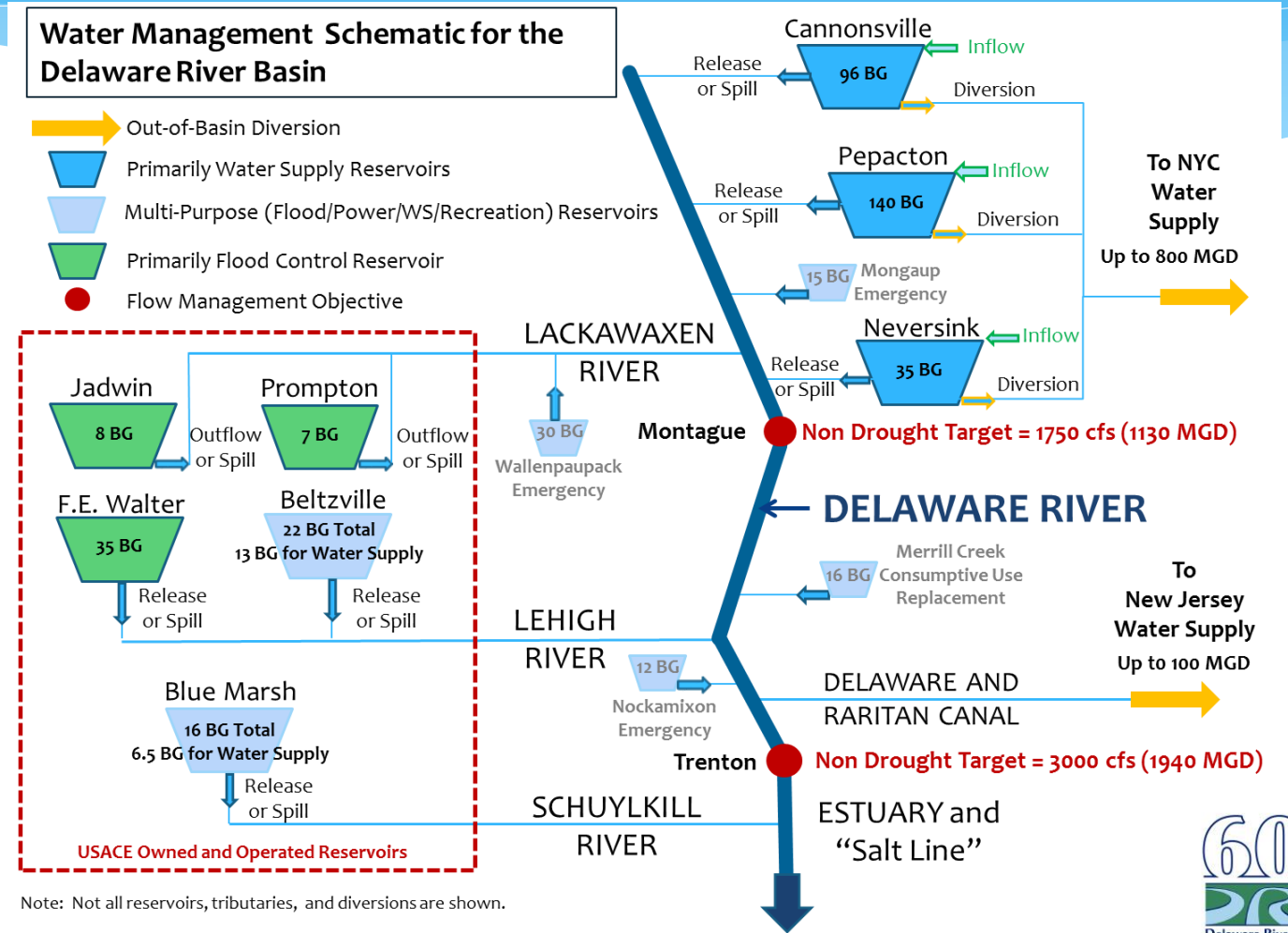
Basic “Charges” of The Compact

- **From the Compact Preamble:**
- a **Comprehensive Plan** administered by a basin wide agency will provide
 - ✓ **flood damage** reduction;
 - ✓ conservation and **development of ground and surface water supply...;**
 - ✓ development of **recreational facilities;**
 - ✓ **propagation of fish and game;**
 - ✓ promotion of related... **watershed projects;**
 - ✓ **protection to fisheries...;**
 - ✓ development of **hydroelectric power;**
 - ✓ improved **navigation;**
 - ✓ **control of movement salt water;**
 - ✓ **abatement and control of stream pollution;**
 - ✓ And **regulation towards the attainment of these goals.**



2060 Planning Questions - Water Availability

- Adequacy of available storage?
- Adequacy of emergency storage?
- Number of “drought days”?
- Adequacy of flow objectives?
- Water budget in major sub basins:
 - Will the available Water Supply meet the projected Water Demand?



Basin Reservoirs Meet Diverse Needs

- All located on tributaries
- Single or multi-purpose
 - Water supply (*DRBC owns water supply storage in two USACE reservoirs: Beltzville and Blue Marsh*)
 - Hydroelectric Power
 - Flood control
 - Recreation
 - Consumptive water use replacement
 - Flow augmentation during drought emergency



Purpose of Storage Feasibility Study

- Explore the feasibility of additional freshwater storage to meet future water availability, climate adaptation, drought management and flow management needs
- Planning level inventory of potential options (no specific, immediate need for additional storage)
- Initiated April 2021 with Mott MacDonald (~18 month study)



Blue Marsh Lake, PA. Source: USACE

Types of Storage Projects Being Considered



1. New dams

- Previously identified locations
- Newly identified locations



2. Modifications to existing dams/reservoirs:

- Dam raise
- Purchase/lease of existing storage
- Operational changes
- Dry dam to permanent pool

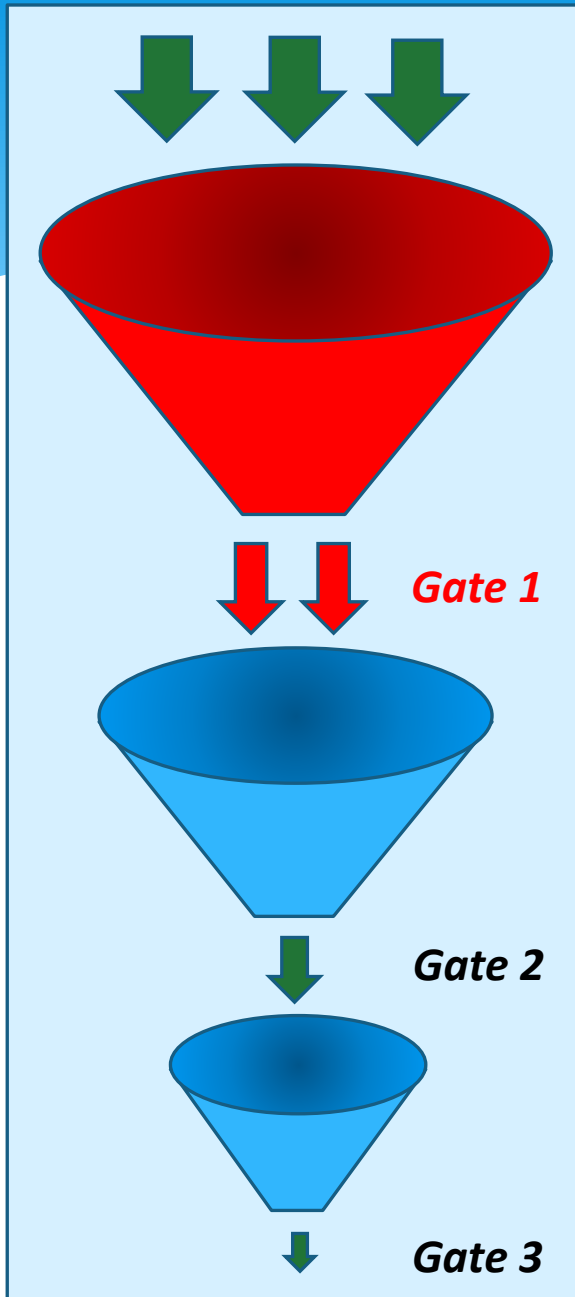


3. Quarries



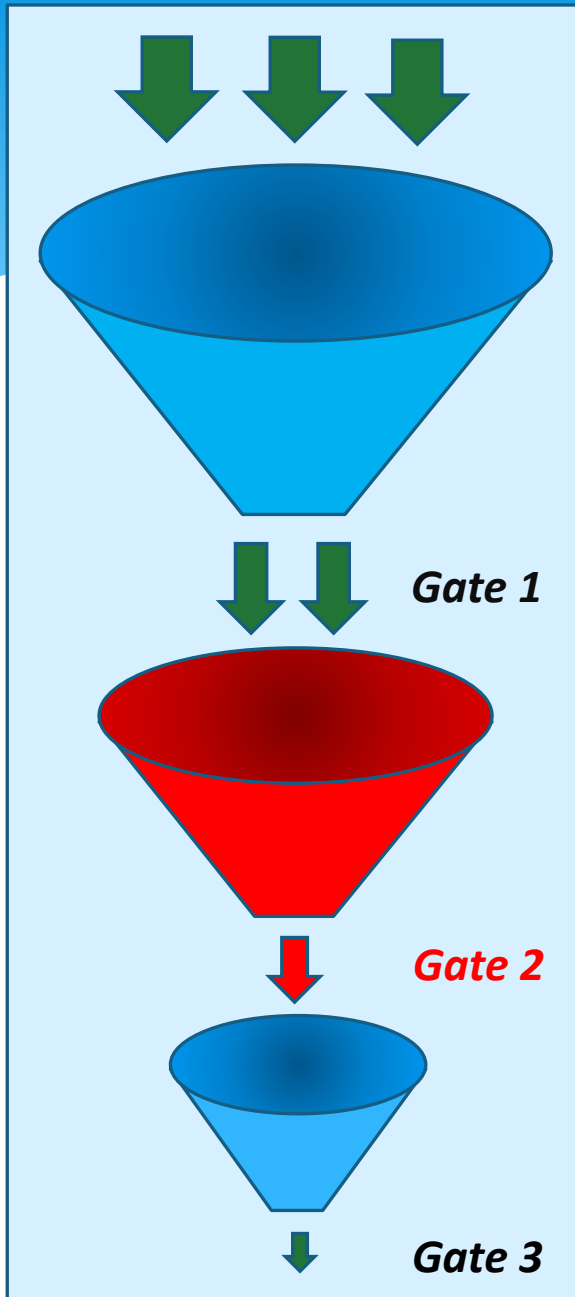
4. Subsurface mine with surface pool

General Study Approach: Gate 1



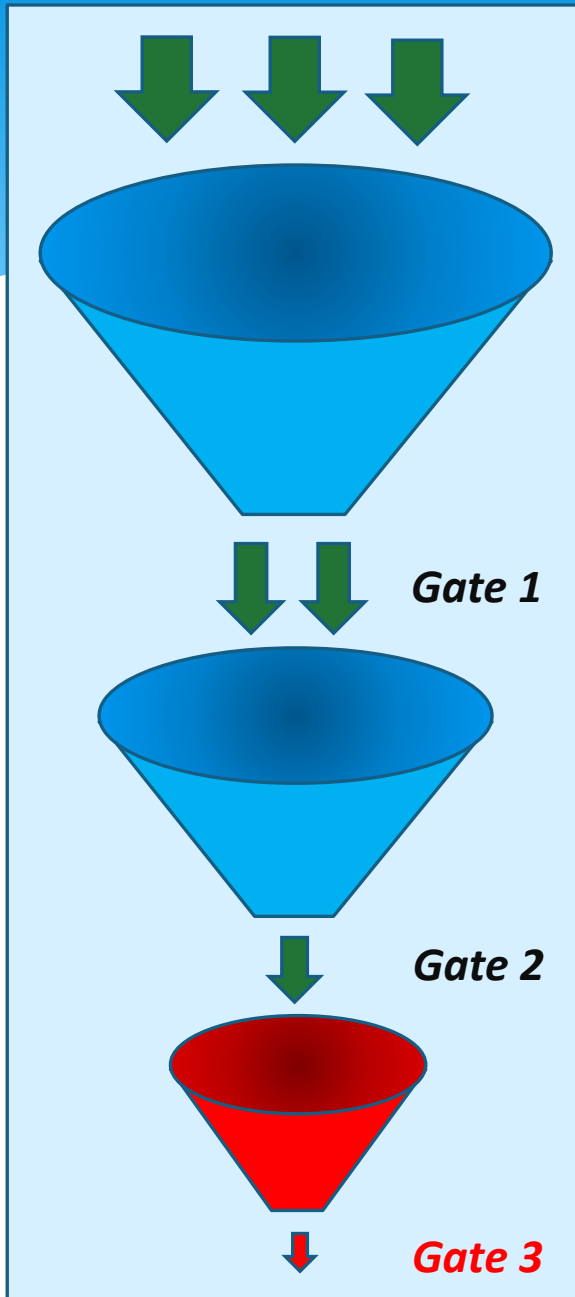
- Identify plausible storage options
 - Begin with list of >60
 - Categorize, inventory and map
 - Screen out inferior options based on limited data
 - Gate 1: Pass ~35 options for further evaluation

General Study Approach: Gate 2



- **Develop project descriptions**
 - Begin with list of ~35
 - Develop evaluation criteria
 - Screen out options based on semi-quantitative assessment
 - Gate 2: Pass ~15 options for further evaluation

General Study Approach: Gate 3



- Detailed evaluation

- Begin with list of ~15
- Develop projects sufficiently for concept-level cost estimate and comparisons
- Gate 3: Score and rank ~15; Top 10 to be detailed in report with project briefs

Where to Find Study Updates

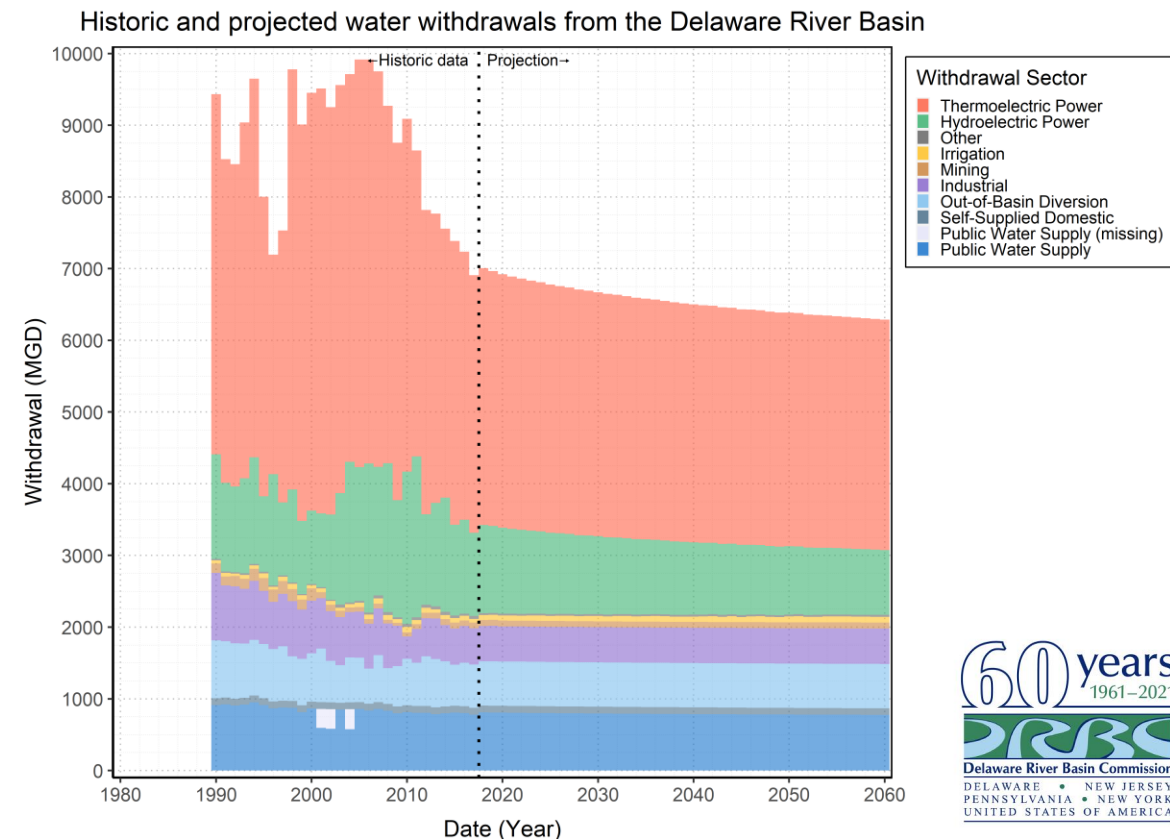
- Project webpage live in July 2021
<https://www.nj.gov/drbc/programs/flow/reservoir-storage-study.html>
- Periodic updates to public via Water Management Advisory Committee (WMAC)
 - October 21 at 1:30 pm
 - Receive WMAC listserv updates:
<https://www.nj.gov/drbc/contact/interest/index.html>



Beltzville Lake, PA. Source: USACE

Additional Studies - Water Availability

- F.E. Walter Re-evaluation study by USACE
- 2060 Projection Study (Oct 2021)
 - Analyze groundwater and surface water withdrawals from 1990-2017 to project through 2060
 - Across all sectors (incl. public water supply, industrial, and agriculture plus five others)
- Water Availability Studies
 - Consider Drought of Record
 - Consider effects of climate change (future hydrology)
 - Consider reservoir operations
- Upper DE Habitat/DSS Model (Dec 2021)



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PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

***Managing, Protecting & Improving the Basin's
Water Resources Since 1961***