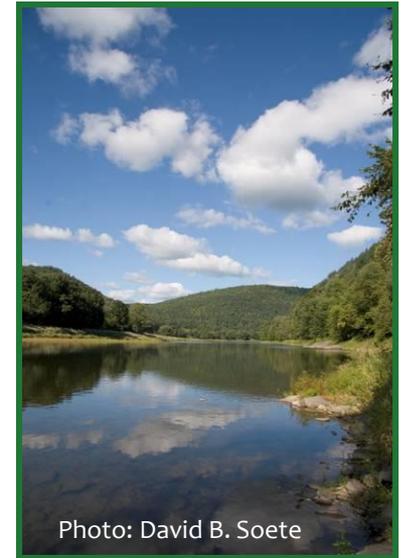


Delaware River Basin Commission

American Sustainability Leadership Council

*Steve Tambini, P.E.,
Executive Director*

April 13, 2016



Delaware River Basin Commission

DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

Who are we?



Delaware River
Joint Toll Bridge
Commission



Delaware River and Bay Authority



**Delaware Watershed
Research Fund**



**DELAWARE RIVER
PORT AUTHORITY**
of Pennsylvania & New Jersey®



Delaware River Basin Commission

Founded by Compact in 1961

Five Equal Members:

- Delaware
- New Jersey
- Pennsylvania
- New York
- Federal Government



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

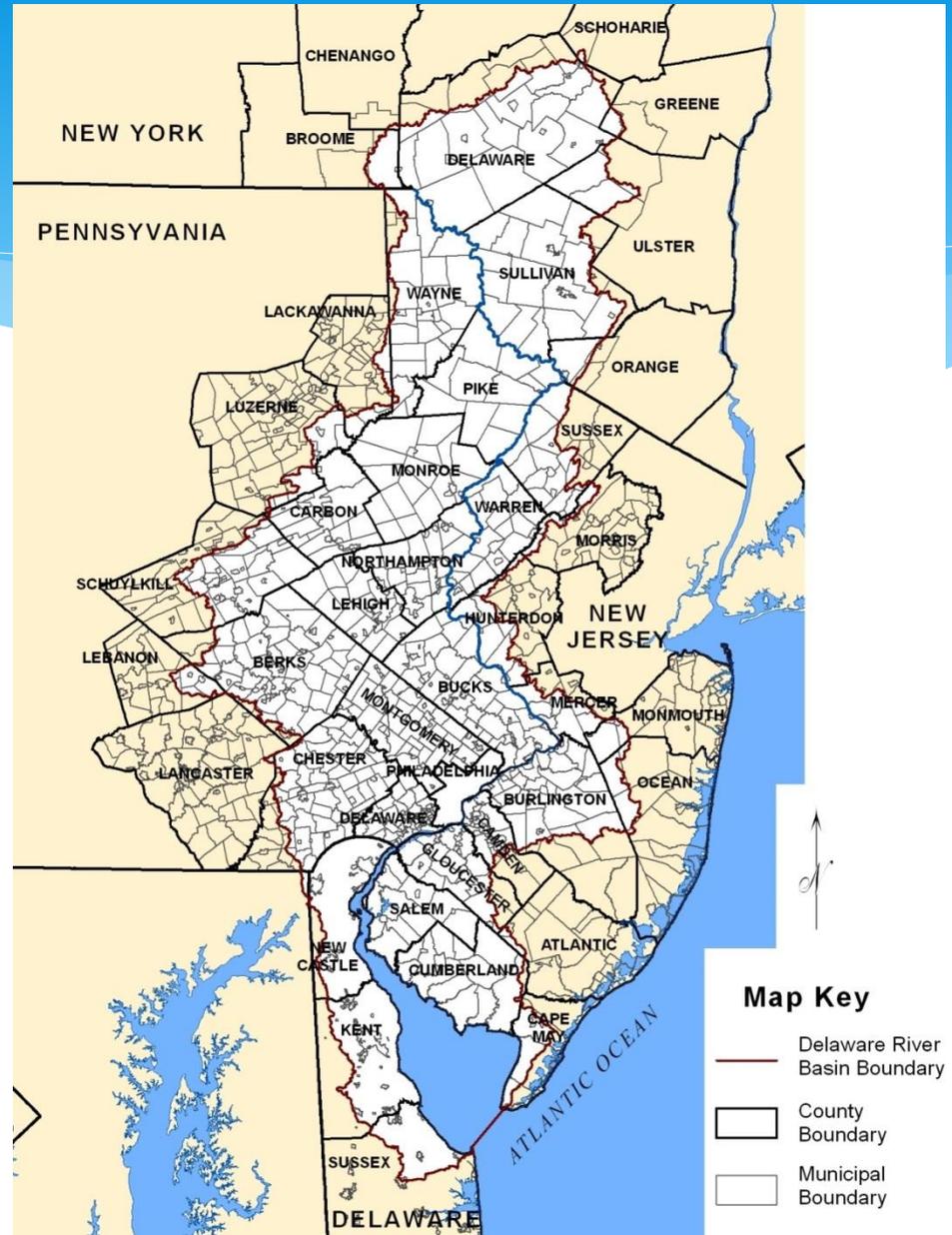
1961 Delaware River Basin Compact

- Recognizes DRB as a regional asset with local State and National interests
- Management and control of water resources under a **Comprehensive Plan** will bring benefits and is in the public welfare.
- The Commission shall develop and effectuate **plans, policies and projects** relating to the water resources of the Basin



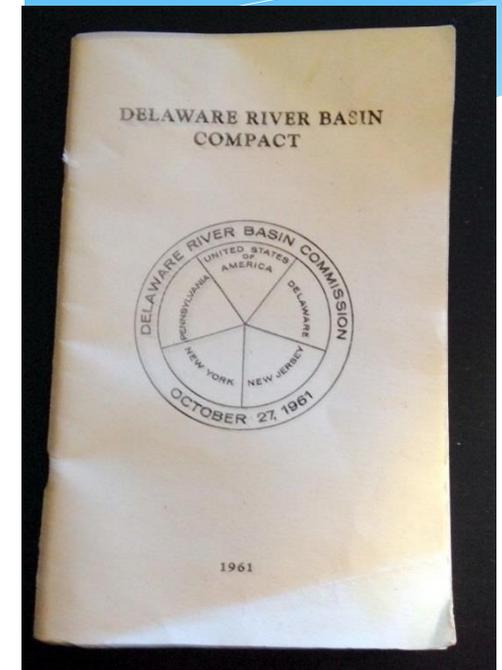
The Need for Basin-Scale Planning and Management

- 4 States
- 42 Counties
- 838 Municipalities
- NY City



Delaware River Basin Compact Basic “Charges”

- **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**;
 - ✓ **control of movement salt water**;
 - ✓ **abatement and control of stream pollution**;
 - ✓ **and regulation** towards the attainment of these goals.



Agenda

- Water
- Water
- Water

Agenda

- Water Availability
- Water Quality
- Water Efficiency

Sustainability... Innovation... Collaboration

Water is “In the News”

ClimateEngine.org
Unveiled at White
House Water Summit

*DRI, U. Idaho, Google commit to expand
new technology to address water issues*

Health & Science

The Aging Water Infrastructure—Out of Sight, Out of
Mind: Weekend Reading

Reshaping the Chesapeake Bay, one living shoreline at a time

Politics

Californians pass \$7.5
billion water bond:
Now what?

Molly Peterson

November 05 2014

U.S.

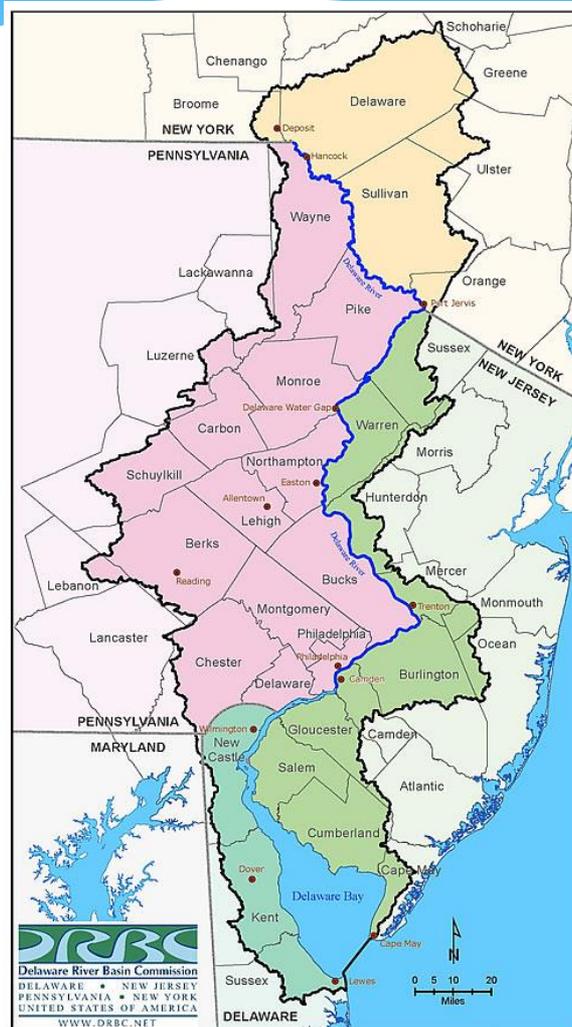
Events That Led to Flint’s Water Crisis



Photo: Nicholas A. Tonelli

“A river is more than an amenity, it is a treasure”

-US Supreme Court Justice
Oliver Wendell Holmes



Fast Facts:

- ❑ Delaware River Main stem river is **330 miles long**
- ❑ Delaware River forms an interstate boundary over its entire length
- ❑ **15+ million people** (about 5% of the U.S. population) rely on the waters of the Delaware River Basin
- ❑ **Drains 13,539 square miles** of watershed in 4 states.
- ❑ Water **withdrawal** in the Basin = **8.7 billion gallons a day**
- ❑ **Significant Exports: NYC (up to 800 MGD) and NJ (up to 100 MGD)**
- ❑ Longest, un-dammed U.S. river east of the Mississippi (dams are located on tributaries, not the main stem Delaware)

When was the last drought emergency?



When was the last drought emergency?

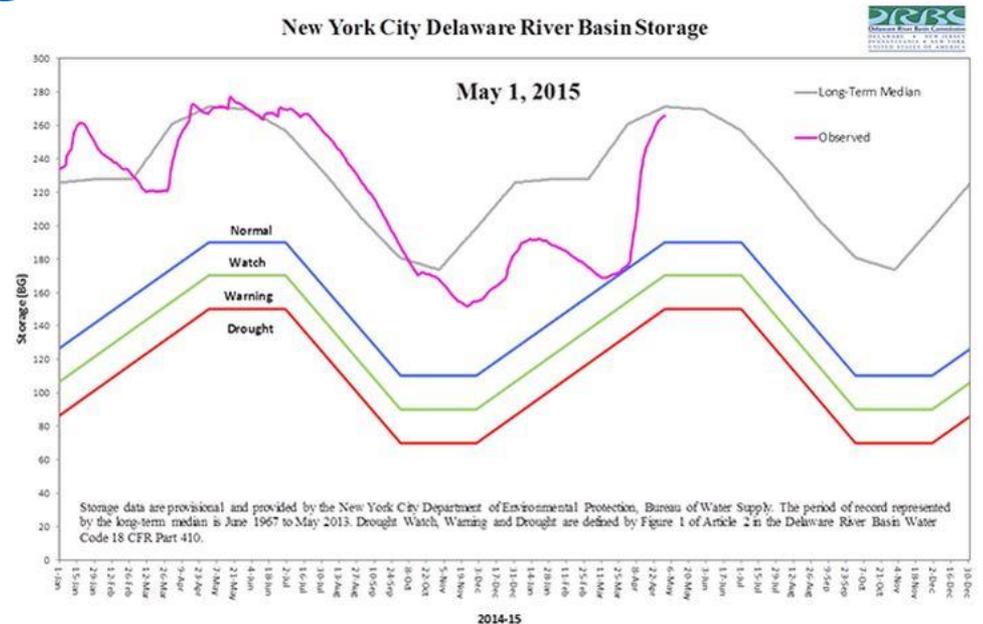
Delaware River Basin:
2001

Susquehanna River Basin:
1999



Drought Management

- Drought of record led to the “Good Faith Agreement” in 1983 including:
 - A schedule of phased reductions in out of basin diversions, releases and flow target objectives.
 - Coordination of equitable apportionment of priority water uses.

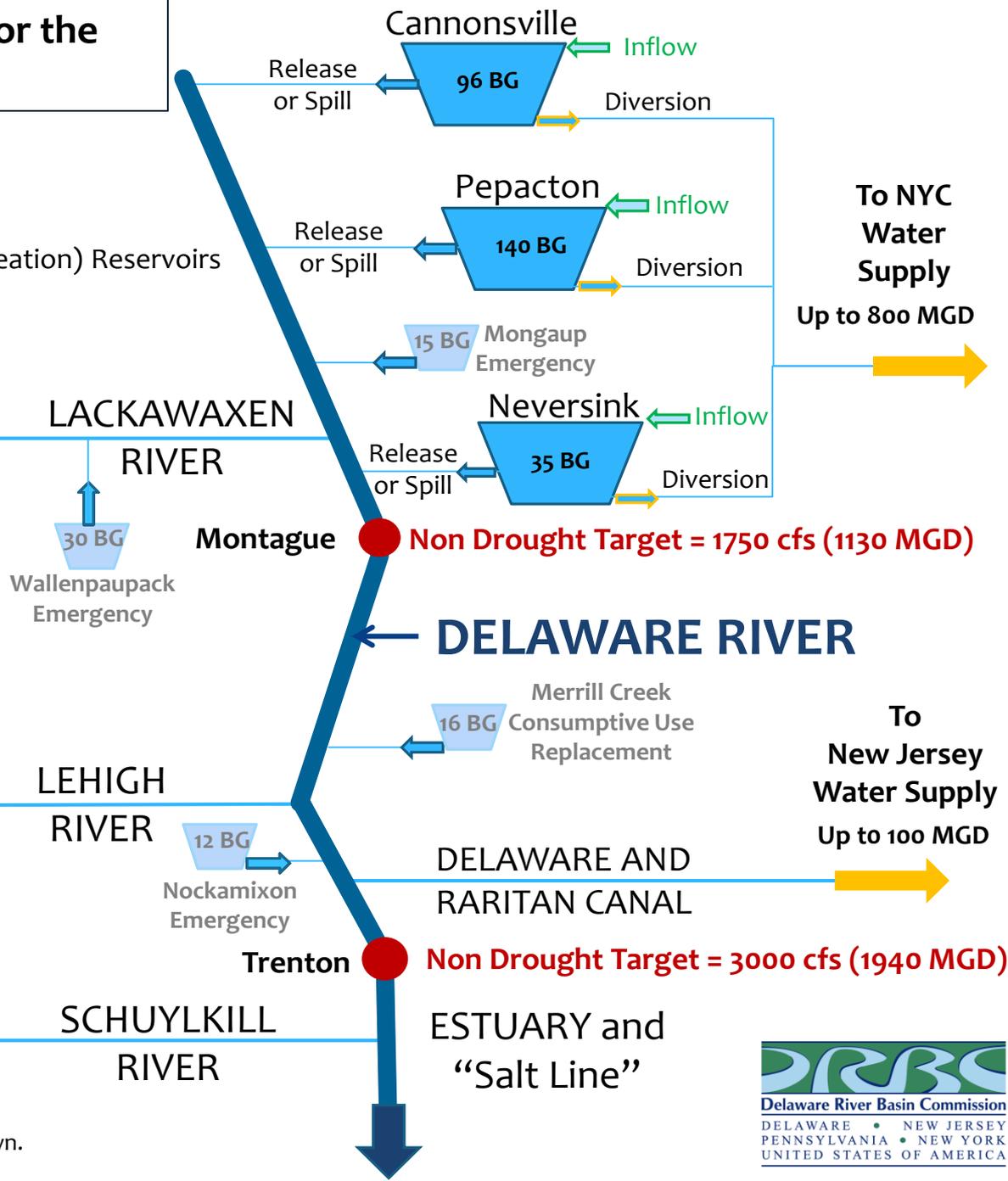
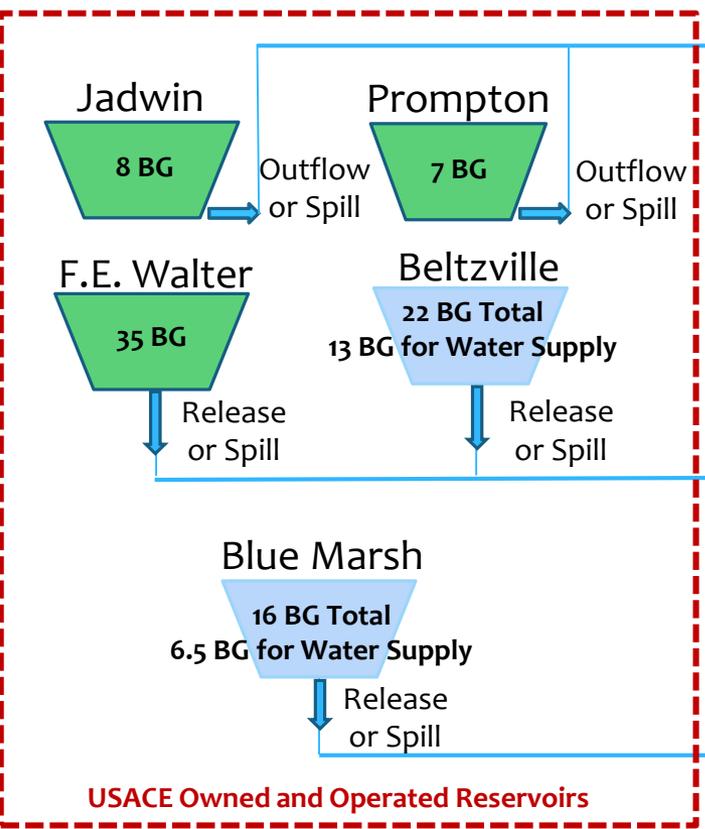


Delaware Estuary at Philadelphia



Water Management Schematic for the Delaware River Basin

-  Out-of-Basin Diversion
-  Primarily Water Supply Reservoirs
-  Multi-Purpose (Flood/Power/WS/Recreation) Reservoirs
-  Primarily Flood Control Reservoirs
-  Flow Management Objective



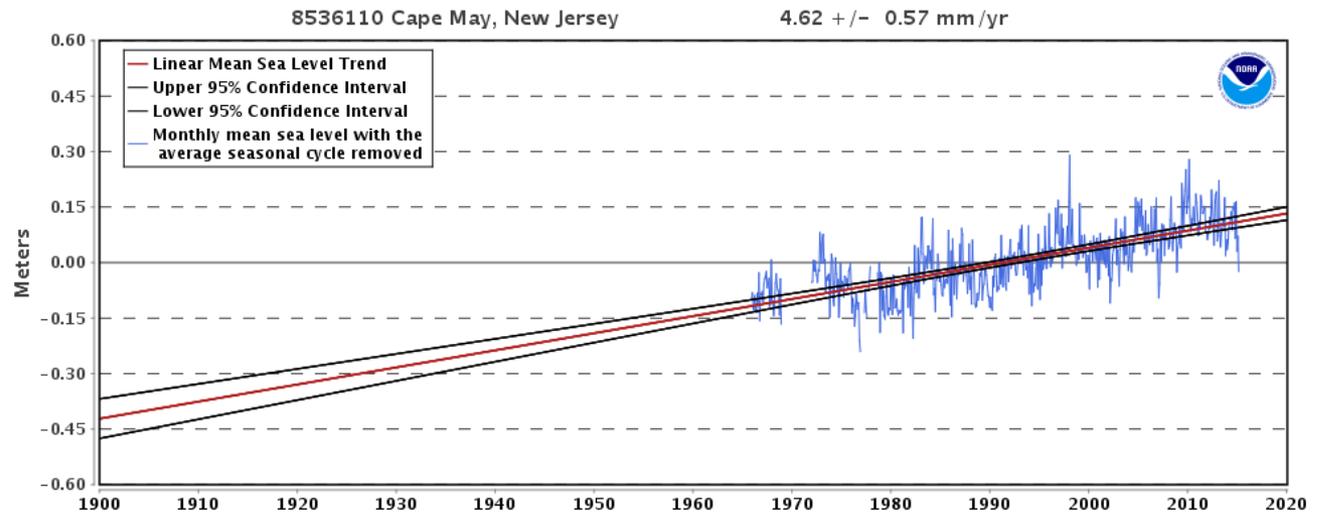
Note: Not all reservoirs, tributaries, and diversions are shown.

How much is the sea level rising in the Delaware Estuary (@Cape May, NJ)?

- a) It is not rising – zero
- b) 1.5 feet per 100 years (4.6 mm/ yr.)
- c) 3.3 feet per 100 years (10.1 mm yr.)

How much is the sea level rising in the Delaware Estuary (@Cape May, NJ)?

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Sustainable Water Future

DRBC “2060 Study”

- **Demographics:** Changes and Shifts
- **Climate Change:**
 - Sea level rise
 - frequency and intensity of storms and droughts
- **Energy Water Nexus**
- **Energy and Water Efficiency**
- **Ecological Flows**



Leadership or Crisis?

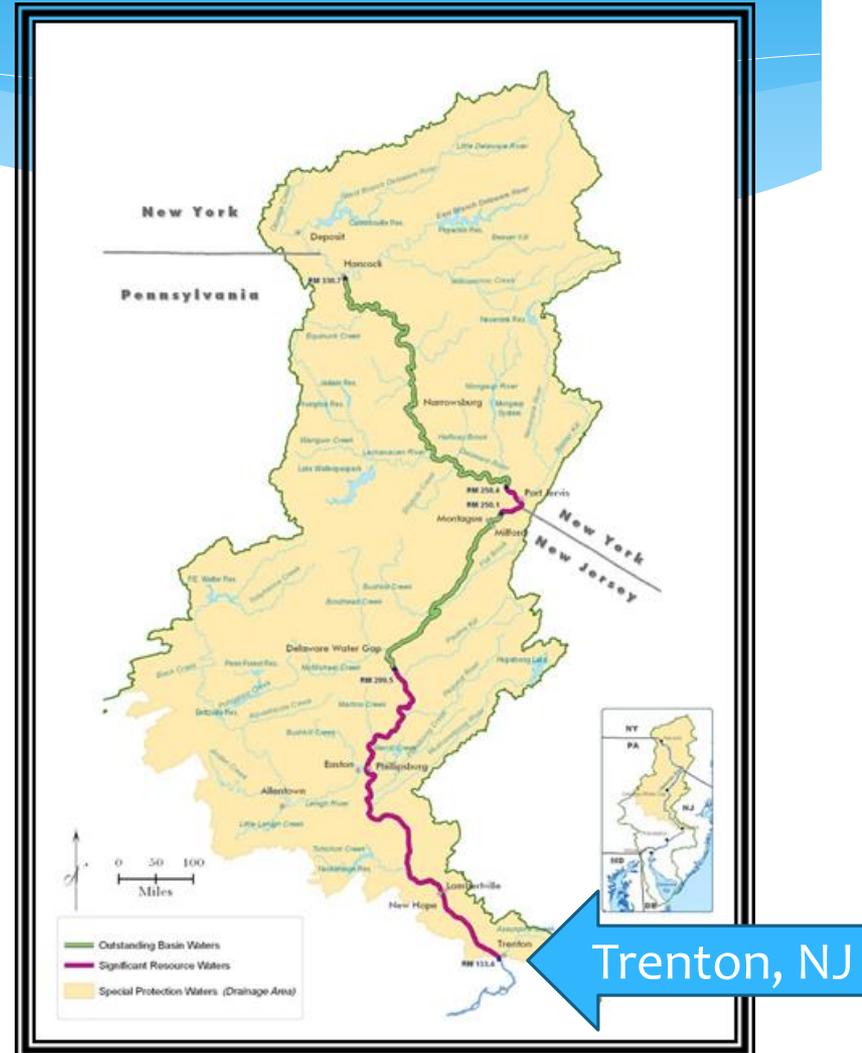
The quality of Basin waters shall be maintained for:



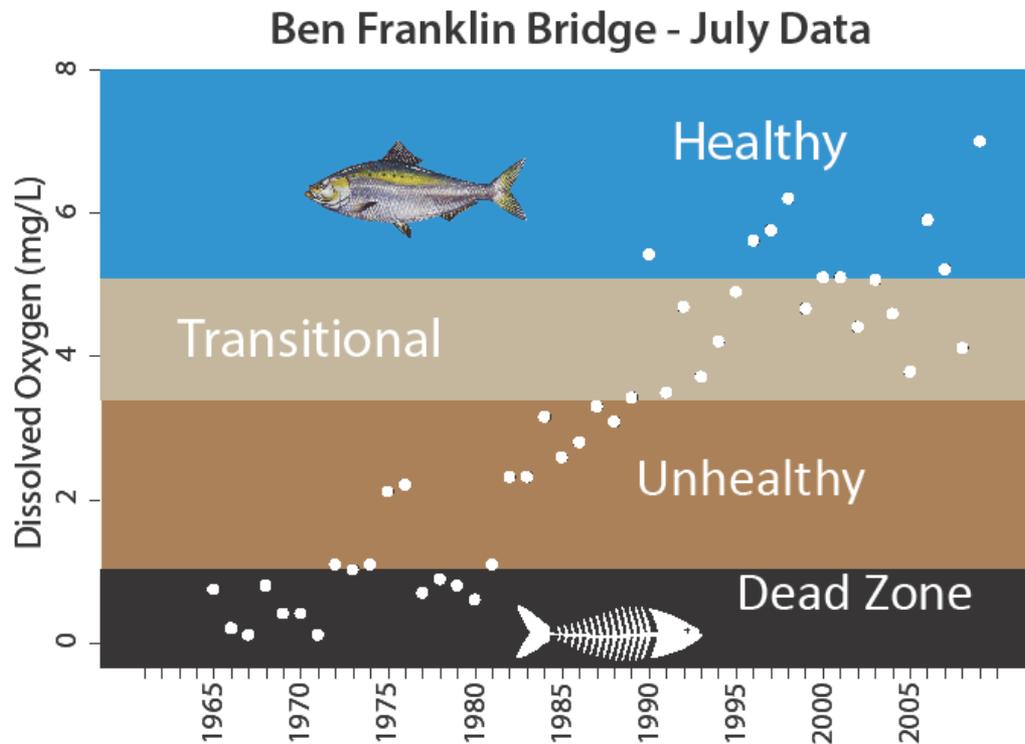
- Public drinking water (after reasonable treatment)
- Recreation
- Wildlife, fish and other aquatic life
- Regulated waste assimilation

Special Protection Waters Program “Keeping Clean Water Clean”

- 197 river miles upstream from Trenton.
- Policy of “no measurable change” in existing water quality except toward natural conditions.



Estuary Water Quality



Tremendous progress made towards overall health of the estuary

Continuing Issues of Concern:

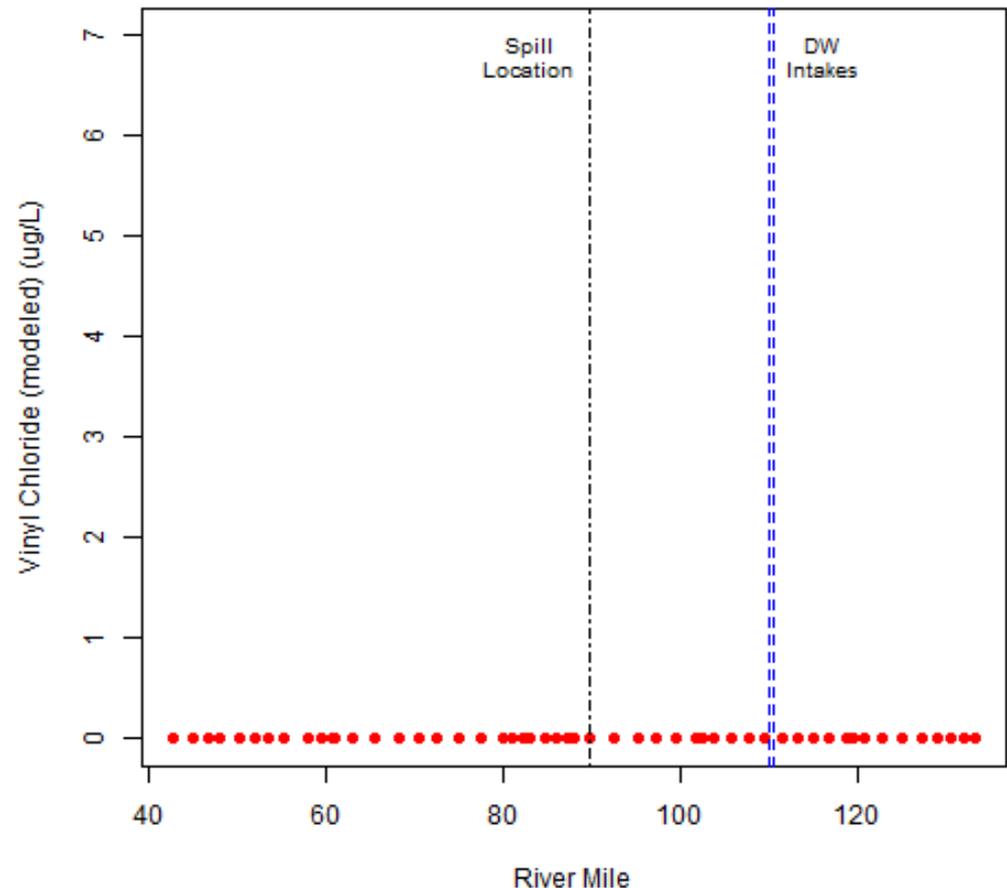
- PCBs
- Nutrients
- Pharmaceuticals and PCPs

Spill Response

Daily River Models

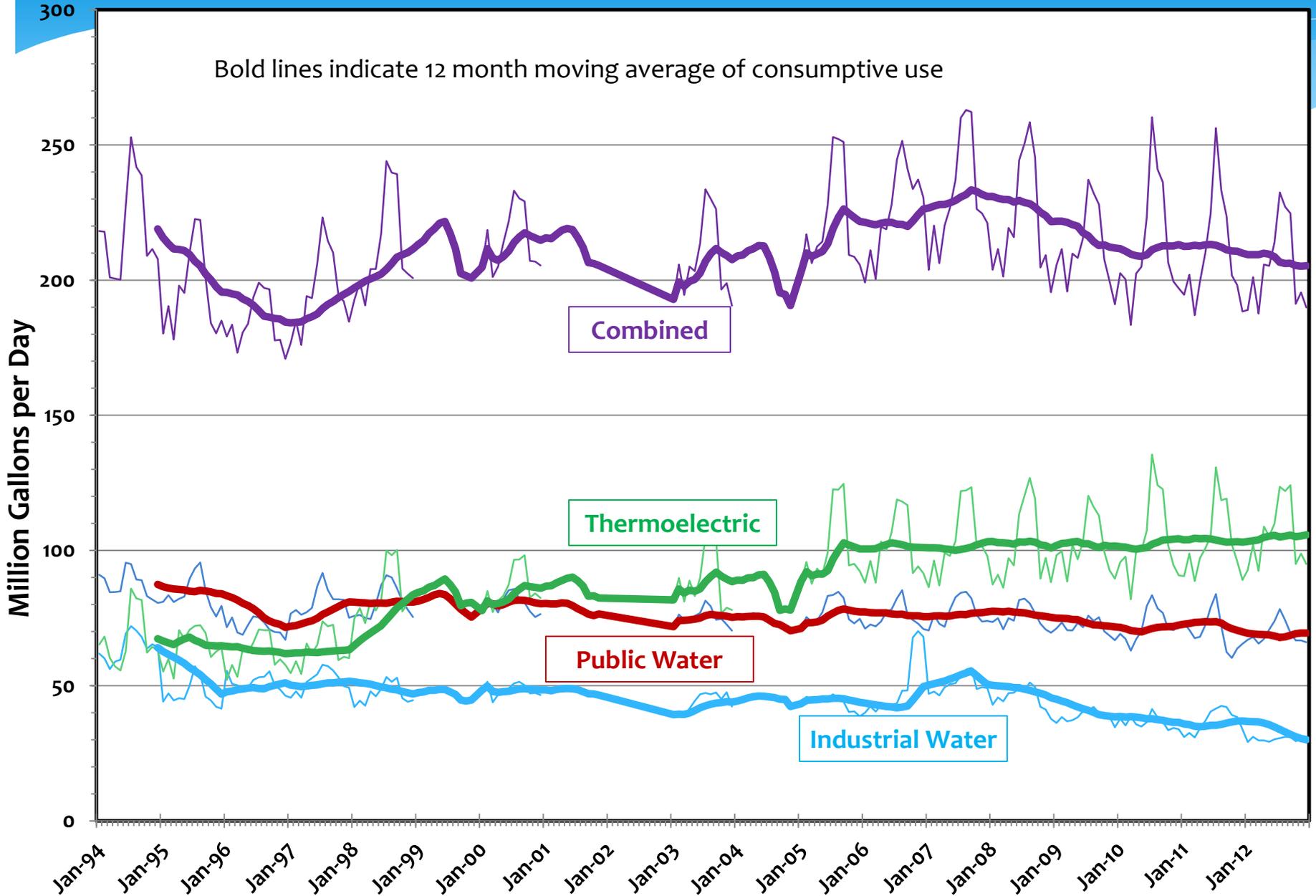
- * Late November 2012 train derailment over tidal Mantua Creek;
- * Vinyl chloride spill;
- * Hydrodynamic model ran the night before;
- * DRBC ran water quality model and communicated results with water purveyors on tidal Delaware same day;
- * Confirmed below detection with monitoring up-estuary.

Simulated Vinyl Chloride Concentration
Delaware Estuary 11/30/12 00:00



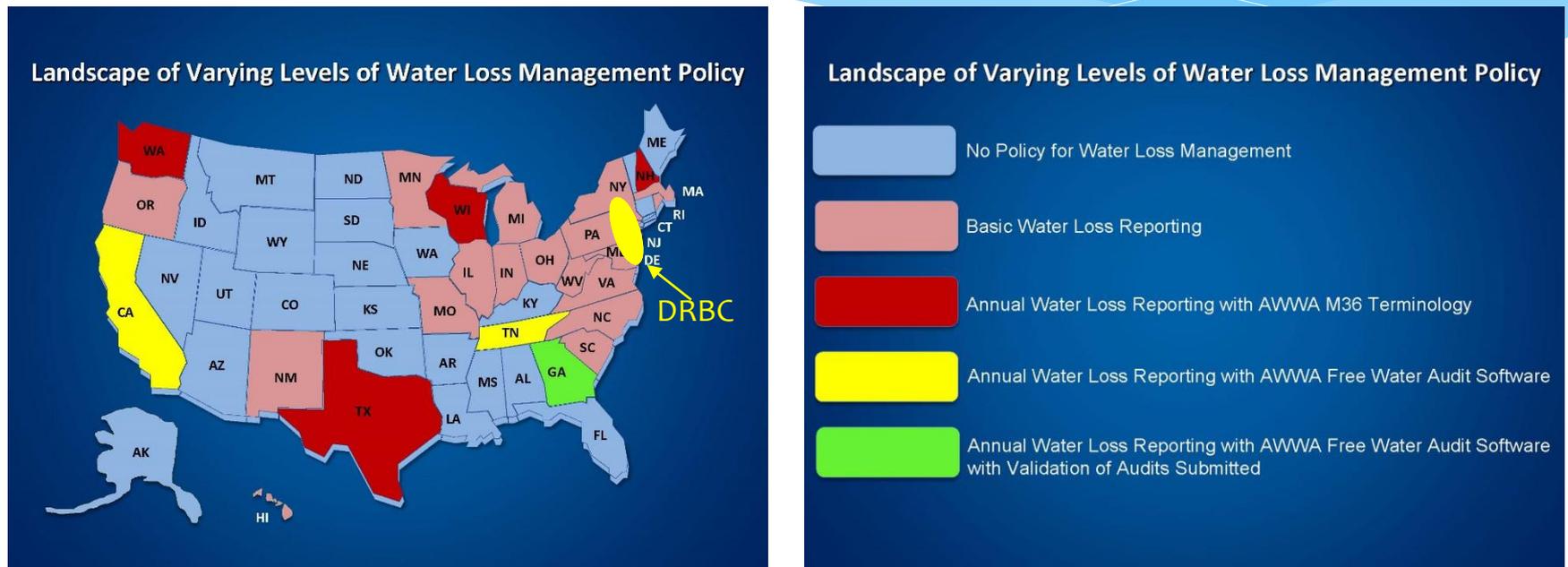
Consumptive Use Trends 1994 - 2012

Bold lines indicate 12 month moving average of consumptive use



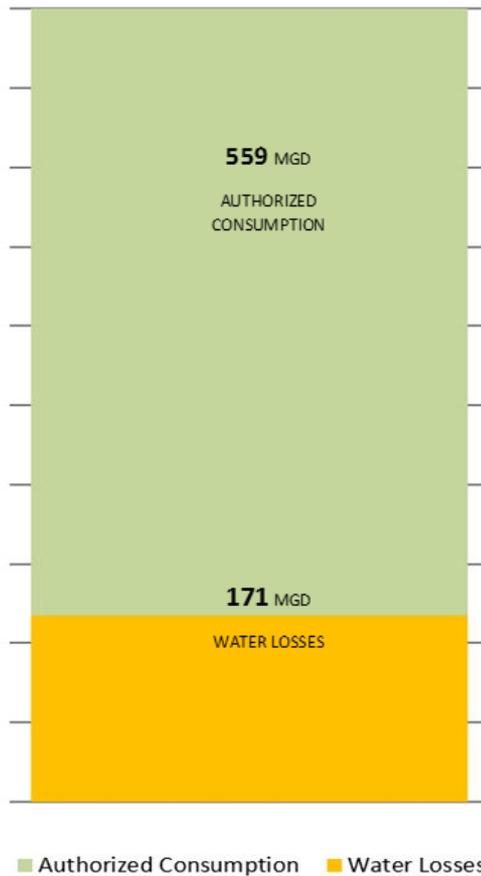
Water Loss – National Perspective

AWWA/IWA Methods

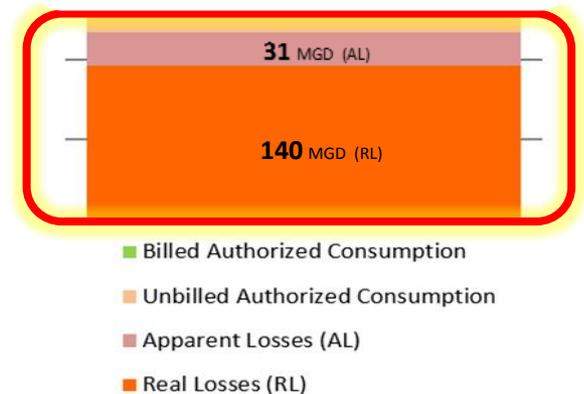


State By State Water Loss Policy Map. American Water Works Association, 2015. Web. 5 Feb. 2016. <http://www.awwa.org/Portals/0/files/resources/water_knowledge/water_loss_control/Landscape_of_Varying_Levels_of_Water_Loss_Management_Policy.pdf>.

DRBC Water Loss Audit Program Summary CY 2014



Non-Revenue Water
~ 25% Basin PWS Withdrawal



Significant Regulatory Programs

- Water withdrawals
- Wastewater treatment/discharges
- Flood Plain

- Delaware



- New Jersey



- Pennsylvania



- New York State



- Federal Government





One Process One Permit

- DRBC Compact and Rules allow for and encourage the use of administrative agreements with states and state agencies to:
 - ✓ Promote inter-agency collaboration and cooperation on shared mission objectives.
 - ✓ Promote regulatory program efficiencies.
 - ✓ Avoid unnecessary duplication of effort.
 - ✓ Recognizes the Authority, standards, rules of each agency



Summary

- Who we are:
 - Watershed based interstate agency
 - Engineers, Scientists, Planners
- What we do:
 - **Plan:** On a watershed basis, for a sustainable water future.
 - **Policies: (including regulations)** That adapt, protect and enhance our essential water resources.
 - **Projects:** Based on sound science, collaboration and stakeholder input.



For a sustainable water future

The White House Water Summit March 22, 2016

The White House
Office of the Press Secretary

For Immediate Release

March 21, 2016

Presidential Memorandum: Building National Capabilities for Long-Term Drought Resilience

*“Our Nation must sustain and expand efforts to
reduce the vulnerability...to the impacts of drought.”*

-President Barack Obama

*“the Task set for the Commission
will not be easy to achieve, but [I]
am confident that the
cooperation that has brought
forth this Compact will endure...
and that working together real
progress can be made for the
people of the Basin.”*

-President John F. Kennedy, 1961

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www.drbc.net



Delaware River Basin Commission

DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

*Managing Our Shared Water
Resources since 1961*