



# WATER SUPPLY ALTERNATIVES

## Enhancing Water Supply Resilience for the Washington Metropolitan Area

Jamie Bain Hedges, Fairfax Water

Tom Hilton, WSSC Water

Lisa Ragain, COG

Greg Emanuel, Arlington County

September 14, 2022



Metropolitan Washington  
Council of Governments

# Regional Water Supply Coordination



- Importance of the Potomac River
- Climate, acute threats
- What happened, challenges, and next steps
- Resiliency investment
- Water Supply Resiliency
- Agreements and governance

# Drivers for the Current Water Supply System

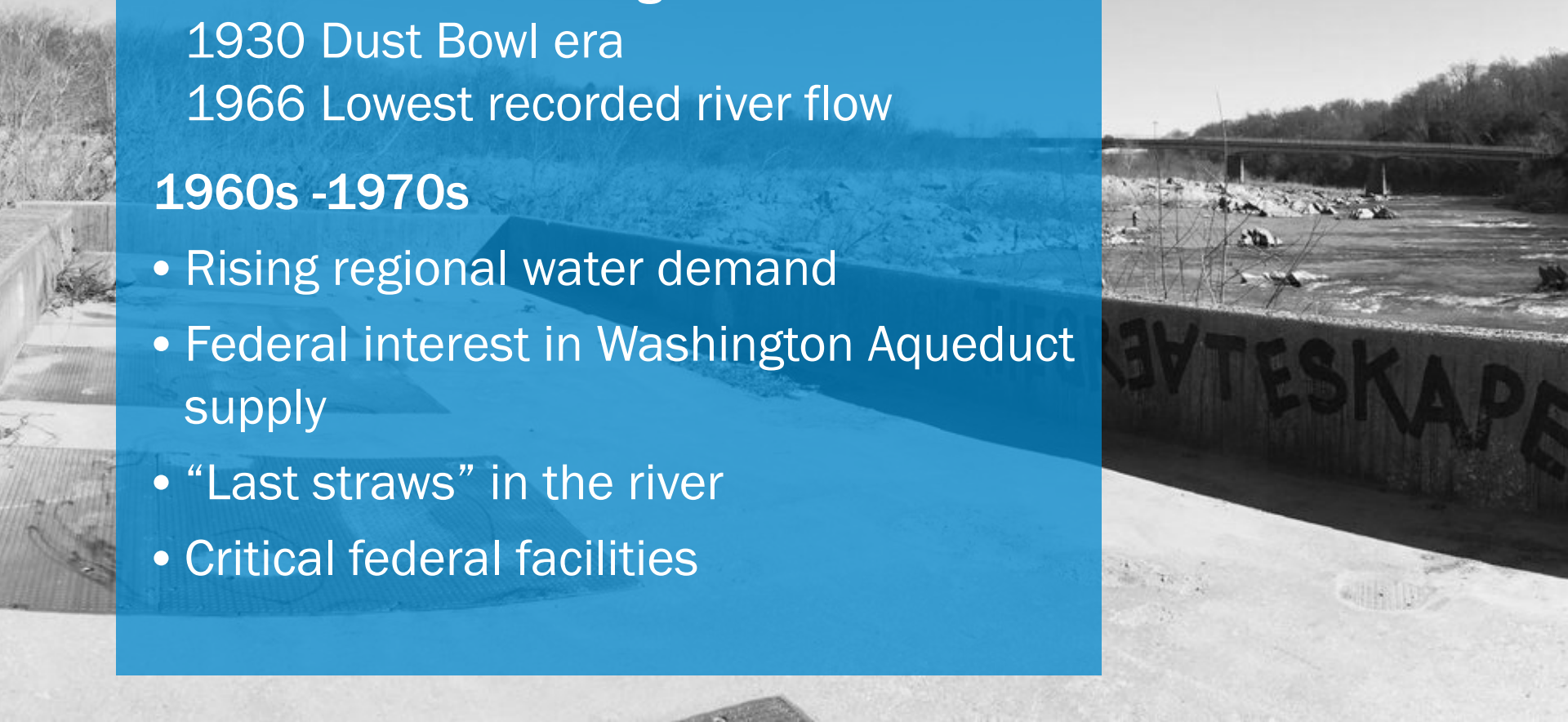
## Severe historical droughts

1930 Dust Bowl era

1966 Lowest recorded river flow

## 1960s -1970s

- Rising regional water demand
- Federal interest in Washington Aqueduct supply
- “Last straws” in the river
- Critical federal facilities



# Regional Cooperative Water Supply System

## Suppliers

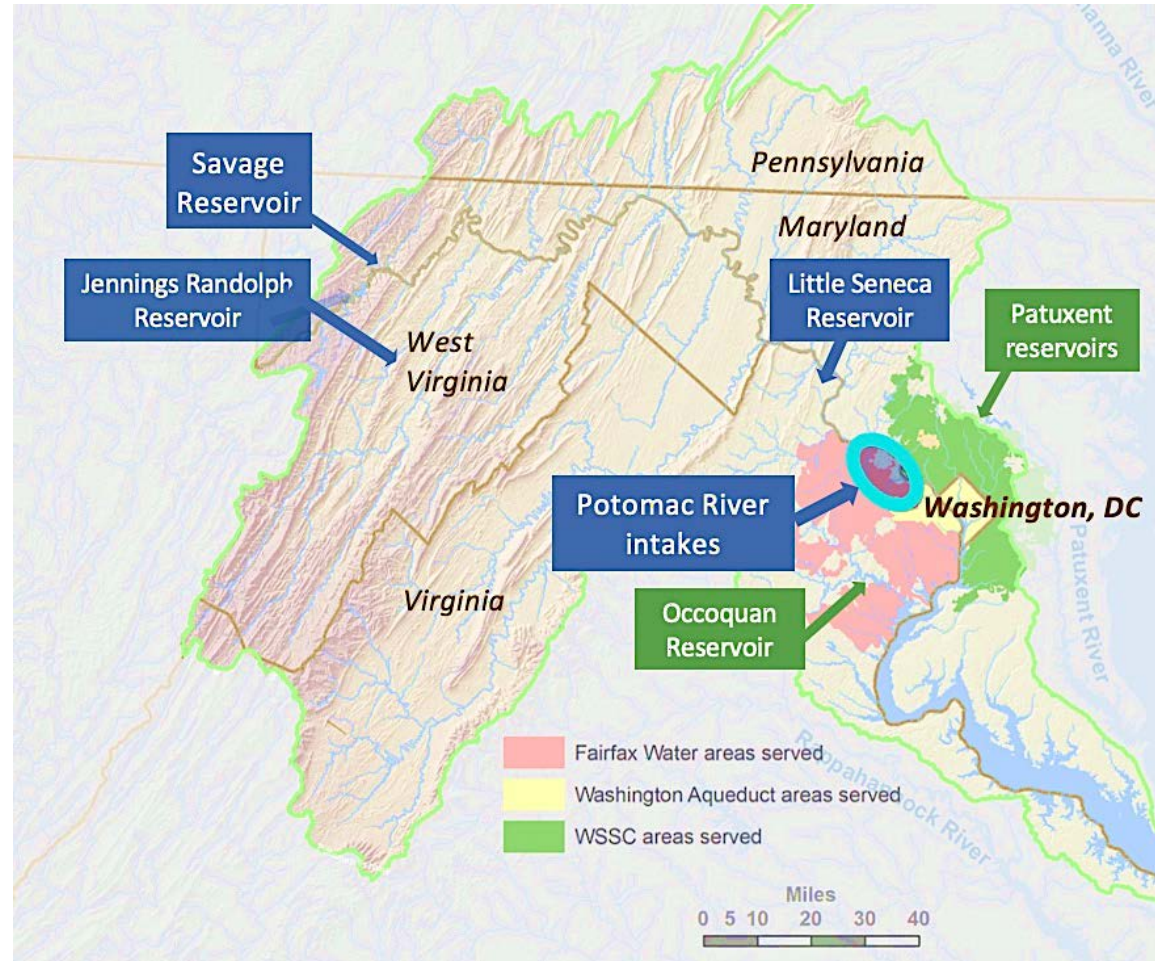
- Fairfax Water
- WSSC Water
- Washington Aqueduct\*

## Off-Potomac Sources

- Fairfax Water: Occoquan
- WSSC Water: Patuxent

## Shared Reservoirs

- Jennings Randolph
- Little Seneca
- Savage



\*A Division of the US Army Corps of Engineers

# Regional Water System Operations

## **The Potomac River is the primary supply**

- Provides 78% of water to the region
- Provides 100% of water to the District of Columbia and Arlington County via the Washington Aqueduct)

## **Water suppliers share costs of upstream reservoirs**

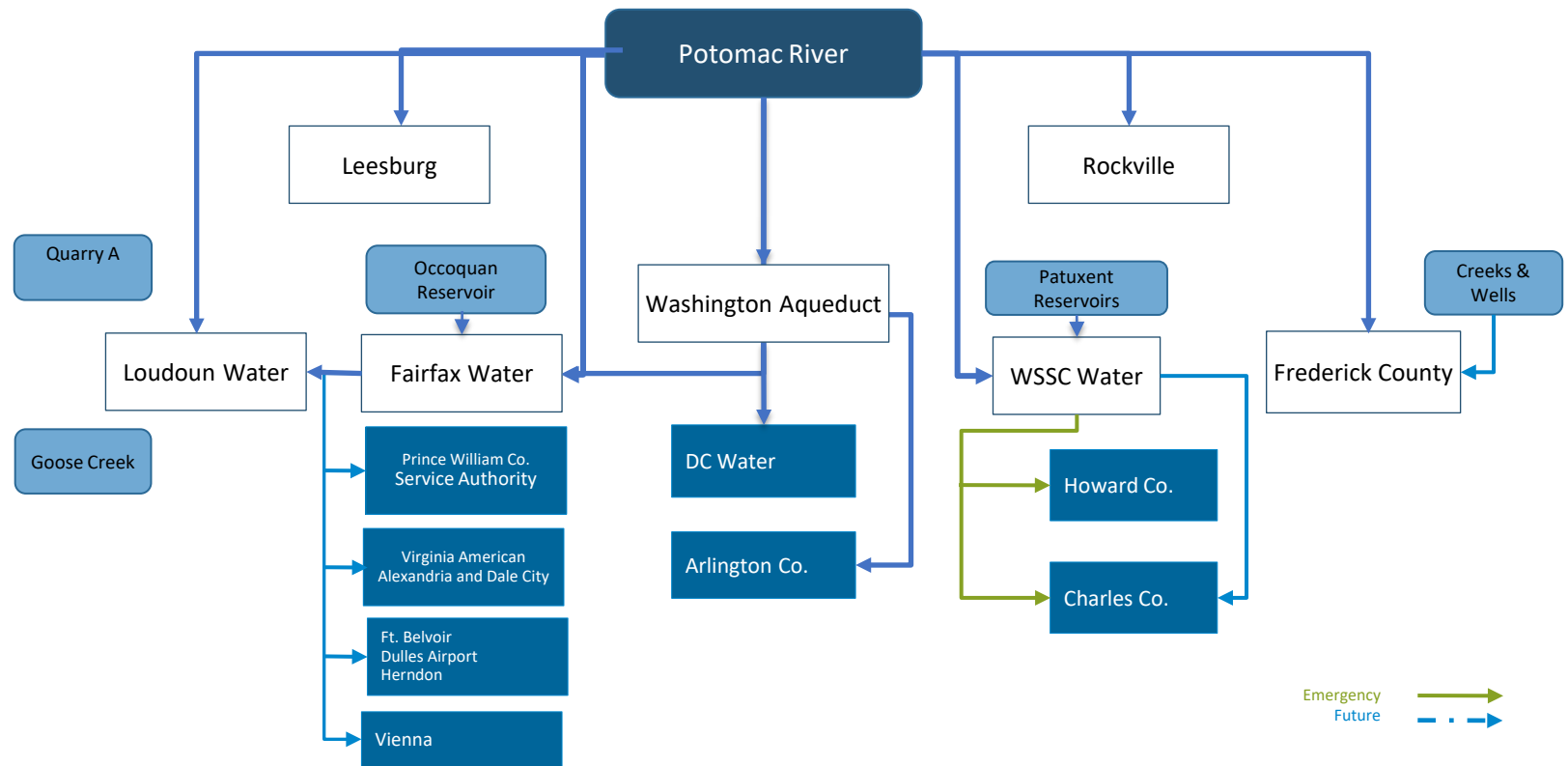
- Upstream reservoir releases during droughts, increasing Potomac River flow and benefiting all
- The District of Columbia and Arlington County do not have any off-Potomac reservoir storage

## **The three largest suppliers participate in the cooperative system**

- Drought planning & drought operations are cooperative
- Costs of upstream reservoirs are shared by the three suppliers
- New shared multi-purpose infrastructure may require complex new agreements



# Potomac River Drinking Water Supplies the Region



# History of Regional Cooperation

1970	Water supply added to ICPRB compact
1978	Low Flow Allocation Agreement (LFAA)
1982	Water Supply Coordination Agreement (WSCA)
1982	Reservoir cost-share agreements
1994/04/09	Water Supply Emergency Plan
2000	Water Supply & Drought Response Plan
2004	Potomac Drinking Water Source Protection Partnership
2007	MWCOG Regional Redundancy Study
2008	NCR Water/Wastewater Agency Response Network
2016	MWCOG regional water system redundancy study
2017	ICPRB Washington metro area water supply alternatives study





## 21<sup>st</sup> Century Resiliency Planning

### Two primary considerations

- Contaminant releases into river
- Unprecedented drought due to climate change.



# Risk of Contamination Events

Major spill occurred in 1993:  
Colonial pipeline rupture shut down  
Fairfax Water's Potomac intake for 2  
weeks

Minor spills occur regularly

- 2015 latex release
- 2016 oil release
- 2018 release of partially treated  
research facility wastewater

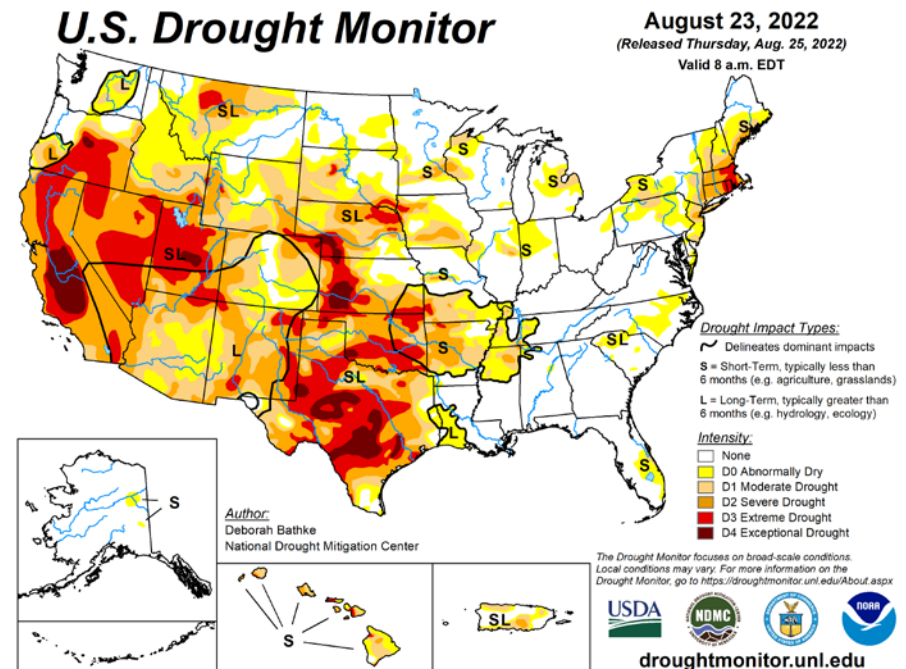


# Risk of Severe Drought

The current system would perform reliably in conditions like the extremely severe droughts in 1930 and 1966.

## Potomac Basin

- Increased variability
- Many projections point to wetter wet years but deeper droughts
- **TREMENDOUS UNCERTAINTY** in global models



# Regional Water Supply Emergency Planning

- Regional Water Supply Emergency Plan Update
- Flushing Protocols
- Contaminant Monitoring Systems
- Source Water Assessment
- Laboratory Capabilities
- Coordinated Messaging
- Public Health Collaboration



# Beginning the Effort



- ICPRB lead the education and outreach to Congress on the risks to regional water supply, need for water storage and the of federal funding.
- WSSC Water included a project entitled, *Regional Water Supply Resiliency*, in their Capital Improvements Program (CIP).
- Arlington County also has a placeholder for a resiliency project in their CIP.
- Montgomery County DEP included WSSC Water's *Regional Water Supply Resiliency* in their list of suggested projects to receive federal BIL funding.



**NOW IS THE TIME TO ADDRESS THIS  
SERIOUS LOCAL, REGIONAL, AND  
NATIONAL VULNERABILITY**



# Current Actions

COG, our water utilities and ICPRB are collaborating on a Congressional initiative to:

- Authorize the regional feasibility study in WRDA
- Appropriate the funds for the Study
- Brief public and elected officials across the region
- Have support from regional Congressional delegation and committee staff
- Develop messages to communicate urgency, role for federal funding

# Status

---

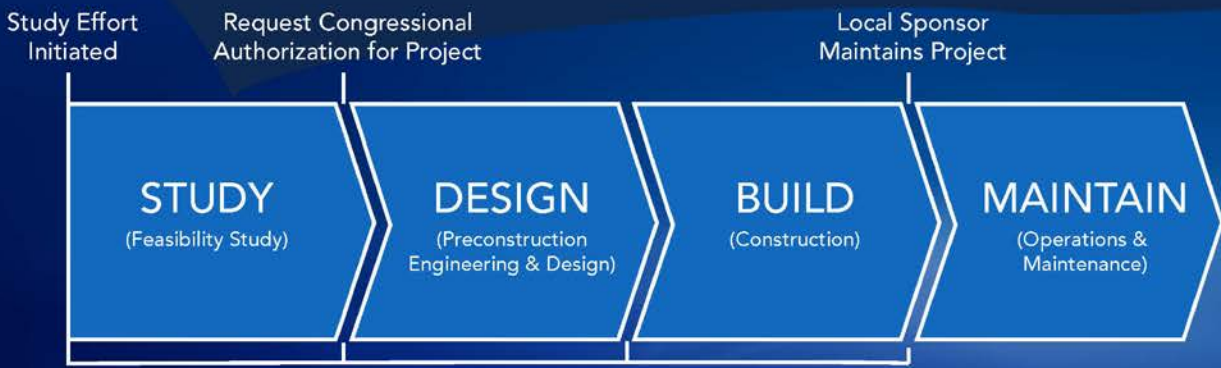
Representative Holmes-Norton introduced the language in WRDA for the first step, a regional study.

The House passed the WRDA bill authorizes the regional water supply study, including the identifying a secondary water source and additional water storage capability in the National Capital Region

WRDA conferencing is occurring now. The study addition has wide bipartisan support.

# FEASIBILITY ANALYSIS

We are awaiting authorization of feasibility study in WRDA 2022



Congressional Appropriations for Authorized Projects

Adapted from USACE Coastal Texas Protection and Ecosystem Feasibility Study — Appendix M-2





# COG Priorities

---

# Requested COG Board Actions

- Approve resolution to authorize and appropriate the regional study under WRDA
- Assist with outreach to regional Congressional delegation through letters and calls, especially during appropriations efforts
- Help with education and advocacy throughout the effort from the study to the construction and operations



**Thank you to coalition members Arlington County, DC Water, Fairfax Water, WSSC Water, and ICPRB Staff and Commissioners**

## **COG Staff contacts**

Steve Bieber, Water Resources Program Director  
(202) 962-3219  
[sbieber@mwcog.org](mailto:sbieber@mwcog.org)

Lisa Ragain, Principal Water Resources Planner  
(202)962-3357  
[lragain@mwcog.org](mailto:lragain@mwcog.org)

[mwcog.org](http://mwcog.org)

---

777 North Capitol Street NE, Suite 300  
Washington, DC 20002