

Susquehanna River Basin Commission: Managing for Sustainability



Andrew Dehoff, Executive Director

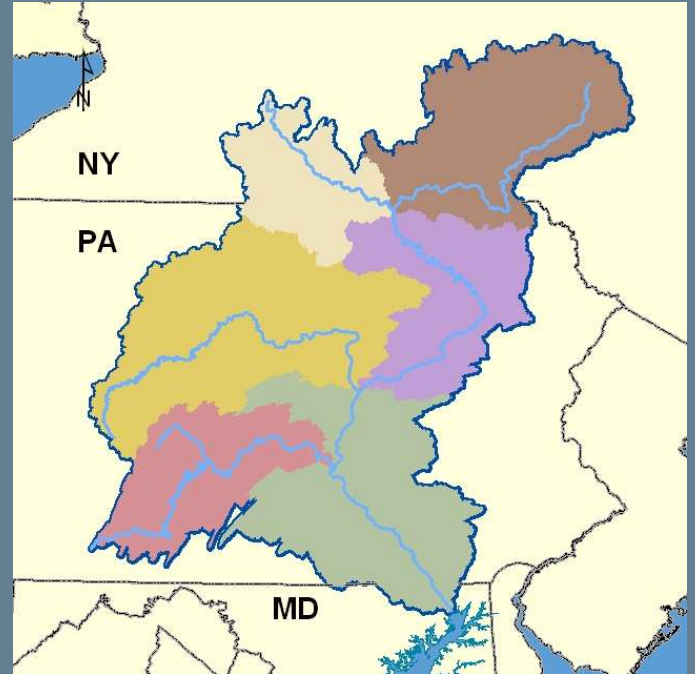
Susquehanna River Basin

The Basin

- 27,510-square-mile watershed
- Diverse landscape
- 4.2 million population
- 49,000+ miles of waterways
- Comprises 43 percent of the Chesapeake Bay watershed

The River

- 444 miles, largest tributary to the Chesapeake Bay
- Supplies 18 million gallons a minute (26 bgd) to the Bay
- Supports Public Water Supply, Industry and Ecosystem



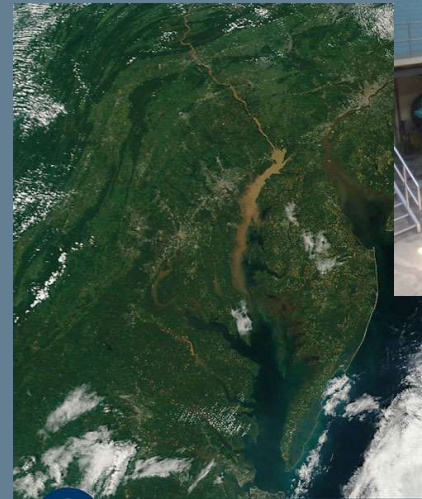
Susquehanna River Basin Commission

- SRB Compact signed on Dec. 24th, 1970
- Mission: enhance public welfare through comprehensive planning, water supply allocation, and management of water resources
- Fill gaps; avert conflicts; foster cooperation
- Sixty-five staff (45 technical)



Driving Issues

- Water use for power generation
- Public water supply diversions
- Chesapeake Bay



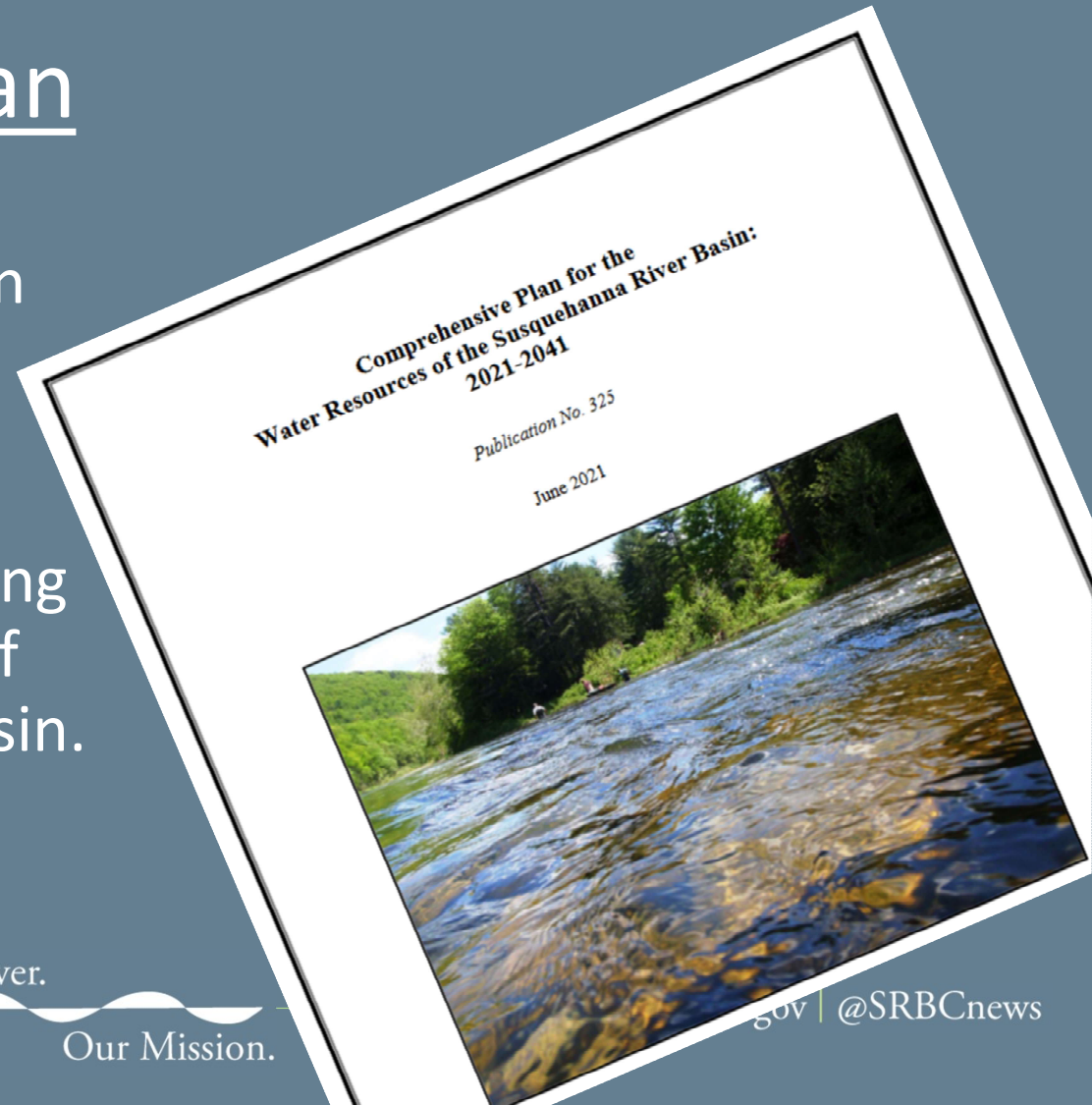
Setting Goals and Priorities

What Governs?



Comprehensive Plan

Section 14.1—The commission shall develop and adopt, and may from time to time review and revise, a comprehensive plan for the immediate and long range development and use of the water resources of the basin.



Comprehensive Plan Implementation

Section 14.2—Water Resources Program. The commission shall annually adopt a water resources program, based upon the comprehensive plan, consisting of the projects and facilities which the commission proposes to be undertaken.

[illegible]

Priority Management Areas

- A. Water Supply – ensure availability and enhance sustainability
- B. Water Quality – assess conditions and pursue restoration
- C. Flooding and Drought – build community resilience to extreme events
- D. Watershed Management – promote practices that allow healthy and natural functions



Underpinned by Planning, Coordination and Outreach

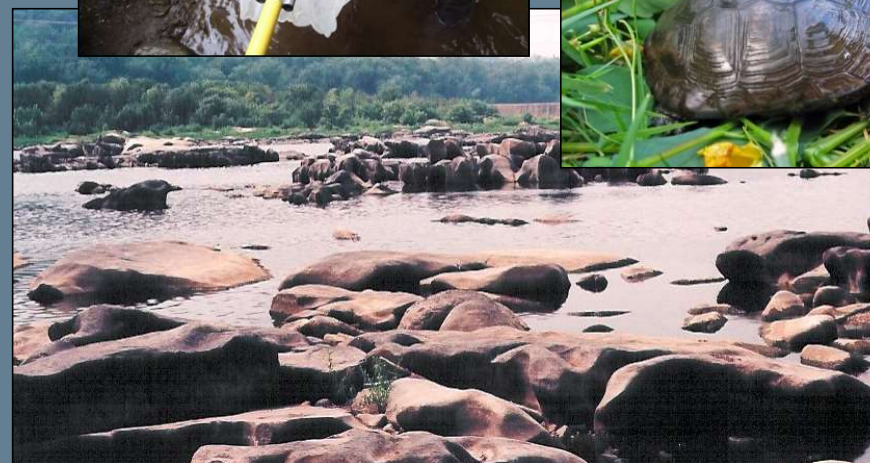
REGULATORY THRESHOLDS

- Groundwater Withdrawals
 - 100,000 gpd
- Surface Water Withdrawals
 - 100,000 gpd
- Consumptive Use
 - 20,000 gpd
- Diversions
 - Into-Basin : Any Amount
 - Out-of-Basin : 20,000 gpd
- Natural Gas
 - Withdrawals and Consumptive
Any quantity

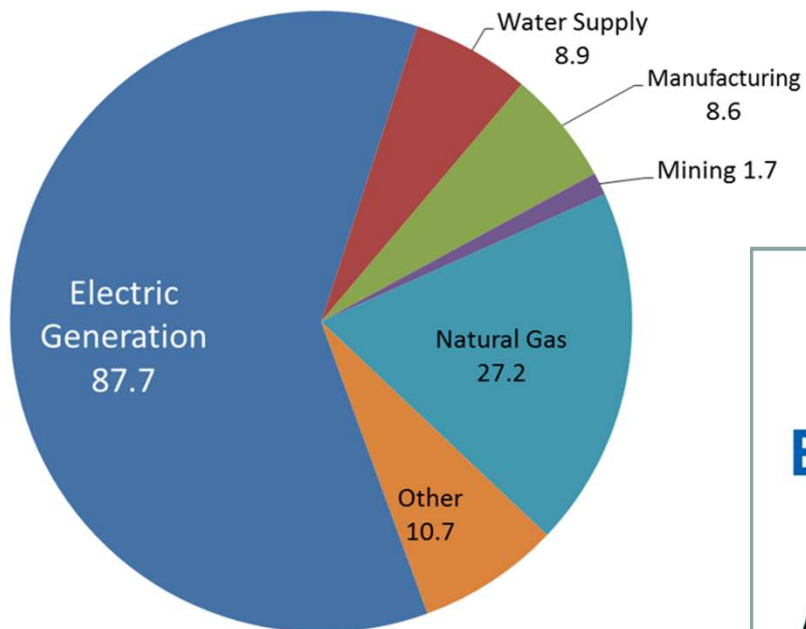


ENVIRONMENTAL & WATER AVAILABILITY CONCERNS

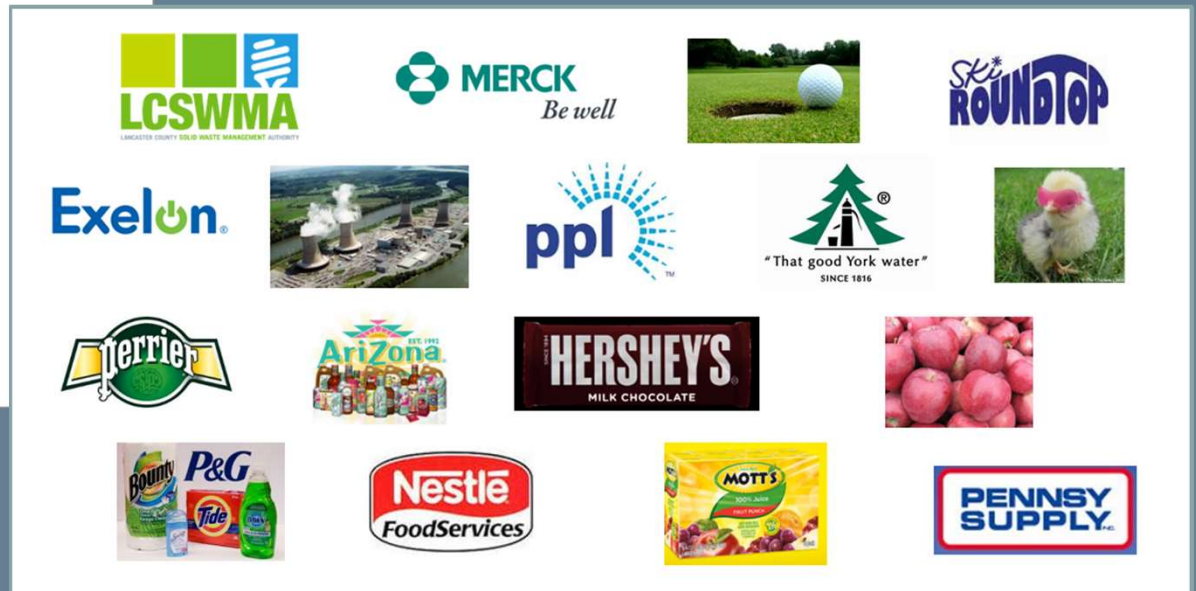
- Sustainability for Multiple Uses
- Avoidance of adverse impacts
- Sensitive features – wetlands
- Loss of Fishery Habitat
- Impacts on Recreational Uses
- Cumulative Impacts
- Intake Design Review and Coordination



Who Uses Water? What Do We Regulate?



Water Use By Sector
(Million Gallons/Day)



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Consumptive Water Use Mitigation



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Consumptive Water Use Mitigation

Cowanesque



Curwensville



Develop Additional Consumptive Use Mitigation

- Non-traditional storage
- New policy - alternate methods



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Policy Number: Policy No. 2020-01

Title: Consumptive Use Mitigation Policy

Effective Date: March 13, 2020

Authority: Public Law 91-575, 84 Stat. 1509 *et seq.*, Sections 3.1, 3.4(2), 3.5(1), 3.10, 4.1, 4.2, 7.1, 7.2, 12.2, 14.1, 14.2, and 15.1, 18 CFR §§ 801.0, 801.5, 801.6, 801.9, 806.4, 806.5, and 806.22.

Policy: The Susquehanna River Basin Commission (Commission or SRBC) established regulatory requirements for consumptive uses of water at Part 806. Section 806.22(b) specifies that all project sponsors whose consumptive use is subject to review and approval shall mitigate such consumptive use. Mitigation may be provided by one or a combination of



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Alternate Mitigation Methods

- Demand Modification Alternatives
 - Water conservation, water reuse & recycling, & increased groundwater recharge
- Environmental & Water Quality Alternatives
 - Wetland restoration, dam removal, AMD remediation, stormwater BMPs, floodplain reconnection, and riparian buffer projects.



Encouraging Sustainable Water Use

RESOLUTION NO. 2015-02

A RESOLUTION of the Susquehanna River Basin Commission encouraging the use of dry cooling technology for power generation and other facilities for the conservation of the waters of the Susquehanna River Basin (the "basin").

WHEREAS, the Susquehanna River Basin Commission (the "Commission") has always encouraged water conservation, particularly when that use is consumptive with respect to the waters of the basin; and

WHEREAS, the reported basinwide consumptive use for power generation is approximately 93 million gallons per day, or 73 percent of all reported consumptive use in the basin; and

WHEREAS, it has been the practice of the Commission to encourage pre-arranged meetings between project sponsors and Commission staff to determine utilization of appropriate cooling technology given the water availability within a particular basin; and

WHEREAS, the Commission recognizes that an increasing number of power generating facilities, most recently combined cycle natural gas powered plants, are utilizing dry cooling technology to reduce the environmental footprint in the basin, and are deriving efficiencies in operations that are equivalent to wet cooling processes; and

WHEREAS, it has been the practice of Commission staff to encourage project sponsors to consider dry cooling based on the technology's greatly reduced water need; and



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Policy Number: Policy No. 2021-04

Title:

Effective Date: December 17, 2021

Authority:

Policy:

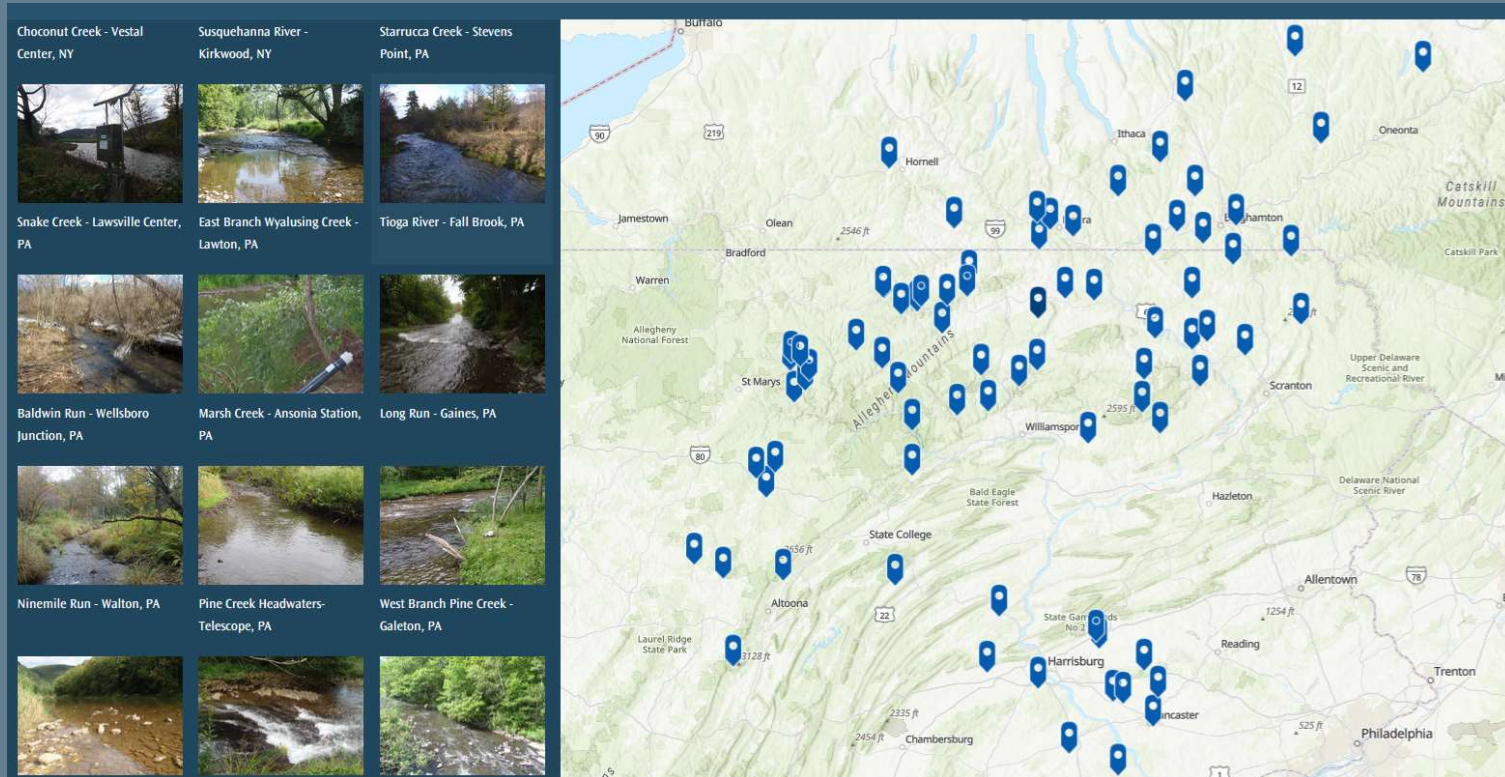
SRB Compact, § 3.5, Public Law 91-575, 84 Stat. 1509 *et seq.*

The Susquehanna River Basin Commission (Commission or SRBC) encourages the use and reuse of impacted water, specifically waters impacted by abandoned mine drainage and treated wastewater, through the use of fee and timing review incentives. It shall be the policy of the Commission to offer incentives to projects using these impacted waters, to the extent such projects conform with any and all criteria established by the Commission as part of this policy and that the use of these waters avoids adverse impacts to waters of the Basin. The withdrawal and consumptive use of these waters is subject to the full regulatory review process under 18 CFR Part 806. The use of impacted waters must not be adverse to the water resources of the Basin.

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Continuous Instream Water Quality Monitoring



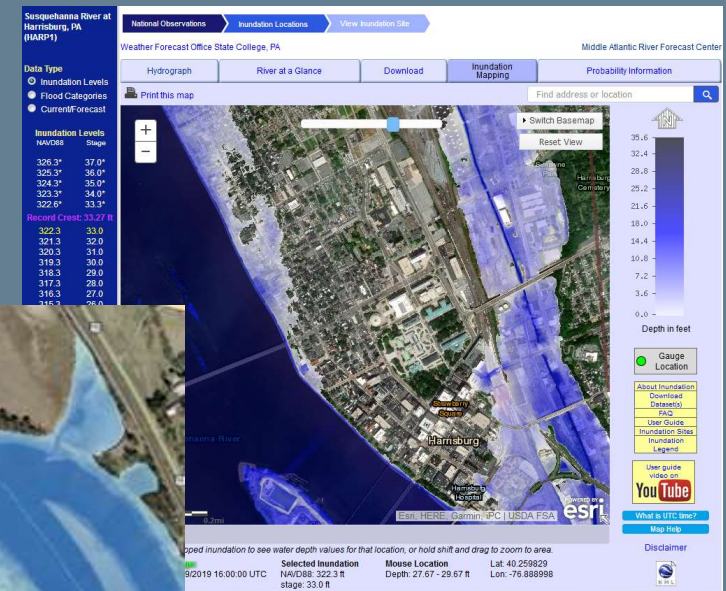
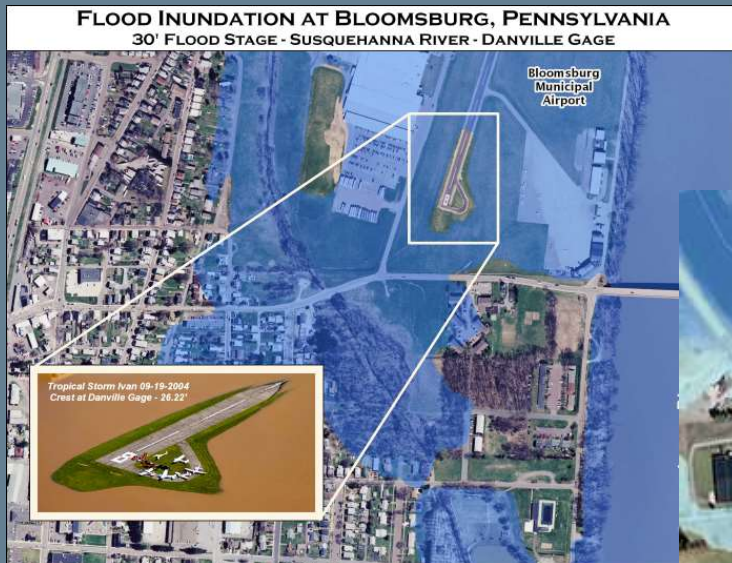
Remediate Abandoned Mine Drainage and Mine Land Impacts

- Develop Restoration Plans
- Implement treatment and track success
- Fill implementation gaps
- Develop project pipeline

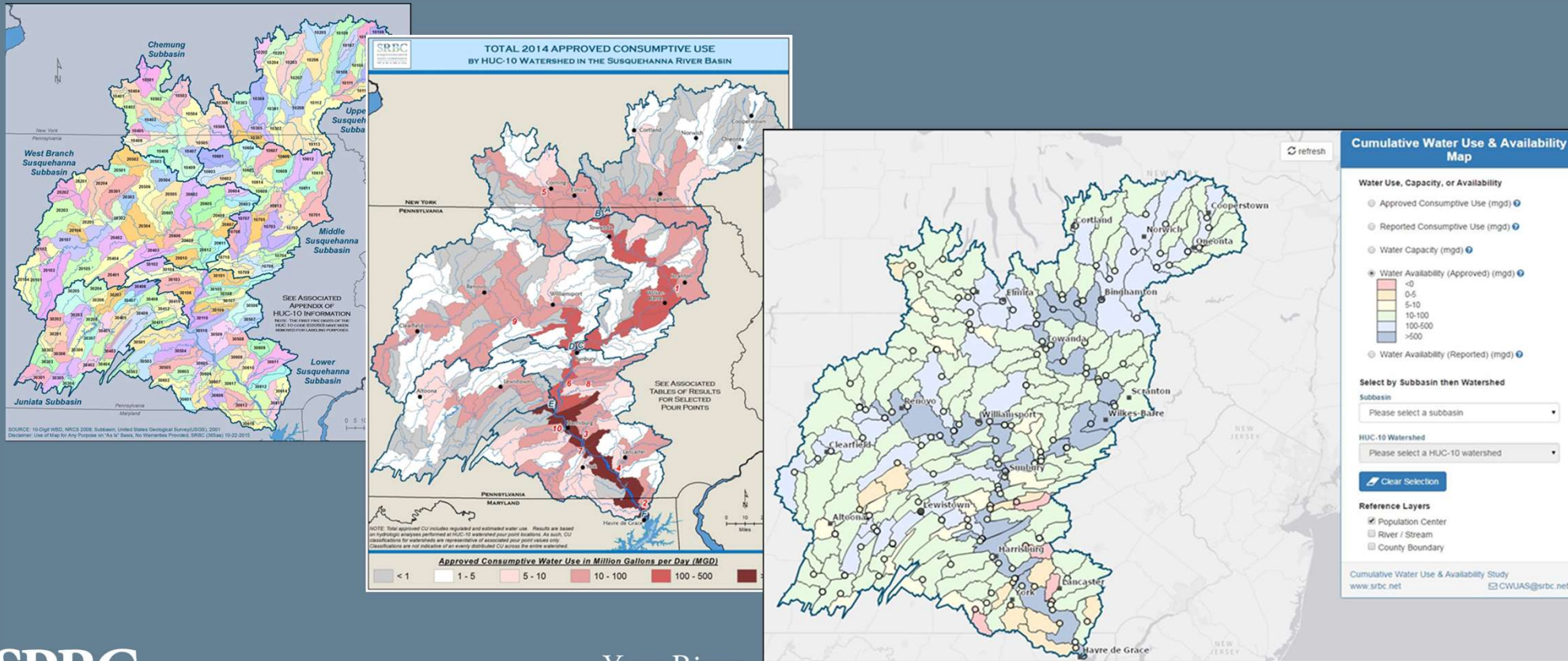


Improve Community Flood Preparedness

- Advocate for robust monitoring and forecasts
- Prepare flood inundation maps
- Conduct post-flood assessments



Cumulative Water Use and Availability Study



Emerging Challenges



DATA CENTERS

YOU KNOW THEY REQUIRE A LOT OF ENERGY... BUT DO YOU KNOW THE WATER DEMANDS?

Growing Quickly

- Data Storage
- Artificial Intelligence
- Cryptocurrency Operations

Many communities are welcoming these facilities, as they offer benefits such as jobs and tax revenue.

High Power Demands

Power demands are so high, new power plants have been proposed solely to provide the facility's electricity needs.

But Don't Forget the Water

Water needs for a single facility can exceed 5 million gallons every day!

Alternatives Exist

Innovative cooling technologies and water conservation techniques can greatly reduce water demand while, at the same time, offering other related benefits:

- Lower siting options
- Lower operational costs
- Quicker permitting

Before undertaking planning for an energy intensive data center, please add water needs to the discussion!

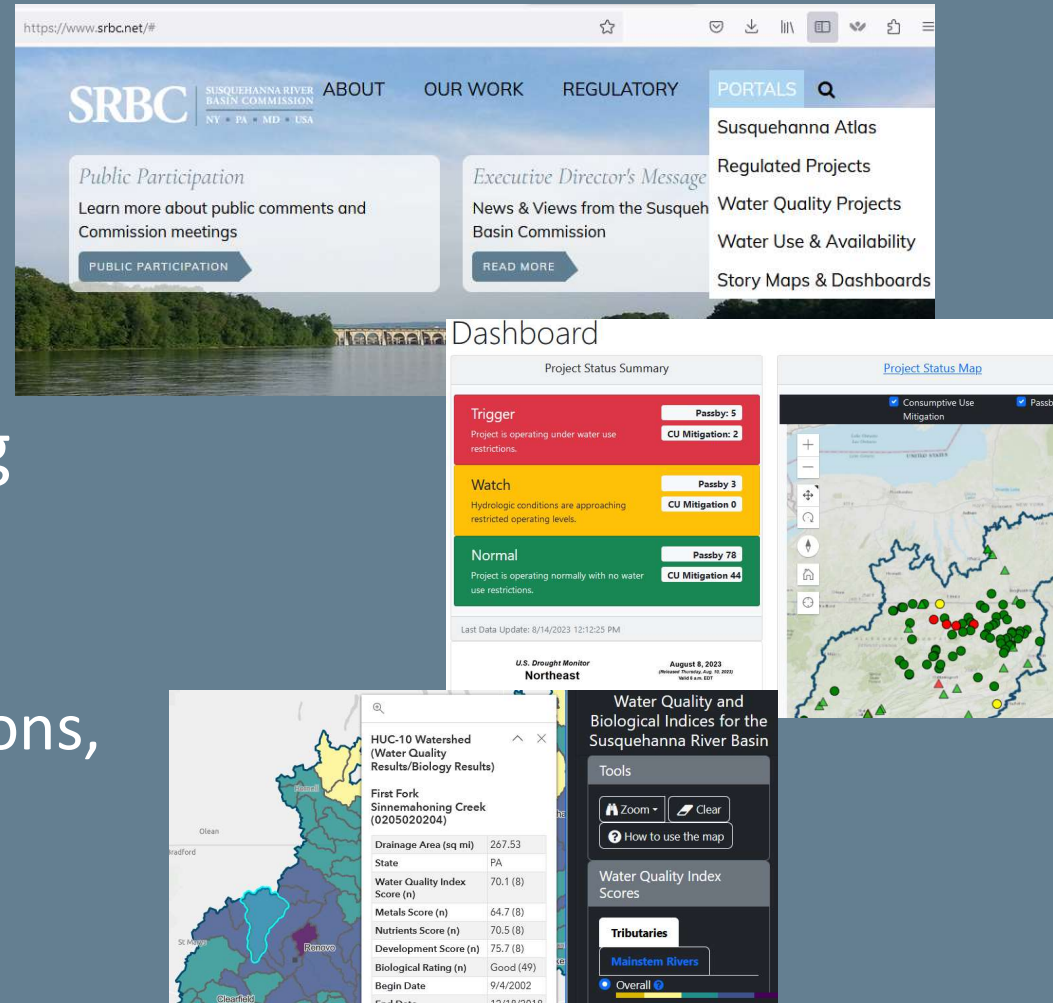
Have Questions? We want to be a resource!

SRBC Your River. Our Mission.

717-238-0423
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Engaging Stakeholders

- Portals & Maps
- Data Sharing and Reports
- Water Quality Monitoring
- Technical Assistance
- Public Commenting
 - Withdrawal/use applications, policies, plans, etc.
- Grants





NATURAL GAS INDUSTRY WATER USE

NATURAL GAS INDUSTRY WATER USE

Susquehanna River Basin, 2019 - 2023 Update

Establishing a Stream Salinization Monitoring Framework in the Susquehanna River Basin: Phase II

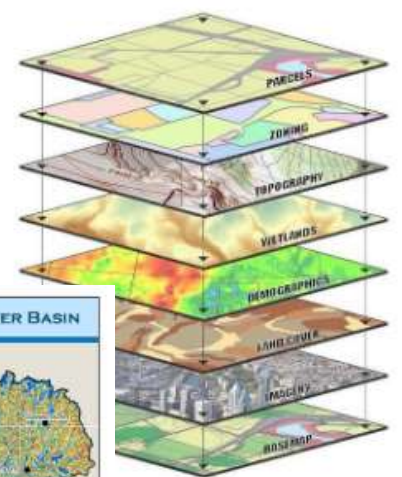
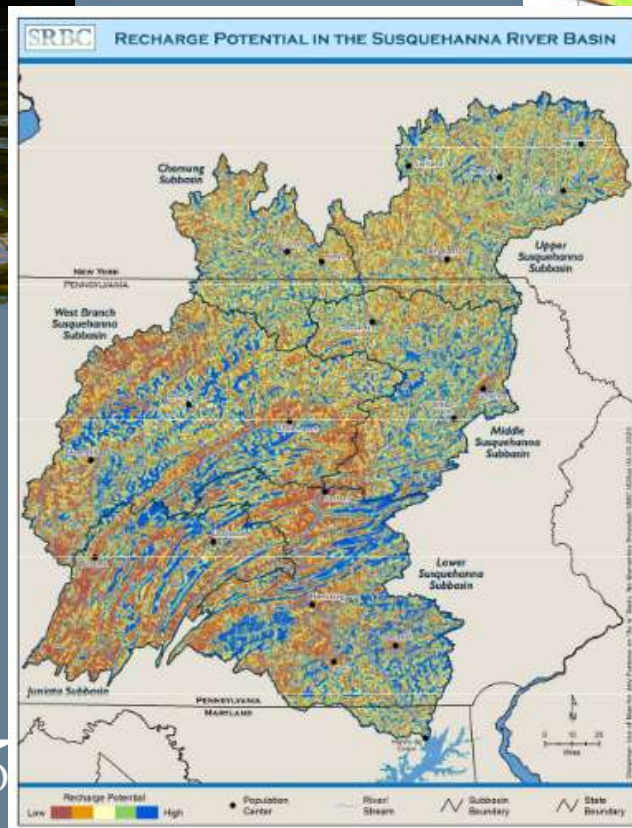
Publication No. 342

December 2024

Luanne Steffy and Johanna Hripto



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Grants

Stream & Watershed Enhancement Grant

Provides funding for community-based environmental and water resources projects or events that improve, restore or protect our local watersheds.

- Anticipated open date: **Late Summer 2025**
- Individual Grant Award cap: **\$5K**
- Total Grant Fund: **\$150K**
- **No** cash match required

Consumptive Use Mitigation Grant

Competitive grant program funding projects that reduce water use or increase water availability during critical low flow periods.

- Anticipated open date: **Late Fall 2025**
- Individual Grant Award cap: **\$100k+**
- Total Grant Fund: **\$4-6M**
- Minimum cash match: **20%**

Thank You!



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