

Water Use and Data Centers



Tioga County Planning Commission Meeting
February 11th, 2026

The Basin

- 27,510 square-mile watershed
- Comprises 43% of the Chesapeake Bay watershed
- 49,000+ miles of waterways
- 4.1 million population
- 60% forested

The Susquehanna River

- 444 miles, largest tributary to the Chesapeake Bay
- Supplies ~26 billion gallons per day to the Bay (about 50% of the freshwater inflow)
- Largest river lying entirely in the US that flows into the Atlantic

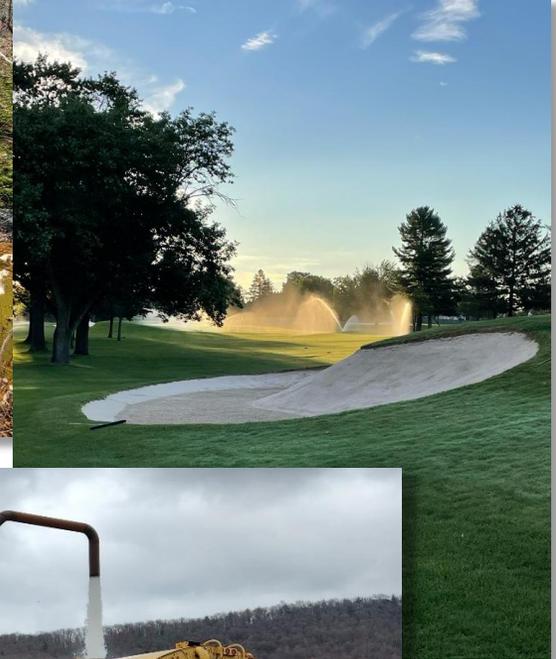
SRBC Mission

- Enhance public welfare through comprehensive planning, water supply allocation, and management of the water resources of the Basin.
 - Regulatory authority includes water withdrawals, diversions and consumptive use
 - Non-regulatory / Coordination role in most other water resource issues



SRBC Regulatory Thresholds

- Groundwater Withdrawals
 - 100,000 gallons per day (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 & Consumptive Use: Any Amount



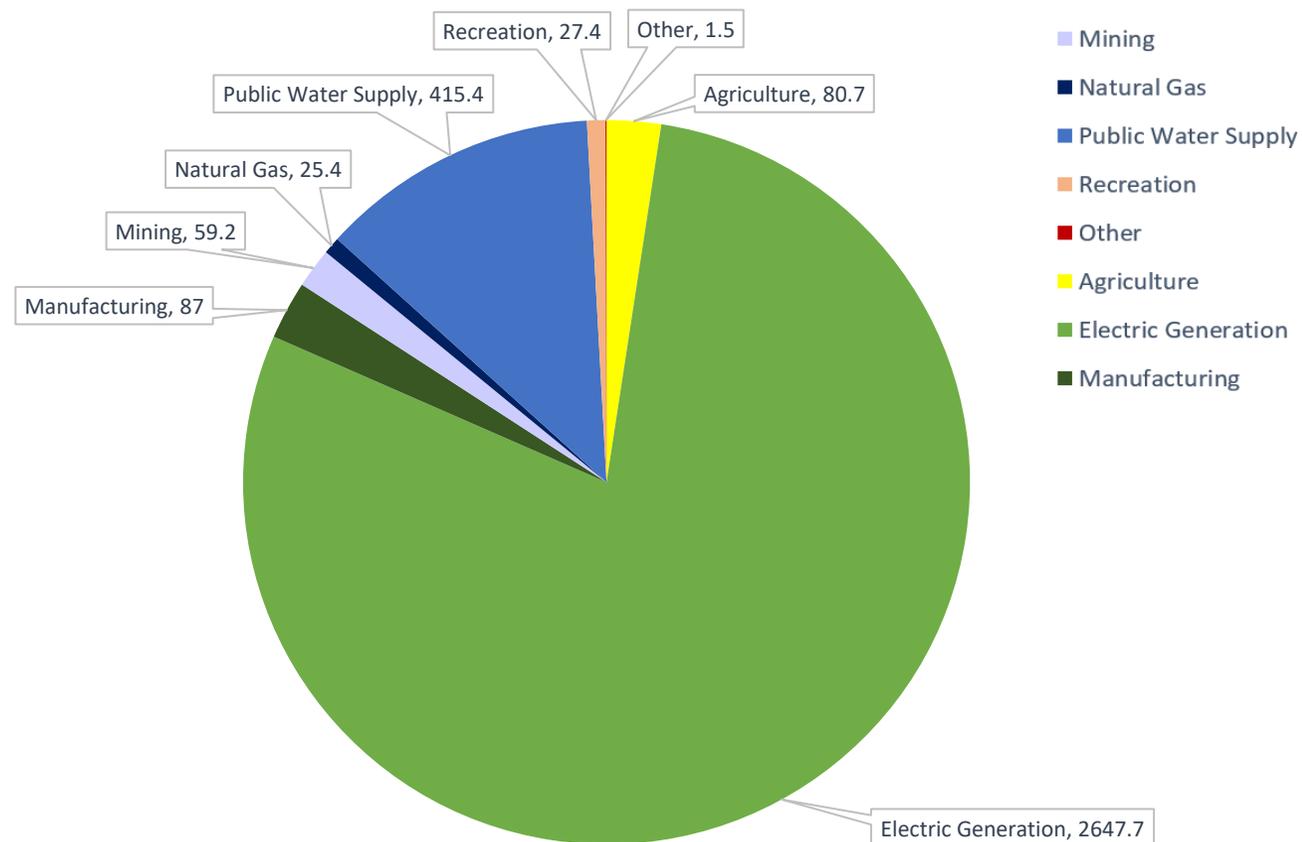
Who Uses Water?



2020 SRB Water Withdrawals

Total Water Withdrawals from the Susquehanna River Basin in 2020:

~3.3 Billion Gallons Per Day
(bgd) - all values based on
days used



Consumptive Water Use = CU

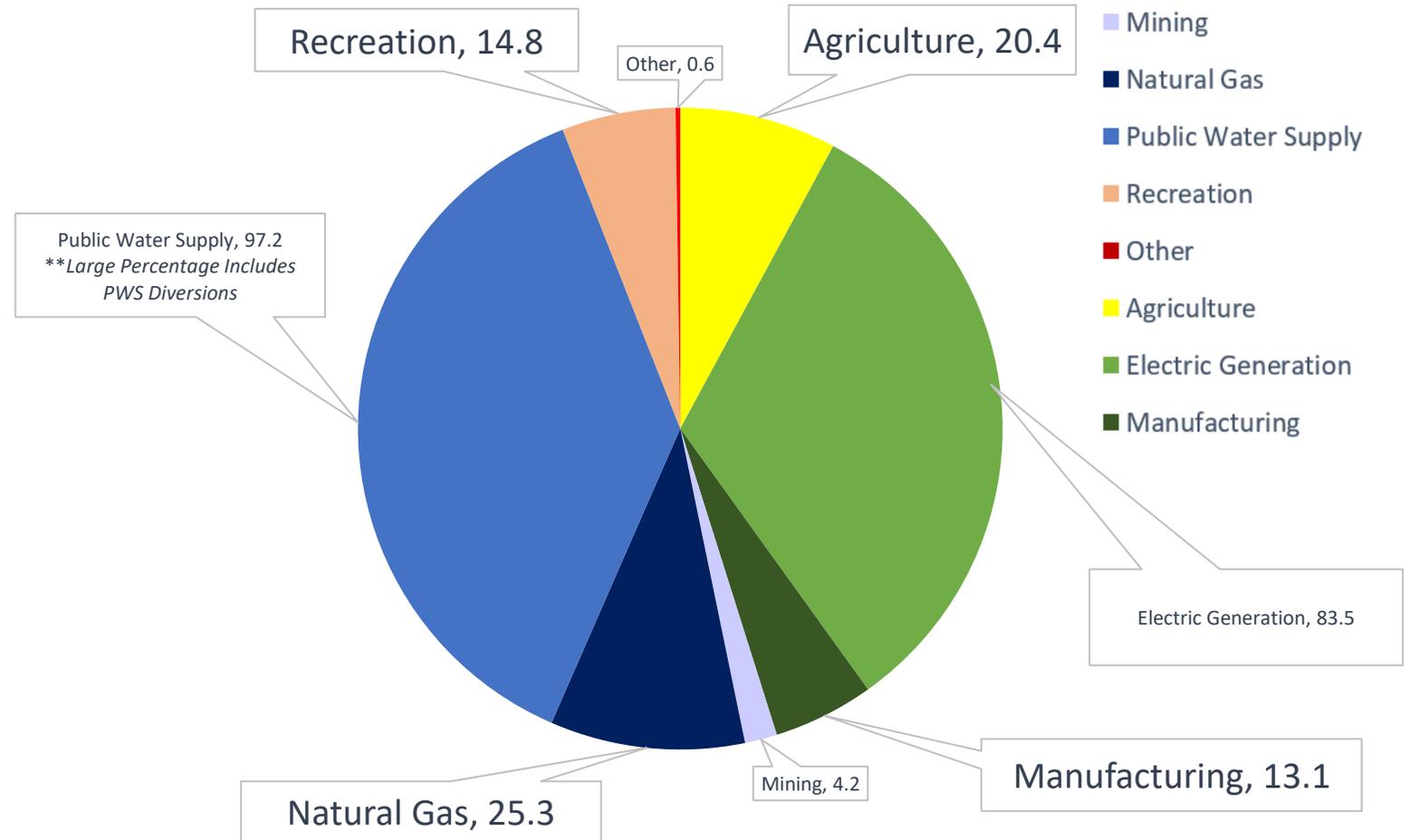
Water that is used but not returned to rivers and streams because it is evaporated, transpired, incorporated into products, or otherwise lost.



2020 SRB Consumptive Use

Total Consumptive Use from the Susquehanna River Basin in 2020:

~260 million gallons per day
(1% of average flow;
25% of lowest drought flow)



Water Use and Data Centers

Rapidly Growing/Evolving Industry

- “Hyperscale” - Artificial Intelligence, Cryptocurrency

Water Demands

- High speed computing generates a lot of heat
- Traditionally, water-based cooling systems are convenient/cost effective but can use millions of gallons of water per day
- Source of water – surface water or groundwater withdrawals, public water supply, treated wastewater
- Consumptive use of water – water lost through evaporation due to cooling process



Power Demands

- New power plants proposed
- Big partnerships (Google & Brookfield hydropower, Amazon & Talen nuclear, Microsoft & TMI)

DATA CENTER ACTIVITY IN THE SUSQUEHANNA BASIN (FROM A WATER MANAGEMENT PERSPECTIVE)

- **PRIMARY USE OF WATER IS FOR COOLING PURPOSES GIVEN HEAT GENERATED**
 - SOURCE OF WATER – SURFACEWATER OR GROUNDWATER WITHDRAWALS, PUBLIC WATER SUPPLY, TREATED WASTEWATER
 - CONSUMPTIVE USE OF WATER – WATER LOST THROUGH EVAPORATION DUE TO COOLING PROCESS
 - WATER NEEDS MAY ONLY BE WEEKS OF THE YEAR DURING THE WARMER MONTHS (SEASONAL DEMAND)
- **PROPOSED COOLING TECHNOLOGIES VARY GREATLY – RANGE FROM EVAPORATIVE COOLING (MORE WATER), HYBRID COOLING (LESS WATER), TO DRY COOLING (NO/MINIMAL WATER)**
 - COOLING APPROACH DICTATES WATER DEMAND (MILLIONS OF GALLONS TO LESS THAN 20,000 GALLONS PER DAY)
 - SRBC IS ENCOURAGING CONSIDERATION OF WATER CONSERVATION TECHNOLOGY (RESOLUTION 2025-03)
- **FIRST APPROVAL OF WATER USE IN SEPTEMBER 2024 – 60,000 GALLONS CONSUMPTIVE USE PER DAY (NO WATER USED TO DATE FOR COOLING) – ANTICIPATED FULL EXPANSION WILL INCREASE WATER USE**
- **MAINTAINING A TRACKING LIST OF OVER 20 PROPOSED PROJECTS**

DATA CENTER ACTIVITY IN THE SUSQUEHANNA BASIN (FROM A WATER MANAGEMENT PERSPECTIVE)

- **WATER USE IN CONTEXT (VERY GENERALLY) ...**
 - POWER GENERATION – 10'S OF THOUSANDS OF GPD TO 10S OF MILLIONS OF GALLONS PER DAY
 - FOOD INDUSTRY, FACILITY HEATING/COOLING, ETC. – 100S OF THOUSANDS OF GALLONS PER DAY
 - IRRIGATION FOR GOLF COURSES, ATHLETIC FIELDS, SNOWMAKING, ETC. – 10S OF THOUSANDS TO 100S OF THOUSANDS OF GALLONS PER DAY
- **ANTICIPATE INCREASED WATER USE TO MATCH POWER GENERATION NEEDED TO ACCOMMODATE DATA CENTERS**
- **ANY WITHDRAWAL OR CONSUMPTIVE USE EXCEEDING COMMISSION THRESHOLDS WILL REQUIRE APPROVAL AND DAILY REPORTING OF WITHDRAWAL AND CONSUMPTIVE USE**



QUESTIONS?