

# Moormans River Trout Update



CONSERVE. CONNECT. PROTECT.



# Recent Changes Moormans River

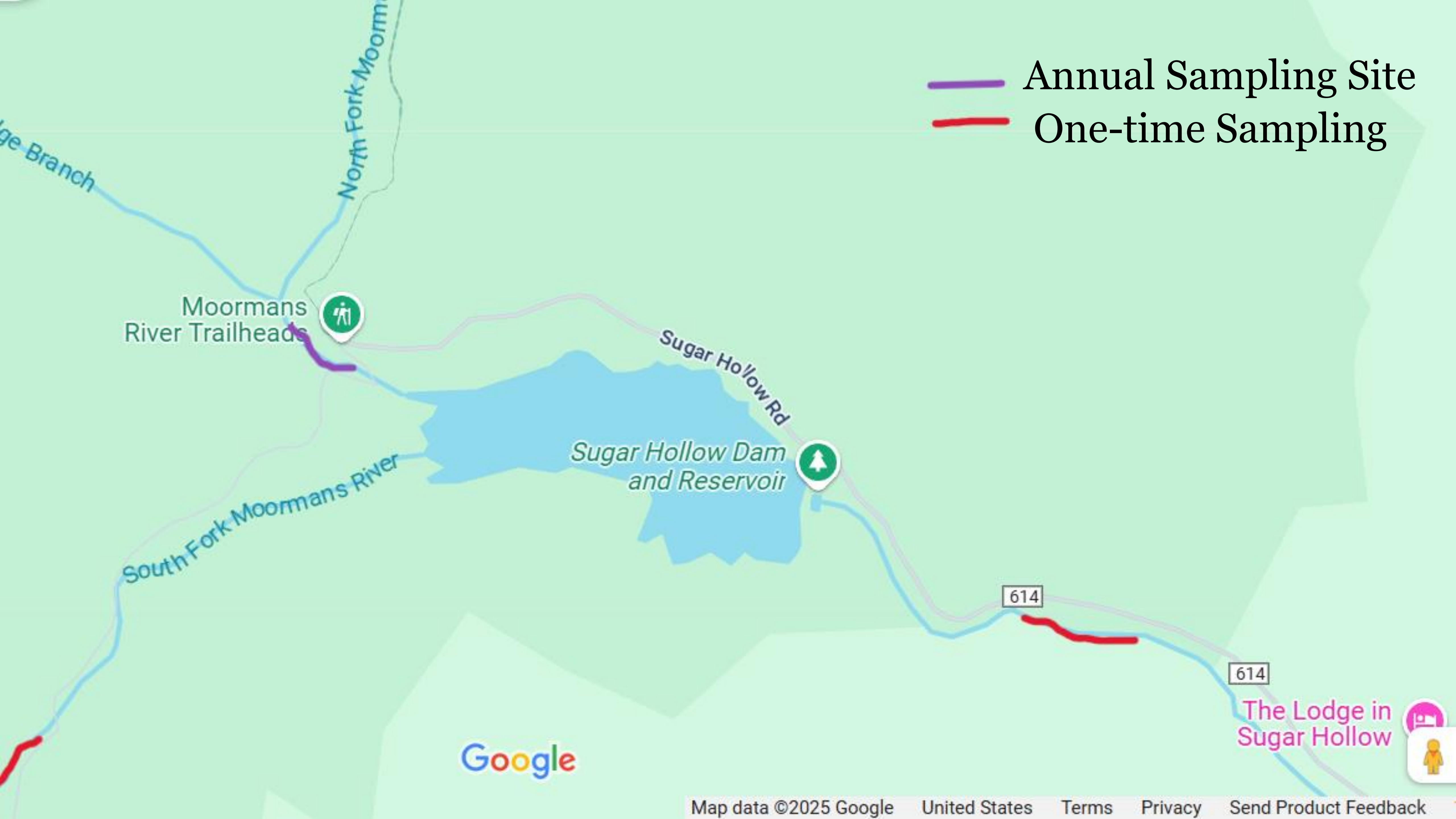
- North Fork between Sugar Hollow and Park removed from stocked Trout Program in 2019 due to access issues
- North Fork section changes to catch and release trout water in 2023, based on fish surveys in 2021 and angler requests
- South Fork still put-and-take B water with Brook Trout only
- Sugar Hollow still put-and-take A water with Brook and Rainbow Trout



# Fish Community Sampling

- Moormans River drainage sampled over the years, usually in Shenandoah Park areas in collaboration with NPS
- Sampling discontinued in mid 2000's due to access and permit issues
- Sampling program reestablished in 2021 after North Fork stockings discontinued to look at Brook Trout, only on RSWA and City property









# Sampling Results

- **12 species collected in sites above reservoir**
  - **Mostly cool water species including good numbers of adult and YOY Brook Trout**
- **13 species collected in sites below reservoir**
  - **More warm water species present including Smallmouth Bass, American Eel, and Fallfish**
  - **Only 1 Brook Trout (Adult)**

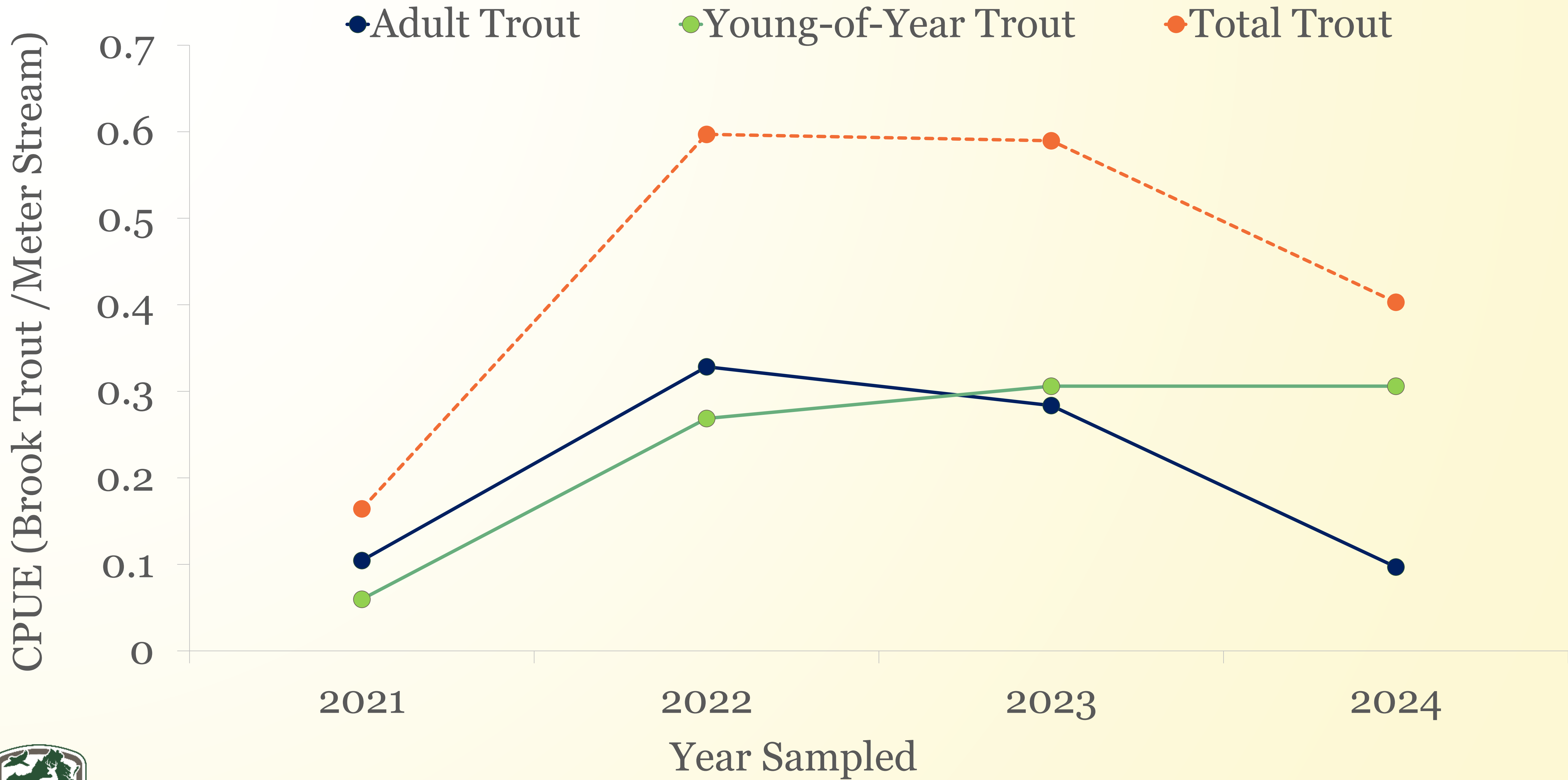




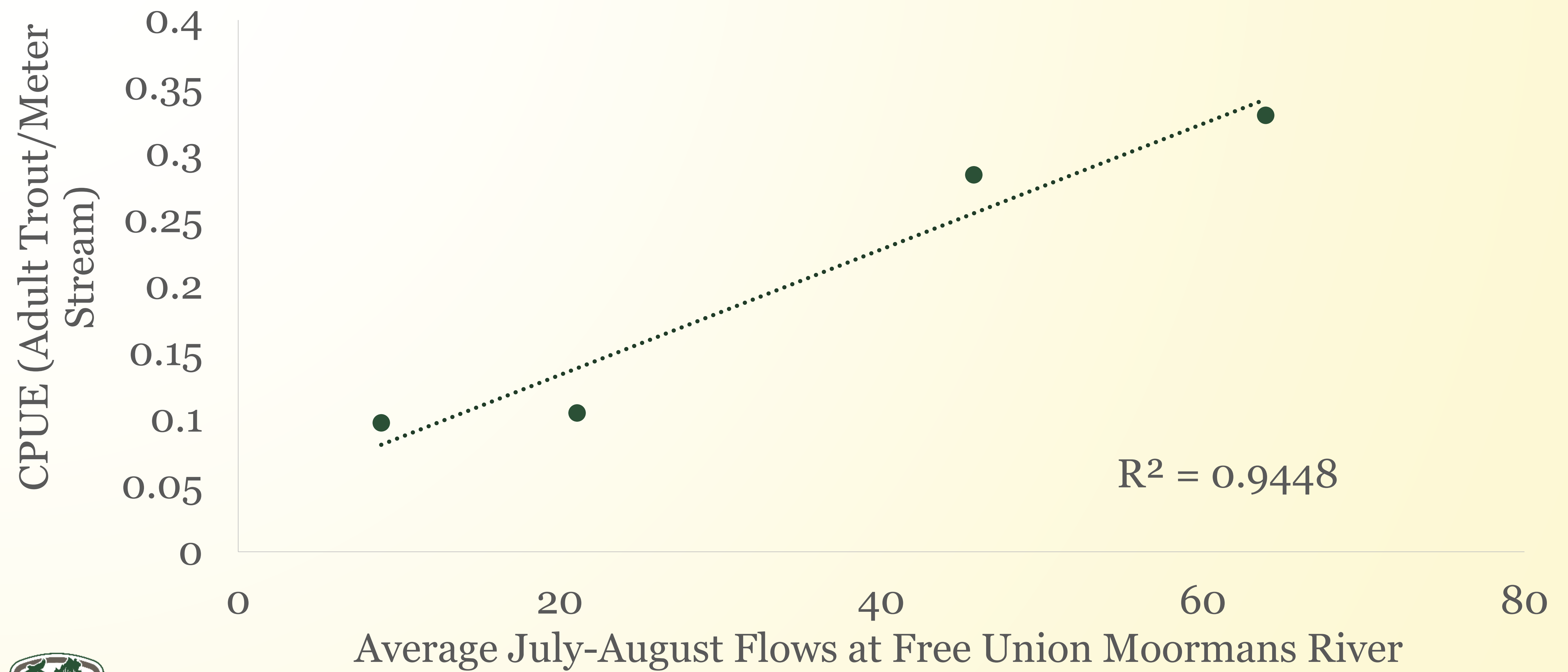
# Brook Trout Data, North Fork







# Summer Flows Related BT Catches, North Fork





# Population Size of Brook Trout, North Fork

	Young of Year Brook Trout	Adult Brook Trout (> 110 mm)
Estimated Population Size at Site	44	35
Confidence Limits	39-49	32-38
Estimated Population/Mile of stream	528	420
Estimated Lbs/Acre	2	53

Calculated from data  
collected in 2023

Rapidan River in  
Madison Numbers

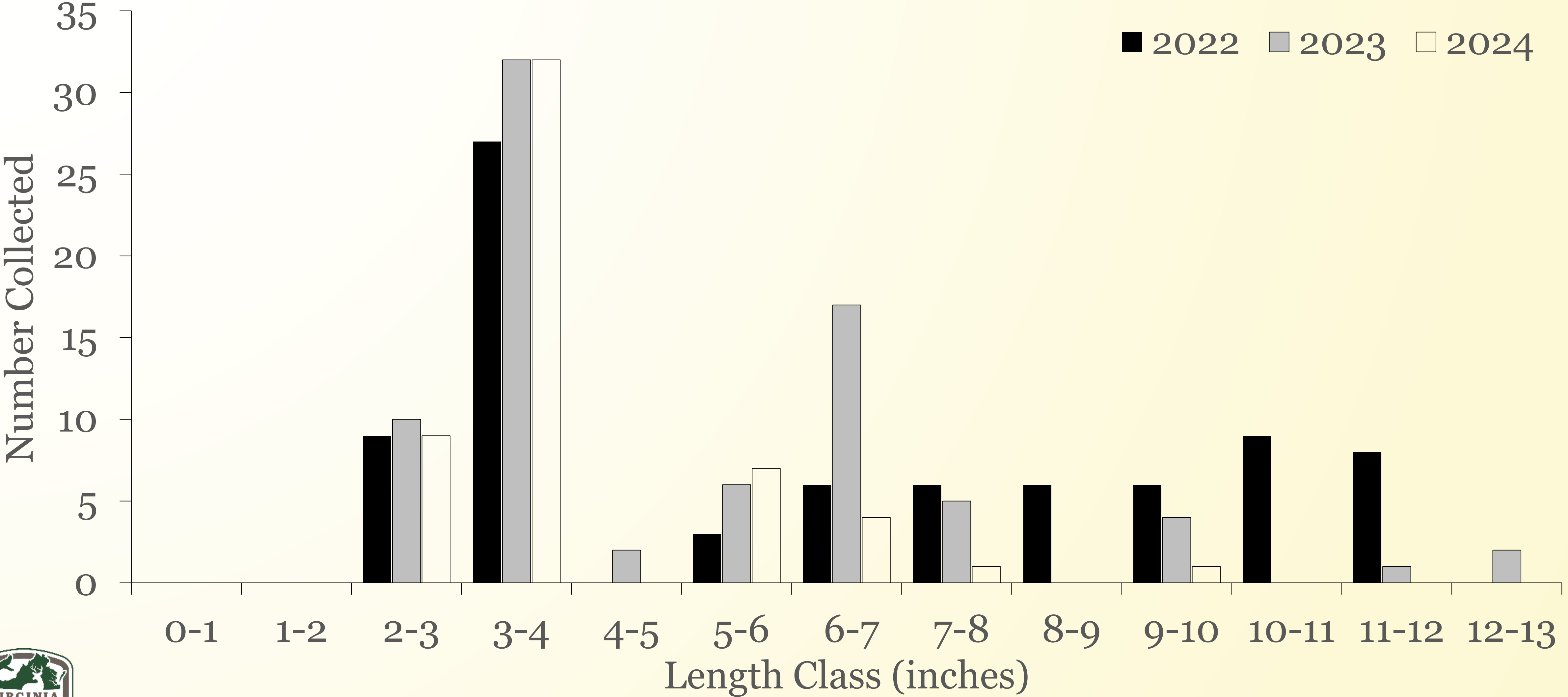
Pop Estimate 4 times  
higher

Biomass 3 times  
higher





# Brook Trout Size Distribution, North Fork





# Water Quality Concerns by TJTU Below Sugar Hollow

- Concerns in changes in RSWA release after bladder installation
- Low flows
- High water temperature
- Suitable summer habitat for trout and other species?





# **RSWA Permit and Release Details**

## **DEQ Permit issues in 2008**

**Required to release incoming flows calculated by formula that uses Moormans, Free Union gage**

**In low flow conditions, RWSA only required to release 0.2 mgd or calculated inflows (could be no flow)**

**RWSA releasing at least 0.3 mgd even in low flows**





# **RWSA Permit and Release Details Cont.**

**RWSA combines releases from two discharge pipes at 7ft and 38ft reservoir outlets to get cooler water**

**RWSA has updated release flows from real-time data and can better measure release flow and close valves remotely which is different from past where they opened outlet manually and left open which was estimated to release 0.5-0.6 mgd**



# **RWSA Permit and Release Details Cont.**

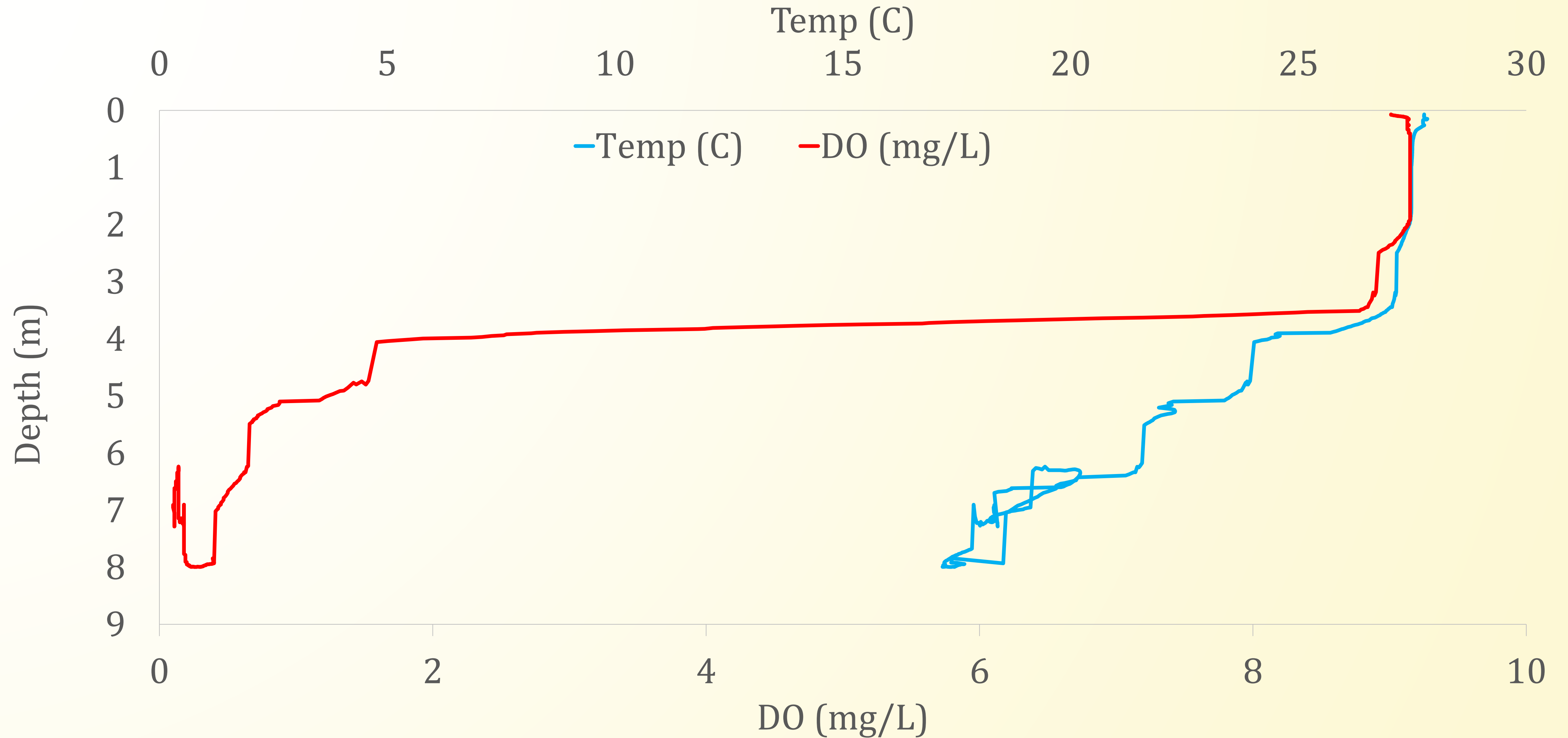
**Low releases have been more frequent with more extreme drought condition experienced in recent years**

**RWSA may consider altering summer discharge regime once pipeline to water supply lakes is completed, 2030?**

**DWR has no authority over RWSA releases and permit**







## Temperature and DO Profile For Sugar Hollow, July 2021



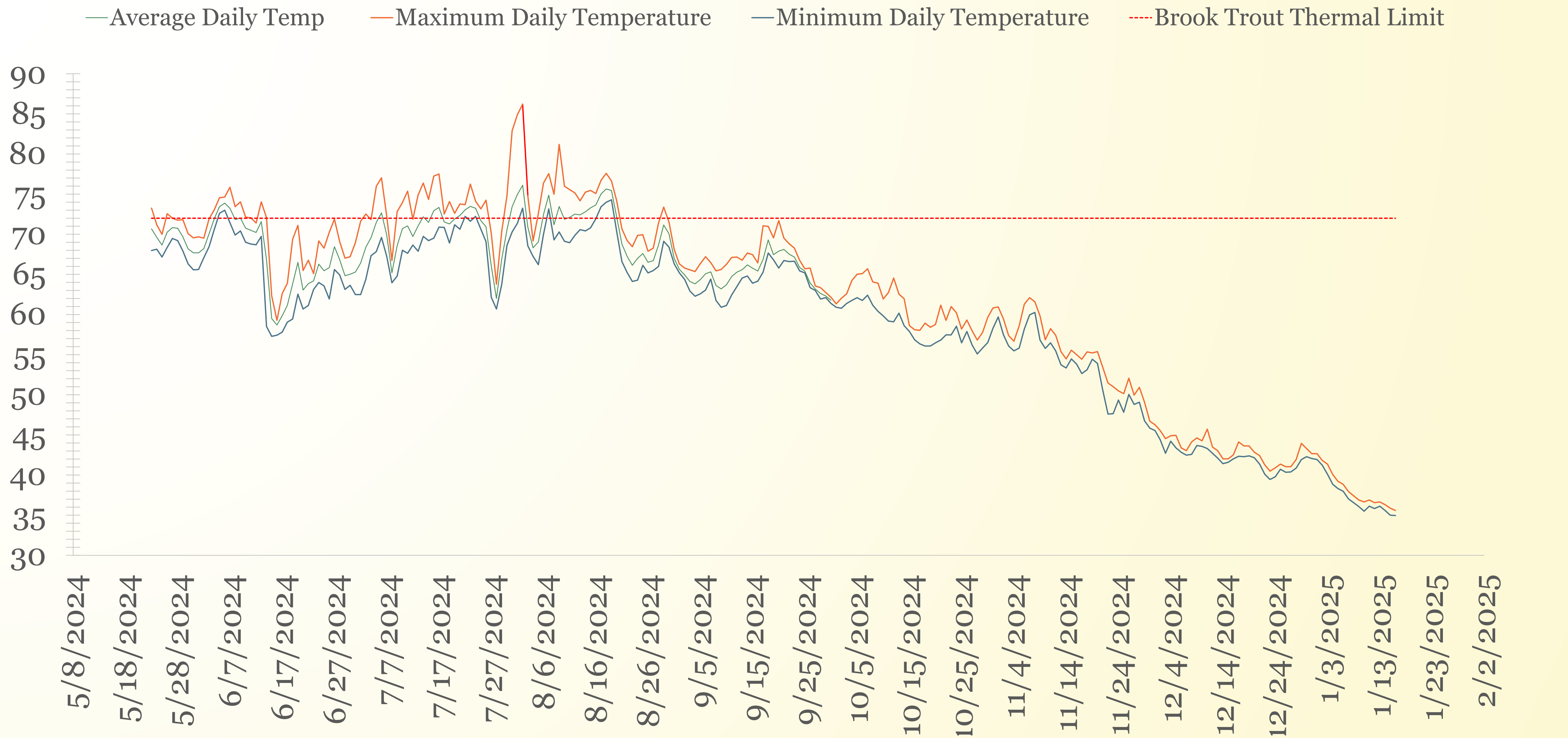
# Water Temperature Loggers Installed Below and Above Sugar Hollow in 2024



- Below Reservoir data pulled in Jan 2025
- No data pulled from North Fork above reservoir due to high flows
- NF logger may have been removed or dislodged

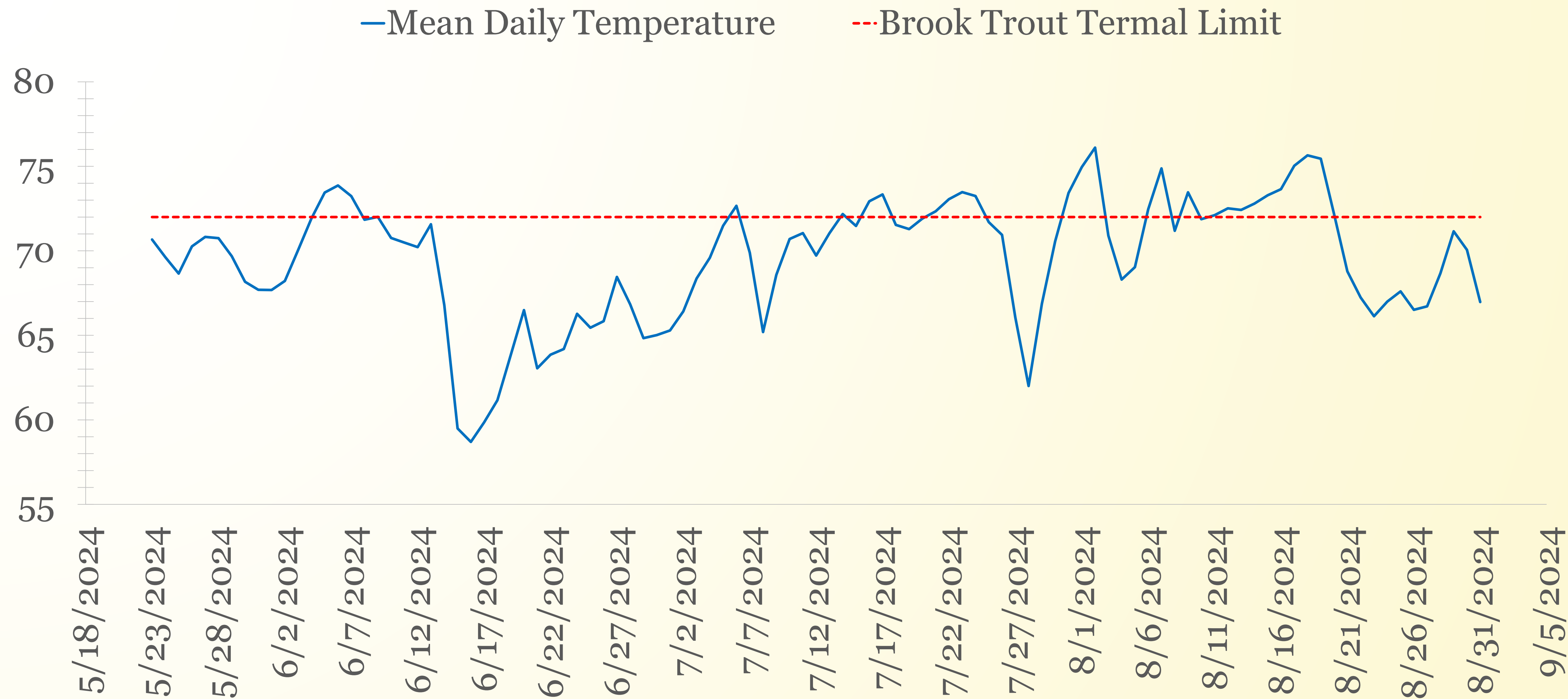






## Temperature Data Below Sugar Hollow, 2024





**Summer Temp Data Below Sugar Hollow for 2024**





# Early Inferences from Water Temperature Data

- **Temperatures get above the stressful temperature threshold for Brook Trout During Summer**
- **Rainbow and Brown Trout likely better to survive**
- **Trout may survive but be stressed and likely no reproduction and suffer capture mortality during summer months**
- **Drought conditions likely to exacerbate issues**
- **Continue monitoring**



# Implications/Actions for TJTU

- **Continue stocking annually for a seasonal trout fishery (September to June), Occasional holdover on wet, high-flow years**
- **Stay involved with RWSA and be active in updated permitting**
- **Request changes in RWSA operations when pipeline is completed**
- **Convert to DWR delayed harvest water**





# Potential Changes in Albemarle Trout Stockings

## Potential closure of road around Sugar Hollow

- Increase hike into South and North Fork
- May warrant stopping stocking in South Fork

## Moore's Creek delayed harvest trout fishery?

- Azalea Park to Quarry Park
- Need more access through private sections
- Fish?





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**Resources**

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