# FFMP Implementation Performance

Release Year 2023-2024
June 1, 2023- May 31, 2024


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## RFAC Meeting

March 20th, 2025

# Data Sources

**All data used in the analysis are provisional.**

Final/approved data are available from:

NYC Department of Environmental Protection (NYCDEP)

Office of the Delaware River Master (ODRM)

United States Geological Survey (USGS)

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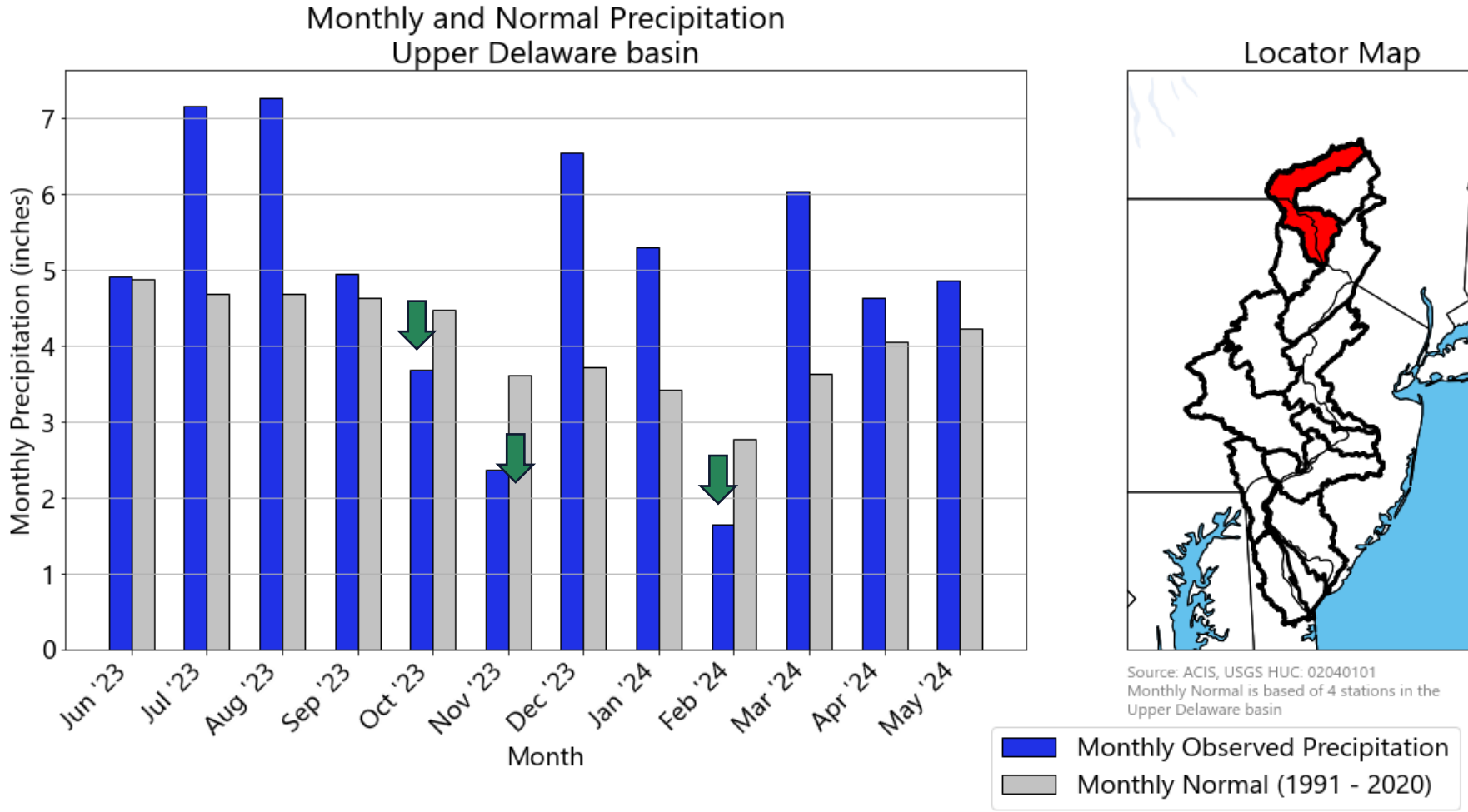
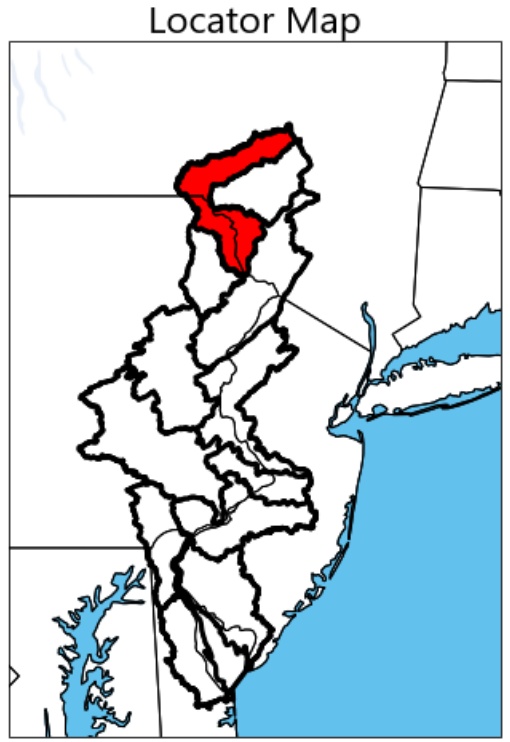
# FFMP Performance Goals

- Manage Droughts
- Maintain Flow Objectives
- Provide enhanced conservation releases
- Maintain desirable tailwater temperatures
- Minimize spills with Conditional Seasonal Storage Objective (CSSO)

# Precipitation – Upper Basin

Above average precipitation occurred for most of the year.




Source: ACIS, USGS HUC: 02040101
Monthly Normal is based of 4 stations in the Upper Delaware basin

Data Source: ACIS

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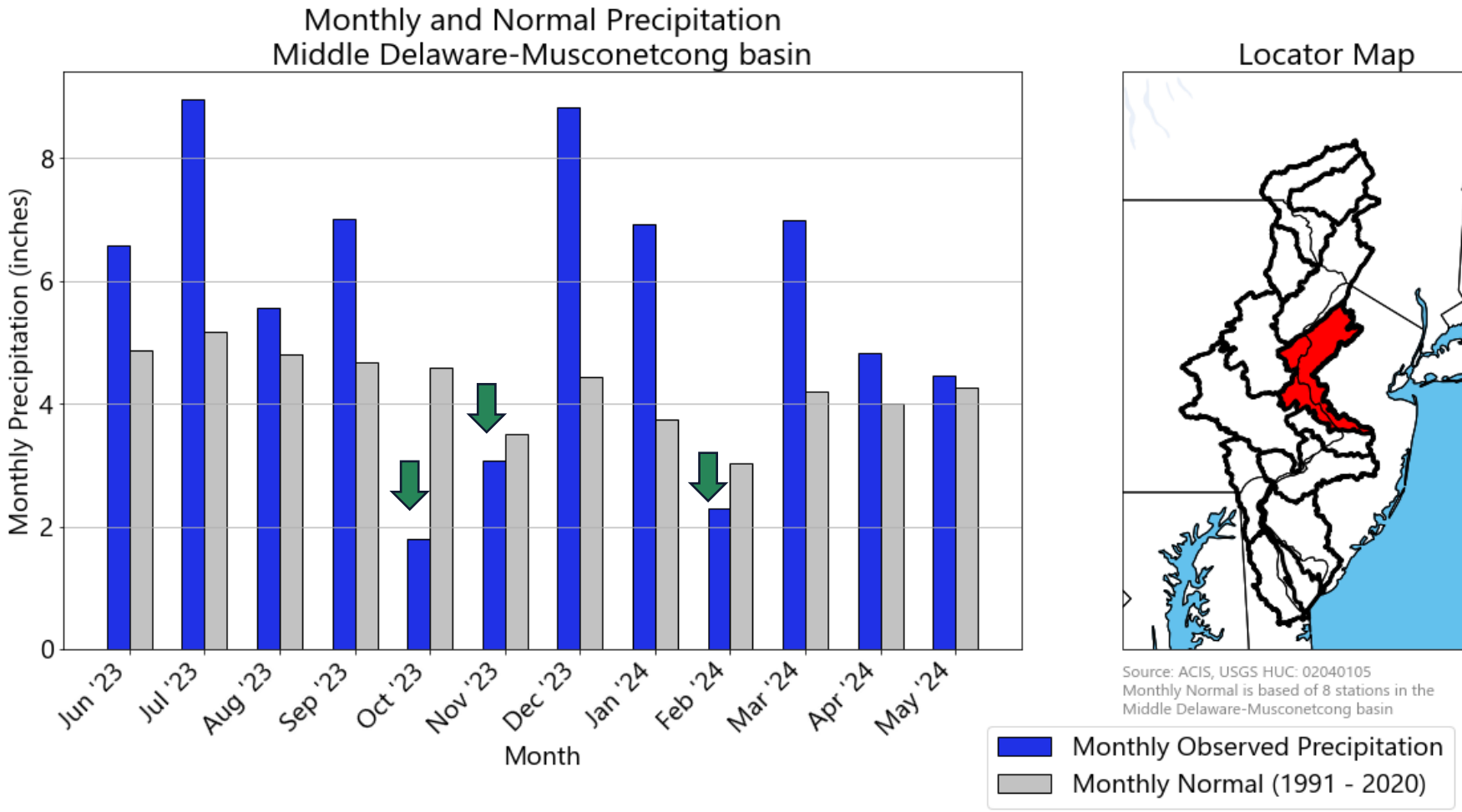
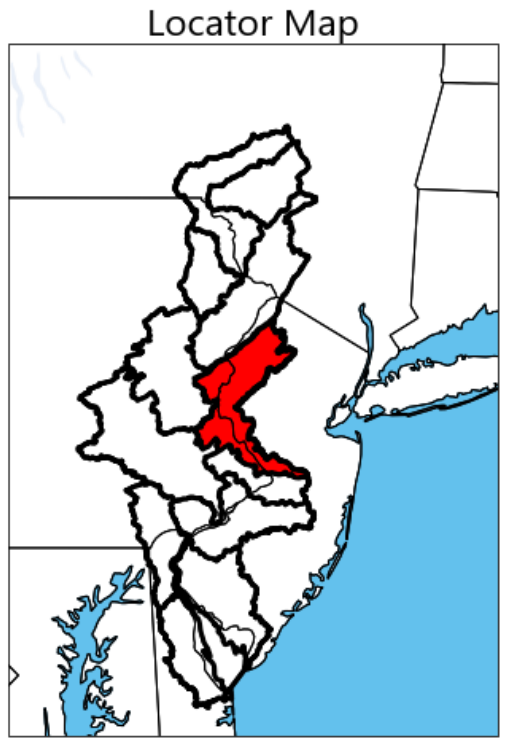
# Precipitation – Middle Basin

Above average precipitation occurred for most of the period.




Data Source: ACIS

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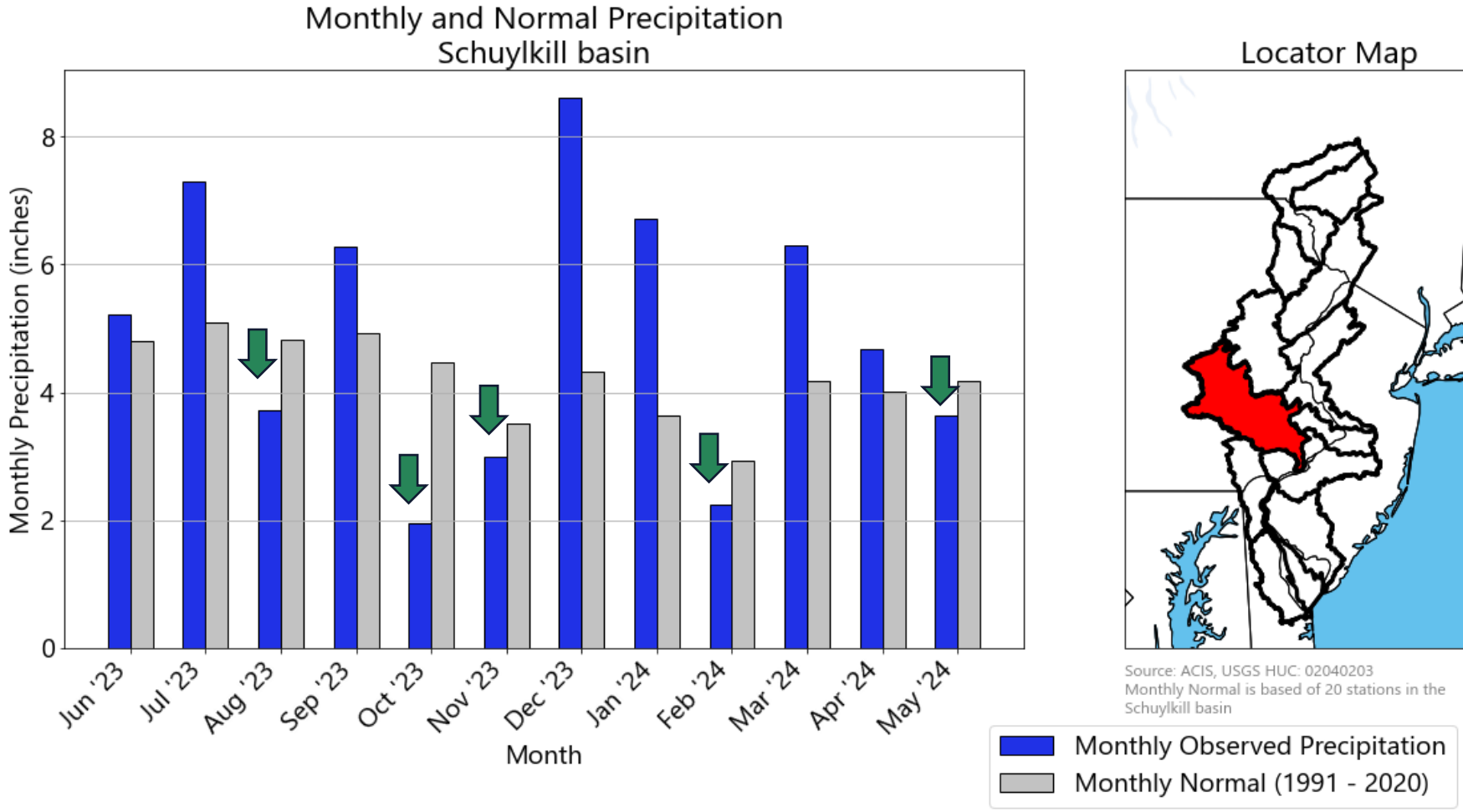
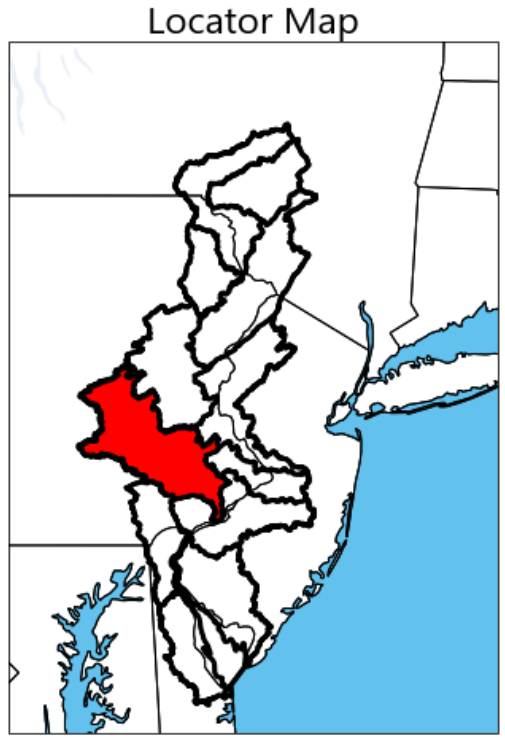
# Precipitation – Lower Basin

Above average precipitation occurred for most of the period.




Source: ACIS, USGS HUC: 02040203
Monthly Normal is based of 20 stations in the Schuylkill basin

Data Source: ACIS

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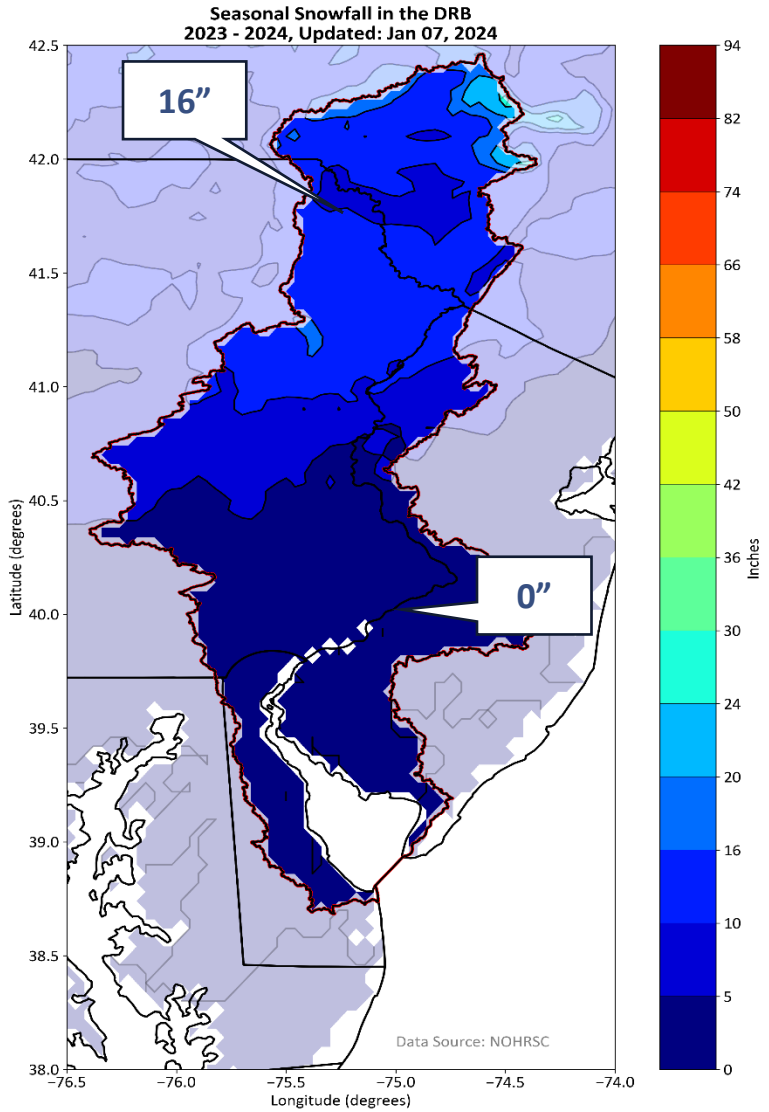
# Snowfall

Some snow in the Upper Basin, but below normal for the season.

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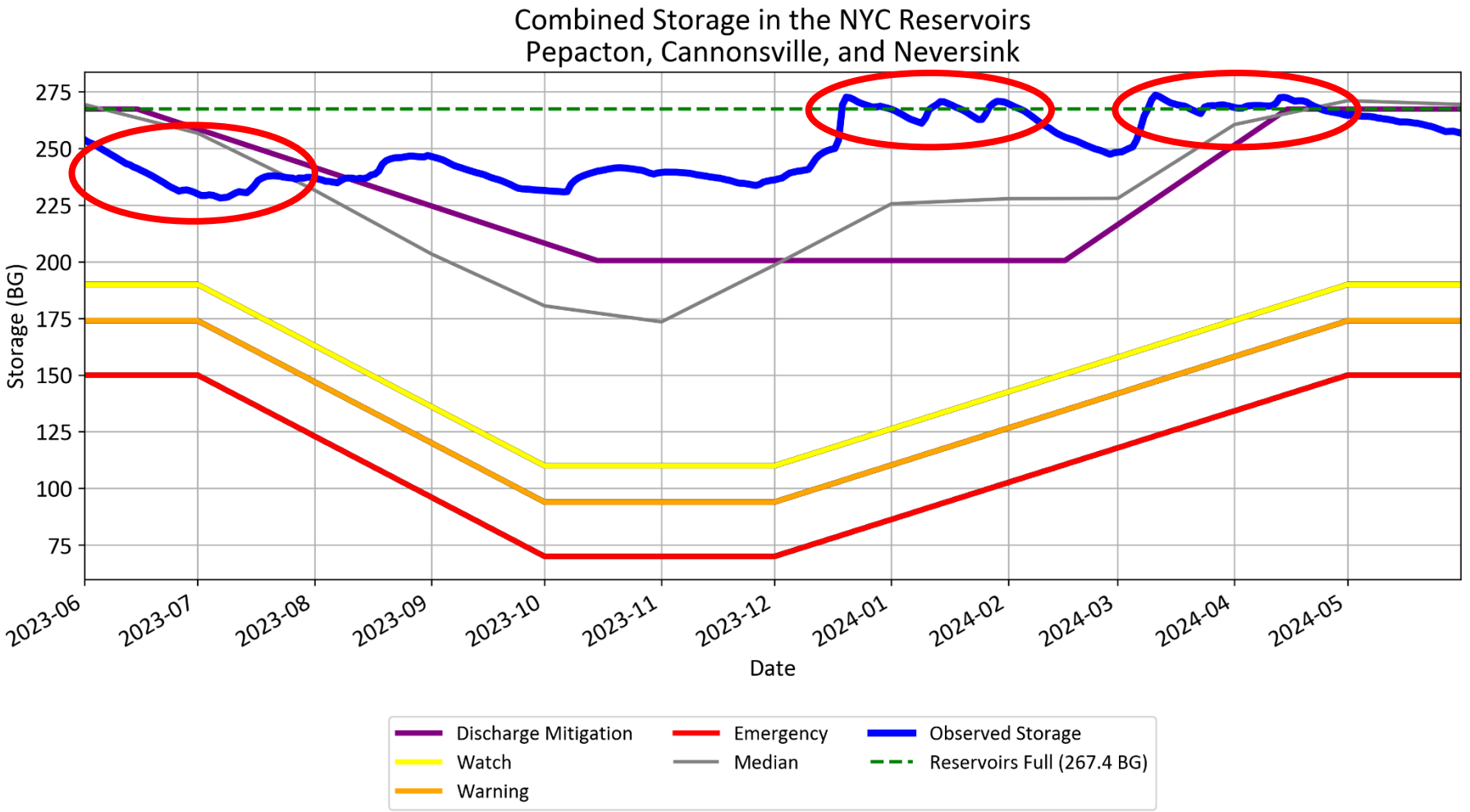
# New York City Reservoir Storage

Combined reservoir storage stayed above the median for most of the period.




Data Source: NYCDEP

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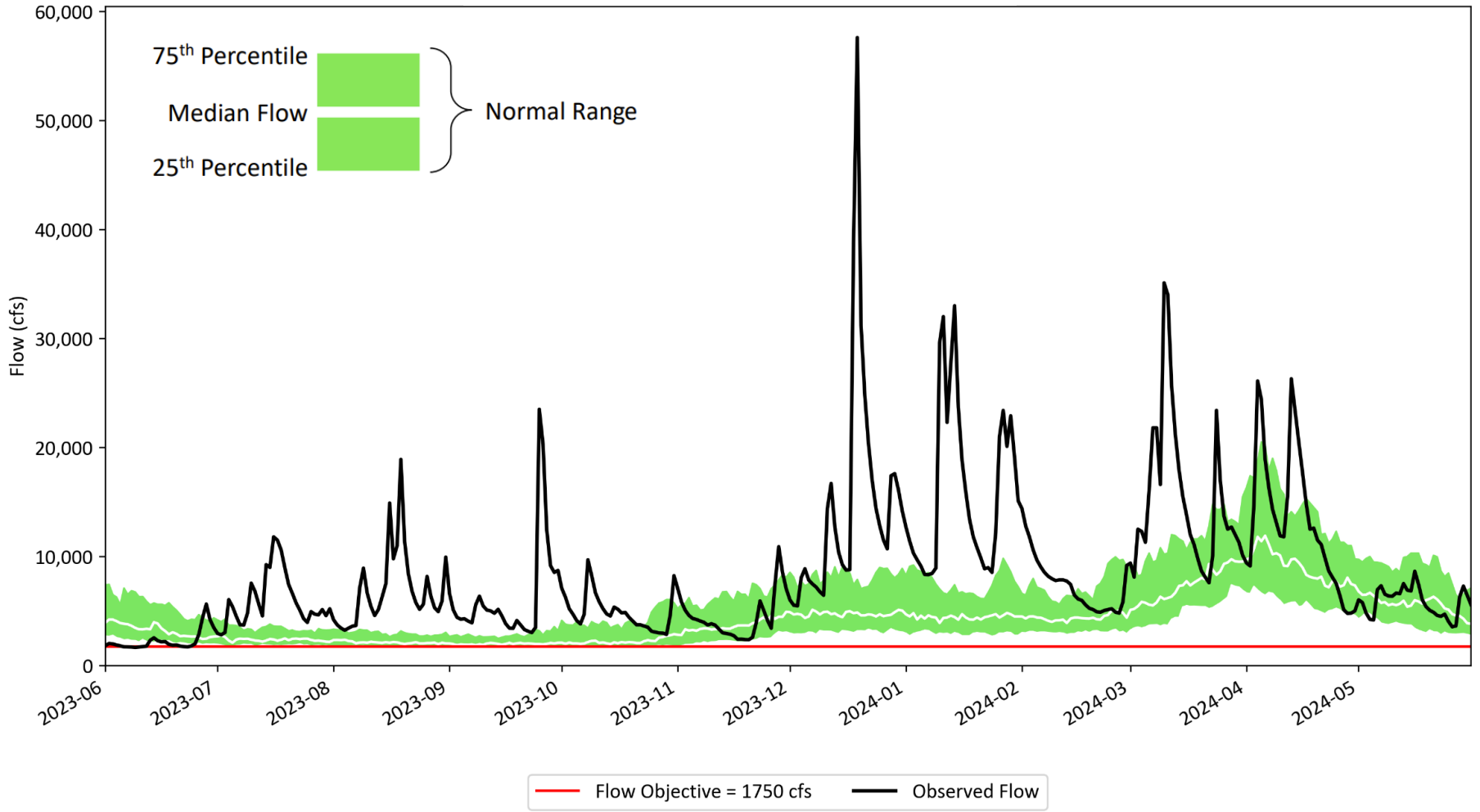
# Flow at Montague, NJ

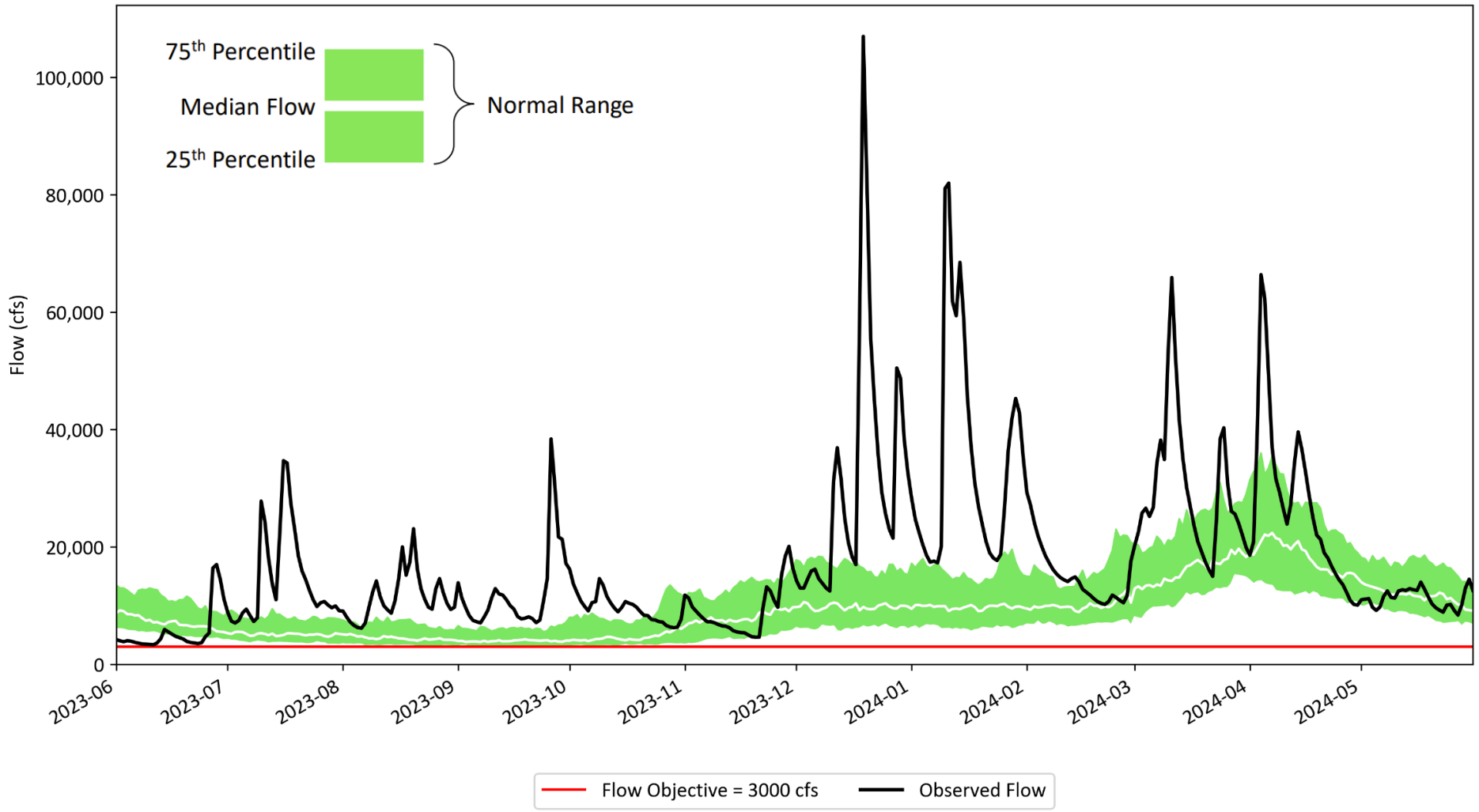
Flow was generally above average due to above average precipitation.




Data Source: USGS

# Flow at Trenton, NJ

Flow was generally above average due to above average precipitation.




Data Source

# Flow Objectives

No water more than conservation releases was needed to meet Montague or Trenton flow objectives.

| Water Released from NYC to Meet Flow Objectives (MG) | |
|---|---|
| Montague* | 12,238 |
| Trenton | 0 |
| Total | 0 |

| Water Released from Lower Basin to Meet Trenton Flow Objectives (MG) | |
|---|---|
| Beltzville | 0 |
| Blue Marsh | 0 |
| Total | 0 |

*Releases made to meet the Montague Flow Objective, called directed releases, include the conservation release for the days when water is needed.

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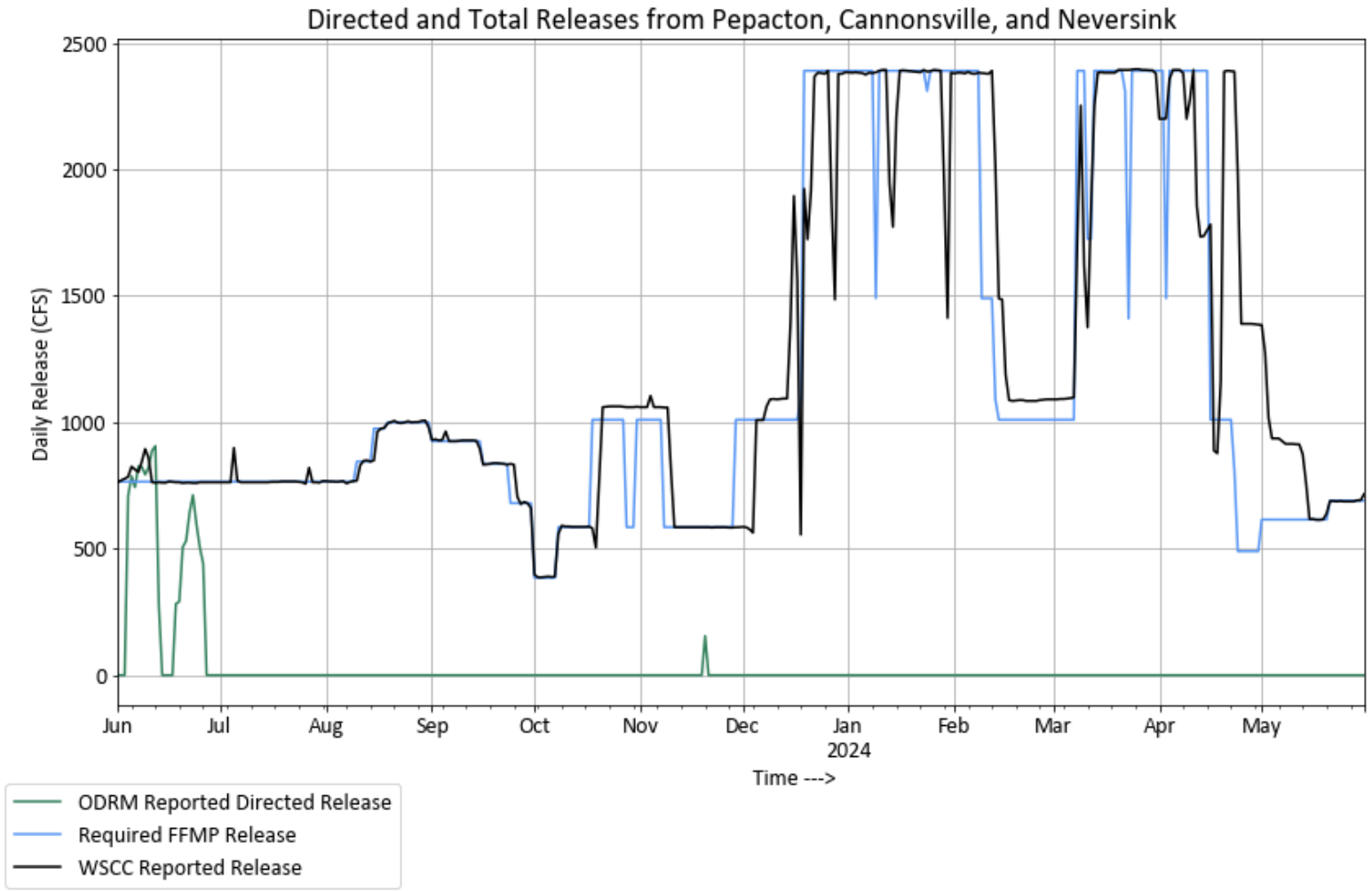
# Combined Release History

All conservation releases for 2023-2024 followed table 4G.




Data Source: NYCDEP, ODRM, USGS

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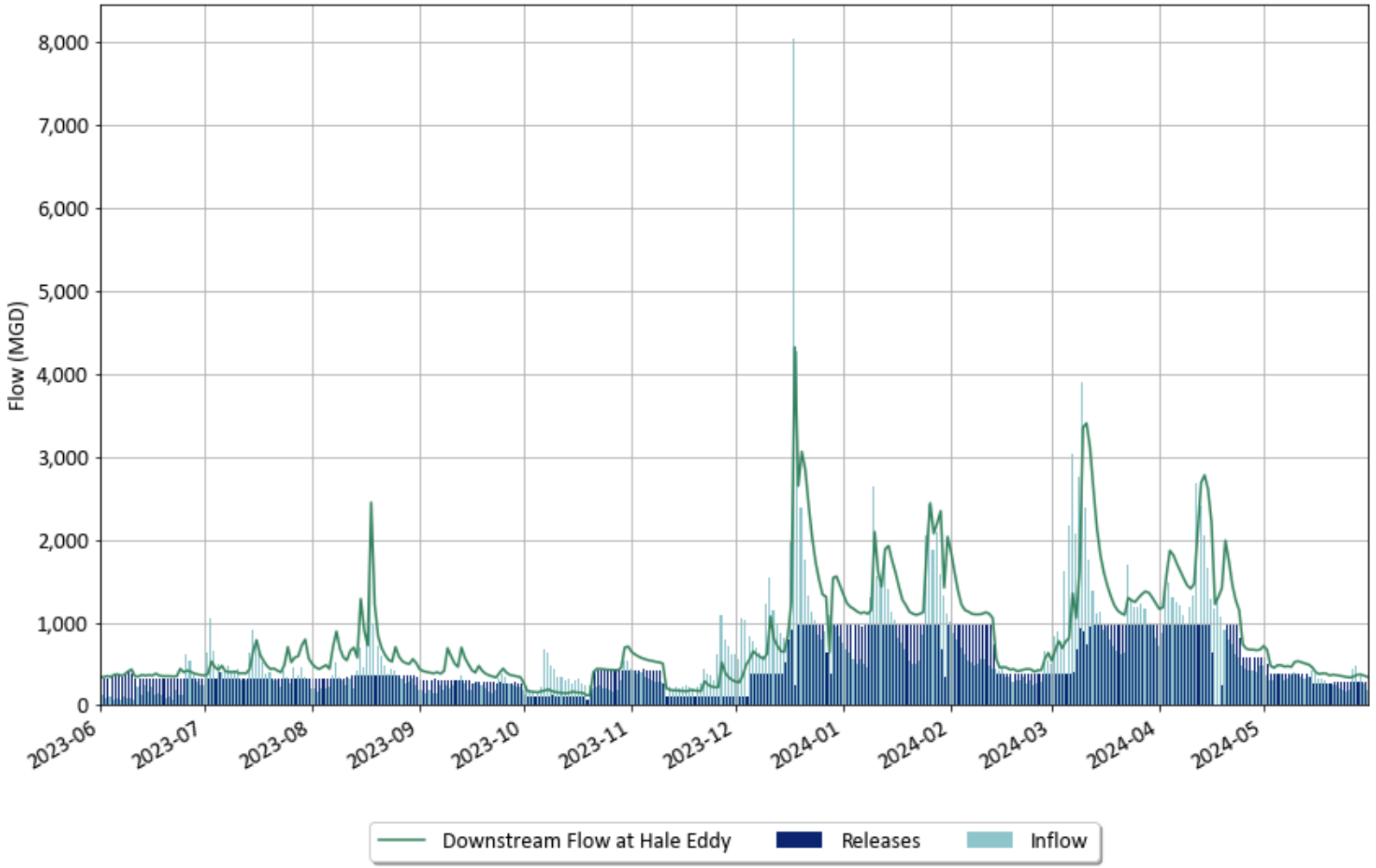
# Cannonsville: Inflow, Releases and Downstream Flow

High flows led to discharge mitigation releases between January and May.

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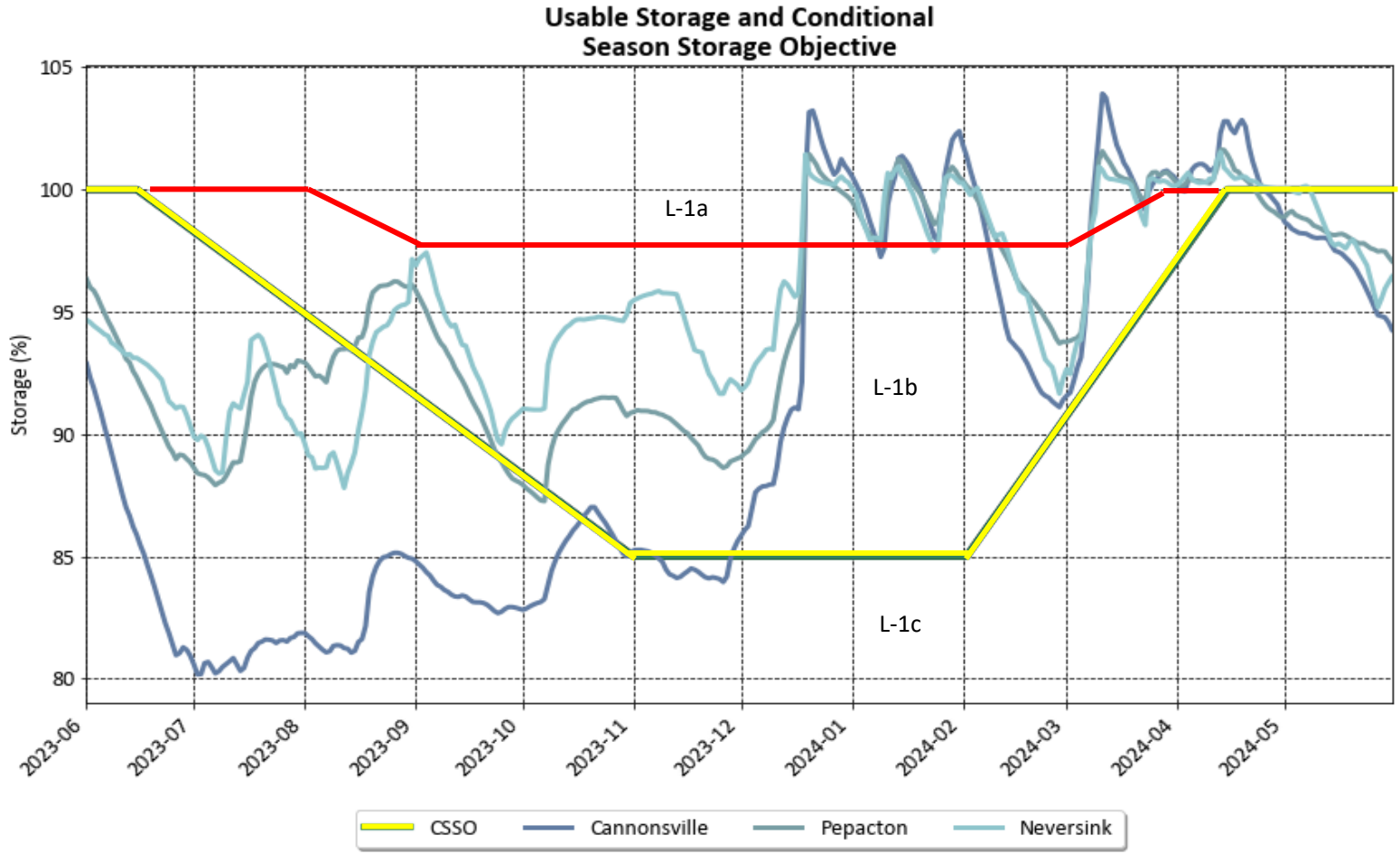
# Discharge Spill Mitigation

Discharge mitigation releases were made throughout the January – May 2024.

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# FFMP Bank Use

Thermal releases were made for 3 days during 3 events in July 2023, and September 2023. A total of 234 cfs-days was used.

| FFMP 2017 Bank | Used | Size |
|---|---|---|
| NJ Diversion Amelioration Bank | 0 | of 2,545 cfs-days |
| Rapid Flow Change Mitigation Bank | 0 | of 1,000 cfs-days |
| Thermal Mitigation Bank | 234 | of 2,500 cfs-days |
| Trenton Equivalent Flow Objective Bank | 0 | of 9,423 cfs-days |
| NJ Diversion Offset Bank* | 0 | cfs-days |

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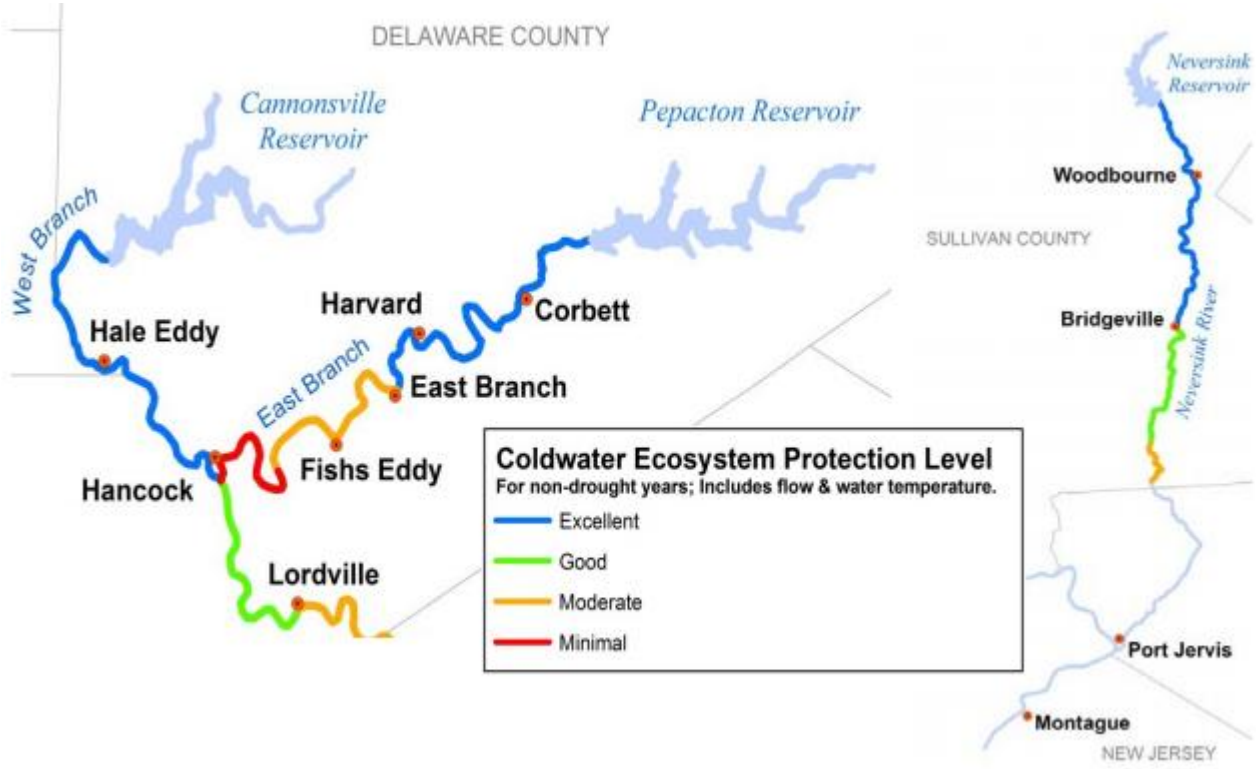
# Habitat Protection
## (Temperature)




- **Goals for Excellent Habitat:**
  - Summer Temperature typical less than 20 $^{0}$C
  - Rare Exceedances of 24 $^{0}$C

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# Air Temperature

Bridgeville, Hancock, Harvard and Lordville had several exceedances of above **20$^0$C** .

| Location | Exceedances of 24$^0$C | | Exceedances of 20$^0$C | |
|---|---|---|---|---|
| | Days Maximum Temperature above 24 $^0$C | Days Average Temperature above 24 $^0$C | Days Maximum Temperature above 20 $^0$C | Days Average Temperature above 20 $^0$C |
| Hale Eddy | 0 | 0 | 0 | 0 |
| Harvard | 0 | 0 | 1 | 0 |
| Hancock | 0 | 0 | 2 | 0 |
| Lordville | 0 | 0 | **50** | **26** |
| Bridgeville | 0 | 0 | **38** | **2** |

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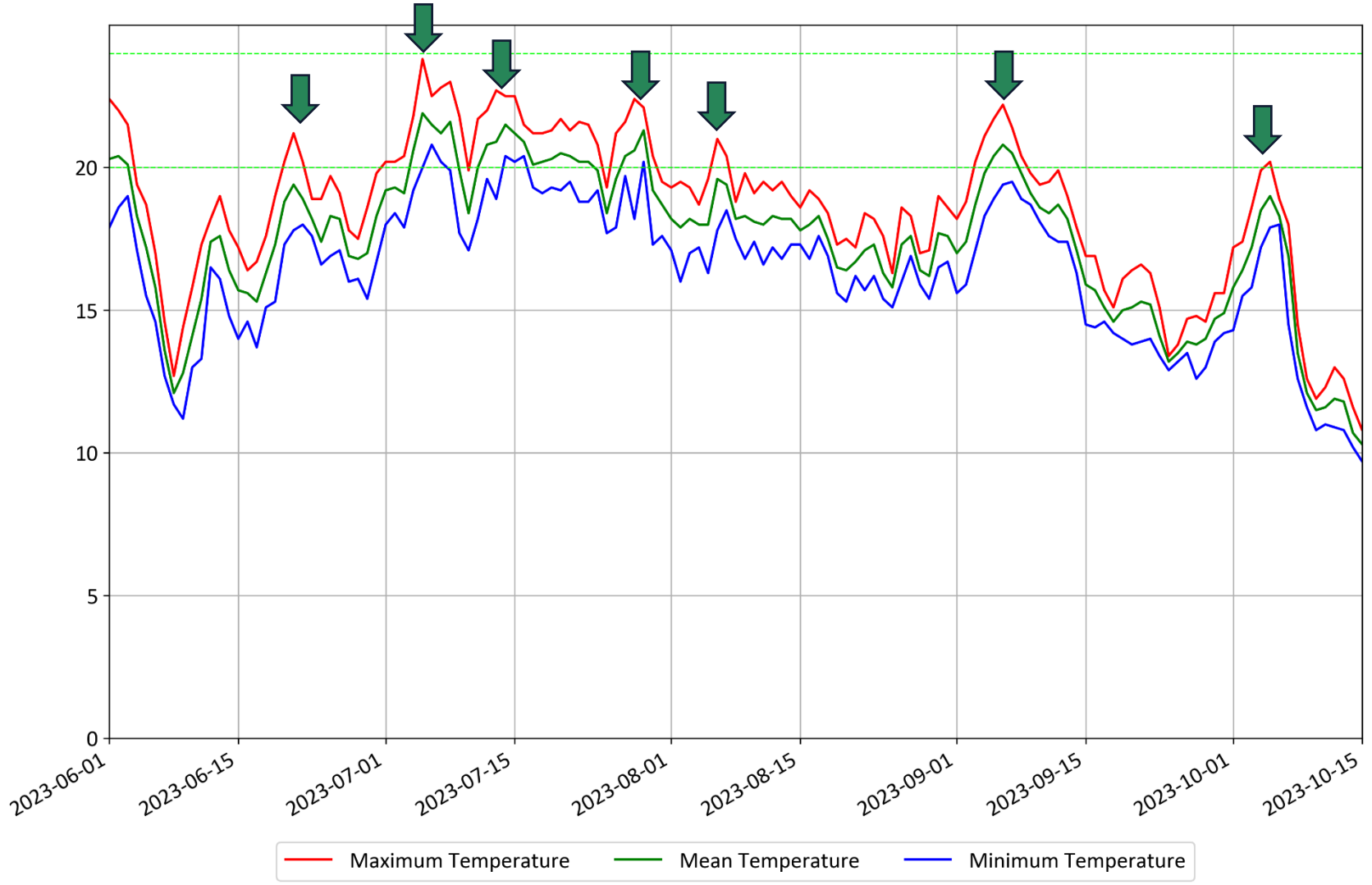
# Water Temperature at Lordville

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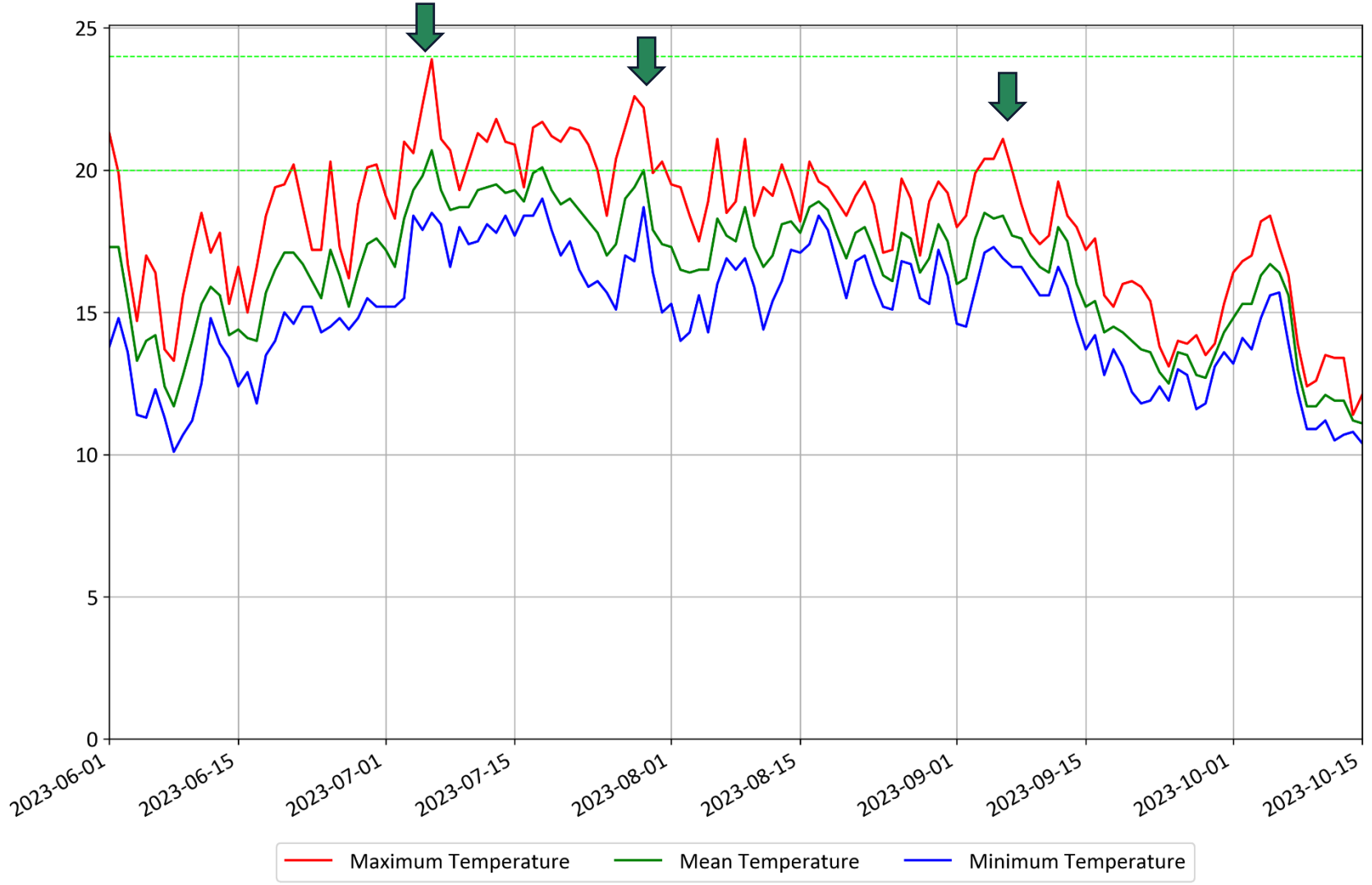
# Water Temperature at Bridgeville

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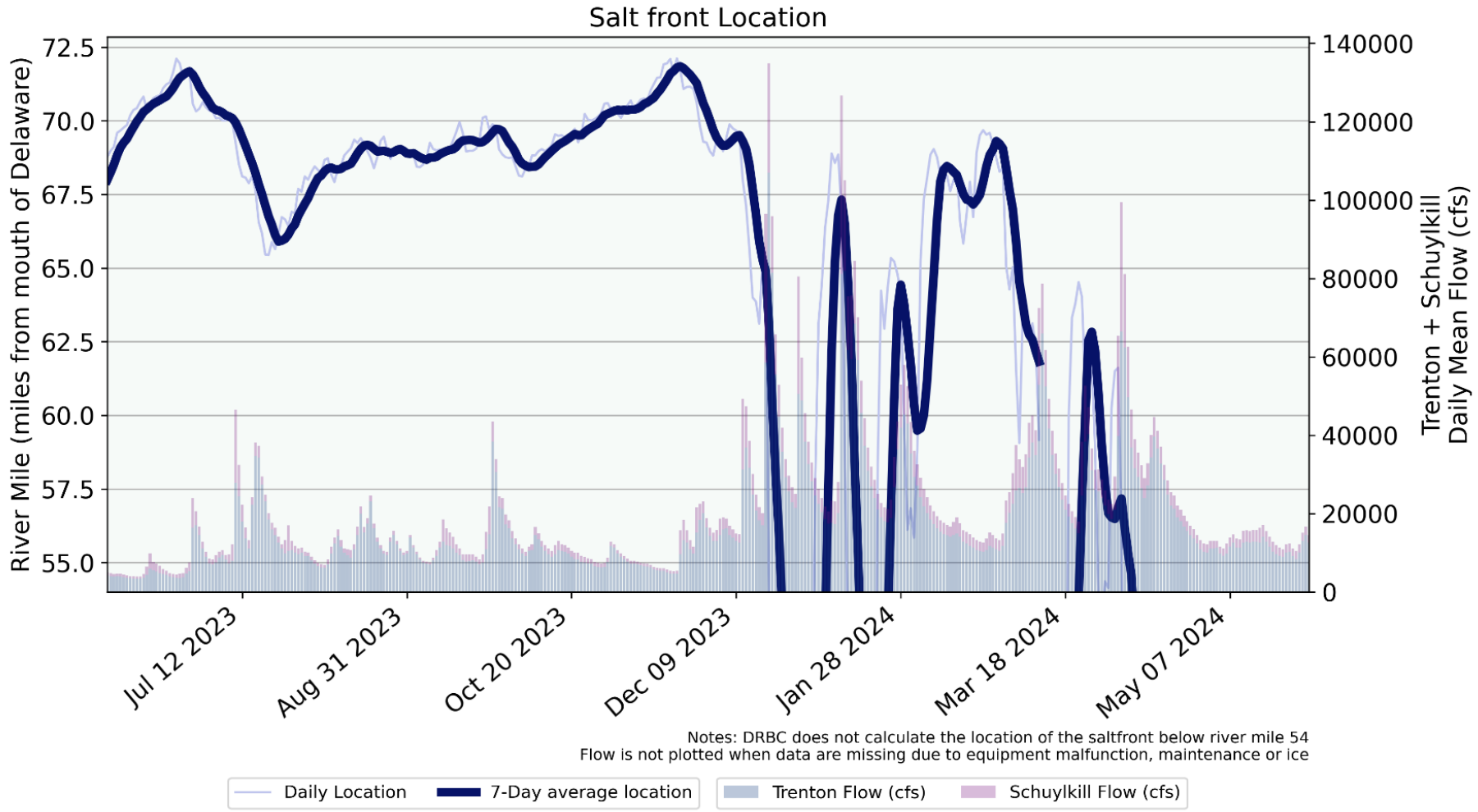
# Salinity Management

No drought emergency occurred during this FFMP release year.

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# Summary FFMP 2023-2024

- Normal operations were in effect for the release year.
- Montague and Trenton flow objectives were met within operational constraints (weather forecasts, power generation)
- Conservation releases followed Table 4G for the entire release season.
- Thermal mitigation releases were only required on 3 days.
- Discharge mitigation releases were required at all three reservoirs due to the above average rainfall and inflow.

# Questions?

Scan the QR code to find this year's full report!

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