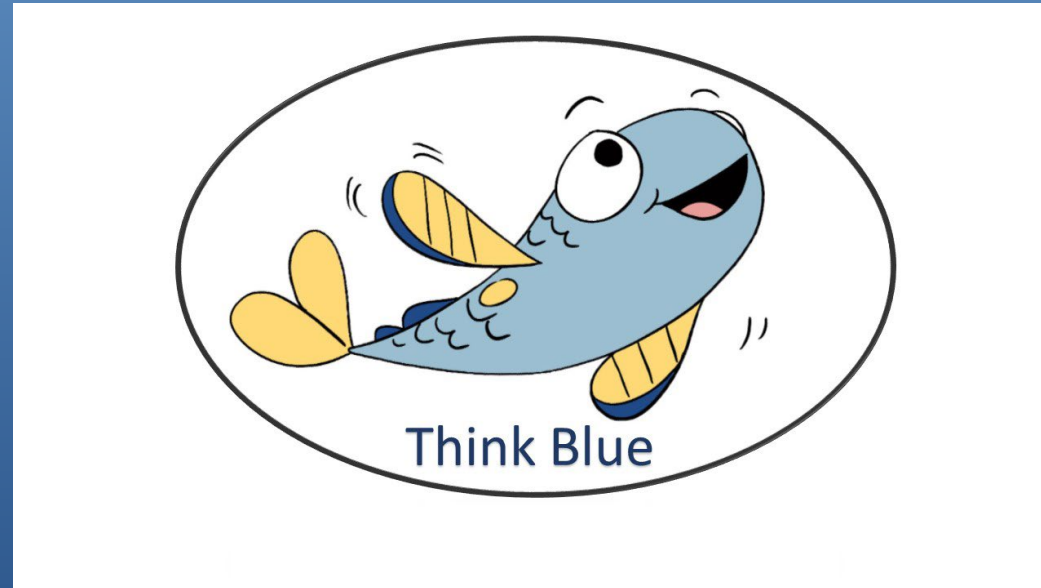


# Portsmouth and Pease Water Update



Safe Water Advisory Group  
March 21, 2024

# Water Supply Update – Year in Review

## City of Portsmouth

*Department of Public Works*



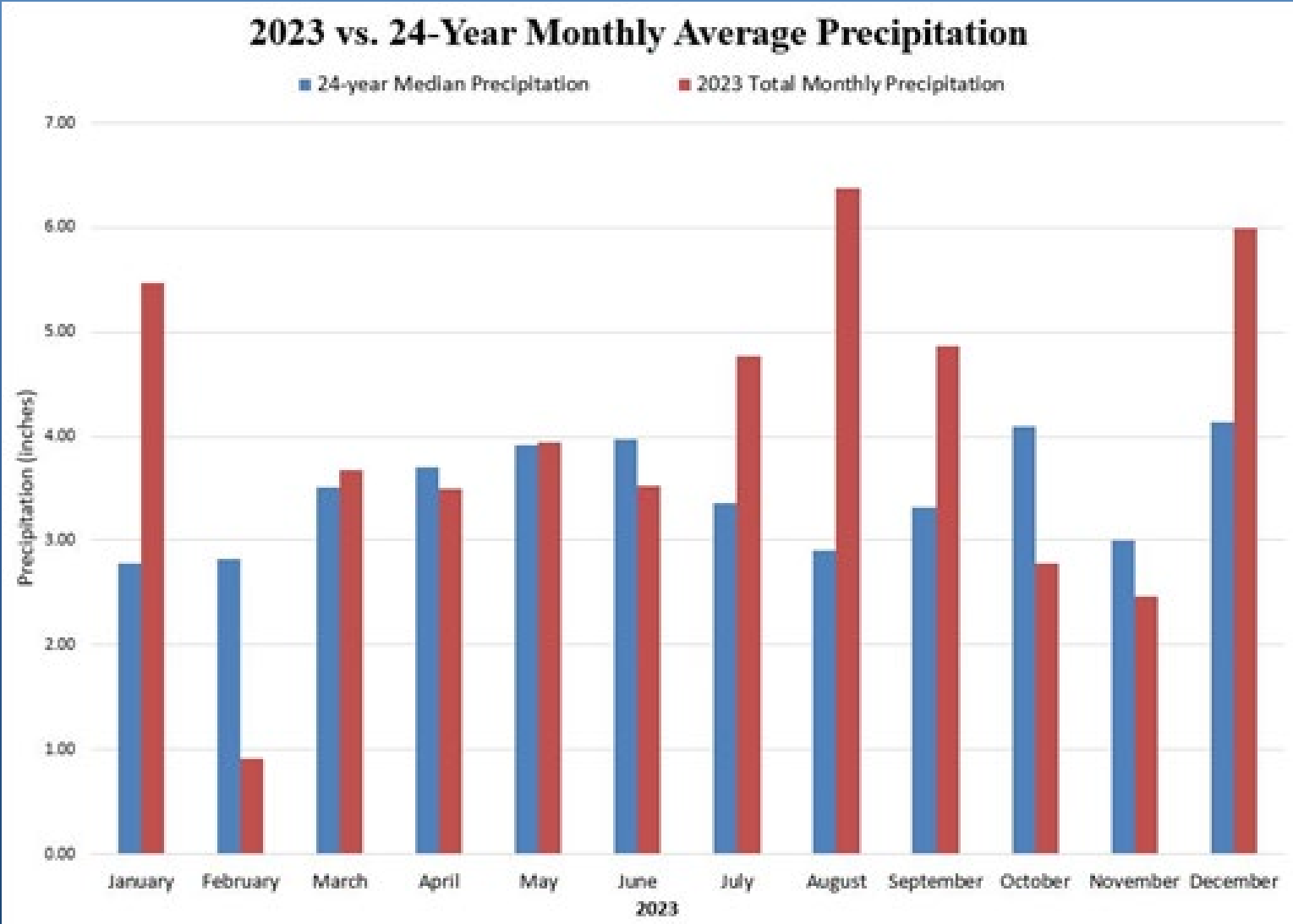
### **Portsmouth and Pease International Tradeport Drinking Water Status Report 2023 Year in Review – January 29, 2024**

#### **Highlights of 2023**

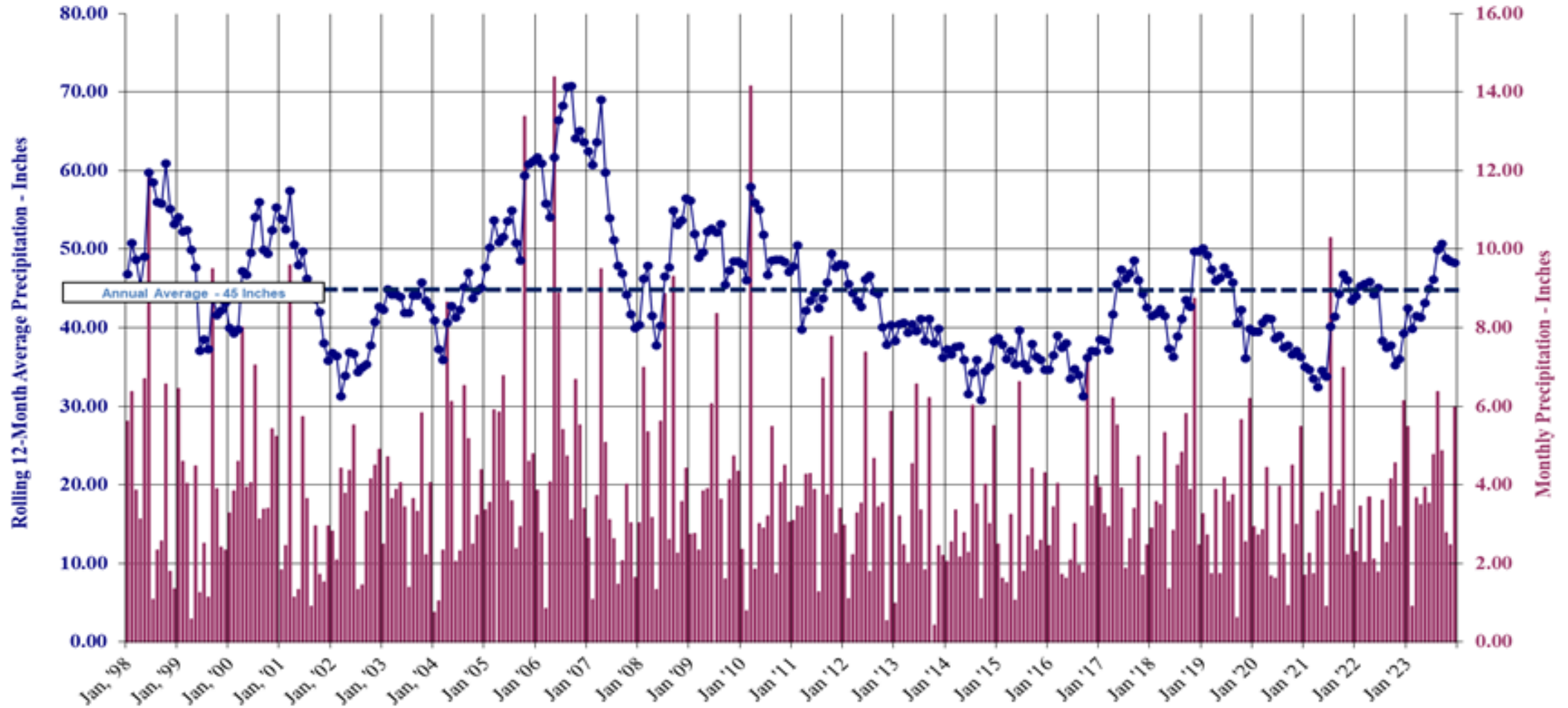
The following report provides a summary of the water system operations for the Portsmouth and Pease International Tradeport drinking water systems. Highlights from 2023 for both water systems include:

- The Portsmouth and Pease drinking water systems had no drinking water quality violations in 2023.
- Water Production:
  - 3.7 Million Gallons – Average Day
  - 5.5 Million Gallons – Maximum Day
  - 2.5 Million Gallons – Minimum Day
- Favorable weather helped recharge the surface water and groundwater system watersheds.

# Precipitation

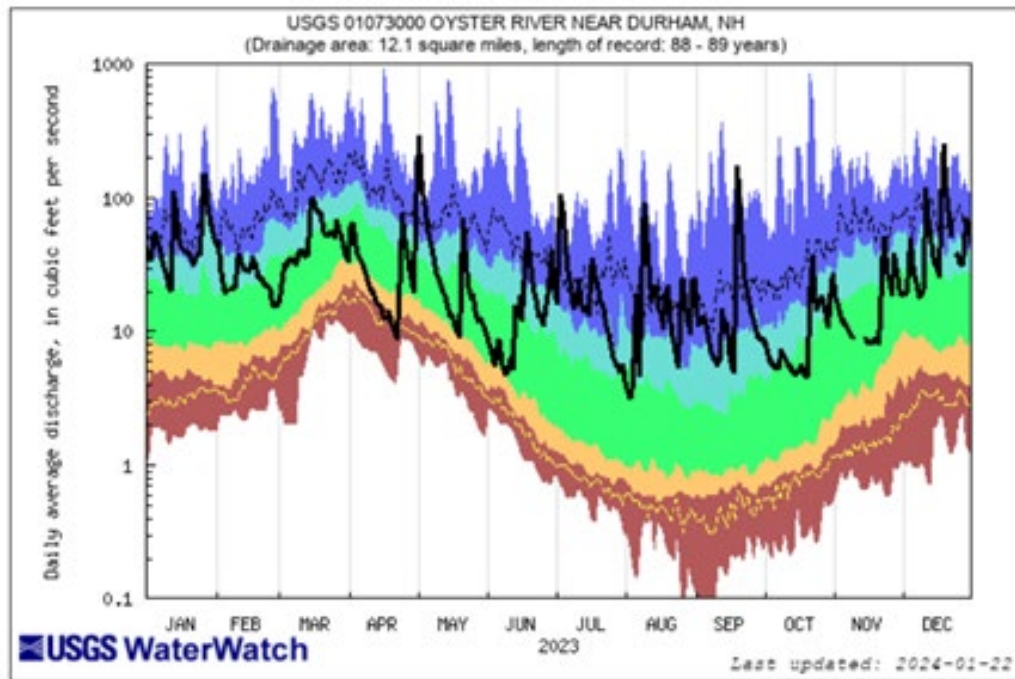


# Precipitation - Portsmouth, NH - 1998 to 2023



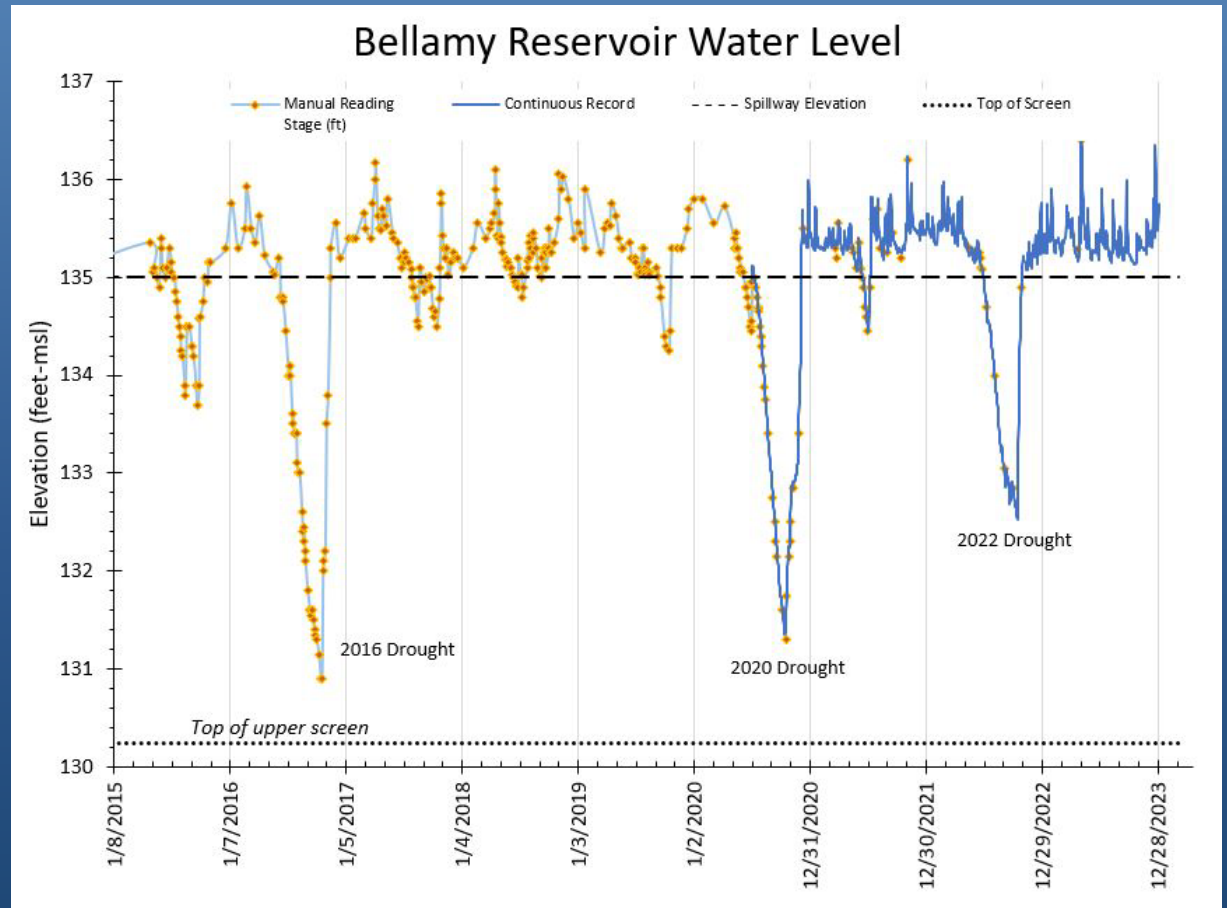
# Surface Water Conditions

## River Flows

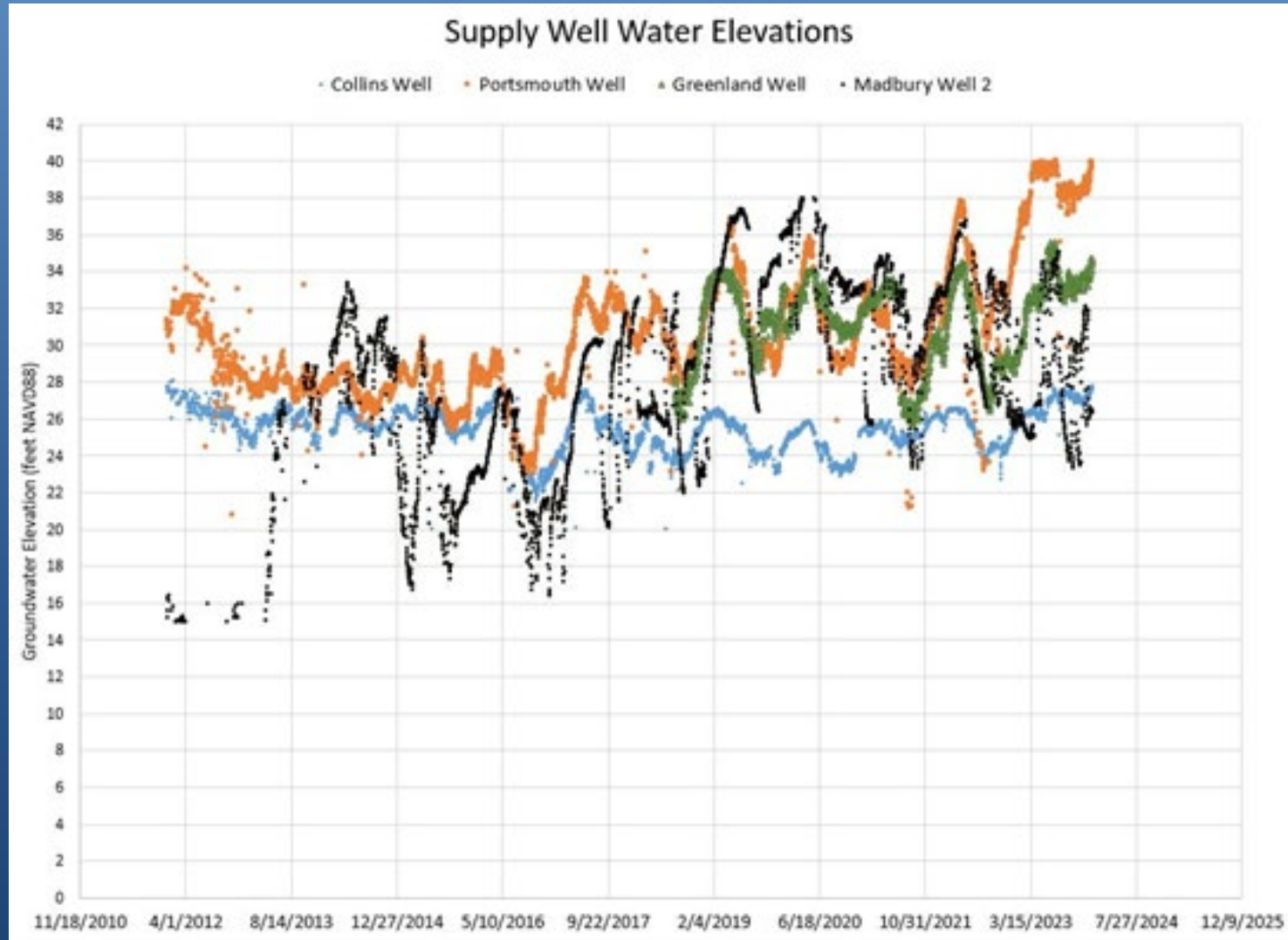


Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest	Flow
Much below Normal	Below normal	Normal	Above normal	Much above normal			

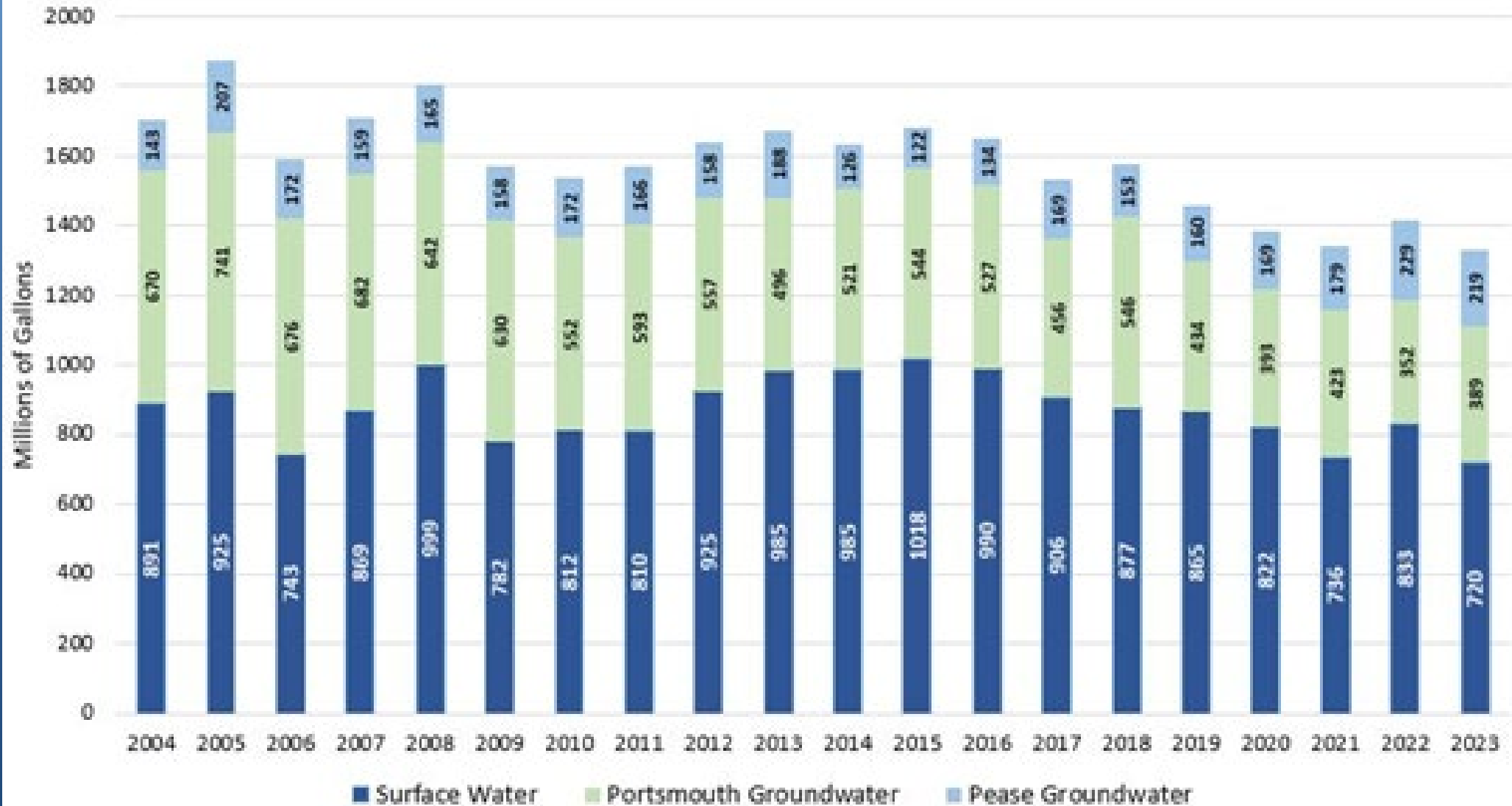
## Reservoir Level



# Groundwater Levels

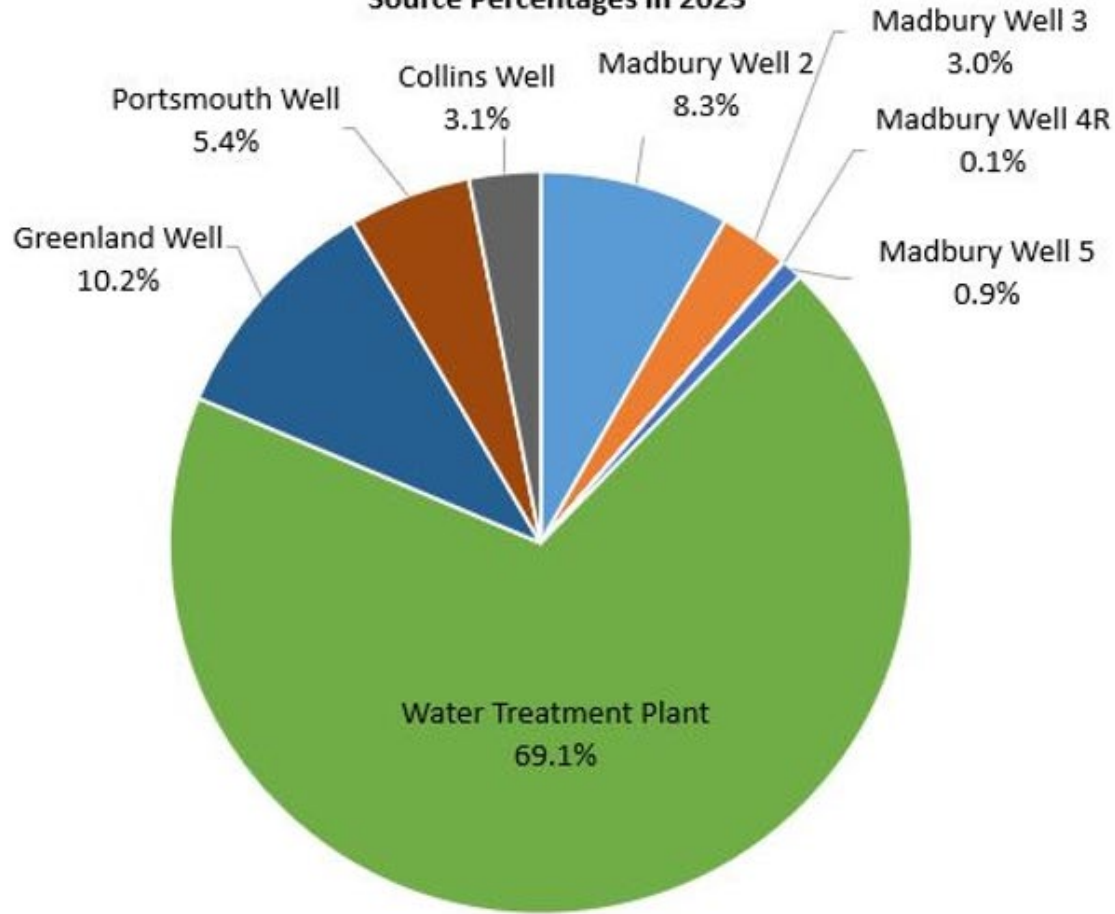


### Total Water Supplied Portsmouth and Pease Sources



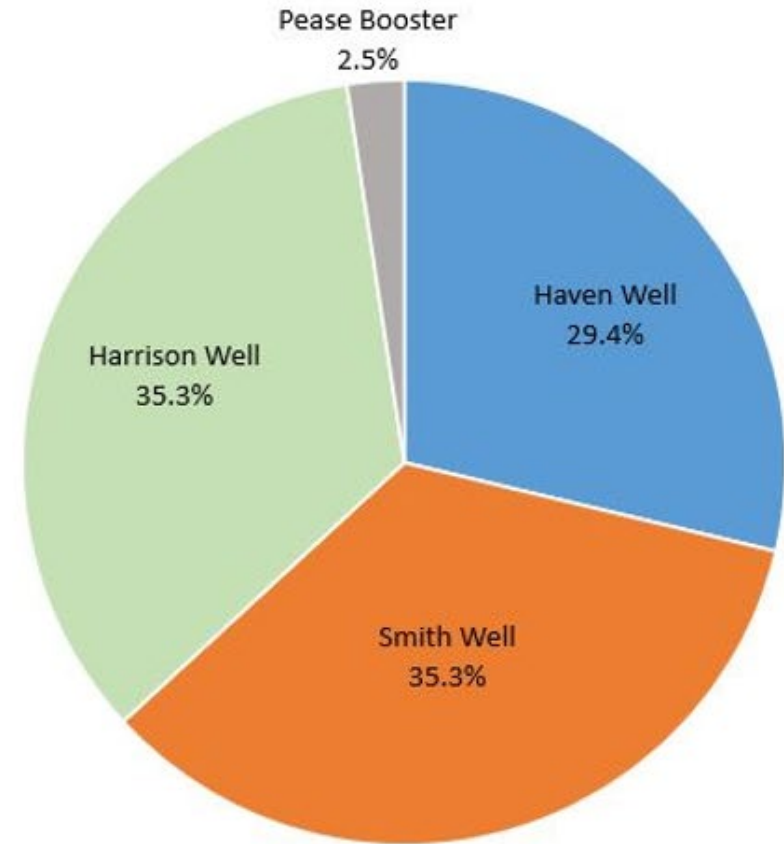
### Portsmouth Water Sources

Source Percentages in 2023



### Percent Pease Water Sources

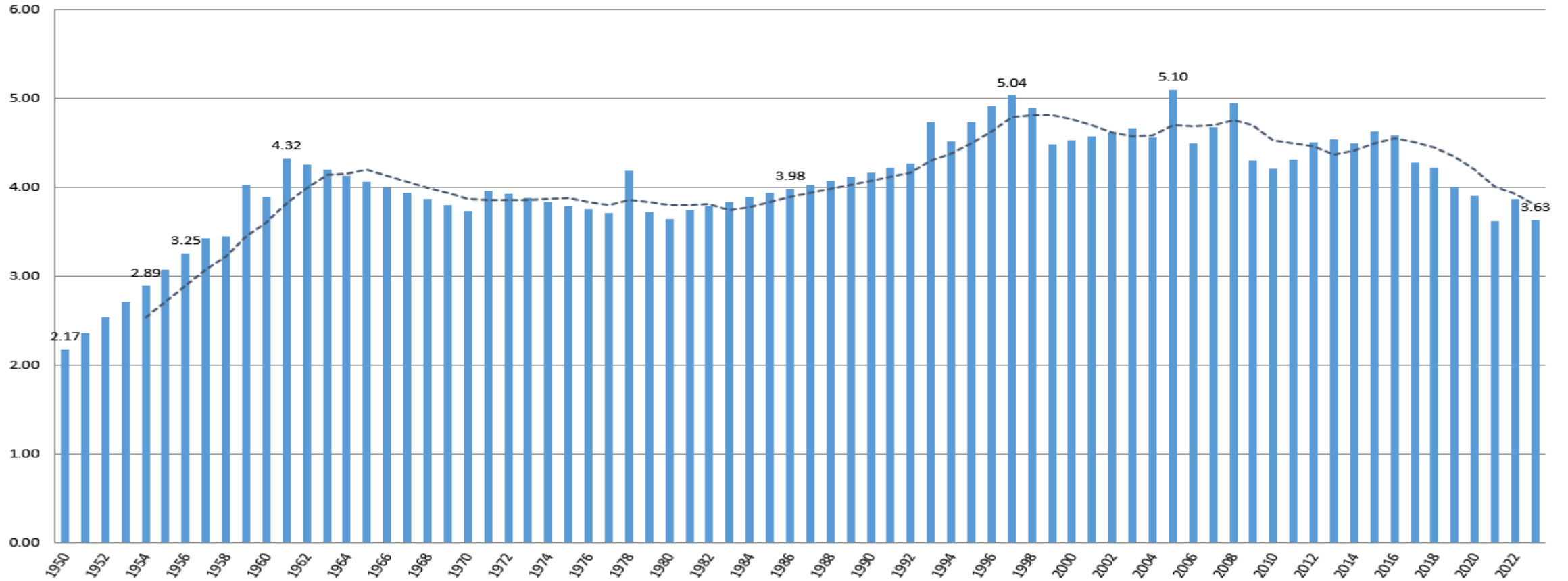
Source Percentages in 2023





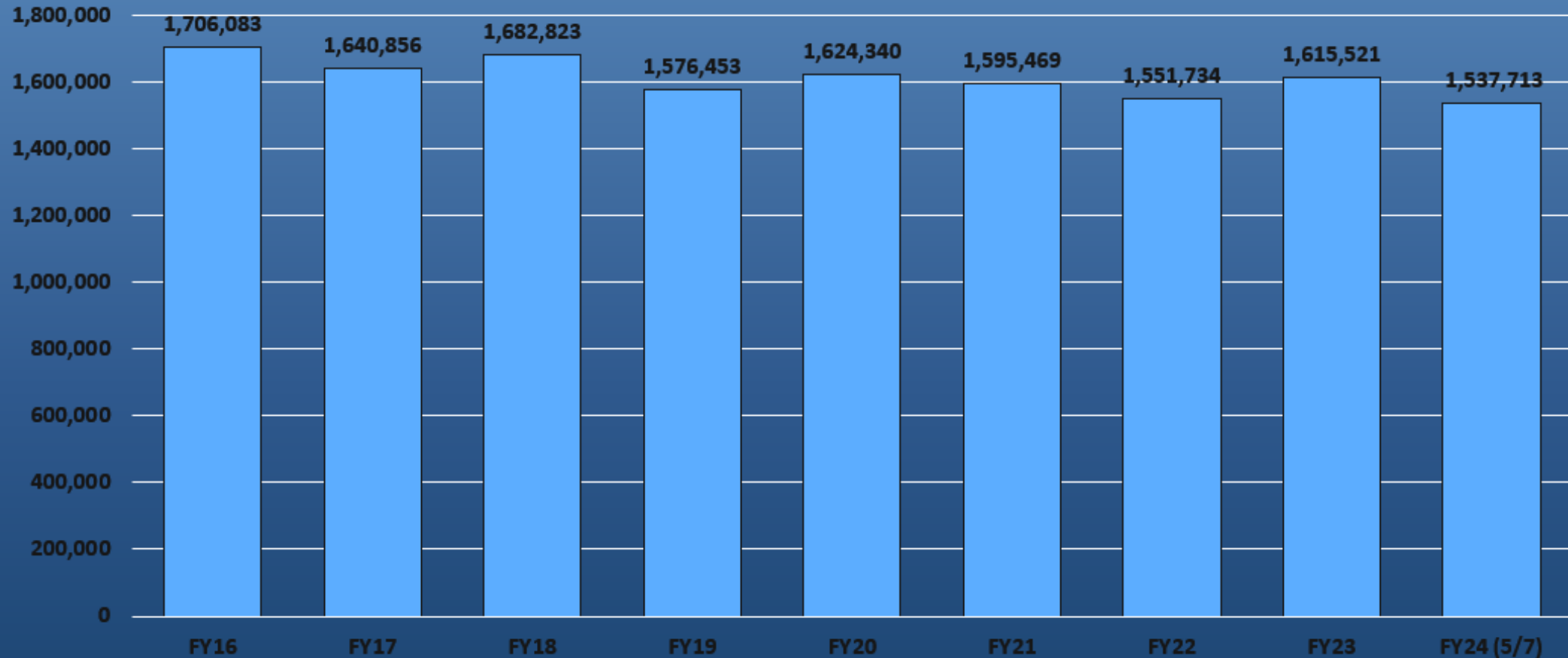
# Combined Portsmouth/Pease System Supply

Portsmouth Annual Water Pumpage - Million Gallons per Day  
and 5-Year Running Average - 1950 to 2023



# Water FY Sales

## 9 Year Trend (Total Units)



# Water Efficiency

## Water Efficiency Rebate Program

Introduced in 2015

The First (and still only) Water Efficiency Rebate Program in New Hampshire

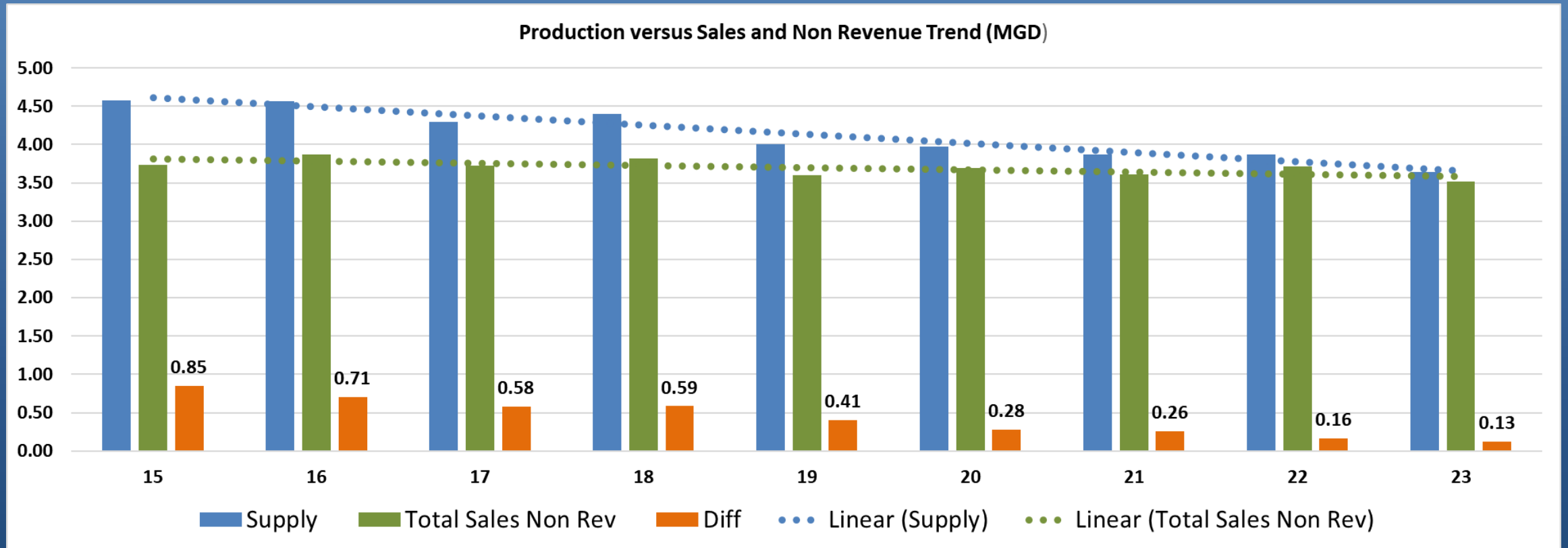


**Residential Toilet and Washing Machine Rebate Program**

**Total Rebates Issued as of: June 30, 2023**

Rebate Type	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL	Rebate/ each	Total Rebates
Low-Flow Toilet	253	368	161	79	102	98	87	70	1218	\$100	\$121,800
High-Efficiency Washing Machine	34	24	26	36	68	95	65	53	401	\$150	\$60,150
	287	392	187	115	170	193	152	123	1619		\$181,950

# Water Balance ~ 2%



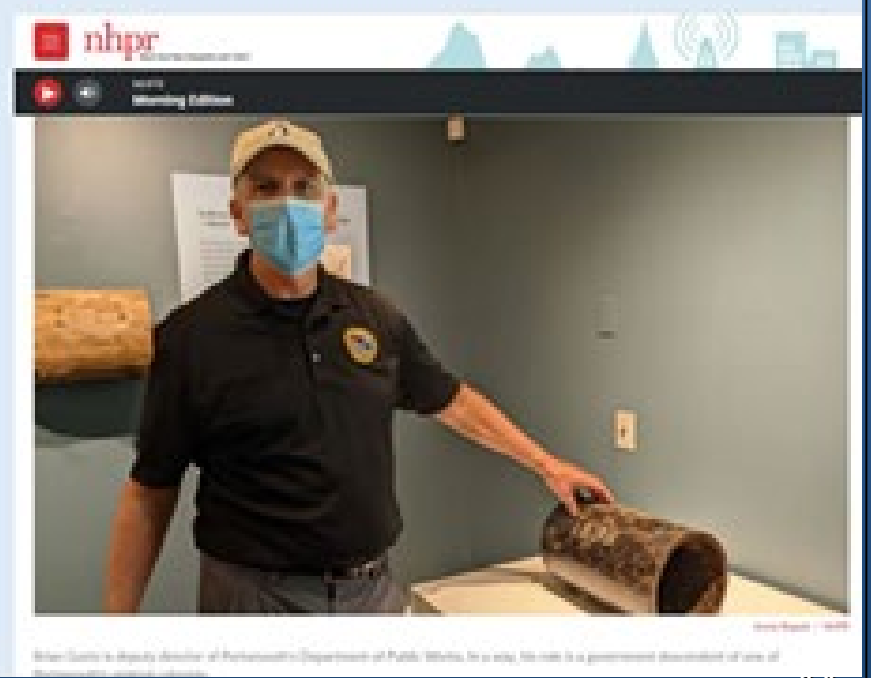
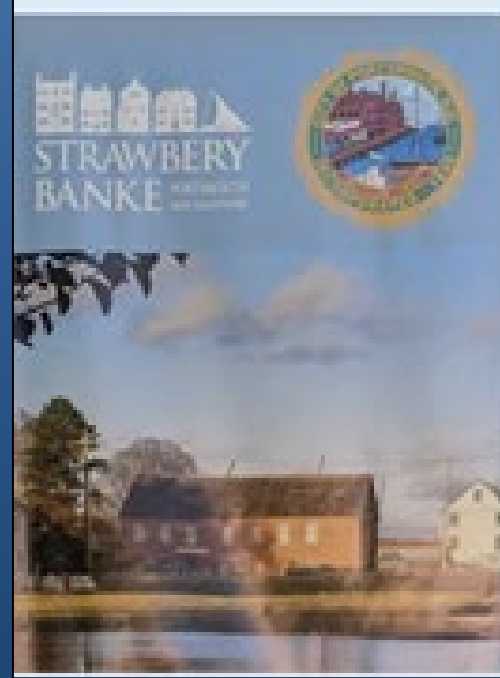
# Outreach – Sustainability Fair



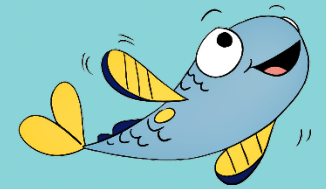


Think Blue – What Can You Do?  
Water | Wastewater |  
Stormwater

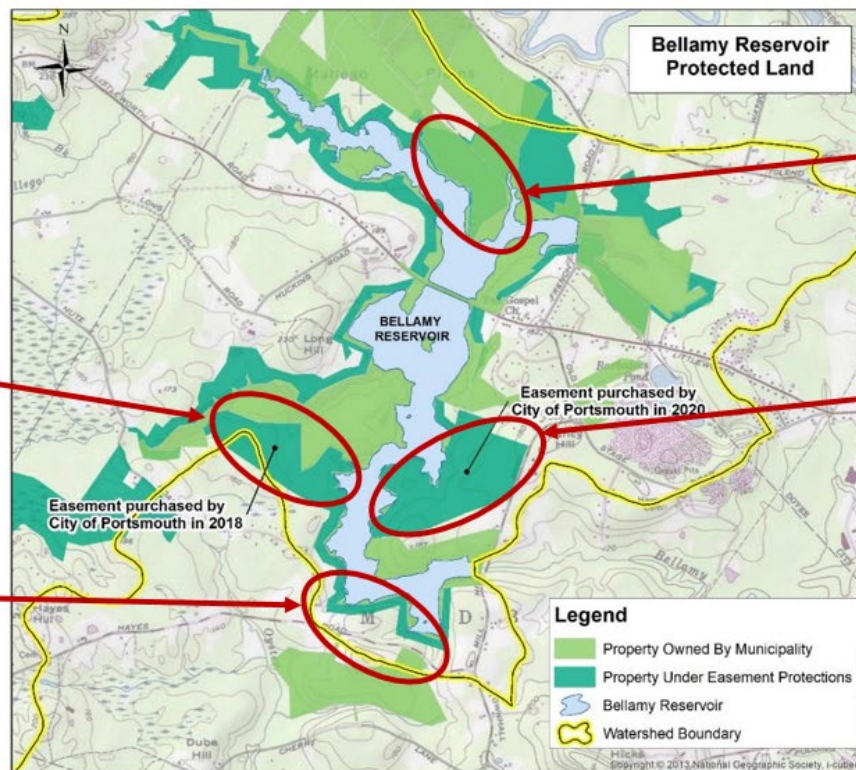
# Strawbery Banke – “Water Has A Memory” Exhibit with “Think Blue!”



# Watershed Protection



## Portsmouth – Bellamy Reservoir Source Water Protection Efforts



**NHDES  
Source Water Protection Award  
- 2023**

# Pending EPA MCLs for 6 PFAS Compounds

- EPA still reviewing comments
- Portsmouth response
  - Continued tracking and quarterly sampling of PFAS
  - Currently in compliance with New Hampshire regulations
  - Greenland Well Treatment design currently out to bid
    - \$2.5 million budget
  - Approached Air Force about treatment design for Portsmouth/Collins wells



# PFAS Average – 12 Month Rolling (Jan. 2023 - Dec. 2023)

## - All Sources In Compliance

	Parts Per Trillion (PPT)	NH MCL	RAW*	MADBURY WTP FINISHED	MADBURY WELL 2	MADBURY WELL 3	MADBURY WELL 4R	MADBURY WELL 5	PORTSMOUTH WELL	COLLINS WELL	GREENLAND WELL	PEASE WTP
PFHxS	ng/L	18	0	0	0	0	0	0	7	1	0	0
PFOS	ng/L	15	0	0	0	0	0	0	5	4	3	0
PFOA	ng/L	12	1	1	3	3	2	3	6	3	4	0
PFNA	ng/L	11	0	0	0	0	0	0	0	0	0	0

- **Highlighted results are those at 4ppt or higher** – the current EPA proposed Maximum Contaminant Level
- Pease Water Treatment – Non-detect for all regulated compounds in the last 4 quarters, from 200 MG treated (January-November)

# Pease Water PFAS Treatment System Performance

- Treatment System Online Since April 2021
- 589 Million Gallons Treated
- 6 of 12 Ion-Exchange Resin Vessels - Media Replaced 2023
- 1 of 3 Granular Activated Carbon (GAC) Vessels – Media Replace 2023
- No Regulated PFAS Detected in Treated Water
- Resin Media Pilot Testing is Ongoing
- Resin and GAC Media Replacement Schedule for 2024



# EPA Tour of Pease Water Treatment Facility

## March 18, 2024

“Good afternoon Tim – many thanks again for accommodating EPA’ small contingent of regional & HQ federal facility Superfund management team folks on Monday at the Grafton Rd plant! The City has been at the “point of the drinking water spear” since May 2014 – it’s great that EPA management, especially HQ folks, can see the great work getting done on a day-to-day basis and the folks that are making it happen. They were incredibly impressed with all the remedial & drinking water systems at Pease and the expertise in ensuring continued smooth operations.”

- Mike Daley, EPA Region 1 Remedial Project Manager

“Agreed, many thanks to Tim, who gave us a great tour! Our Headquarters folks were especially interested in all of the detail and numerous considerations that go into figuring out the best way to get clean drinking water to your citizens. Your customers are very fortunate to have you all on the job. Thanks again!”

- Anni Loughlin, EPA Region 1 Remedial Project Manager

# Maintenance Projects



**Market Square Water Valve Replacement Project**  
**2:37 AM – October 13, 2023**

# Collins Well #2



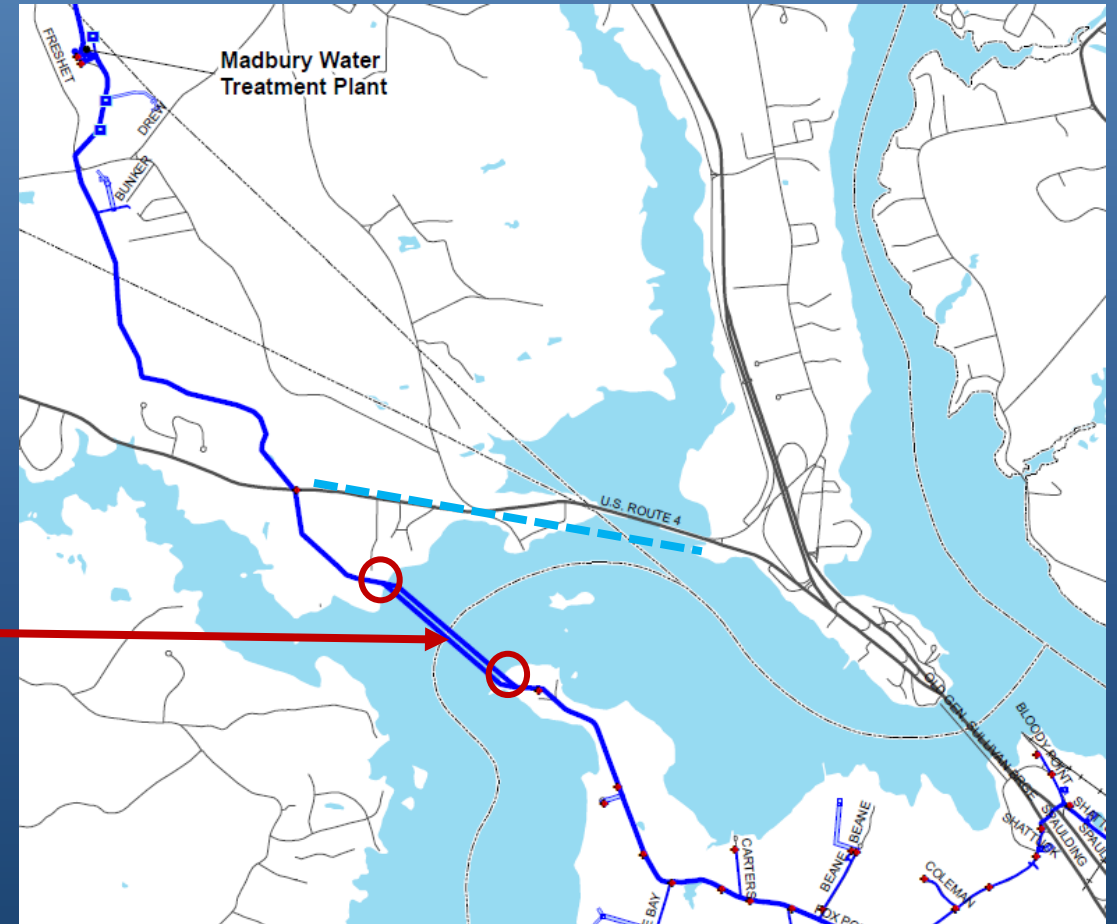
Existing  
Collins Well #1

New  
Collins Well #2

- New well complete and well screen installed
- Design for construction of pumps and pipelines to follow

# Little Bay Water Transmission Main Project

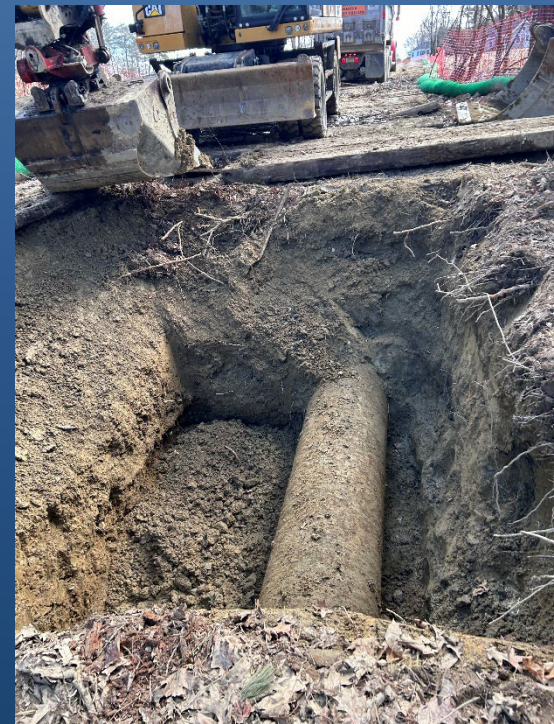
- Due to high bid on new waterline under the bay (\$26M), project has been split into three phases:
  1. Install new valves on either side of the bay for the two existing pipes. Install the connection for the third pipe. Currently out to bid for late winter/early spring construction. ○
  2. Bid the full new line project in the spring. Move forward with project if we receive a favorable bid. ———
  3. Investigate possibility of creating an interconnection with Dover's water system down Route 4 to the traffic circle.



# Little Bay Valve Project – Durham Side

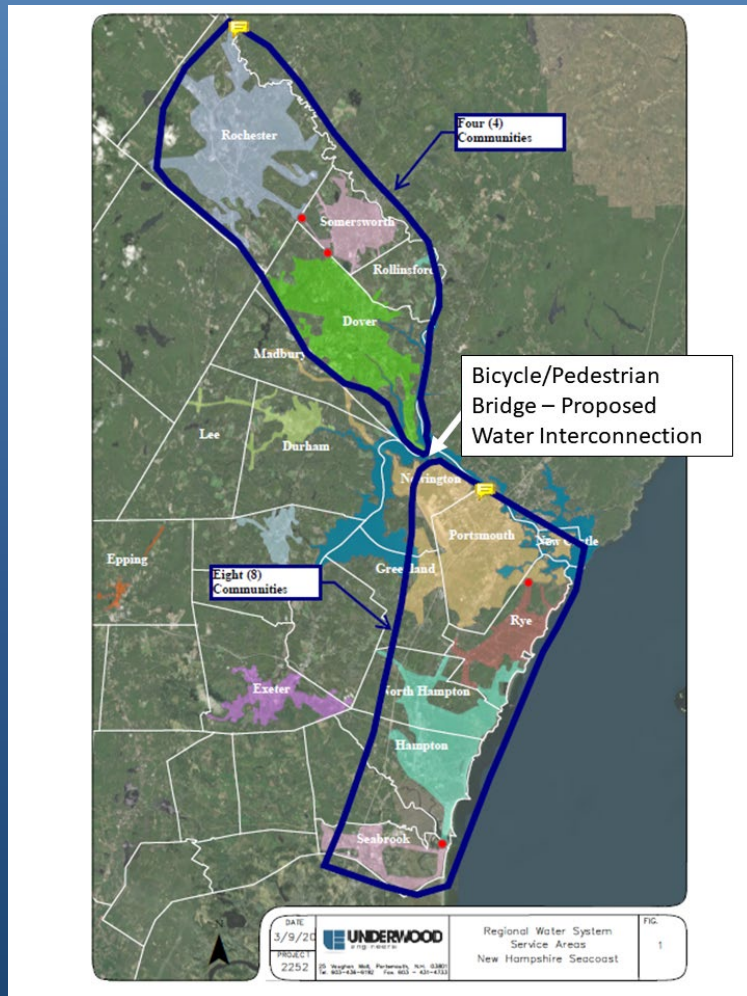


# Little Bay Valve Project – Newington Side



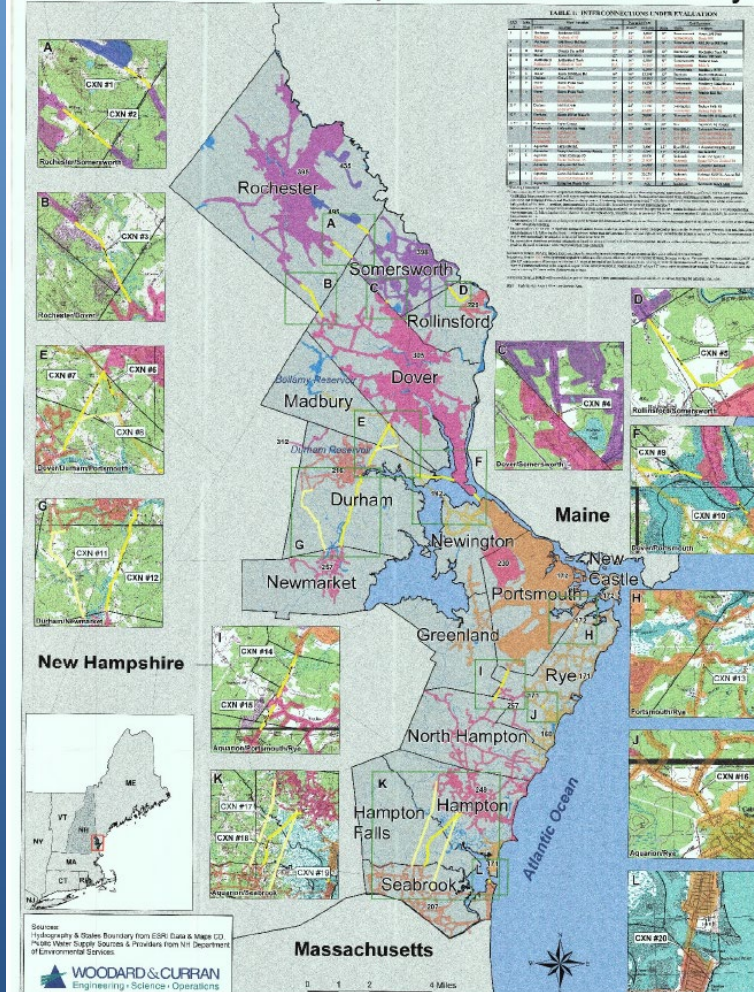


# Portsmouth – Dover Emergency Interconnection



- DOT currently re-bidding the bridge replacement project
- Pipe interconnection with Dover is included in the project
  - \$3.5 million in congressionally directed funding will go toward the new water line

# Seacoast New Hampshire Mutual Aid Study



The State of New Hampshire  
**Department of Environmental Services**



Robert R. Scott, Commissioner

STATE OF NEW HAMPSHIRE  
DEPARTMENT OF ENVIRONMENTAL SERVICES  
Seacoast NH Emergency Interconnection Study Update

RFQL DES 2024-02

- Update the 2006 Study
- Expand the study area
- Provide recommendations for future interconnections and/or mutual aid agreements

Seacoast NH Emergency  
Interconnection Study  
- 2024 Update

# Master Planning – 2023/2024

- Currently Under Way with  
Haley Ward Engineers

- Tank Inspections and Cleaning
- Hydraulic Assessment of Southern Portion of System and Greenland Area Pressure
- Update the Hydraulic Model of the Entire Water System
- Update of the 2013 Master Plan underway

# AQUEOUS

INFRASTRUCTURE MANAGEMENT

Phone: 877.821.6138 | [office@aqueousco.com](mailto:office@aqueousco.com)

Report Da

## Account Overview

Portsmouth NH Water System  
Lafayette 7.5 MG Tank  
Finished Water  
96'H x 114'D  
7500000  
95 Constitution Ave, Portsmouth, NH 03801, USA  
43.035506  
-70.787505  
Clean (Sediment Removal) Inspection

e:



## Report Review & Approval

David Cornish, President

