SWAG Meeting

June 18, 2025 | 6:30-8:30pm

Hybrid Meeting: Portsmouth City Hall Conference Rm A and Zoom

Agenda

1. Welcome, Introduction & Approval of minutes - Andrea Amico, SWAG co-chair
2. Membership update - Andrea Amico
3. EPA PFAS Announcement re: MCLs - Brandon Kernen, NH DES Administrator of the Drinking Water and Groundwater Bureau
4. Cyber Security Presentation - Brandon Kernen & Al Pratt, City of Portsmouth Water Resource Manager & SWAG co-chair
5. Dover Municipal Landfill Update - Dean Peschel, Peschel Consulting LLC & Christene Binger, Verdantas LLC
6. Quarterly Water Supply Update - Al Pratt
7. Legislative Update – Rep. David Meuse
8. Mission discussion - Andrea Amico
9. Public comment

Membership Update

Thank you to Liz Barrett for her service on the SWAG.

Welcome Genevieve Becksted Muske - new school board representative on the SWAG!

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Drinking Water Updates
PFAS & Cybersecurity
June 18, 2025

Brandon Kernen, NHDES

PFAS Maximum Contaminant Levels

PFAS	State MCL/AGQS (effective 10/2019)	Federal MCLs (must be adopted by NH and enforced no later than 2031). The AGQSs will also need to be changed to be as stringent as the federal MCL
PFOA (ppt)	12	4
PFOS (ppt)	15	4
PFHxS (ppt)	18	--
PFNA (ppt)	11	--

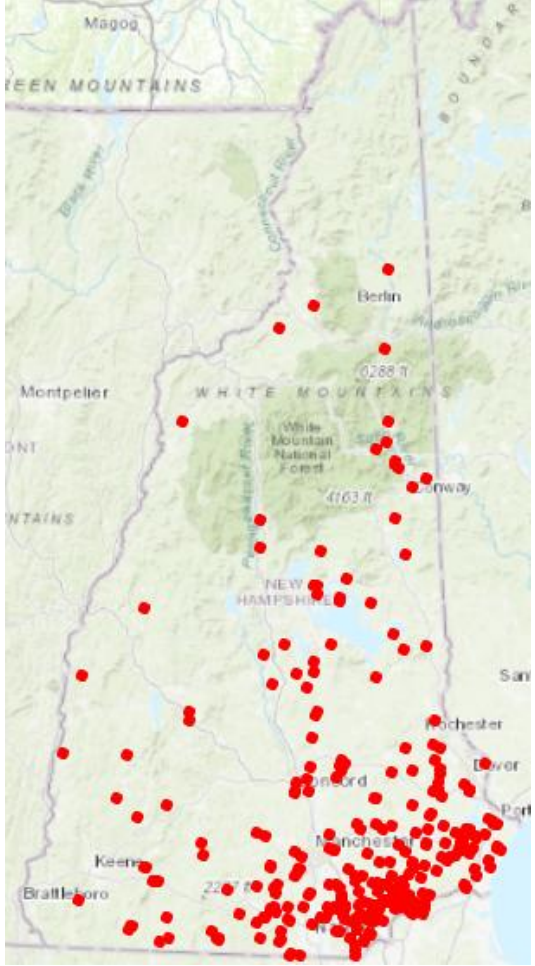
Federal PFAS Maximum Contaminant Levels Changes Announced on 5/14/25

- USEPA originally published final rules for the MCLs in April 2024
- Compliance date for meeting MCL for PFOA & PFOS delayed until April 2031 (originally April 2029)
- Rescinded standards associated with GenX, PFBS, PFNA & PFHxS (no real impact to NH water systems)
- USEPA promoted the potential use of exemptions under the SDWA for the PFAS MCLs
- Only a vague press release is available announcing the changes, but we are told all other deadlines (public notification/sampling – April 2027) will remain the same
- New draft federal rules expected in December 2025
- NHDES developed draft rules but, is not proceeding with rulemaking until the federal rulemaking process is completed

(Litigation against the MCL/USEPA filed by American Water Works Association and American Metropolitan Water Agencies continues to proceed – USEPA has recently asked the court for an abeyance to further consider the PFAS MCLs.)

- **EPA's MCLs for PFOA & PFOS, more than double the number of public water system sources that will exceed the MCL.**
  - **100 sources exceeded NH standards**
  - **200 additional sources exceed USEPA standards**

- **Cost for treatment for public water systems likely will exceed $0.3B for just NH**



Public Water Systems Exceeding EPA's MCL for PFOA & PFOS

PFAS Settlement Funds for Public Water Systems (3M, Dupont, Tyco and BASF) – Phase 1

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

- Expecting settlement amounts to be known soon
- Payments should occur shortly thereafter
- Payments will be made to the Drinking Water and Groundwater Trust Fund
- Water systems that have or will expend funds to address PFAS will be able to request funding.

Water sources with a PFAS detection prior to June 22, 2023 are eligible for compensation.

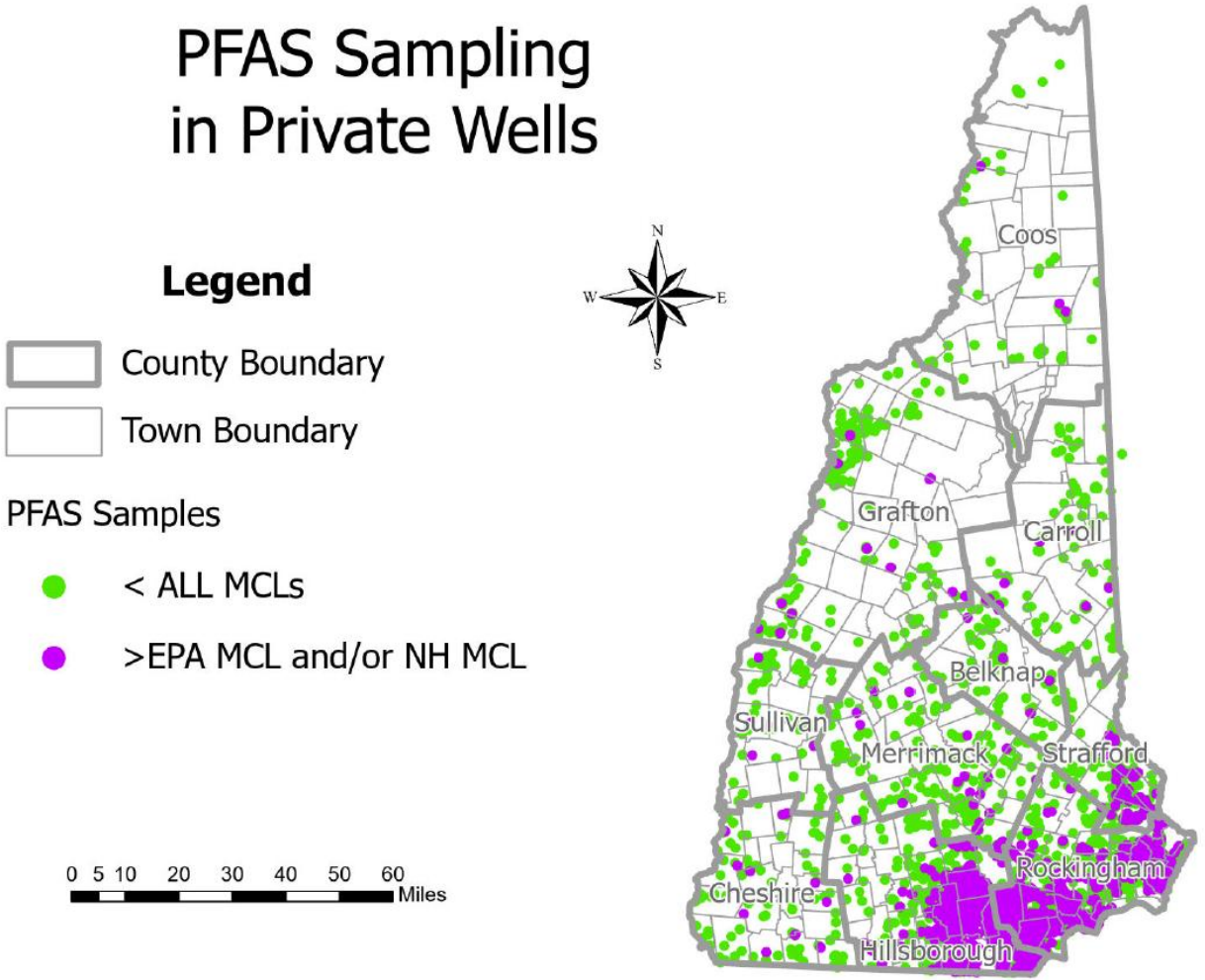
Phase 2 PFAS Settlement Testing Underway (3M & Dupont Settlements)

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

- 1100 sources being tested by NHDES
- Sources with no detects of PFAS prior to June 22, 2023 are being sampled.
- Sampling requirements are irregular.
- NHDES using the best testing methods to ensure low-level detections are captured
- Compensation will be available to water systems that have detections under Phase 2
- NHDES is expending approximately $2M to get the data needed for settlement claims under Phase 1 and 2 of the settlement agreements.

Thank you operators for your assistance!

PFAS Sampling in Private Wells



NEW HAMPSHIRE DEPARTMENT OF Environmental Services

- **14,355 private wells tested since 2016**
- **8,133 private wells exceed a PFAS drinking water standard**

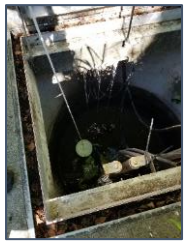
PFAS Private Well Rebate Initiative

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

- Private wells exceeding a federal or state standard for PFAS are eligible for up to a $5K rebate to install treatment or $10K to interconnect to a public water system.
- The following has been funded to date:
  - Point of Entry Treatment Systems: 1,505
  - Point of Use Treatment Systems: 295
  - Service Connections: 34

Domestic wastewater

- **Occurrence study:** Are there PFAS in domestic wastewater?
  - Monthly sampling of residential septic tank effluent



YES – about **300 ng/L***

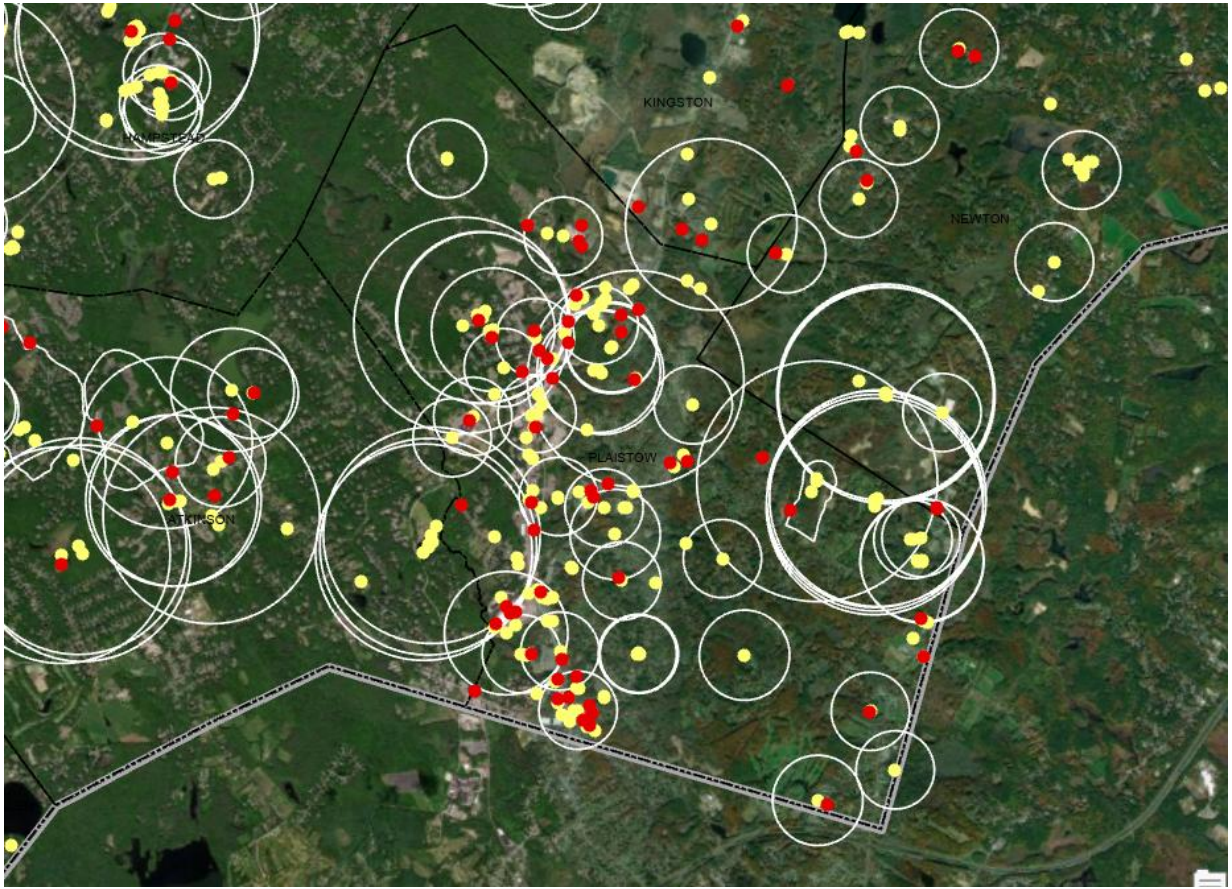
- **Source study:** From what?
  - Laundering
  - Carpet/floor cleaning
  - Showering
  - Dishwashing

PFAS in **consumer products** enter our **waste stream** and may impact **drinking water**.

Reduce sources to protect resources

*Sum of 70 PFAS

Source Water Protection Initiative



- Sample wastewater discharges to groundwater in qualifying wellhead protection areas
- Sample consumer products
- Work with individual entities and entire sectors to make changes

Wastewater Discharge to Groundwater

Public Water Supply Well

Wellhead Protection Area

CYBERSECURITY FOR NH DRINKING WATER AND WASTEWATER UTILITIES

NH GOVERNOR AND EXECUTIVE COUNCIL BREAKFAST MEETING
JUNE 4, 2025

ACCOMPLISHMENTS

The New Hampshire Department of Environmental Services' (NHDES) has been promoting cybersecurity in the water sector for many years. Efforts continue through a multi-pronged approach to increase cybersecurity awareness, evaluate cybersecurity and reduce vulnerabilities at drinking water and wastewater systems statewide. Below is a brief summary of some of the activities.

WATER SECTOR CYBERSECURITY ACTION PLAN SUBMITTED TO THE WHITE HOUSE: 6/27/24

CISA ASSESSMENTS

Since 2015 NHDES has been working with the EPA to promote their free cybersecurity risk assessments. For the past four years, NHDES has been partnering with NH's Cybersecurity Advisor (CSA) from CISA to conduct cybersecurity assessments at municipal community water systems (CWS) as part of the Drinking Water and Groundwater Bureau sanitary survey schedule. Over 35 CWSs have received a CISA assessment. Drinking water and wastewater systems can also receive physical security assessments through NH's CISA Protective Security Advisor.

ARPA GRANT CYBERSECURITY IMPLEMENTATION GRANT PROGRAM

In 2021, NHDES allocated $2 million to fund cybersecurity improvement projects to proactively mitigate the risk of cybersecurity attacks on CWSs serving at least 500 people and/or municipal wastewater systems. Grantees received up to $50,000 per drinking water or wastewater system to implement recommendations from a cybersecurity assessment. The maximum grant amount per applicant was $100,000 for a combined drinking water and wastewater system.

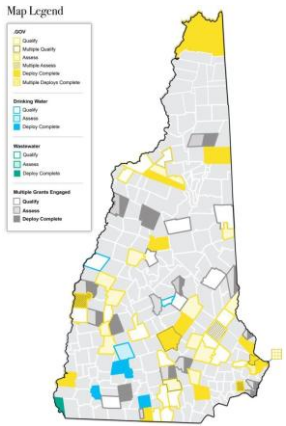
30 PROJECTS FUNDED
83% COMPLETE

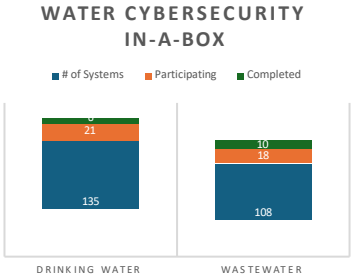
NH SPECIFIC OUTREACH & TRAINING

- NH & VT Cybersecurity Summit: *Securing Water Systems Session* **11/7/24**
- NH Water/Wastewater System Security Webinar **2/12/25**
- The Cybersecurity Threat is Real: How NH's Water Sector Can Respond Workshop **3/5/25**
- Primex Risk Summit Safeguarding Essential Services: *Cybersecurity for Drinking Water and Wastewater Systems Session Panel* **5/14/25**
- Various presentations at NH Water Works Association and Granite State Rural Water Association trainings
- **Upcoming Events:** Cyber session at the NH Public Works Mutual Aid Workshop **9/25/25** and NH Municipal Association Annual Conference **11/19/25-11/20/25**

CYBER SECURITY IN A BOX

The Overwatch Foundation, a NH based non-profit group, was selected for two turnkey programs: .GOV “In-a-Box” and Water Cybersecurity “In-a-Box.” The Water Cybersecurity “In-a-Box” program focuses on providing a uniform baseline of security upgrades that goes beyond replacing hardware and software, redesigning networks, and improving overall cybersecurity protections. Selected systems receive appropriate hardware, software, training and technical support for a three-year period after which they are expected to have in place the expertise (either in house or contracted) and financial support to sustain required processes, protections and system upgrades. Overwatch has initiated a Technology Partner Program for local technology partners to strengthen and speed up the delivery of each of the “In-a-Box” programs within the regions in which they operate.





NH PARTNERS

ADDITIONAL GUIDANCE

Developed NH Water Sector Cyber Incident Response Template in coordination with NH CSA and Primex.

NHDES is looking at ways to incorporate cybersecurity into existing programs. Messaging and guidance documents are being updated to incorporate cybersecurity into the water infrastructure asset management program and operator certification programs. Projects that include a cybersecurity improvement component receive priority ranking points for State Revolving Loan Fund (SRF) pre-applications.

PARTICIPATION IN CYBERSECURITY GROUPS

- ☐ National Water Sector Cybersecurity Task Force
- ☐ Region 1 State Agency Water Sector Cybersecurity Workgroup

Former Tolend Road Landfill

Portsmouth Safe Water Advisory Group
June 18, 2025

John Storer
Director of Community Services

Christene A. Binger, CHMM
Verdantas

Dean Peschel
Dover Group Coordinator

March 7, 2023 Presentation

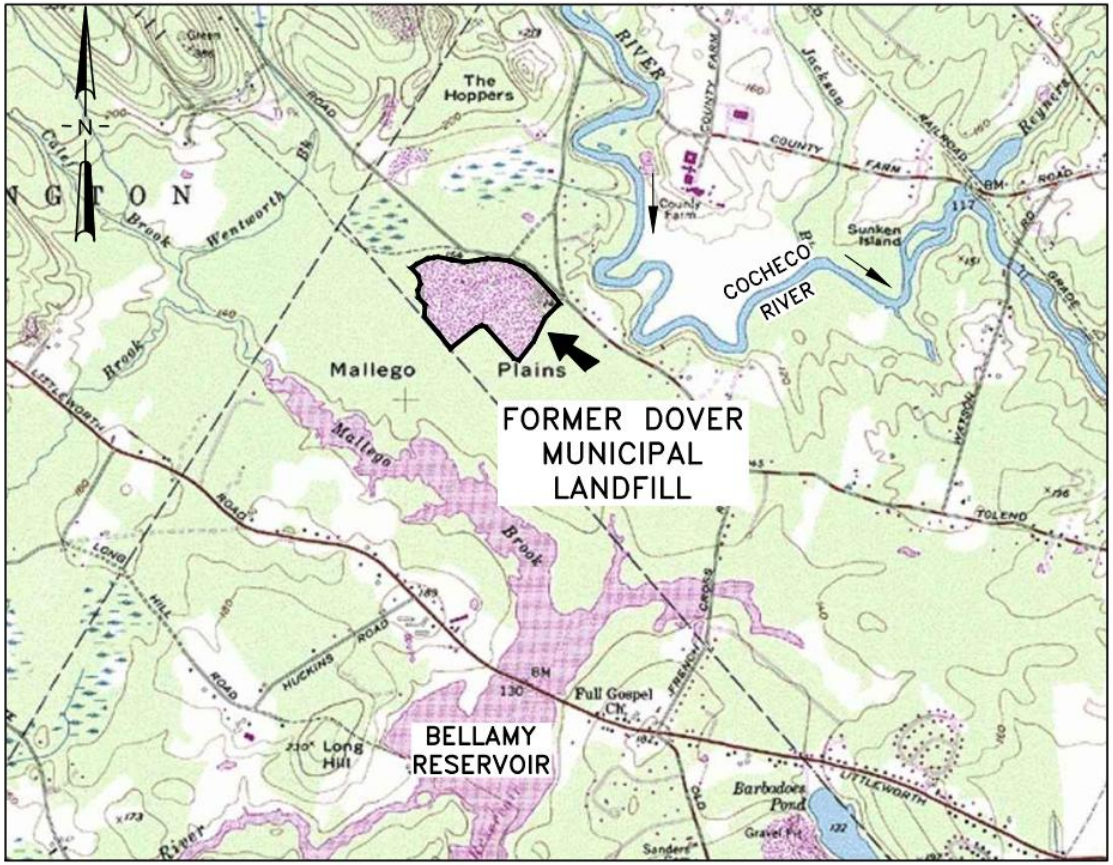
- Presentation on-line
  - Reference Documents | City of Portsmouth

- Reviewed General History of Landfill
- Identified Responsible Parties
- Described different focus areas on the Landfill Site
- Provided overview of assessment and remediation activities
- Presented information about Southern Plume area
- Identified USEPA 2022 – Five Year Review Items

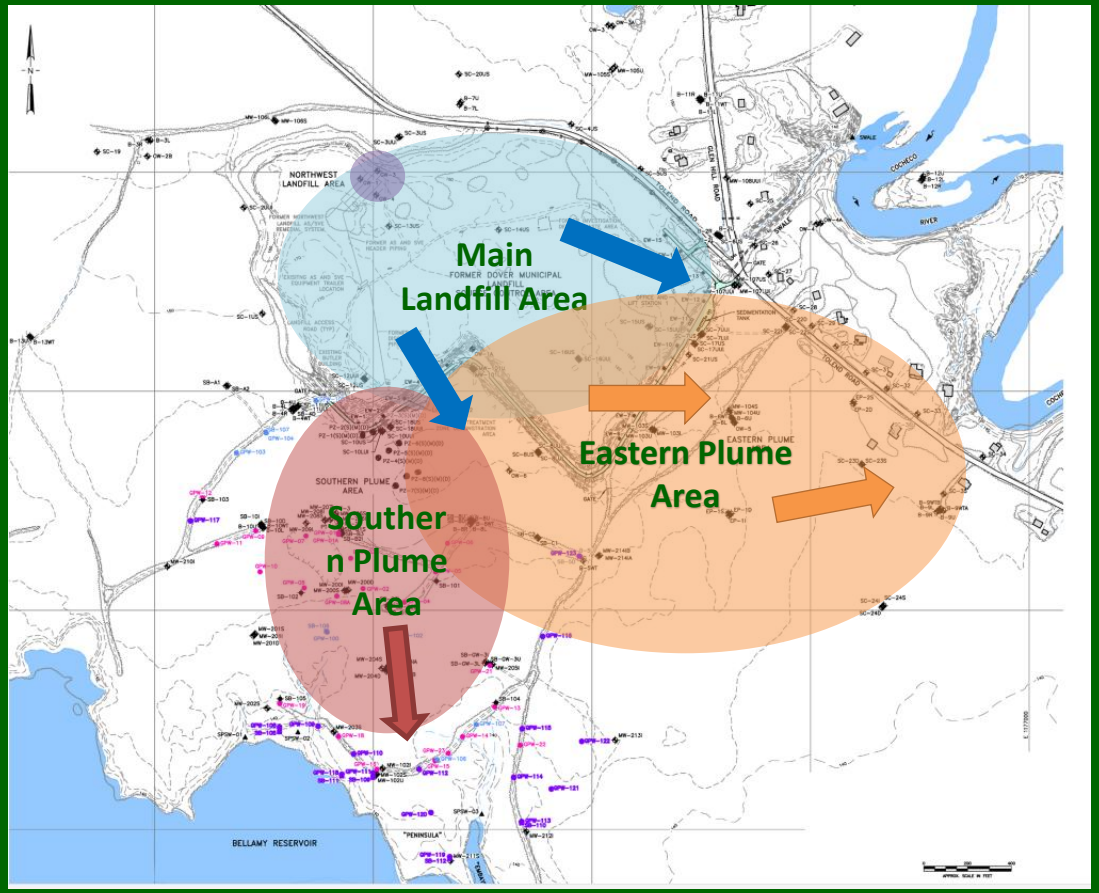
Agenda Today – June 18, 2025

- Introductions
- Overview of Southern Plume:
  - Assessment Activities
  - Remedial Design Status
- Conservation Easement

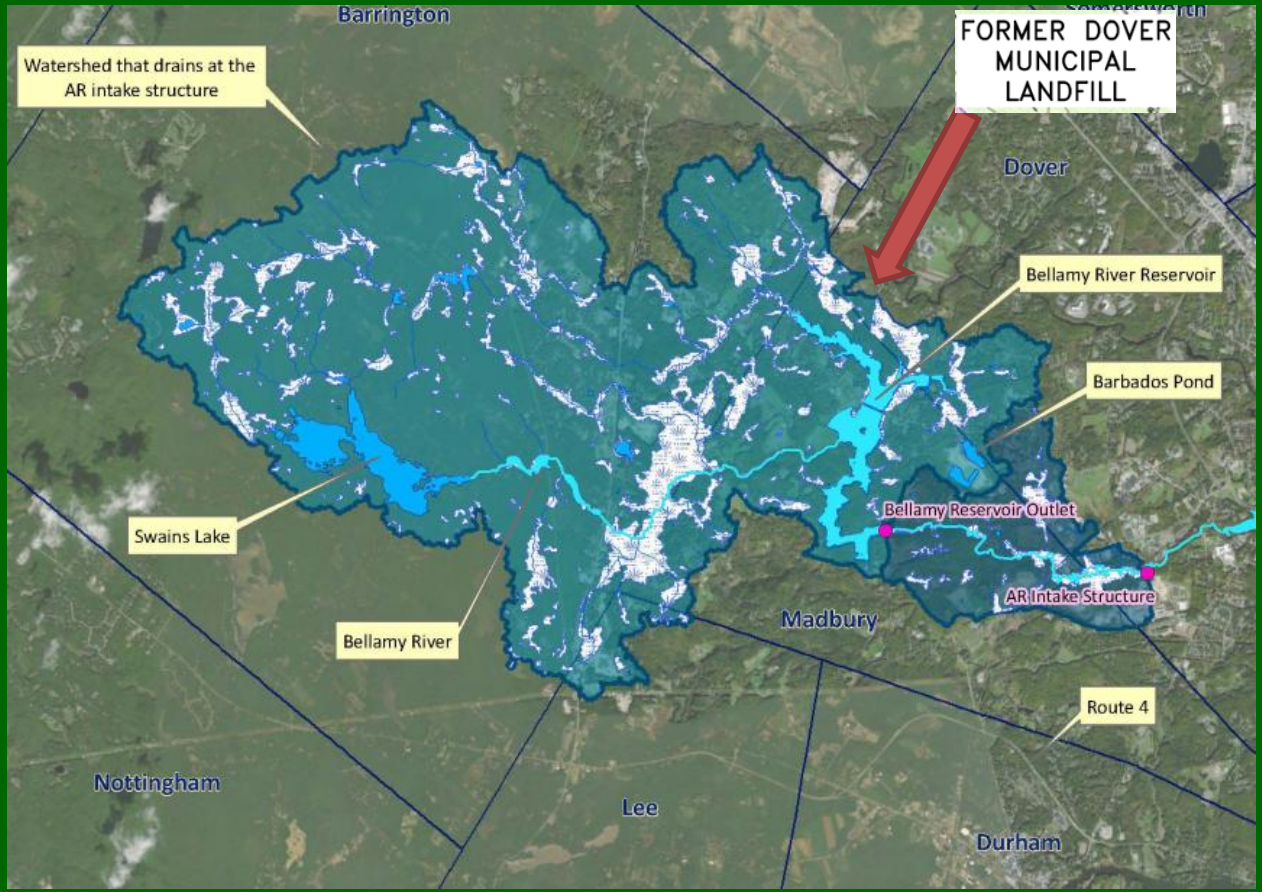
Landfill Location



Landfill Areas



Bellamy Reservoir Watershed

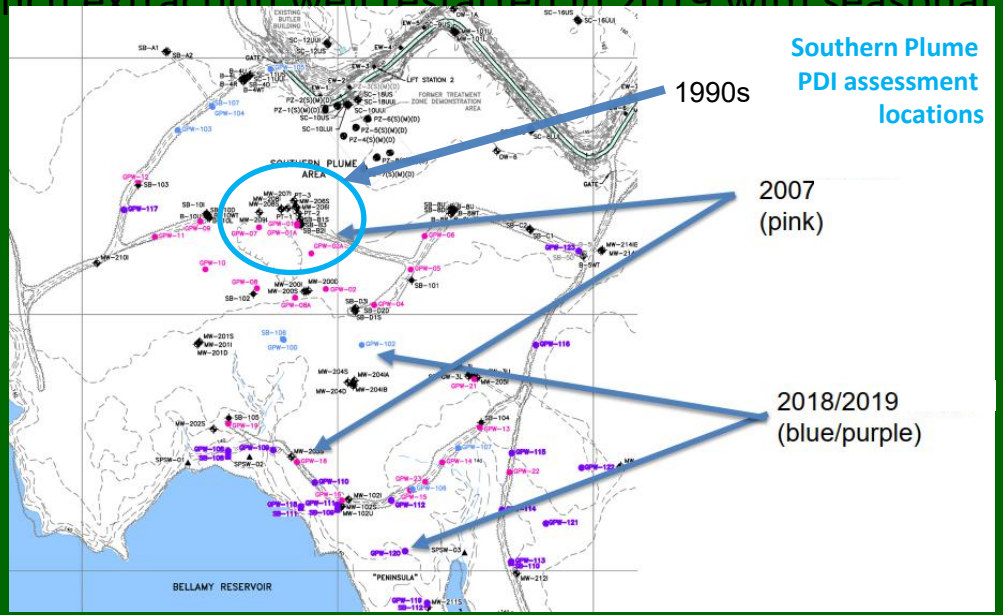


Southern Plume: Historical Assessment

Mid 1990s
- SP PDI – identified impacts; identified flow divide between SP and EP

2006-2008
- SP PDI – identified leading edge; No VOCs near shoreline
- 4-inch extraction well operated 2008 to 2012
- SP investigation show low levels 1,4-dioxane and PFAS near shoreline

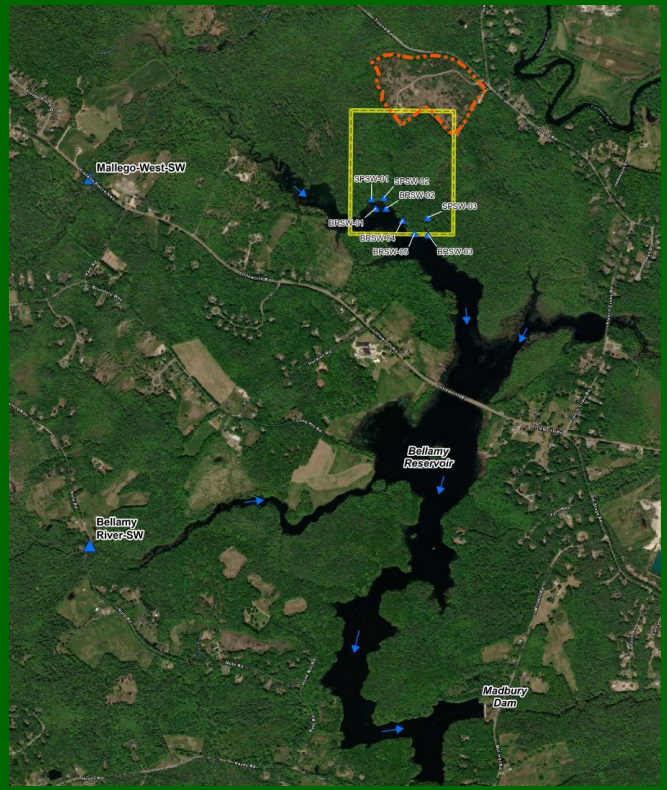
2018-2019
- 4-inch extraction well restarted in 2019 with seasonal operation



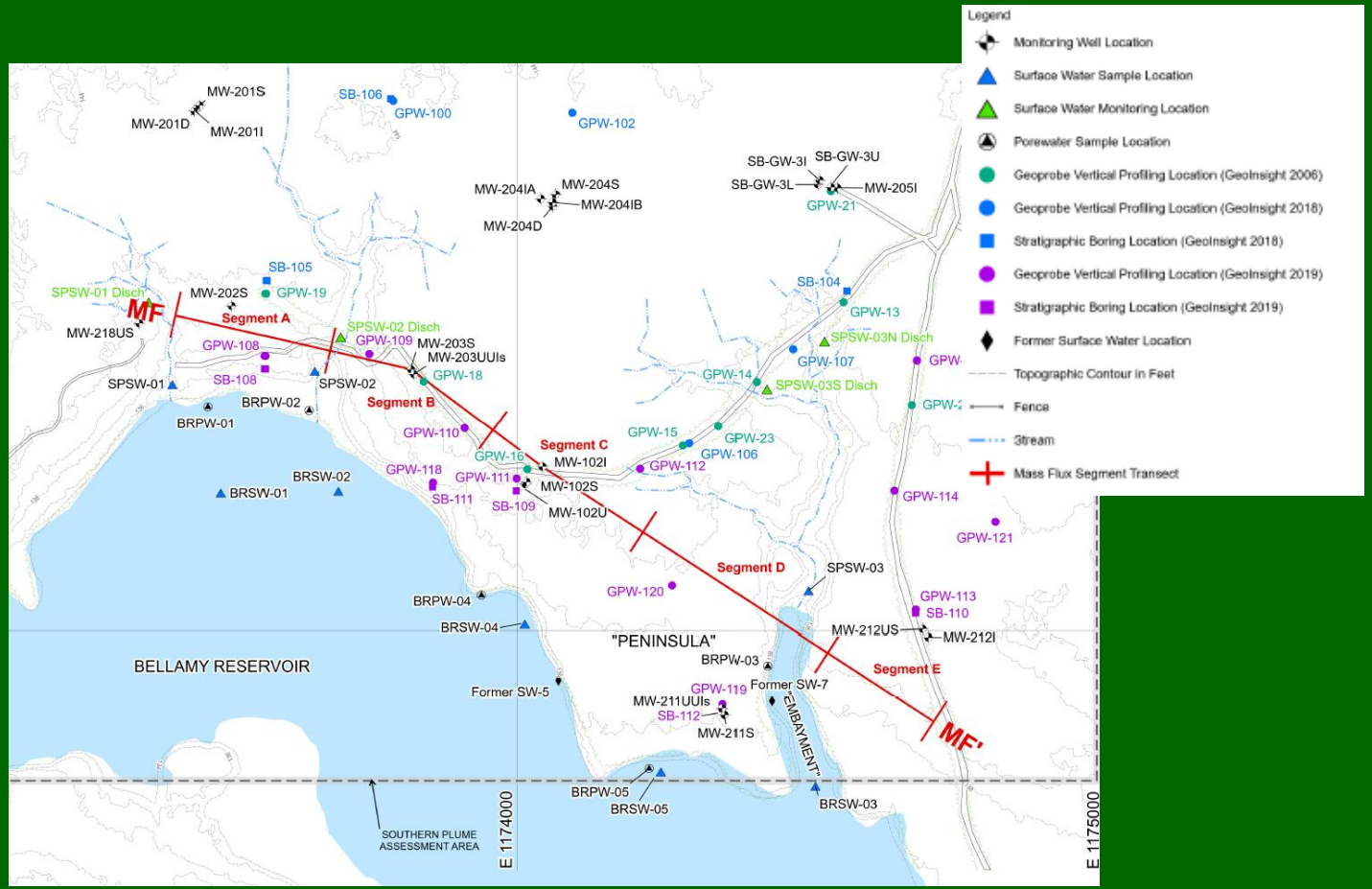
Southern Plume Conditions

- Shoreline Groundwater Monitoring Wells

- Surface Water Sampling
  - Three Tributaries
  - Five Bellamy SW Sampling Locations
  - Two Bellamy Background Samples
    - *Mallego-West-SW*
    - *Bellamy River-SW*



Southern Plume Conditions



Southern Plume Conditions

Shoreline Groundwater Monitoring Wells

- Typical 10 to 15 feet deep
- Screened in shallow sand layer

VOC sampling since 2001
No VOCs Detected at shoreline

1,4-Dioxane Sampling - 2019 to 2025
- Low Single digit ug/L

Southern Plume Conditions

Shoreline Tributaries

- Three tributaries south of Landfill, draining to Bellamy
- Drought Conditions in 2024

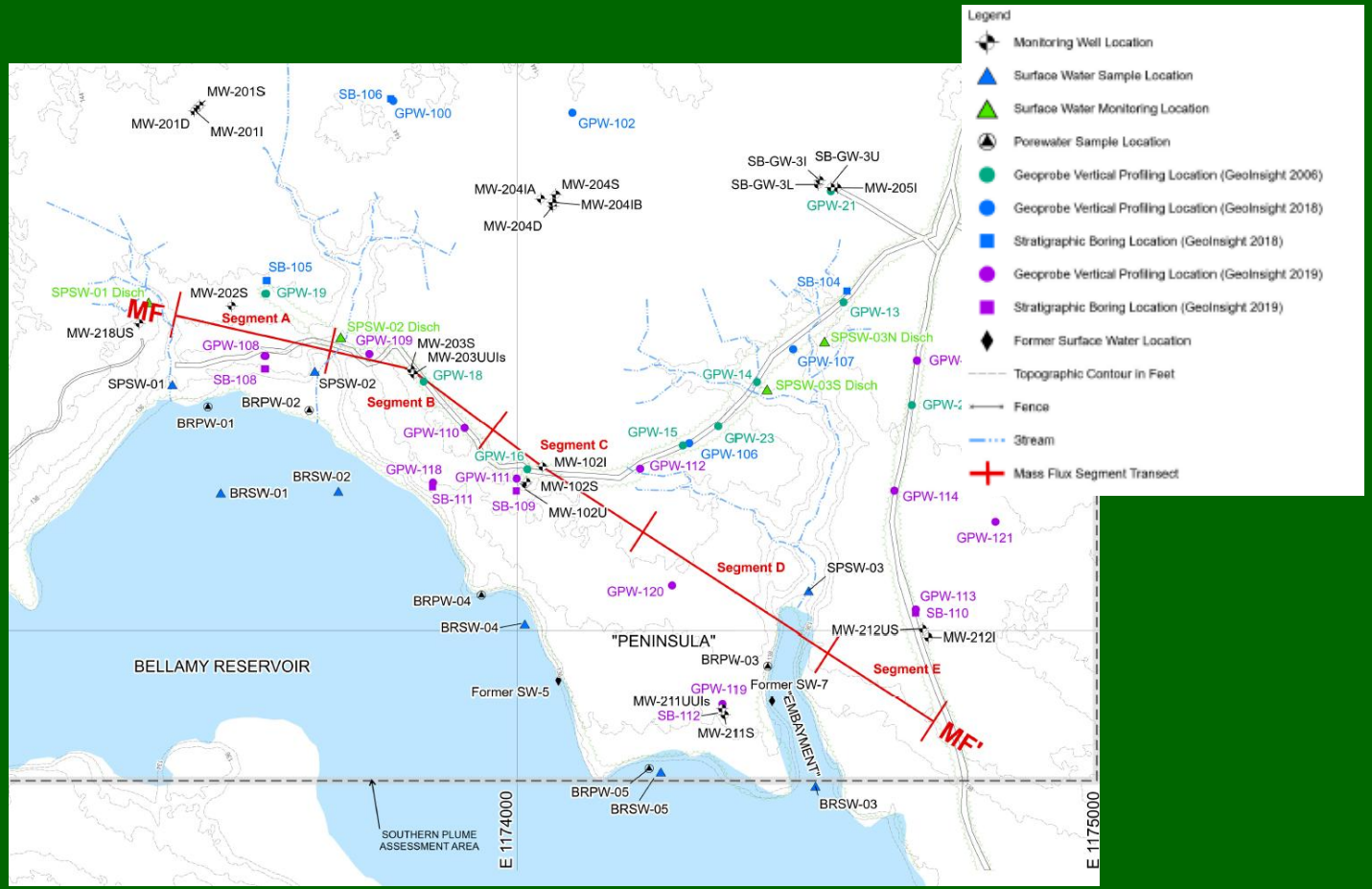
VOC sampling since 2005 – No VOCs

1,4-Dioxane Sampling - 2021 to 2025

- ND or Low Single digit ug/L (less than 2.1 ug/L)
- Trends Stable

Southern Plume Drought Conditions

Southern Plume Conditions



Bellamy Surface Water Sampling

Historical Sampling in Embayment

- VOC sampling 2006 to 2007 – No VOCs Detected

Recent Sampling at Five Sample Locations

- 1,4-Dioxane Sampling – October 2023 to March 2025
  - Not Detected (one duplicate at 0.32 ug/L)

- PFAS Sampling - October 2023 to March 2025
  - ND or Low Single digit ng/L
  - Compounds similar to two tributary background samples

Southern Plume Design Progress

Hydraulic Modeling Activities – EPA Required

- Tech Memo # - 1 – Model Set Up – December 2022
- Tech Memo #2 - Calibration – June 2023
- Techo Memo #3 – January 2024
- Revised Tech Memo #3 – March 2025
  - Approved May 2025

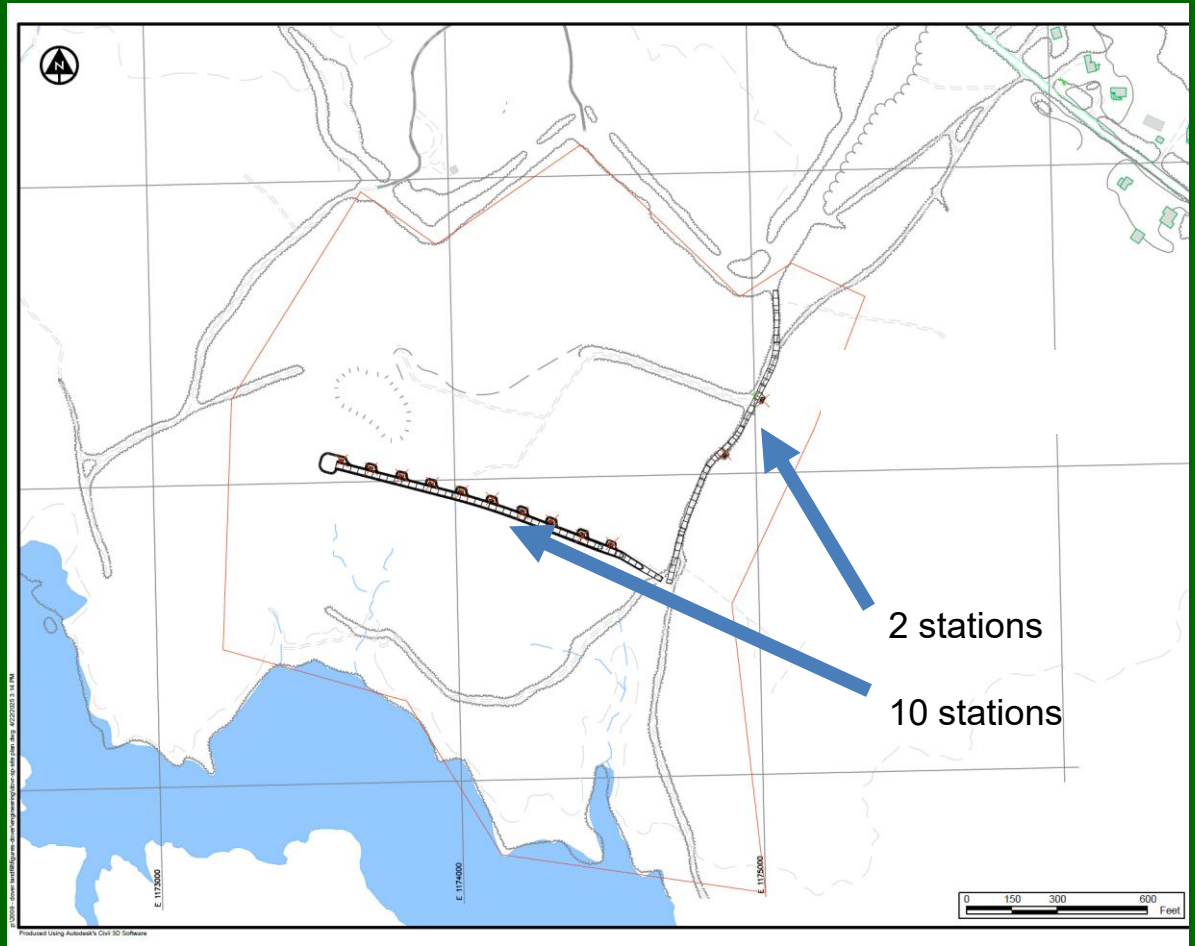
SPRA Remedial Design

- SP30PRD - January 2024
- SP75PRD - Due September 2025

Southern Plume Design

- Design Consistent with Landfill GWE system
- 12 Extraction Well Stations
- Three wells per station (36 total SPEWs)
- Conveyance to Storage Tank near Tolend Road
- Off-site Treatment at POTW

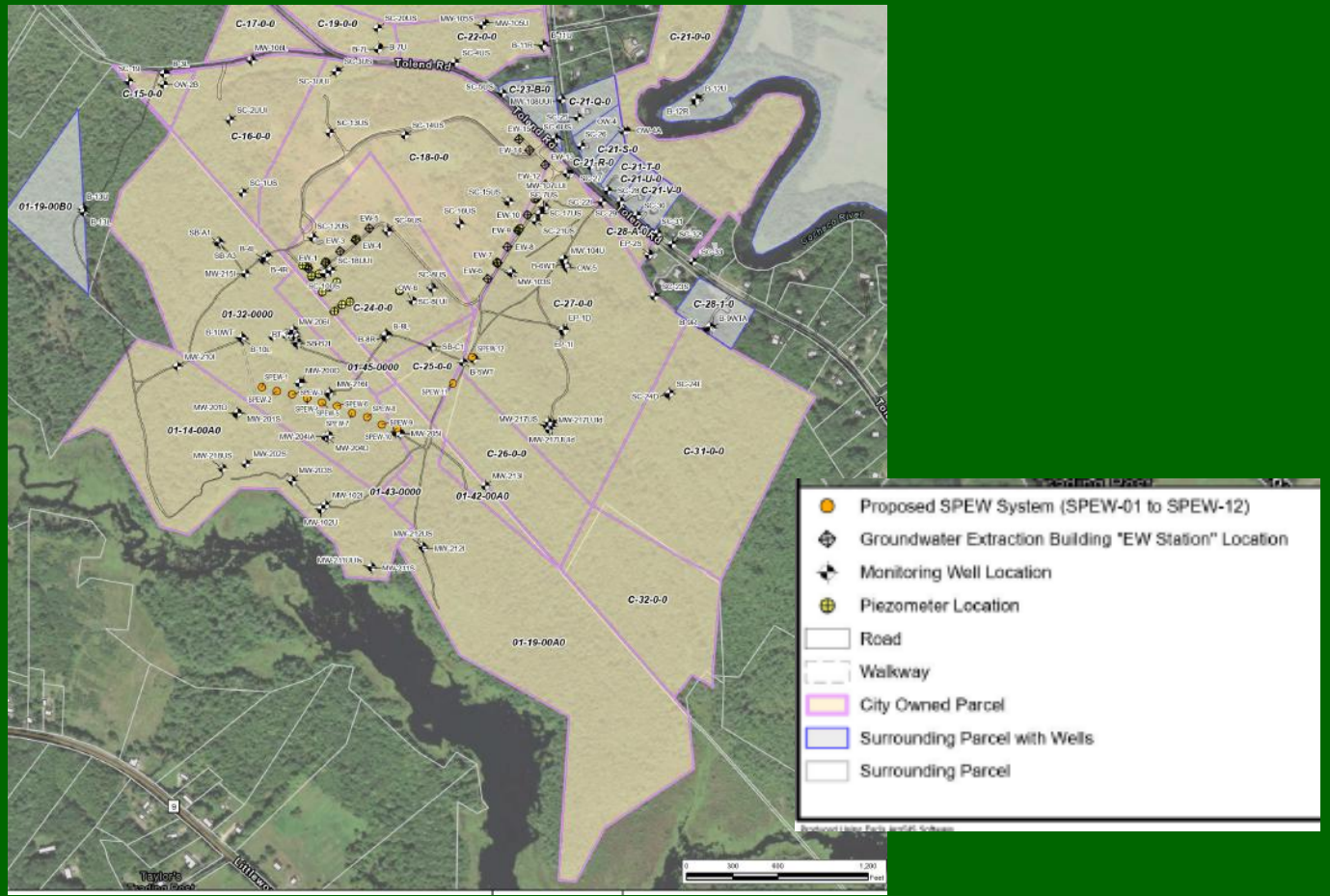
Southern Plume Design - GWE



Next Steps and goals

Winter 2024-2025	• Additional Southern Plume Hydraulic Modeling • Required by USEPA prior to remedial design submission
Summer/Fall 2025	• Site Preparations and Utility Work
2026	• Installation of extraction wells
2026	• USEPA final Remedial Action Design approval • Bid & Award Contract for plan implementation
2026	• Construction of Southern Plume Remedial Action

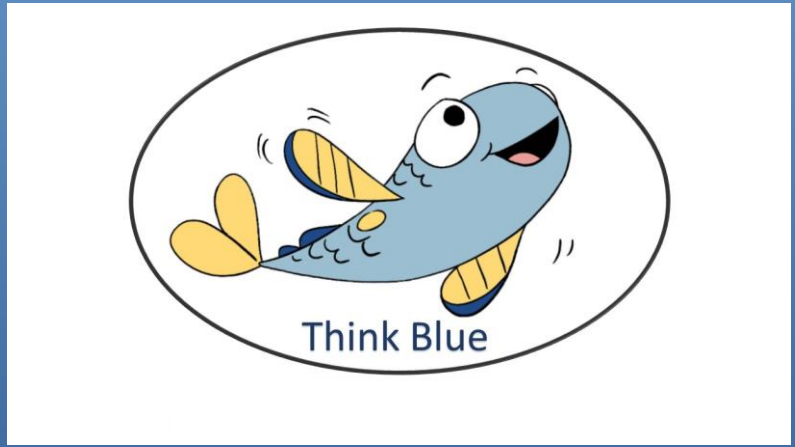
Conservation Easement



Questions??

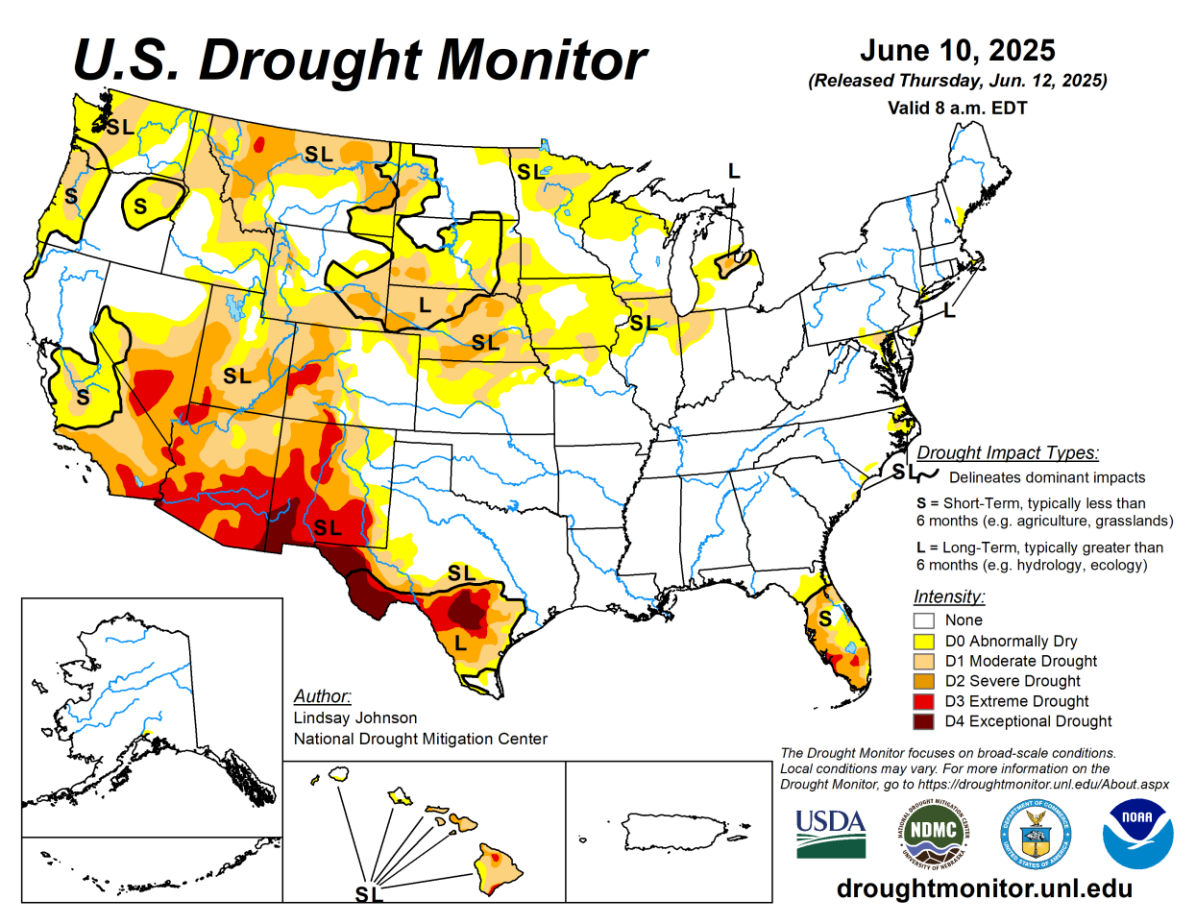
THANK YOU

Portsmouth and Pease Water Supply Update



Safe Water Advisory Group
June 18, 2025

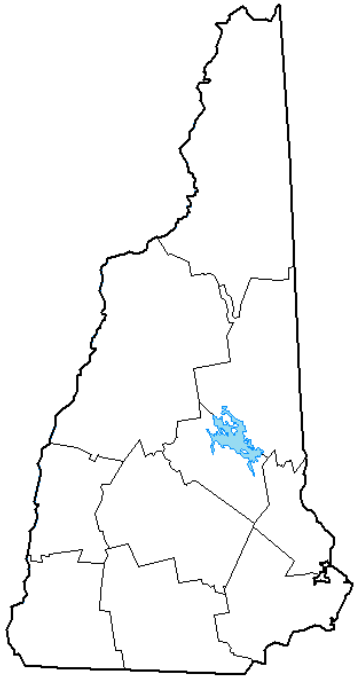
Drought Monitor



Drought Monitor

U.S. Drought Monitor

New Hampshire



June 10, 2025

(Released Thursday, Jun. 12, 2025)

Valid 8 a.m. EDT

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

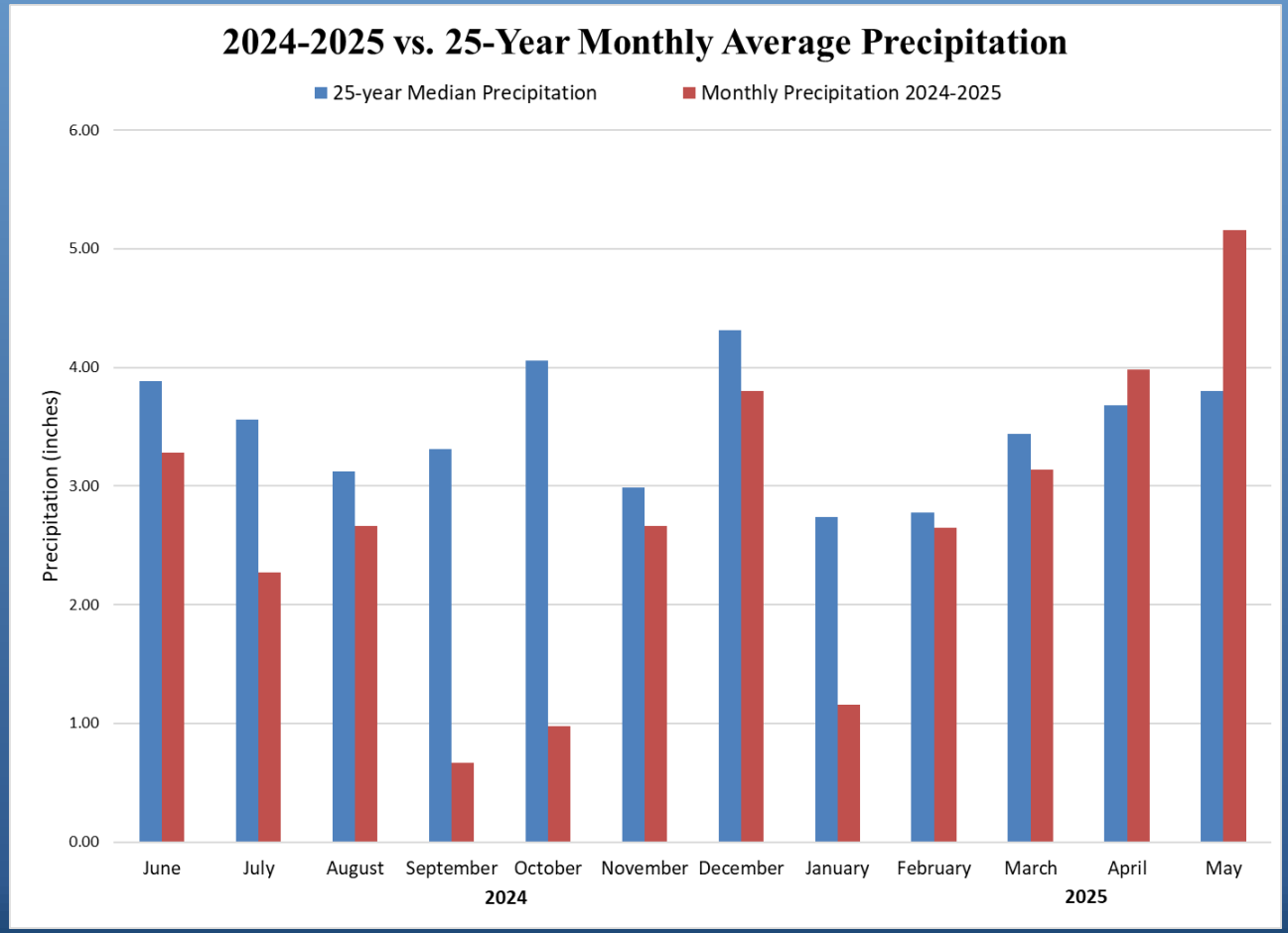
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

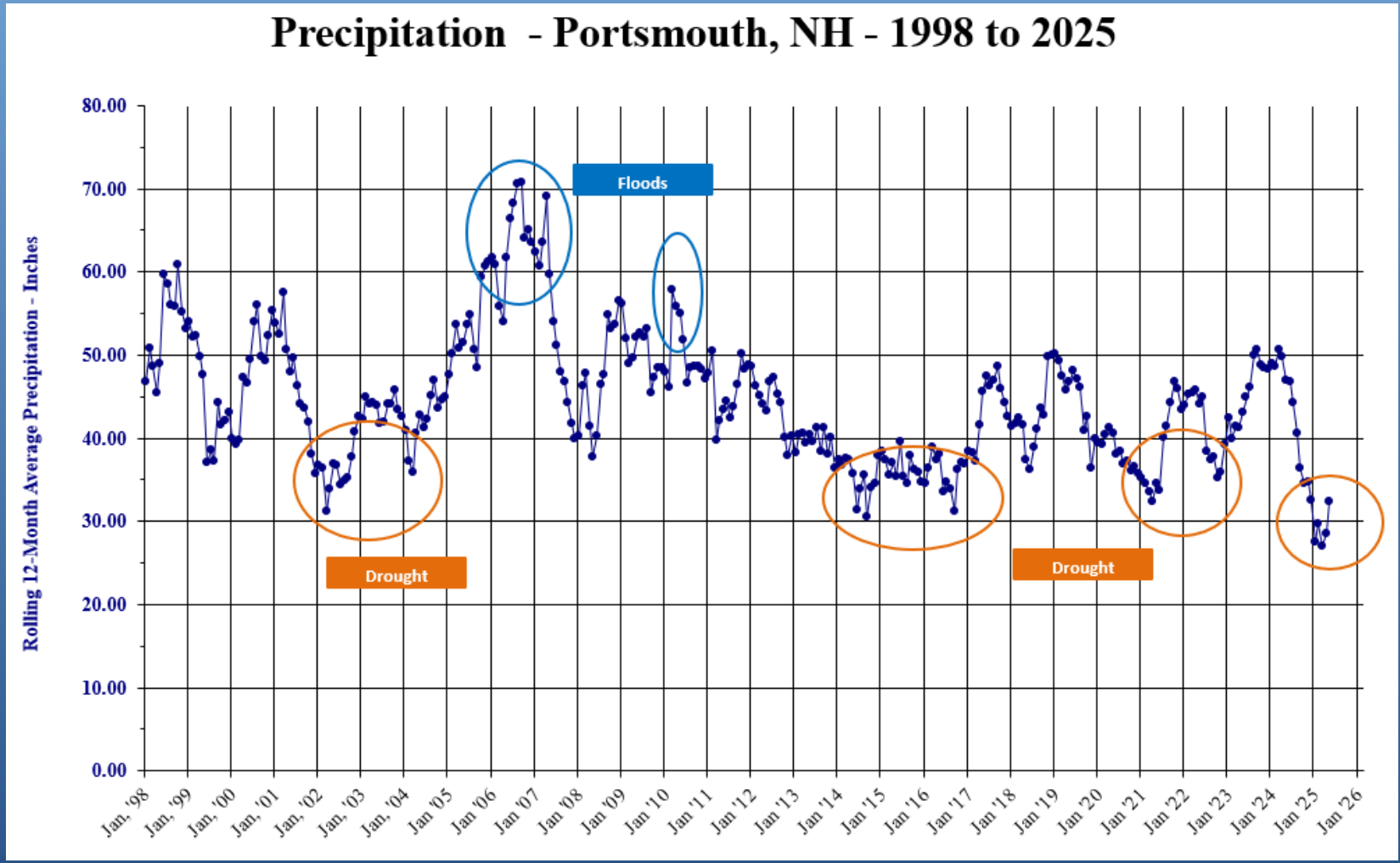
Lindsay Johnson
National Drought Mitigation Center

droughtmonitor.unl.edu

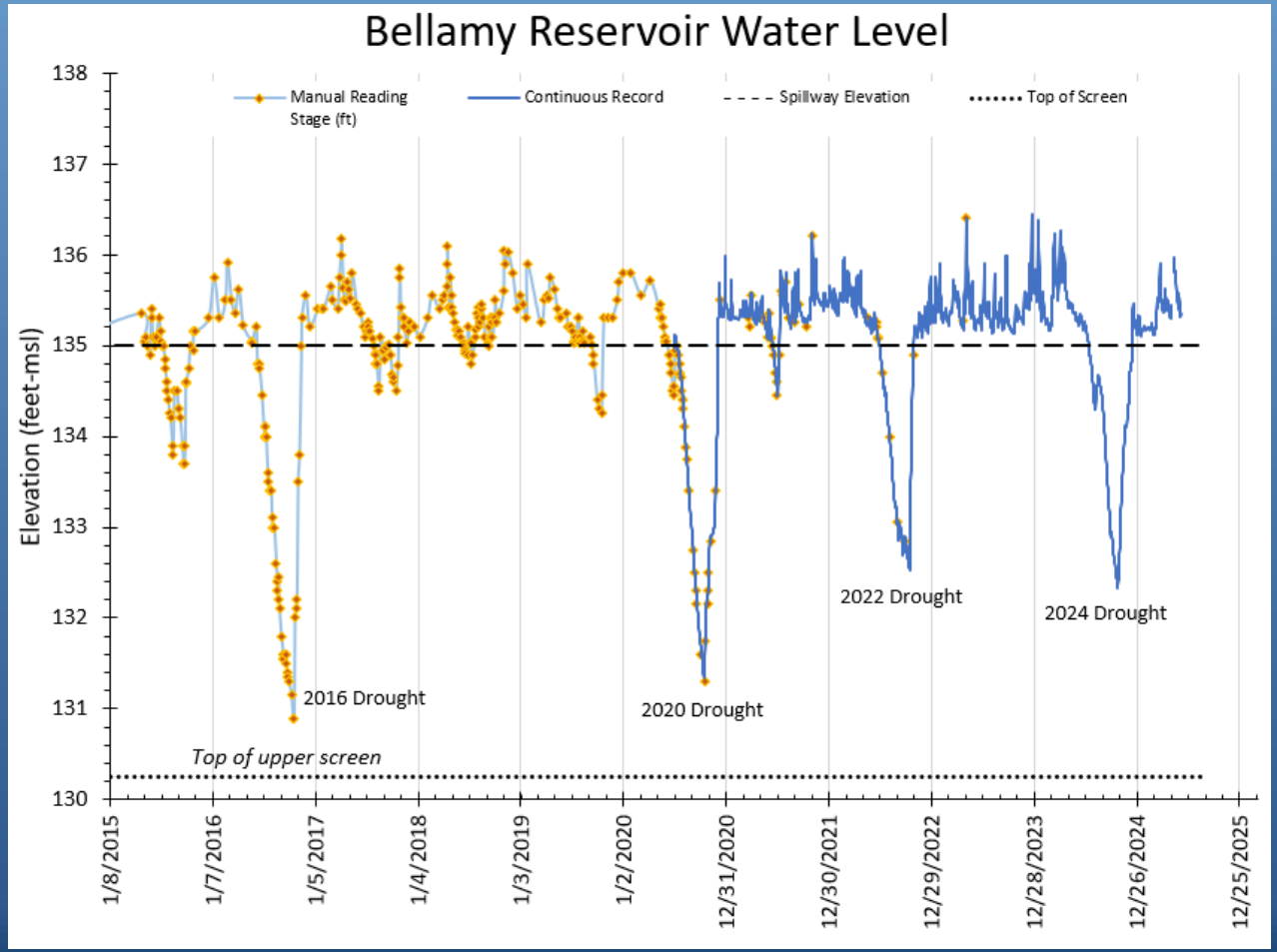
Precipitation – 22% Below Normal Annual Average



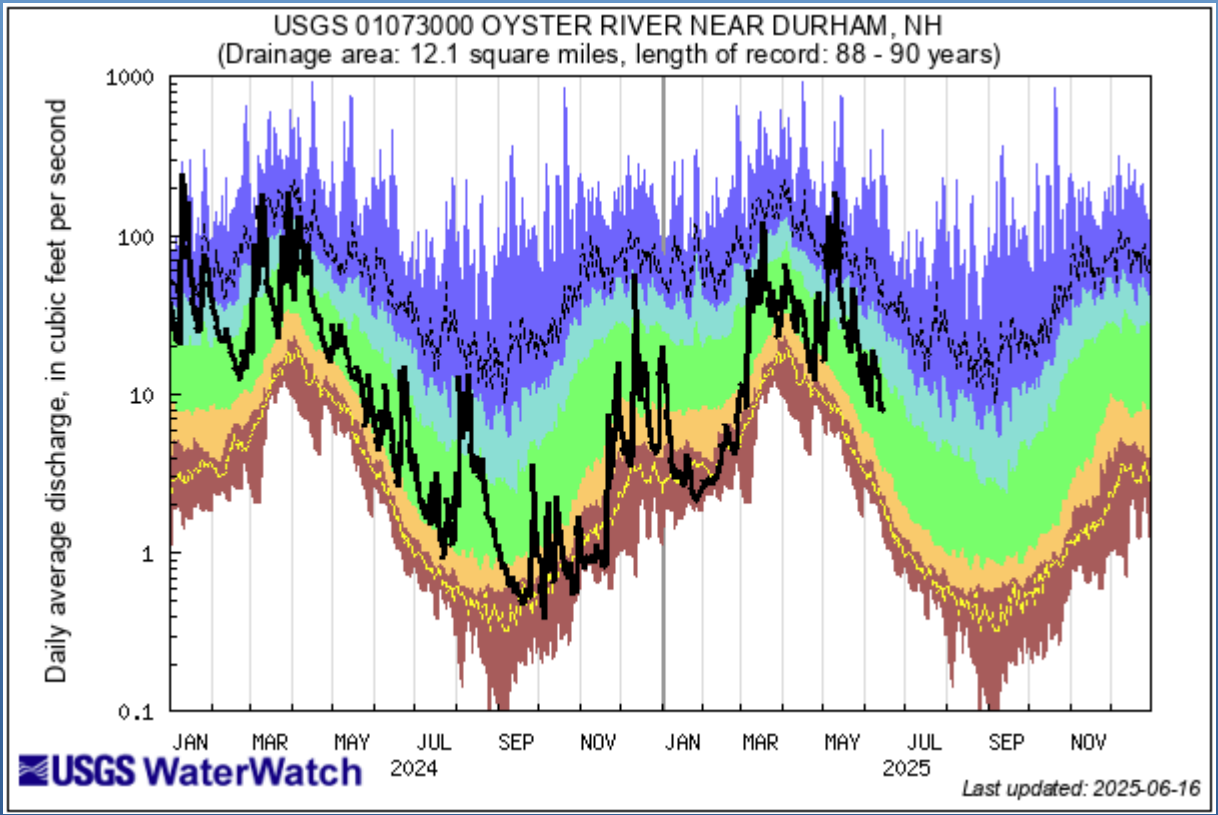
Precipitation - Portsmouth, NH - 1998 to 2025



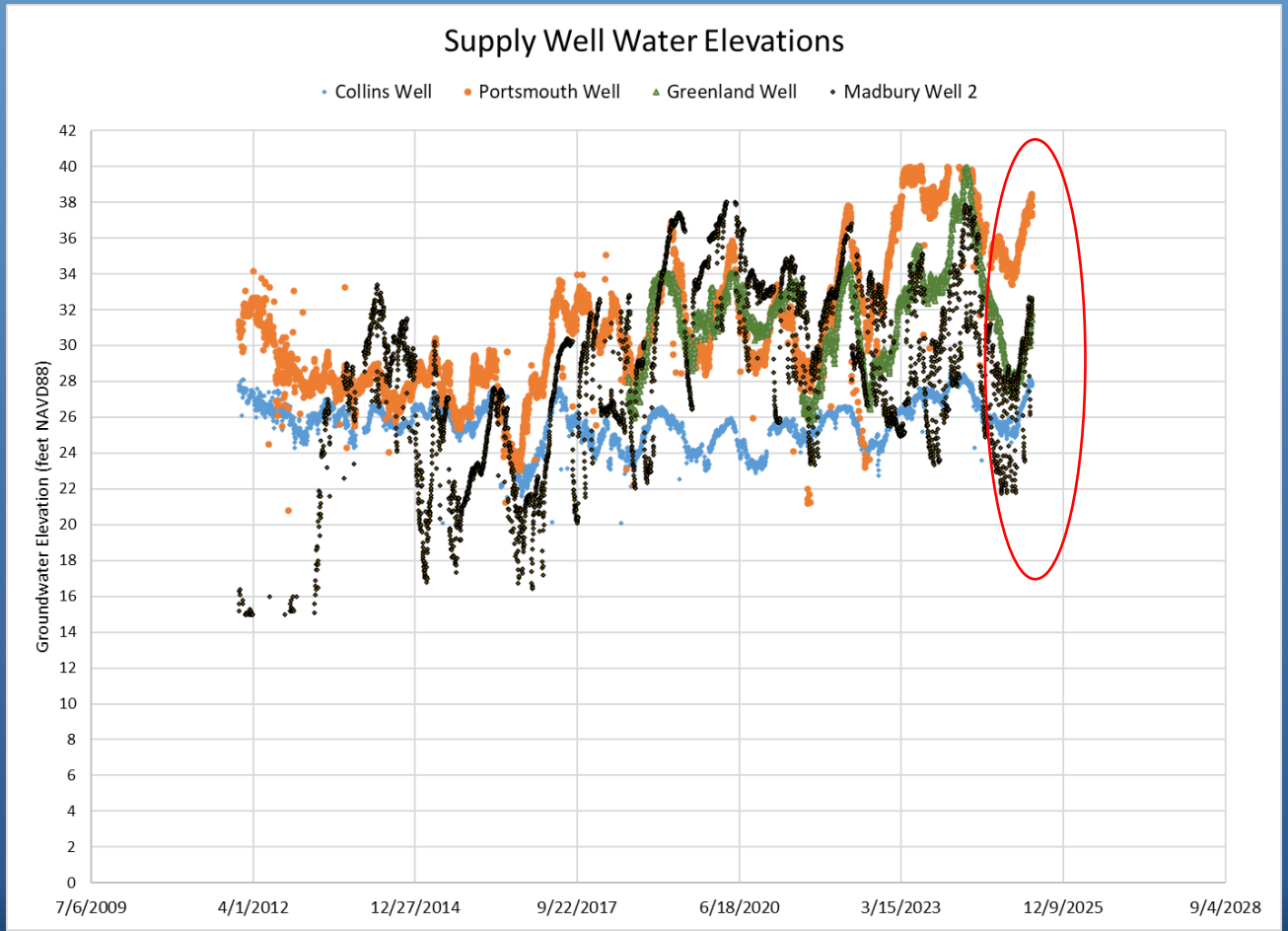
Surface Water Conditions

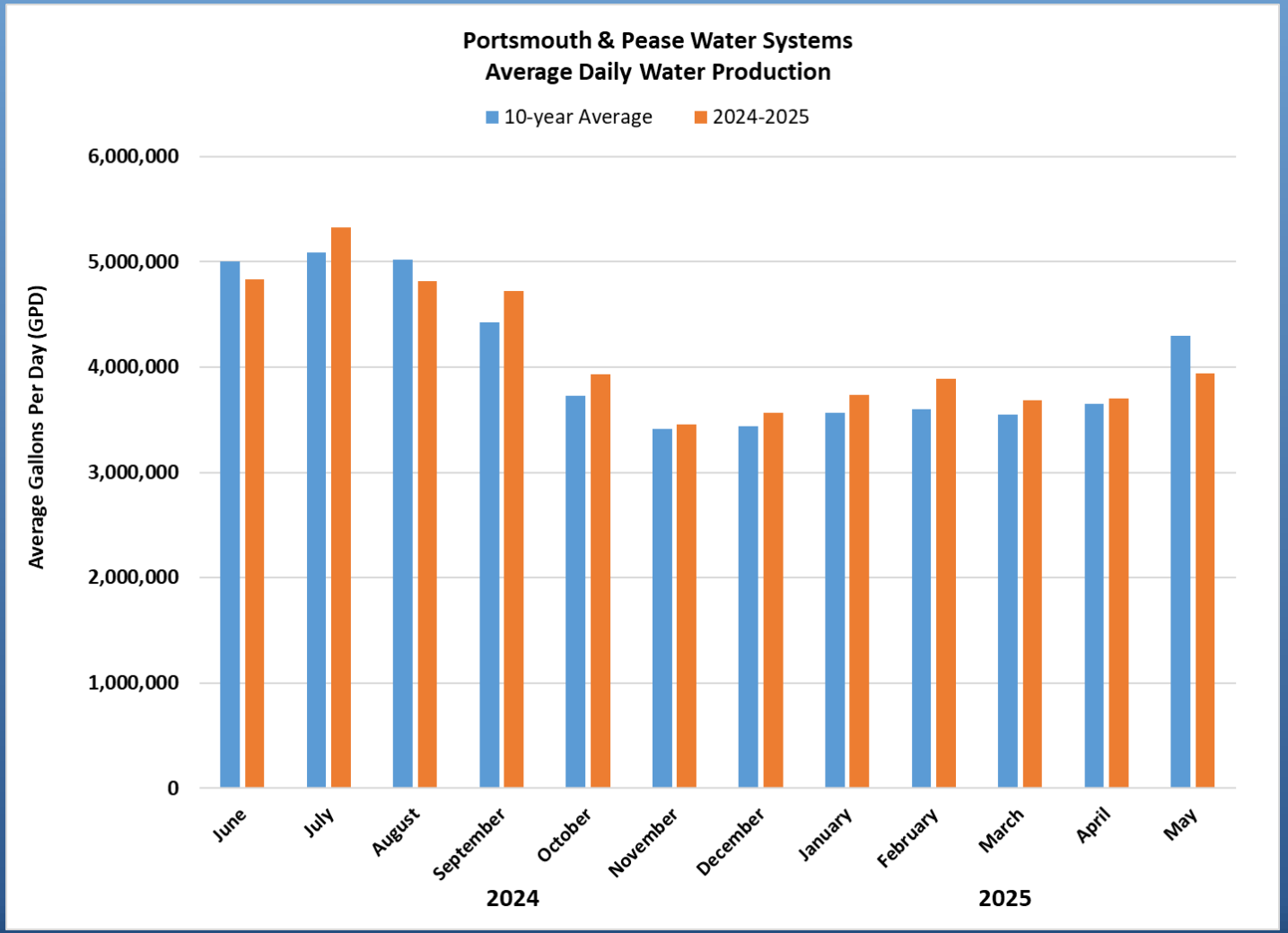


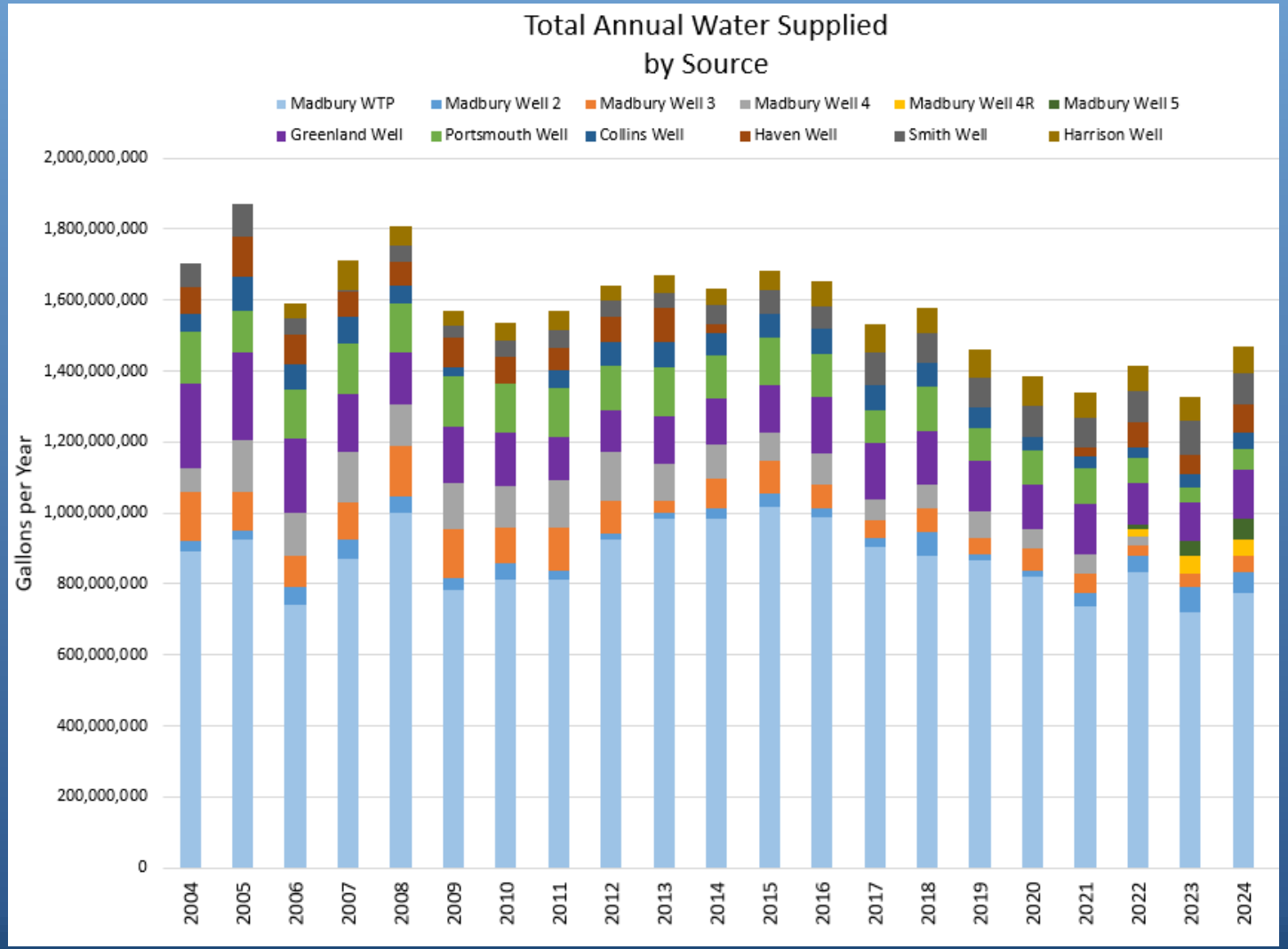
Stream Flow


USGS 01073000 OYSTER RIVER NEAR DURHAM, NH
(Drainage area: 12.1 square miles, length of record: 88 - 90 years)
Daily average discharge, in cubic feet per second
1000
100
10
1
0.1
JAN
MAR
MAY
JUL
SEP
NOV
JAN
MAR
MAY
JUL
SEP
NOV
2024
2025
USGS WaterWatch
Last updated: 2025-06-16
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

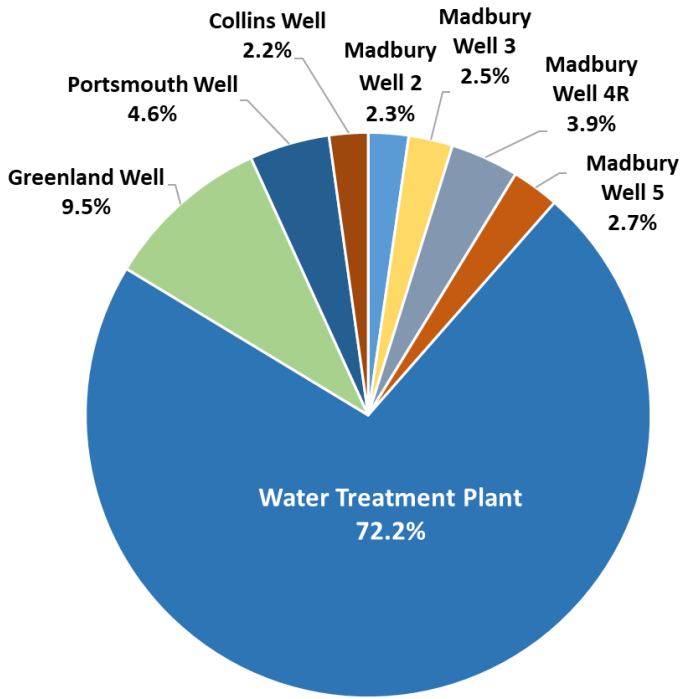
Groundwater Levels

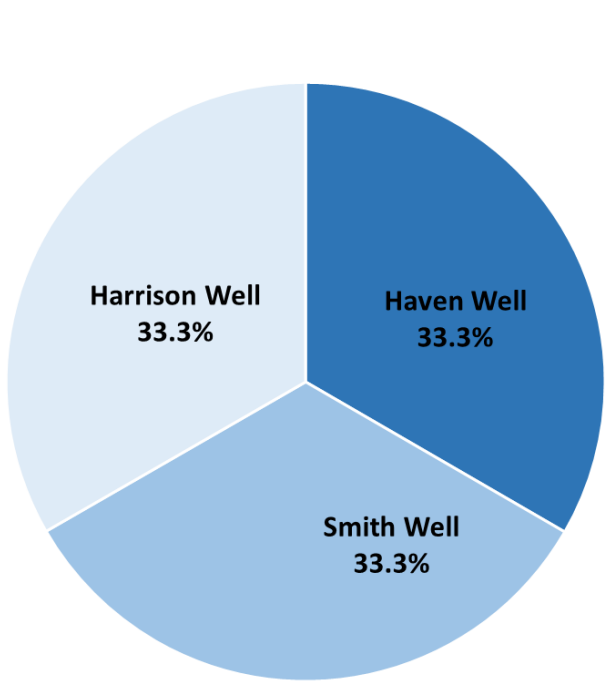


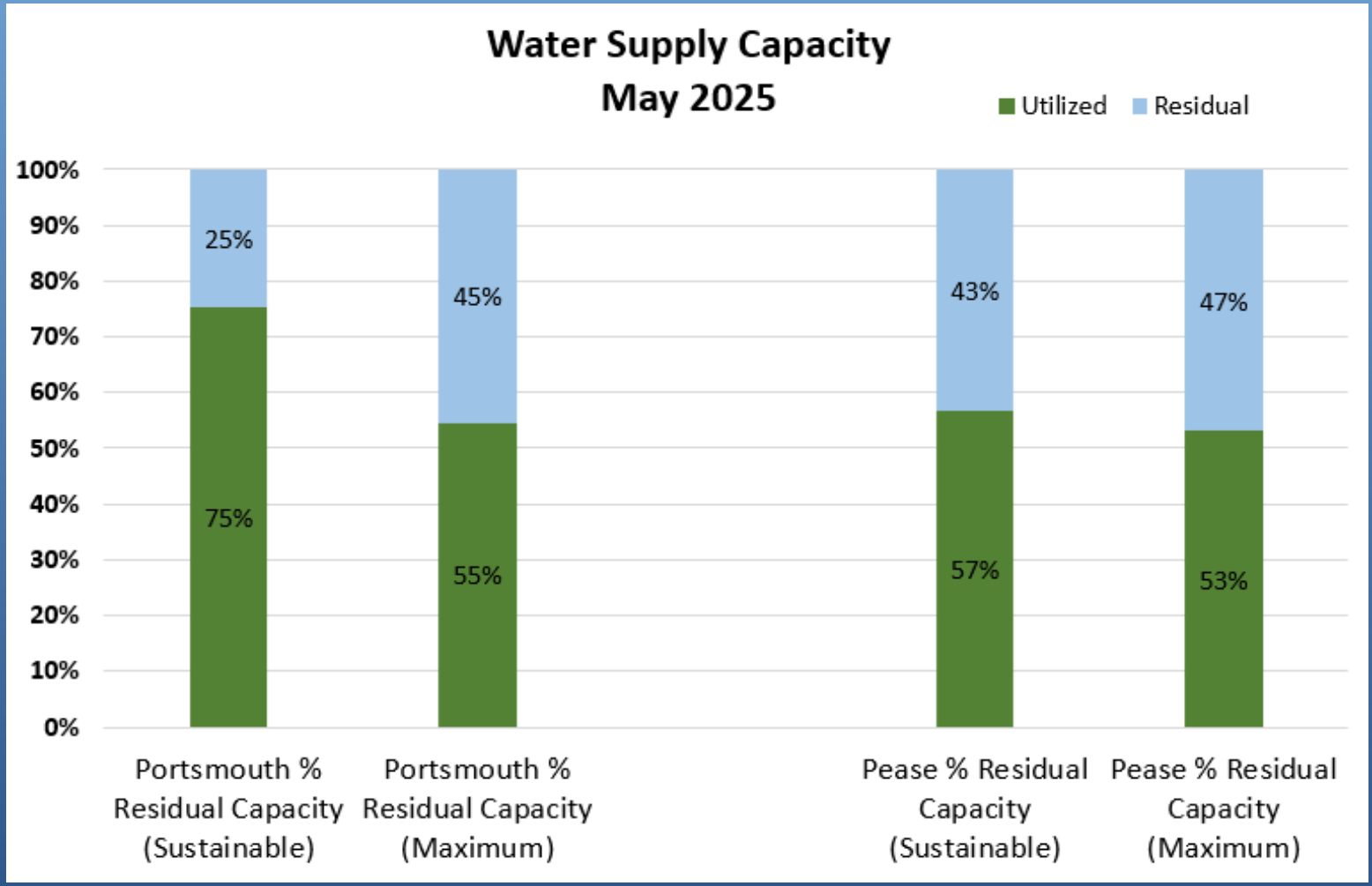

Portsmouth & Pease Water Systems
Average Daily Water Production
10-year Average
2024-2025
Average Gallons Per Day (GPD)
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
June
July
August
September
October
November
December
January
February
March
April
May
2024
2025


Total Annual Water Supplied by Source
Madbury WTP
Madbury Well 2
Madbury Well 3
Madbury Well 4
Madbury Well 4R
Madbury Well 5
Greenland Well
Portsmouth Well
Collins Well
Haven Well
Smith Well
Harrison Well
Gallons per Year
2,000,000,000
1,800,000,000
1,600,000,000
1,400,000,000
1,200,000,000
1,000,000,000
800,000,000
600,000,000
400,000,000
200,000,000
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024

Supply Contribution






Water Supply Capacity
May 2025
Utilized
Residual
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
25%
75%
45%
55%
43%
57%
47%
53%
Portsmouth % Residual Capacity (Sustainable)
Portsmouth % Residual Capacity (Maximum)
Pease % Residual Capacity (Sustainable)
Pease % Residual Capacity (Maximum)

12-Month Rolling Average
April 2024 – March 2025

12-MONTH ROLLING AVERAGE 2025 Q1		EPA MCL (2024)	NH MCL	RAW*	MADBURY WTP FINISHED	MADBURY WELL 2	MADBURY WELL 3	MADBURY WELL 4	MADBURY WELL 5	PORTSMOUTH WELL	COLLINS WELL	GREENLAND WELL	PEASE WTP
Perfluorohexanesulfonic acid(PFHxS)	ng/L	**10**	**18**	0.0	0.2	0.4	0.2	0.2	0.8	7.2	2.7	1.1	0.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	**4**	**15**	0.7	0.6	0.7	0.8	0.2	0.5	**5.1**	**4.5**	3.3	0.0
Perfluorooctanoic acid (PFOA)	ng/L	**4**	**12**	2.7	2.7	2.7	2.8	1.4	3.4	**7.6**	**4.0**	**4.4**	0.0
Perfluorononanoic acid (PFNA)	ng/L	**10**	**11**	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Hexafluoropropylene oxide dimer acid (HFPO-DA	ng/L	**10**		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perfluorobutanesulfonic acid (PFBS)	ng/L			0.5	0.6	0.8	0.7	0.7	3.3	4.2	12.3	2.2	0.0
Hazard Index*		**1**		0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.3	0.1	0.0

* Hazard Index MCL = (HFPO-DA/10)+(PFBS/2000)+(PFNA/10)+(PFHxS/10)

On-Going Projects

- Storage Tank Painting
- PFAS Treatment Design – Greenland Well
- Little Bay Road Water Main Replacement
- Little Bay Transmission Main
- Hydraulic Model Update
- Smith Well Maintenance
- Collins Well 2 Permitting
- Service Line Inventory
- Service Line Replacement Plan
- Seacoast Reliability Project

Legislative Update

Representative David Meuse created a summary of the current status of the water & environmental bills.

Bottom line: no progress on lead poisoning, some progress on landfill siting and regulations is possible (but a Senate amendment to the budget could upend any progress), and no additional progress on PFAS regulation.

Re. the status of each bill in the summary, those with green backgrounds are still alive and those with gray backgrounds are dead for this year.

- At this point, the only sure things are bills that have actually been signed by the governor.
- Bills "awaiting signature" can also be vetoed.
- Bills that have been tabled are dead for 2025 but can be re-introduced in 2026.
- Bills that have been "retained" or "re-referred" are still alive, but have been sent back to legislative committees for additional work and will eventually be voted on in 2026.
- Bills that have been "indefinitely postponed" or voted "inexpedient to legislate" can't be refiled in 2026.

Mission Discussion

Current Mission:

Established by Council action on October 5, 2020, the group's stated mission is to:

To review and communicate the latest science on the health and environmental effects of PFAS, to monitor federal and state level legislative changes, and to anticipate policy changes that could impact the city of Portsmouth.

Proposed Mission:

To review and communicate the latest science on the health and environmental effects of PFAS, to monitor federal and state level legislative changes, and to anticipate policy changes that could impact the city of Portsmouth. To discuss topics relevant to the City's drinking water quantity, quality, preservation and conservation efforts, and water infrastructure projects. ~~pertaining to the water master planning through the City's annual Capital Improvement Plan process and other engineering studies.~~ To discuss public health aspects of water quality, support and provide public education about drinking water topics, and take proactive stances to protect and conserve water quality and quantity.

Public Comment