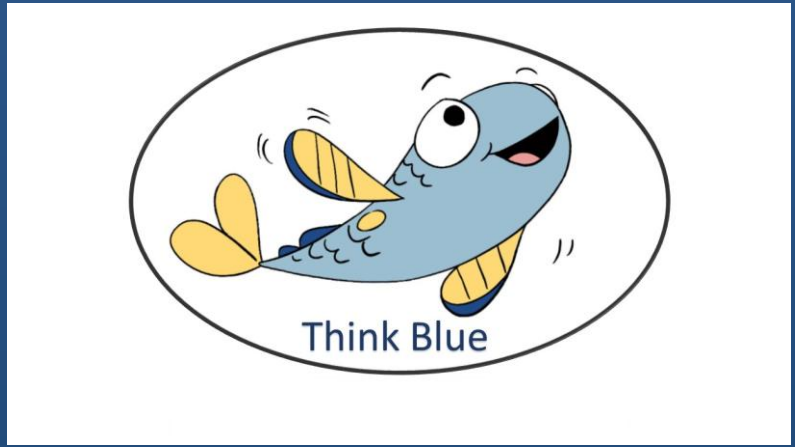
Portsmouth and Pease Water Supply Update



Safe Water Advisory Group
March 11, 2026

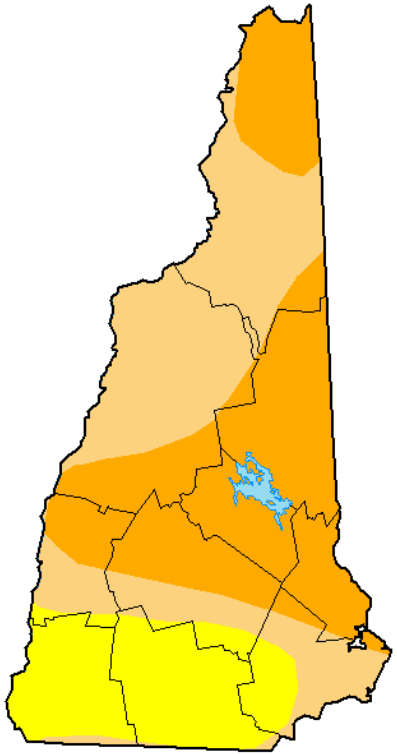
U.S. Drought Monitor

New Hampshire

March 3, 2026

(Released Thursday, Mar. 5, 2026)

Valid 7 a.m. EST



Intensity:

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

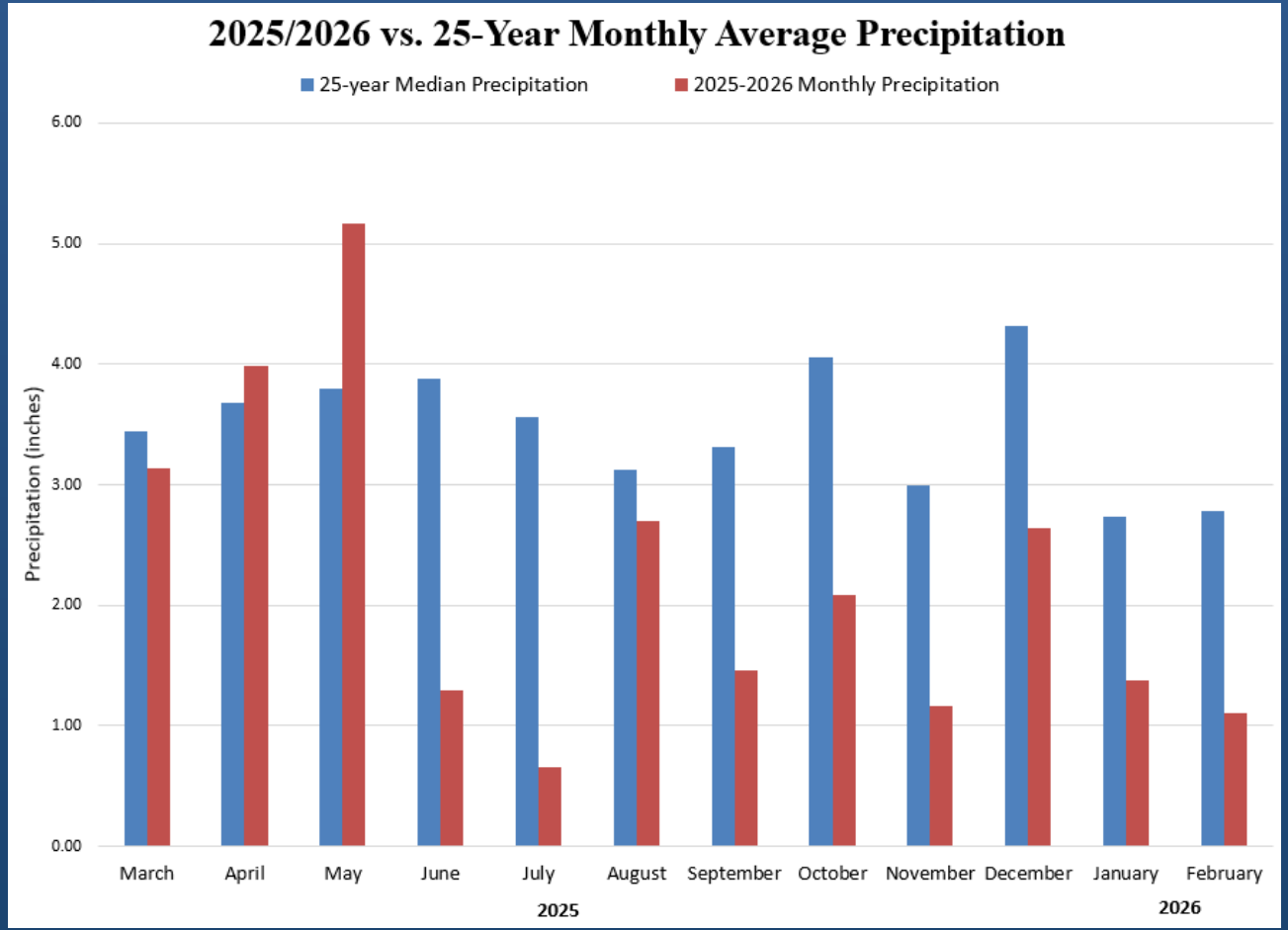
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

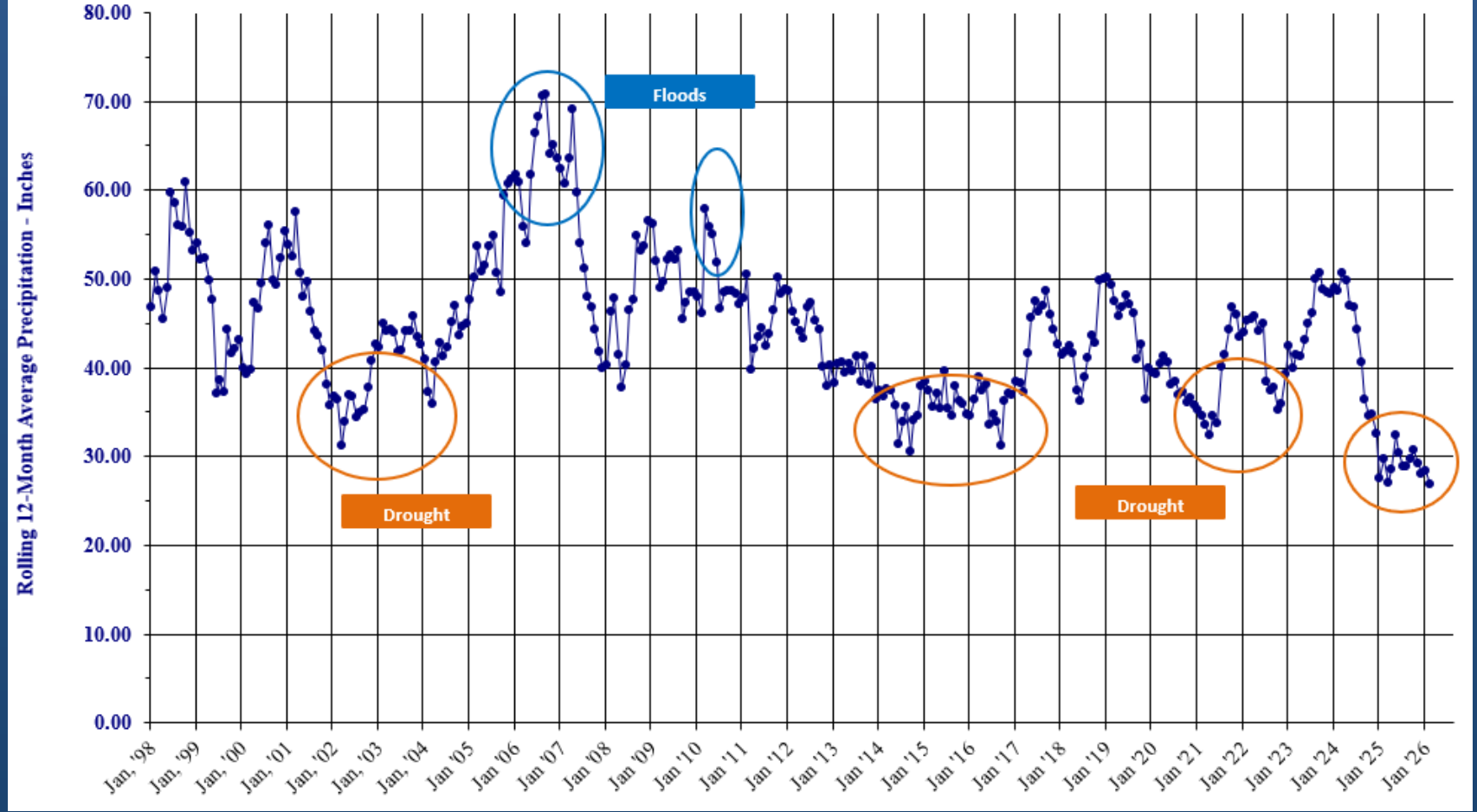
Brad Pugh
CPC/NOAA

droughtmonitor.unl.edu

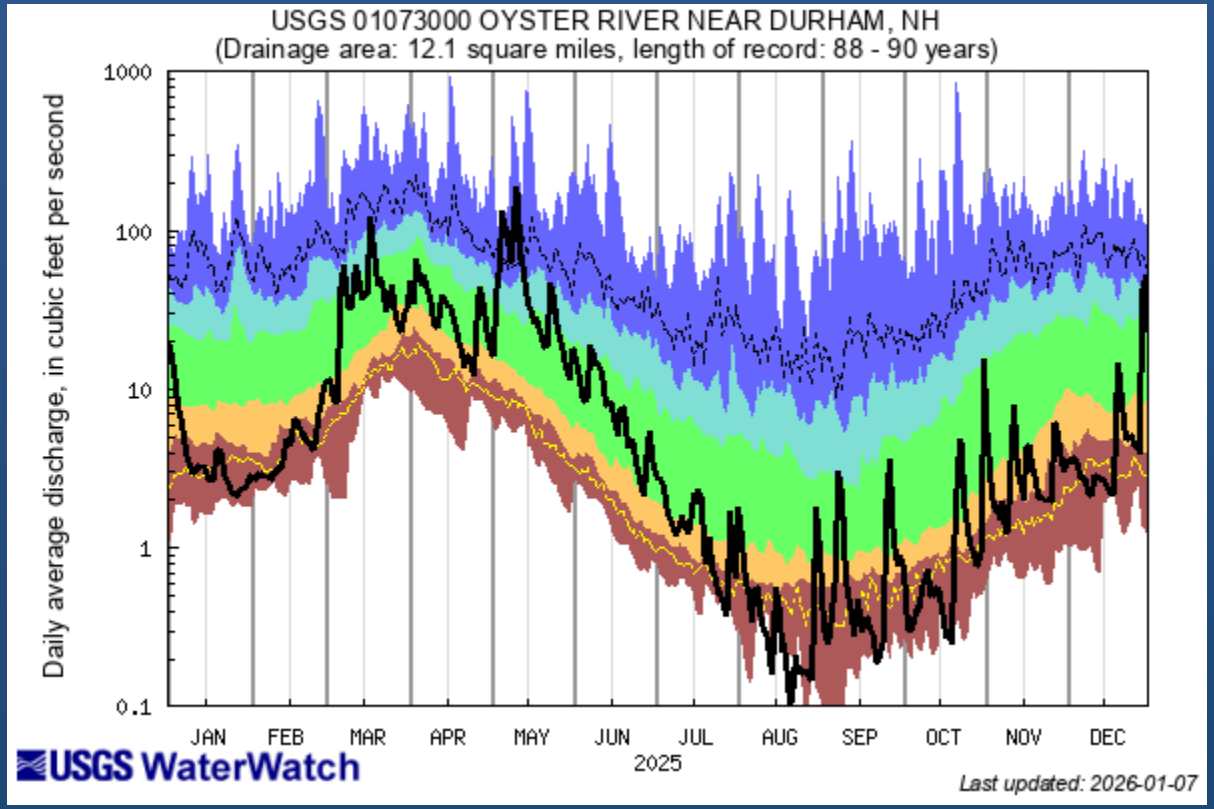
Precipitation – 36% Below Normal Annual Average

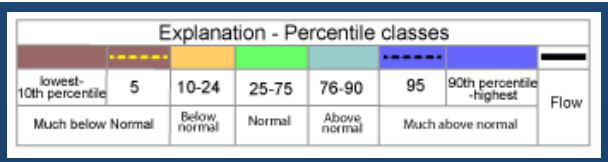


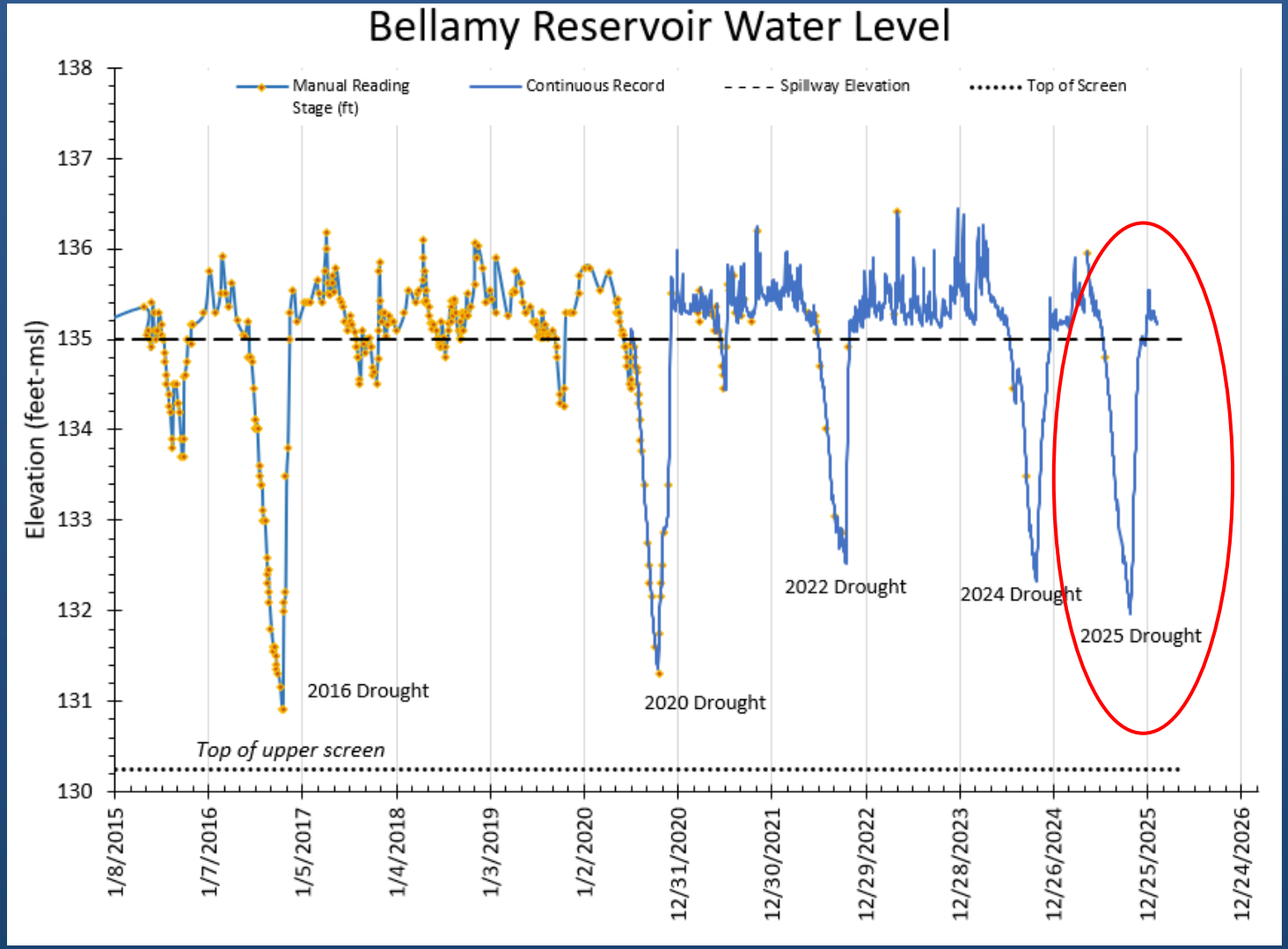
Precipitation - Portsmouth, NH - 1998 to 2026

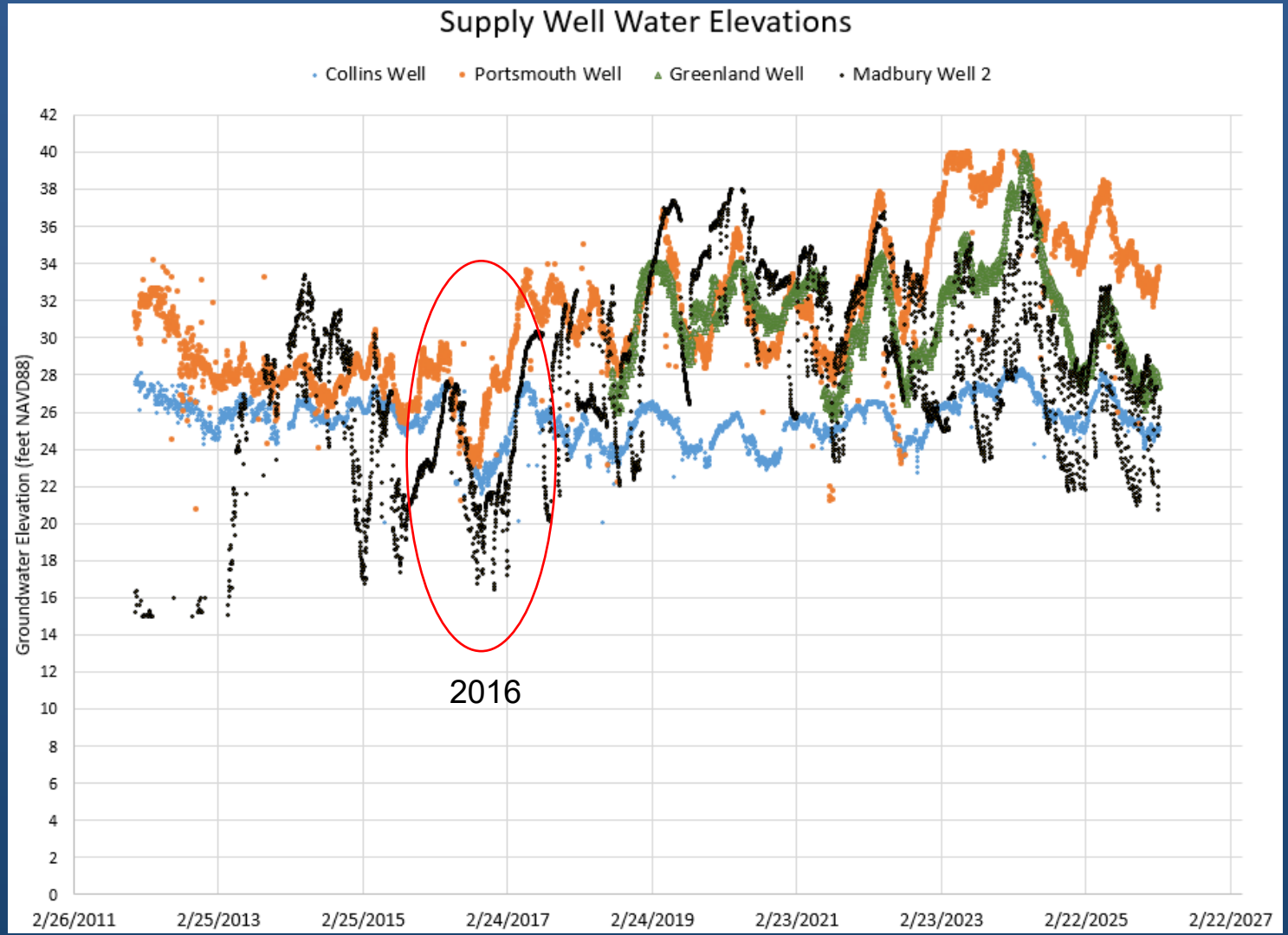


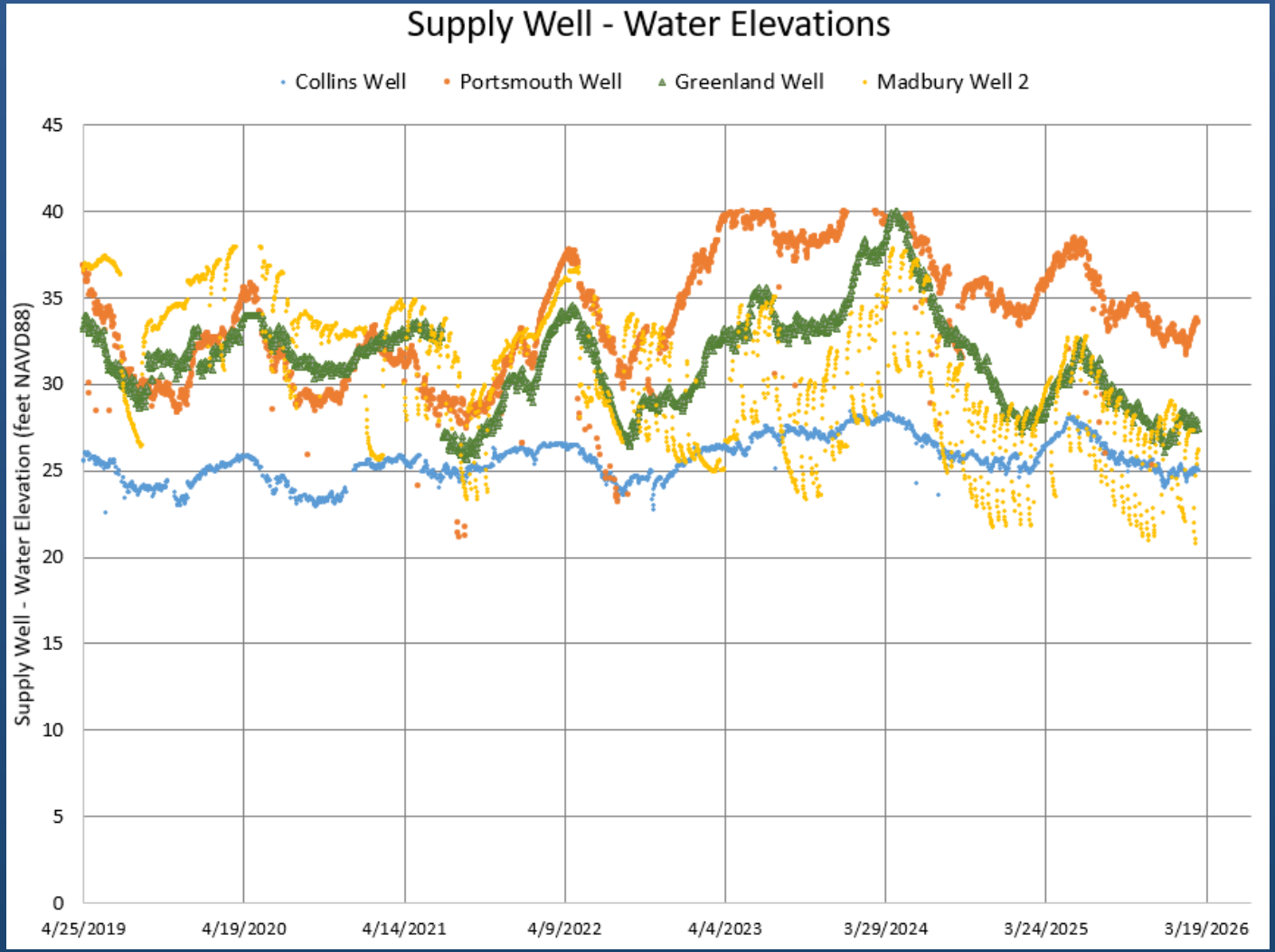
Stream Flow

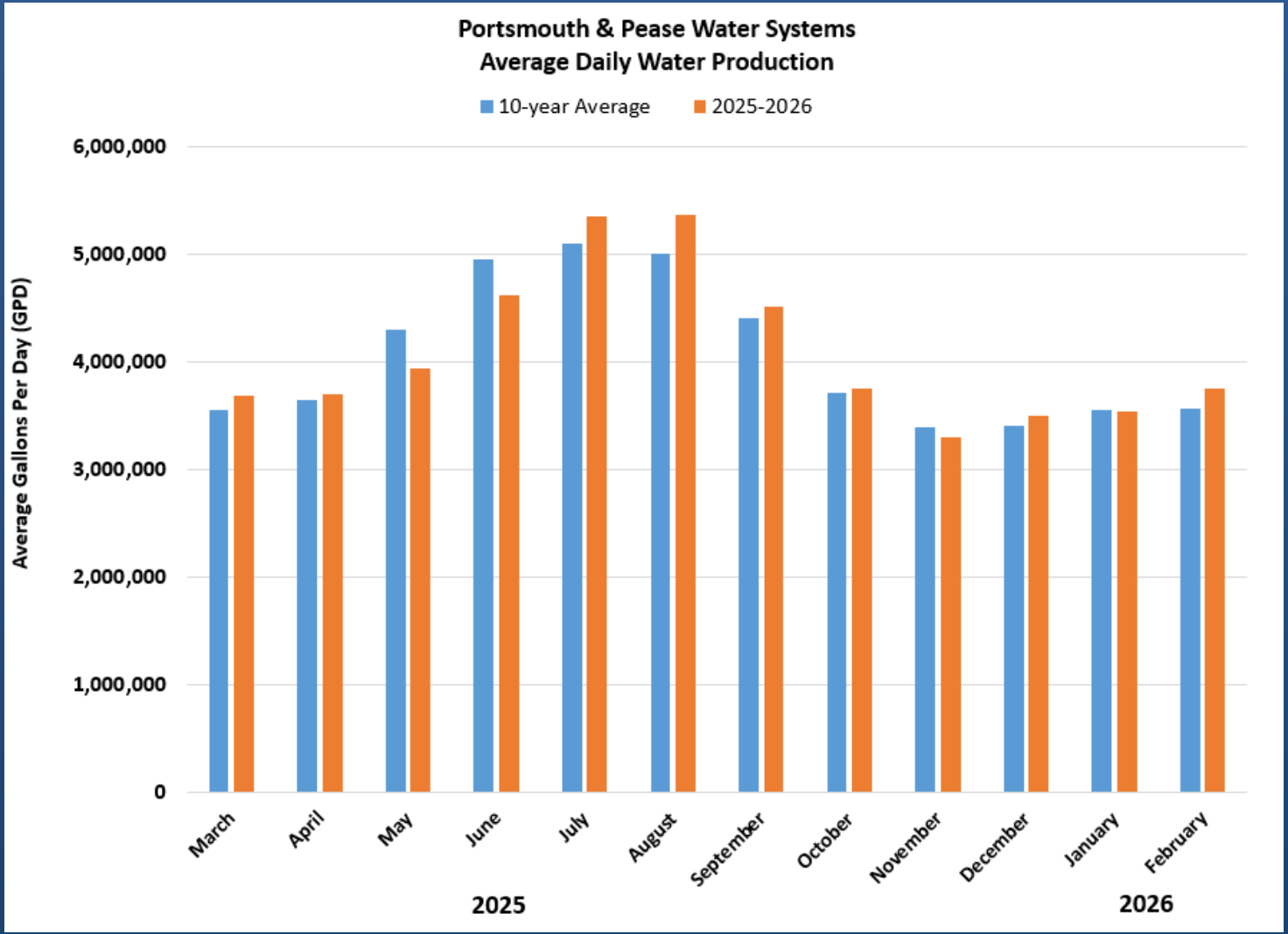

USGS 01073000 OYSTER RIVER NEAR DURHAM, NH
(Drainage area: 12.1 square miles, length of record: 88 - 90 years)
Daily average discharge, in cubic feet per second
1000
100
10
1
0.1
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
2025
USGS WaterWatch
Last updated: 2026-01-07

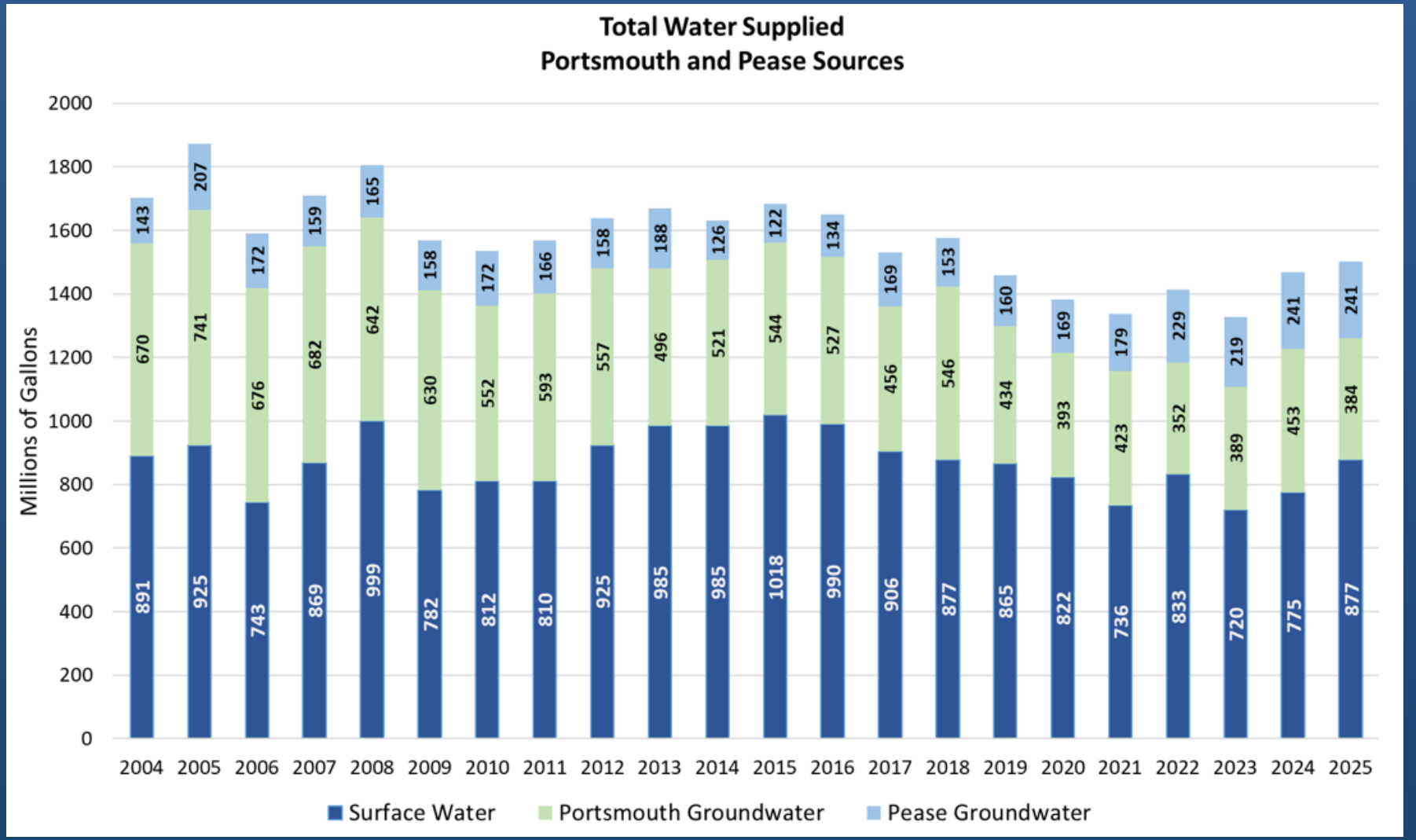

Explanation - Percentile classes
lowest-10th percentile
5
10-24
25-75
76-90
95
90th percentile -highest
Flow
Much below Normal
Below normal
Normal
Above normal
Much above normal


Bellamy Reservoir Water Level
Manual Reading Stage (ft)
Continuous Record
Spillway Elevation
Top of Screen
Elevation (feet-msl)
138
137
136
135
134
133
132
131
130
1/8/2015
1/7/2016
1/5/2017
1/4/2018
1/3/2019
1/2/2020
12/31/2020
12/30/2021
12/29/2022
12/28/2023
12/26/2024
12/25/2025
12/24/2026
2016 Drought
2020 Drought
2022 Drought
2024 Drought
2025 Drought
Top of upper screen

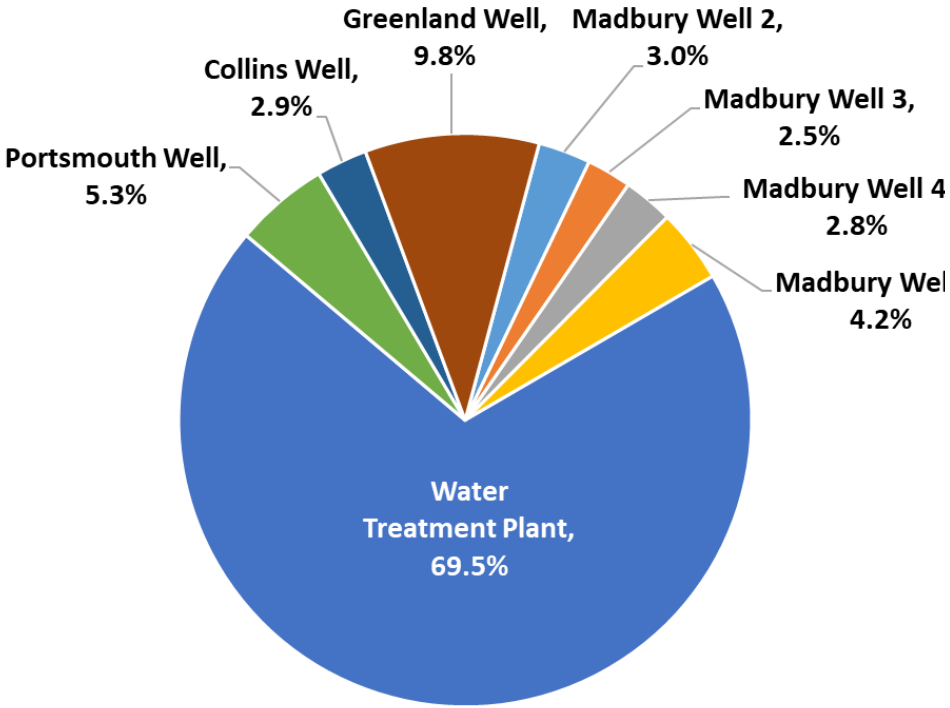

Supply Well Water Elevations
Collins Well
Portsmouth Well
Greenland Well
Madbury Well 2
Groundwater Elevation (feet NAVD88)
42
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
2016
2/26/2011
2/25/2013
2/25/2015
2/24/2017
2/24/2019
2/23/2021
2/23/2023
2/22/2025
2/22/2027


Supply Well - Water Elevations
Collins Well
Portsmouth Well
Greenland Well
Madbury Well 2
Supply Well - Water Elevation (feet NAVD88)
45
40
35
30
25
20
15
10
5
0
4/25/2019
4/19/2020
4/14/2021
4/9/2022
4/4/2023
3/29/2024
3/24/2025
3/19/2026

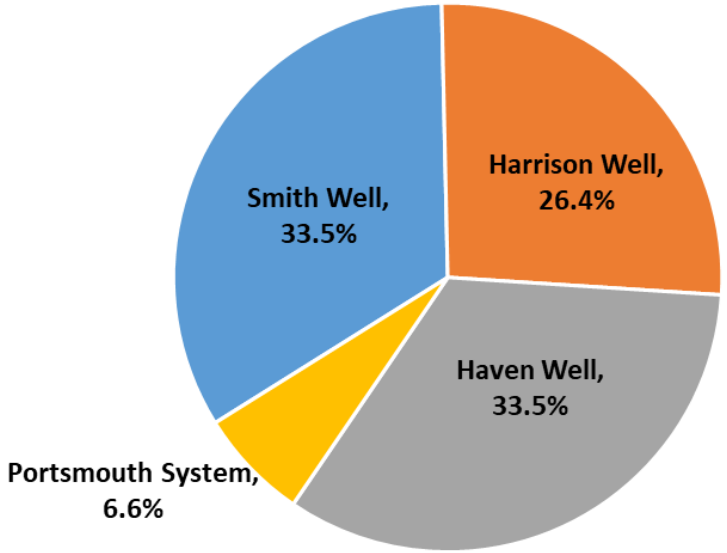

Portsmouth & Pease Water Systems
Average Daily Water Production
10-year Average
2025-2026
Average Gallons Per Day (GPD)
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
March
April
May
June
July
August
September
October
November
December
January
February
2025
2026


Total Water Supplied
Portsmouth and Pease Sources
Millions of Gallons
2000
1800
1600
1400
1200
1000
800
600
400
200
0
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025
891 925 743 869 999 782 812 810 925 985 985 1018 990 906 877 865 822 736 833 720 775 877
670 741 676 682 642 630 552 593 557 496 521 544 527 456 546 434 393 423 352 389 453 384
143 207 172 159 165 158 172 166 158 188 126 122 134 169 153 160 169 179 229 219 241 241
Surface Water
Portsmouth Groundwater
Pease Groundwater

Portsmouth Water Sources
Source Percentages in 2025



Pease Supply Sources
Source Percentages in 2025



12-Month Rolling Average
April 2026 – March 2026

12-MONTH ROLLING AVERAGE 2026 Q1		EPA MCL (2024)	NH MCL	MADBURY WTP FINISHED	MADBURY WELL 2	MADBURY WELL 3	MADBURY WELL 4R	MADBURY WELL 5	PORTSMOUTH WELL	COLLINS WELL	GREENLAND WELL	PEASE WTP
Perfluorohexanesulfonic acid(PFHxS)	ng/L	**10**	**18**	0.0	0.4	0.4	0.4	1.1	7.7	2.2	1.9	0.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	**4**	**15**	1.0	1.2	1.2	0.7	0.9	**5.6**	**4.3**	3.5	0.0
Perfluorooctanoic acid (PFOA)	ng/L	**4**	**12**	2.1	2.4	2.4	2.1	2.3	**7.1**	**4.0**	**4.2**	0.0
Perfluorononanoic acid (PFNA)	ng/L	**10**	**11**	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
Perfluorobutanesulfonic acid (PFBS)	ng/L			1.0	1.5	1.3	1.2	1.9	4.2	10.0	2.3	0.0
Hazard Index*		**1**		0.0	0.0	0.0	0.0	0.1	0.8	0.2	0.2	0.0

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

https://www.portsmouthnh.gov/publicworks/water/portsmouth-water-system-pfas-updates

Water Supply Project Updates

- Bellamy Dam Repair
- PFAS Treatment Design – Greenland Well
- PFAS Treatment Design – Portsmouth and Collins Wells
- Storage Tank Painting & Rehabilitation
- Little Bay Water Transmission Main Rehabilitation Project
- Service Line Inventory and Replacement Project

Bellamy Reservoir Dam Maintenance

- Minor seepage and efflorescence
- Epoxy injections
- Cement mortar patching
- 70% complete – finish in the Spring

Greenland Well – PFAS Treatment

- Final design on-going
- Construction anticipated 2026 - 2028
- Two (2) Granular Activated Carbon (GAC) vessels
- Permitting reactivation of old well for backup supply
- SRF Funds ($6.5M)

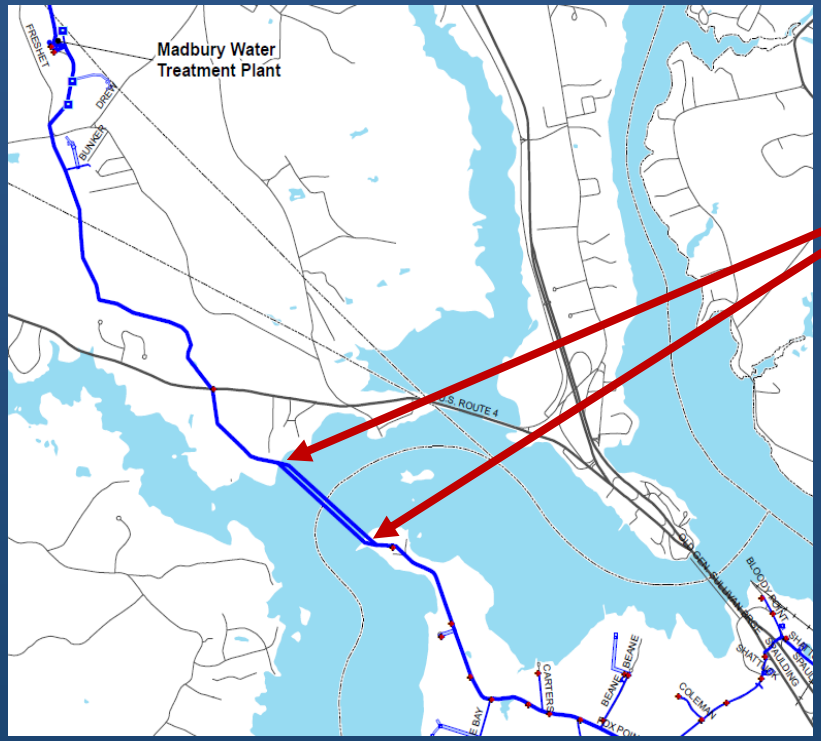
Portsmouth and Collins Wells – PFAS Treatment

- Final design in FY27
- Construction anticipated 2028 - 2029
- Two (2) Granular Activated Carbon (GAC) vessels
- Submitting second formal request to the Air Force

Water Storage Tank Painting & Rehabilitation

- Spinney Road Tank
  - Spot Rehab & Paint Exterior
  - Fall 2026
- Newington Booster Tank
  - Full Rehab
  - Paint Interior & Exterior
  - Spring 2027
- Lafayette Tank
  - Spot Rehab Interior & Exterior

Little Bay Water Transmission Main Resilience Project



- Phase 1 – Valve Project
  - Construction is Complete
  - Two new valves installed on the lines that run under Little Bay
  - Two 20” taps and valves installed in the PCCP for third main preparation
- Phase 2 – New Main
  - Permitting of Modified Design
  - Engineer’s Opinion of Cost
  - Evaluate Funding Options

Water & Sewer Rate Study - Ongoing

Study Considerations

- Rate Structure (Tiers)
- Water and Sewer Rates
- Service Fees (“Fixed Charge”)
- Wholesale Water and Sewer Rates
- Capacity Use Surcharge Fees
- Other Fees (Fire Service & Hydrants)