



NHDES PER- AND POLYFLUORO ALKYL SUBSTANCES (PFAS) RESPONSE INITIATIVES

**Amy Rousseau
November 9, 2021**

PFAS RESPONSE ADMINISTRATOR

- NEW POSITION AS OF JULY 2020
- NHDES PRIMARY POINT OF CONTACT FOR PFAS RELATED ACTIVITIES
 - AMY.ROUSSEAU@DES.NH.GOV
 - (603) 271-8801
- ADMINISTERS PFAS RESPONSE PROGRAM
 - FUNDS APPROPRIATED FOR THE PURPOSE OF STUDYING, INVESTIGATING, AND TESTING FOR CONTAMINATION CAUSED BY PFAS, AND THE PRELIMINARY DESIGN FOR A TREATMENT SYSTEM FOR SUCH CONTAMINATION
- ADMINISTERS THE PFAS REMEDIATION LOAN FUND



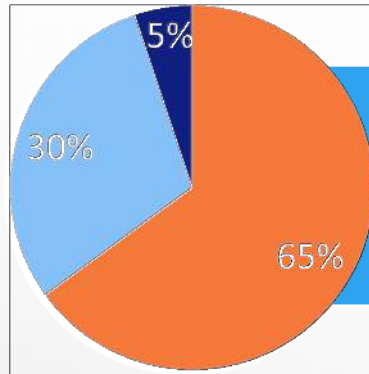
Amy Rousseau

MAXIMUM CONTAMINANT LEVELS/ AMBIENT GROUNDWATER QUALITY STANDARDS

Perfluorochemical	Maximum Contaminant Level (MCL) / Ambient Groundwater Quality Standards (AGQS) (parts per trillion – ppt)
Perfluorooctanoic Acid (PFOA)	12
Perfluorooctanesulfonic Acid (PFOS)	15
Perfluorohexanesulfonic Acid (PFHxS)	18
Perfluorononanoic Acid (PFNA)	11

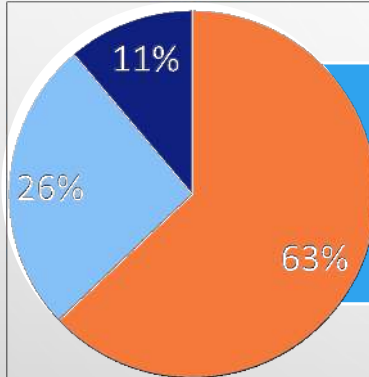
- MCLs applicable to regulated public water systems
- AGQS applicable to contaminated sites and permitted discharges to groundwater

PFAS SCREENING COMPLIANCE AT WASTE SITES



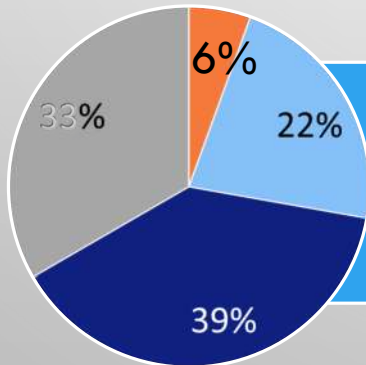
Hazardous Waste Sites

(~ 220 sampled)



Landfill Sites (Lined and Unlined)

(~ 170 sampled)



Groundwater Release Detection (RD)

(~ 18 Lined Lagoons)

■ >New AGQS ■ <New AGQS ■ Non-Detect

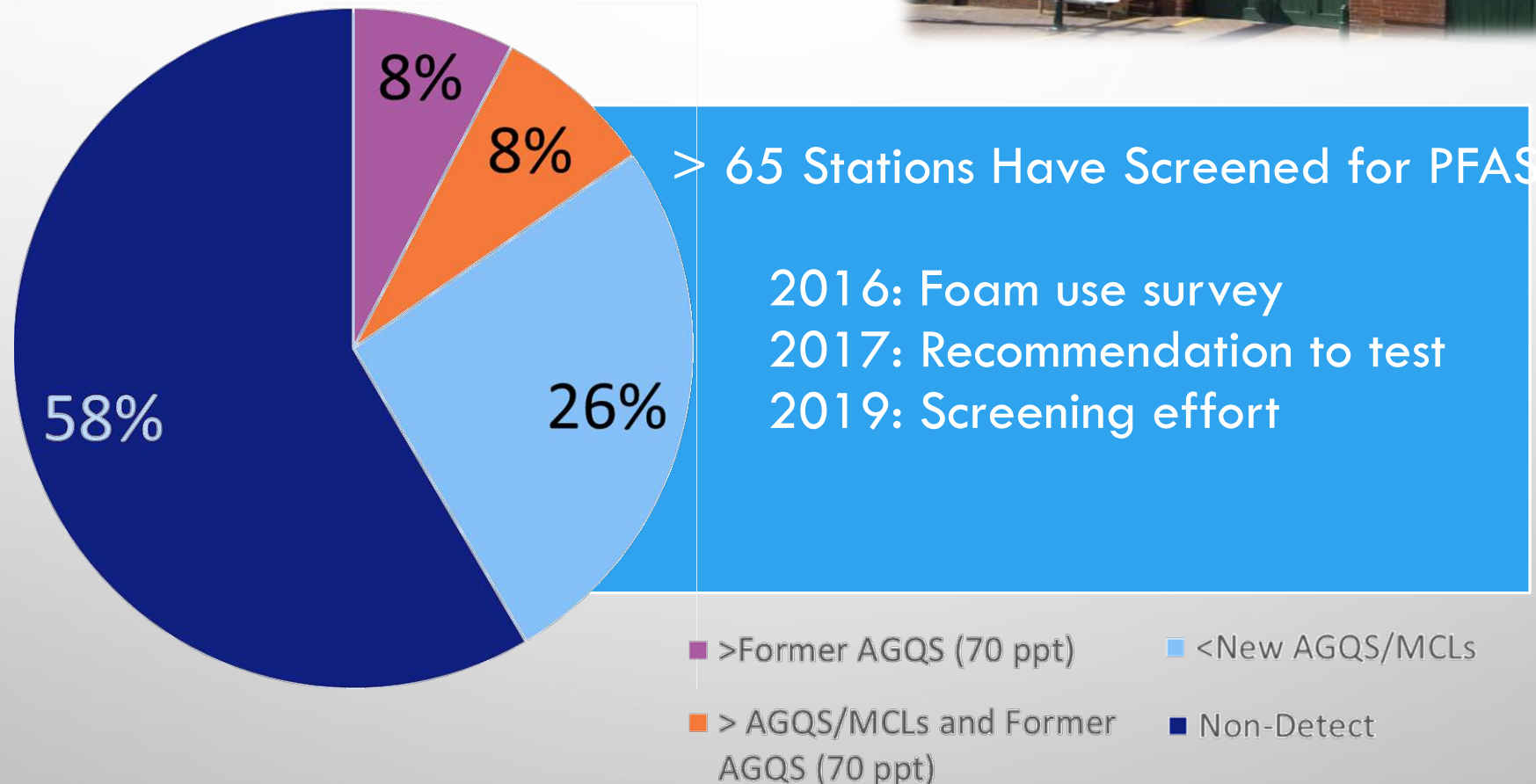
Approximate data through 03/30/2020

Waste Sites/Sources	Sites Sampled	% Sites > AGQS (MCLs)	Max. PFOA (12 ppt)	Max. PFNA (11 ppt)	Max. PFHxS (18 ppt)	Max. PFOS (15 ppt)
AFFF	23	100%	130,000	25,000	31,000	490,000
Manufacturing - Coating (Paper, Textile, Tannery)	10	90%	69,500	2,960	2,400	2,560
Manufacturing - Other	20	65%	2,510	110	150	850
Commercial Products	4	100%	242	102	69	405
Waste Disposal	26	65%	3,200	161	89	4,750
Unlined Landfill	161	77%	3,700	828	663	1,700
Metal Working/ Plating/Machining	23	61%	1,070	31	806	7,080
Metal Recycling	12	67%	1,700	100	630	1,440
Mixed	24	79%	1,230	78	769	2,410
Drycleaning	24	78%	401	568	88	1,800
Unknown	64	50%	1,090	960	229	240
Lined Landfill	13	62%	350	30	88	79
WW/Biosolids	4	75%	560	13	81	230
Other	15	67%	129	9	24	470
WW/Lined Lagoon	12	8%	18	0	14	7

Approximate data through 6/1/2020

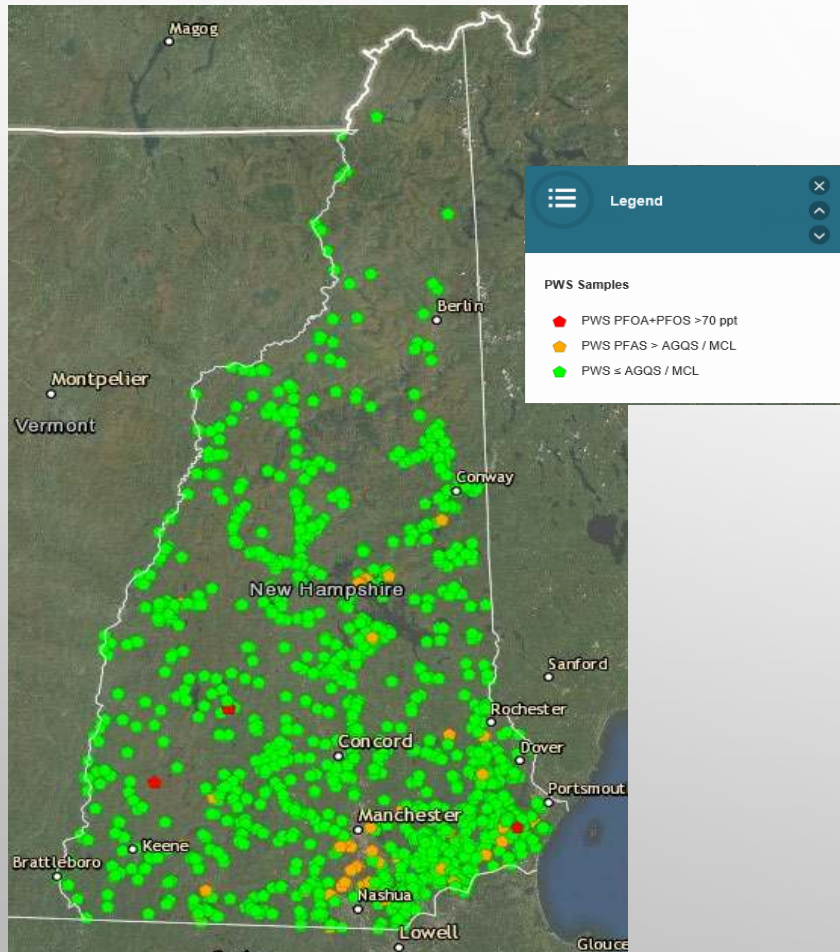
PFAS SCREENING FOR WATER SUPPLY WELLS AT FIRE STATIONS

Private Wells Serve 171 (of 237) Stations





NH PUBLIC WATER SYSTEMS



- PUBLIC WATER SYSTEM COMPLIANCE SAMPLING
 - 1,199 COMMUNITY AND NON-TRANSIENT, NON-COMMUNITY
 - ~9% EXCEED AT LEAST ONE PFAS MCL
- TRANSIENT WATER SYSTEMS BEING SAMPLED BY NHDES
 - 226 OF 1,261 SYSTEMS SAMPLED
 - ONLY 1 EXCEEDED A MCL
 - 20 HAD DETECTIONS BELOW MCLS



FUNDING SOURCES FOR PFAS CONTAMINATION

PFAS TREATMENT DESIGN SERVICES

ALL SCHOOLS AND CHILD CARE CENTERS
(TRANSIENT AND NON-TRANSIENT PWS)
REIMBURSEMENT UP TO 26% PROJECT
COST

[HTTPS://WWW4.DES.STATE.NH.US/NH-PFAS-
INVESTIGATION/?PAGE_ID=1284](https://www4.des.state.nh.us/NH-PFAS-INVESTIGATION/?PAGE_ID=1284)

PFAS-FOCUSED CONSOLIDATION STUDY ASSISTANCE GRANTS

1ST COME, 1ST SERVED GRANTS FOR ELIGIBLE
PWS

[HTTPS://WWW4.DES.STATE.NH.US/NH-PFAS-
INVESTIGATION/?PAGE_ID=1284](https://www4.des.state.nh.us/NH-PFAS-INVESTIGATION/?PAGE_ID=1284)

PFAS REMEDIATION LOAN AND GRANT FUND

LOAN WITH 10% FORGIVENESS (IF ELIGIBLE)
AND CONTINGENT REIMBURSEMENT

POTENTIAL GRANT FOR \$1.5 M/30% OF
PROJECT COSTS, WHICHEVER IS HIGHER

[HTTPS://WWW4.DES.STATE.NH.US/NH-PFAS-
INVESTIGATION/?PAGE_ID=1287](https://www4.des.state.nh.us/NH-PFAS-INVESTIGATION/?PAGE_ID=1287)

NON-PFAS SPECIFIC FUNDING:

Drinking Water and Groundwater Trust Fund, Drinking Water State Revolving Fund

AQUEOUS FIRE FIGHTING FOAM SURVEY

- NH RSA 154 CLASS B FOAM SURVEY REPORT – DECEMBER 1, 2020
- 135 OF 234 MUNICIPALITIES (58%) RESPONDED
 - 92 (68%) REPORTED A TOTAL OF ~8,400 GALLONS OF LEGACY AFFF
 - 43 (32%) REPORTED NO AFFF
 - ESTIMATED DISPOSAL COST OF \$150K TO \$250K
- 5 NON-MUNICIPAL ENTITIES RESPONDED
 - ~6,400 GALLONS OF LEGACY AFFF
 - ESTIMATED DISPOSAL COST OF \$75K TO \$125K
- OUTLINES CONCEPTUAL FRAMEWORK FOR AN AFFF TAKE BACK PROGRAM

Table 1 - Summary of Results from the Municipal Survey on the Quantitative Stock of Legacy Firefighting Foams Containing to perfluoroalkyl and polyfluoroalkyl substances (PFAS)

County	Responding Towns	Total Reported Class B Firefighting Foam (Gallons) <small>*may include multiple fire stations per Town*</small>
Belknap	Alton	30
	Belmont	55
	Center Harbor	No Class B Foam
	Gilford	235
	Gilmanton	No Class B Foam
	Laconia	30
	Meredith	22
	New Hampton	65
	Sanbornton	No Class B Foam
	Tilton-Northfield	8
Carroll	Albany	No Class B Foam
	Bartlett	12
	Conway	95
	Effingham	80
	Jackson	35
	Madison	No Class B Foam
	Moultonborough	10
	Ossipee	60
	Tamworth	No Class B Foam
	Tuftonboro	5
Cheshire	Wolfeboro	20
	Alstead	No Class B Foam
	Dublin	148
	Fitzwilliam	No Class B Foam
	Jaffrey	140
	Keene	120
	Marlow	No Class B Foam
	Nelson	No Class B Foam
	Rindge	5

PFAS RESPONSE PROGRAM: TESTING

- DRINKING WATER SAMPLING
 - PRIVATE RESIDENTIAL WELL SAMPLING
 - TRANSIENT WATER SYSTEM SAMPLING
- WASTEWATER SAMPLING (MUNICIPAL, INDUSTRIAL, POTW)
- BIOSOLIDS SAMPLING
- DOMESTIC SEPTAGE SAMPLING



PFAS RESPONSE PROGRAM: ONGOING INITIATIVES



- NH SOIL AND SLUDGE LEACHABILITY STUDY
- NH SEACOAST & GREAT BAY ESTUARY SHELLFISH STUDY
 - IN COLLABORATION WITH DARTMOUTH COLLEGE AND CLARKSON UNIVERSITY
 - EVALUATE/ESTIMATE RISKS FOR RECREATIONAL HARVESTER
- FISH TISSUE STUDY
 - IN COLLABORATION WITH WESTON SOLUTIONS, INC.
 - EVALUATE RISKS TO HUMAN HEALTH

FISH TISSUE STUDY

- 14 NH WATERBODIES SAMPLED IN OCTOBER 2020
- COLLECTED SAMPLES OF FISH TISSUE, WATER AND SEDIMENT
- FINDINGS SUMMARIZED FROM DATA IN THE REPORT
 - PFAS CONCENTRATIONS IN SURFACE WATER WERE GENERALLY NON-DETECT TO THE LOW SINGLE DIGITS OF PARTS-PER-TRILLION (PPT OR NG/L) WITH FEW EXCEPTIONS.
 - TOTAL PFAS CONCENTRATIONS ACROSS ALL COMPOSITE FISH SAMPLES RANGED FROM 4.54 TO 26.27 PARTS-PER-BILLION (PPB OR UG/KG).
 - [REPORT: PFAS BASELINE STUDY – LAKE FISH SPECIMEN, SURFACE WATER AND SEDIMENT, MULTIPLE LAKES, NEW HAMPSHIRE – NH PFAS INVESTIGATION \(STATE.NH.US\)](#)

Summary of recommended fish consumption advisories for 5 NH lakes. Waterbodies not listed here should follow existing advisories for mercury in freshwater fish.

Waterbody	Species	Population Segment*	Recommended Fish Consumption Advisory Limits
NH Statewide Mercury Advisory	Most Species	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	4 meals/month 1 meal/month 1 meal/month
Beaver Lake Derry, NH	Large & Smallmouth bass	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	3 meals/month <i>same as Mercury</i> <i>same as Mercury</i>
Robinson Pond Hudson, NH	All freshwater fish	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	2 meals/month <i>same as Mercury</i> DO NOT EAT
Horseshoe Pond Merrimack, NH	All freshwater fish	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	1 meal/month <i>same as Mercury</i> DO NOT EAT
Canobie Lake Salem, NH	All freshwater fish	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	3 meals/month <i>same as Mercury</i> <i>same as Mercury</i>
Cobbetts Pond Windham, NH	Large & Smallmouth bass	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	2 meals/month <i>same as Mercury</i> <i>same as Mercury</i>

*For adults, women of childbearing age and children ≥ 7 years of age a serving size is 8 oz. For children younger than 7, a serving size is 4 oz.

PFAS RESPONSE PROGRAM: FUTURE INITIATIVES

- REGIONAL AIR DISPOSITION
SAMPLING STRATEGY
- EXPLORING INTEGRATED WASTE
MANAGEMENT SYSTEM
DESTRUCTIVE PATHWAYS
- BRAINSTORMING.....



QUESTIONS?

CONTACT INFO:

AMY ROUSSEAU

PFAS RESPONSE ADMINISTRATOR

AMY.ROUSSEAU@DES.NH.GOV

603-271-8801 / 603-848-1372

