PFAS Task Force Meeting Minutes

Remote Meeting held via GoToWebinar 7:00 PM, Wednesday, April 7, 2021

Present: (Roll call attendance) Vice Chairman Robert Kerry; Members: Craig Durrett, Brian Lockhart, David Robinson, James Doucakis, Tommy Garside, George Kadziolka; Staff: Assistant Town Manager Lisa Drabik.

Joining the remote meeting shortly after the roll call due to scheduling conflicts and technical difficulties: Chairman Tom Dolan and Member Paul Lockwood.

Call to Order at 7:00 PM.

In the temporary absence of Chairman Dolan, Vice Chairman Kerry read the Chair Statement regarding the need to hold the meeting via remote means in accordance with Emergency Order #12 and pursuant to Executive Order 2020-04. Vice Chair Kerry thanked Member Paul Lockwood for working with DES to arrange the presentation for the Task Force.

Vice Chairman Kerry stated that since NHDES is hosting the meeting via the GoToWebinar remote platform in order to make their presentation to the Task Force, the Task Force will not accept public comment tonight, but will do so at the next meeting.

Erin Holmes, NHDES Drinking Water Administrator, presented an informational PowerPoint to the Task Force which was highly fact specific and technical in nature. Such PowerPoint is attached to these minutes; please refer to the PowerPoint for specific content. Holmes stated the NHDES is planning to hold an informational meeting on PFAS issues and concerns open to all residents of Londonderry on May 20, 2021.

Holmes introduced Mike Wimsatt, the Director for the NHDES Waste Management Division, who provided an overview and history of the PFAS issue in Southern New Hampshire and Londonderry.

Jeffrey Marts presented information regarding the results for the PFAS testing that has already been done on private wells in Londonderry. Marts stated that just under 1200 wells have been sampled in Londonderry; of those, 380 are from within the consent decree area and 807 have been sampled outside the consent decree area. Of those, approximately half or 561 have exceeded the new PFAS standards.

Holmes introduced Brandon Kernan, Administrator of the Drinking Water and Groundwater Bureau, who provided an overview of existing public water systems in Londonderry.

Amy Rousseau, NHDES PFAS Response Administrator, who is in charge of administering the drinking and groundwater trust funds, provided information with regard to possible sources of funding for remediation.

Chairman Dolan thanked the NHDES presenters for their time and indicated the Task Force would meet again soon.

The meeting adjourned at 9:00 PM.

*These minutes were approved at the 4/21/21 Task Force Meeting.



NHDES PRESENTATION TO THE LONDONDERRY PFAS COMMUNITY TASK FORCE

7 PM, APRIL 7, 2021





AGENDA

- I. INTRODUCTIONS
- II. PFAS DISCOVERY AND NHDES APPROACH MICHAEL WIMSATT
- III. PFAS INVESTIGATION: DRINKING WATER SAMPLING, AND PFAS OCCURRENCE JEFF MARTS
- IV. OCCURRENCE OF PFAS IMPACTS ON WATER SYSTEMS BRANDON KERNEN
- V. FINANCIAL ASSISTANCE PROGRAMS AMY ROUSSEAU, ERIN HOLMES
- VI. DISCUSSION AND QUESTIONS





INTRODUCTION TO PFAS AND OVERVIEW OF HISTORY IN SOUTHERN NEW HAMPSHIRE

MICHAEL WIMSATT, DIRECTOR WASTE MANAGEMENT DIVISION



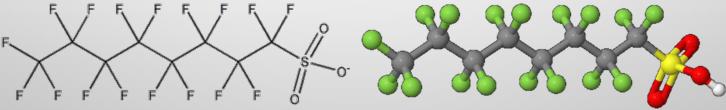
INTRODUCTION TO PFAS

- Synthetic organic compounds that contain multiple Fluorine (F) atoms.
- 9 19.0 Fluorine

2 most studied PFAS are

Conder et al. (2008)

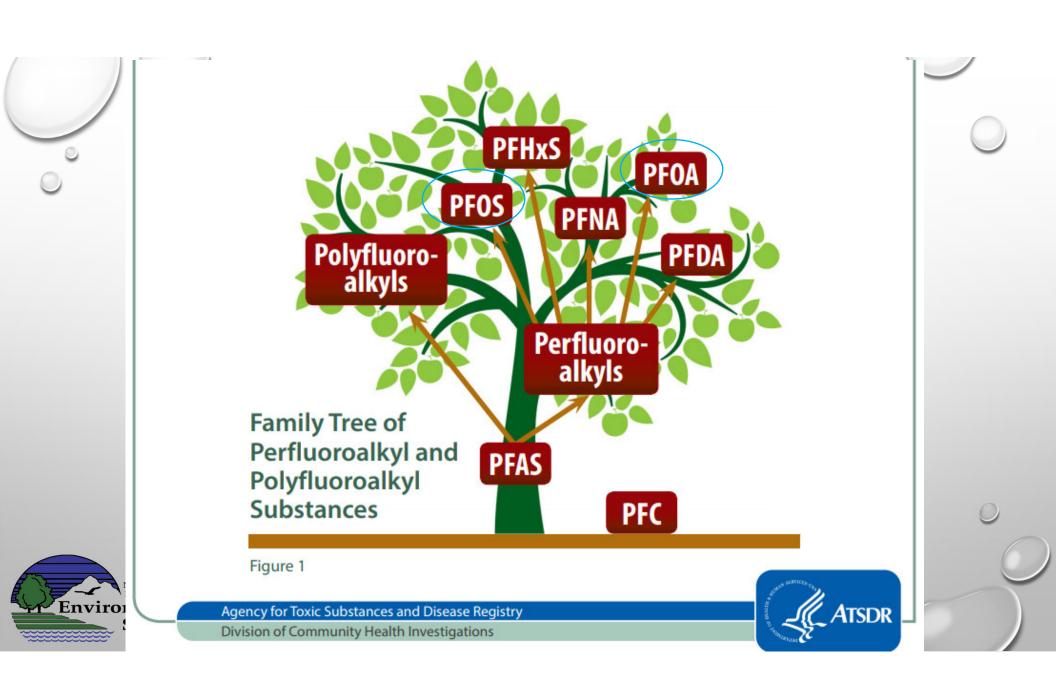
- Perfluorooctanoic Acid (PFOA)
- Perfluorooctane Sulfonate (PFOS)
- PFAS family = thousands of diverse compounds





Example molecular structures for perfluorooctane sulfonate (PFOS)

Chemspider





EXPANSIVE USES OF PFAS

Commercial Products	Industrial Uses			
Cookware (Teflon®, Nonstick)	Photo Imaging			
Fast Food Containers	Metal Plating			
Candy Wrappers	Semiconductor Coatings			
Microwave Popcorn Bags	Aviation Hydraulic Fluids			
Personal Care Products (Shampoo, Dental	Medical Devices			
Floss)	Class B Firefighting Foam (e.g., Aqueous			
Cosmetics (Nail Polish, Eye Makeup)	Film Forming Foam)			
Paints and Varnishes	Insect Baits			
Stain Resistant Carpet	Printer and Copy Machine Parts			
Stain Resistant Chemicals (Scotchgard®)	Chemically Driven Oil Production			
Water Resistant Apparel (Gore-Tex®)	Textiles, Upholstery, Apparel and Carpets			
Cleaning Products	Paper and Packaging			
Electronics	Rubber and Plastics			
Ski Wax	Pesticides			
Soil amendments				
Pesticides				







PFOA CONTAMINATION DISCOVERY IN SOUTHERN NEW HAMPSHIRE

- 2016 SAINT-GOBAIN REPORTED RESULTS OF WATER TESTS AT ITS MERRIMACK FACILITY
- PFOA DETECTED AT 30 PPT IN MVD SUPPLIED WATER
- IMMEDIATE STEPS TO SAMPLE PUBLIC AND PRIVATE DRINKING WATER SUPPLIES
 IN VICINITY OF THE PLANT
- AIRBORNE TRANSPORT PATHWAY BECOMES EVIDENT
- TESTING EXPANDS RAPIDLY IMPACTS TO DRINKING WATER WELLS IN LONDONDERRY





- MASSIVE OUTREACH AND SAMPLING EFFORT
 - PUBLIC AND PRIVATE WATER SUPPLIES
 - NHDES SAMPLING TEAMS

vironmental
Services

- MULTI-FACETED: GIS/MAILINGS/PHONE/DOOR-TO-DOOR
- SHORT-TERM: BOTTLED WATER PROVISION
- LONG-TERM: ALTERNATE WATER
- ULTIMATE RESPONSE LARGE SCALE WATERLINE PROJECTS FUNDED BY RESPONSIBLE PARTY
- IN LONDONDERRY SAMPLING AND ALTERNATE WATER PLANNING STILL ONGOING



- ESTABLISHED REQUIREMENTS FOR S-G TO PROVIDE ALTERNATE DRINKING WATER WITHIN THE "PRE-GMZ" (RED LINE)
- LIMITED S-G'S RESPONSIBILITIES OUTSIDE THE "OUTER BOUNDARY" (BLUE LINE) TO IMPACTS OVER 70 PPT
- STATE RETAINS ALL AUTHORITIES BETWEEN PRE-GMZ AND OUTER BOUNDARY
- AREAS OF LONDONDERRY OUTSIDE CD OUTER BOUNDARY SHOW
 SIGNIFICANT PFOA IMPACTS TO DRINKING WATER WELLS



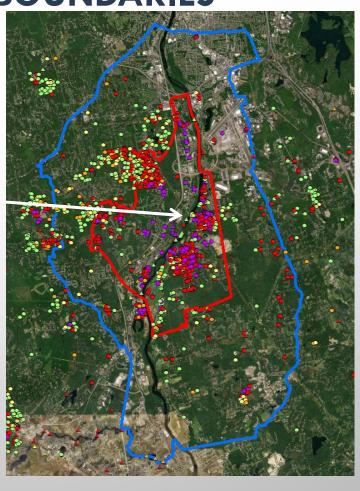
SAINT-GOBAIN FACILITY IMPACT / CONSENT DECREE BOUNDARIES



Groundwater Sample PFOA Results PFOA Concentration (ng/L)

- OA Concentration (ng/
 0 6
- · >6 9
- >9 12
- >12 70
- >70





DRINKING WATER/GROUNDWATER STANDARDS TIMELINE

- APRIL 2016 EMERGENCY RULEMAKING FOR AGQS (70 PPT FOR PFOA AND PFOS, SEPARATE OR COMBINED)
- SEPTEMBER 30, 2019
 - NHDES RULEMAKING- ESTABLISHING MCL/AGQS
 - 3M LAWSUIT

Services

- DECEMBER 31, 2019 PRELIMINARY INJUNCTION
- JULY 2020: HB1264 ESTABLISHED PFAS MCLS/AMBIENT GROUNDWATER QUALITY STANDARDS (AGQS) IN STATE LAW

CURRENT DRINKING WATER/GROUNDWATER STANDARDS (EFFECTIVE JULY 2020)

 MCLs (Maximum Contaminant Limits and AGQS (Ambient Groundwater Quality Standards) for four PFAS compounds:

```
    PFOA 12 ng/l (parts per trillion)
```

- PFOS 15 ng/l
- PFHxS 18 ng/l
- PFNA 11 ng/l

Services

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

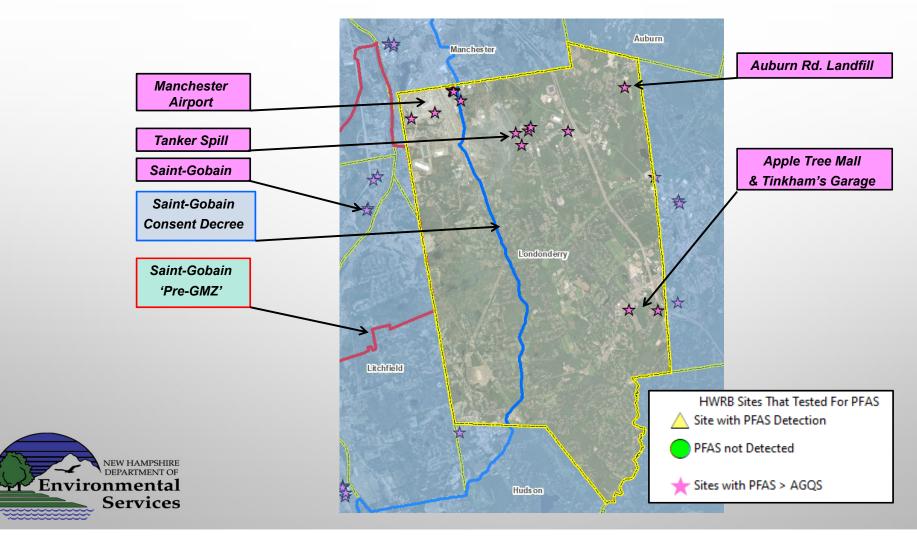


PFAS SITES, DRINKING WATER SAMPLING AND PFAS OCCURRENCE

JEFFREY MARTS, P.G.



SAINT-GOBAIN AND DISCRETE PFAS SITES



WATER SUPPLY WELL SAMPLING

FIVE PRIMARY SOURCES FOR PFAS SAMPLING DATA

- Saint-Gobain (Inside Consent Decree)
 - Responsible for evaluating extent of AGQS violations inside Consent Decree due to discharges from its Merrimack Facility.
 - Work Plan Submitted September 2019
 - 8 Addenda Submitted to NHDES
 - Bi-Weekly Updates and Bi-Monthly Reports Submitted to NHDES (Available on OneStop)
- NHDES (Outside Consent Decree)
 - NHDES Sampling Outside the Consent Decree Area
 - Private Well Testing Request Form (Survey Monkey)
 - Notification Sampling (Properties within 500 feet of AGQS exceedance)
- Town of Londonderry and Residents

vironmental

Services

- Discrete Release Sites (Responsible Parties)
- Public Water Supplies (Public Water System Operators)

WATER SUPPLY WELL SAMPLING

Sampling Statistics as of April 2, 2021*:

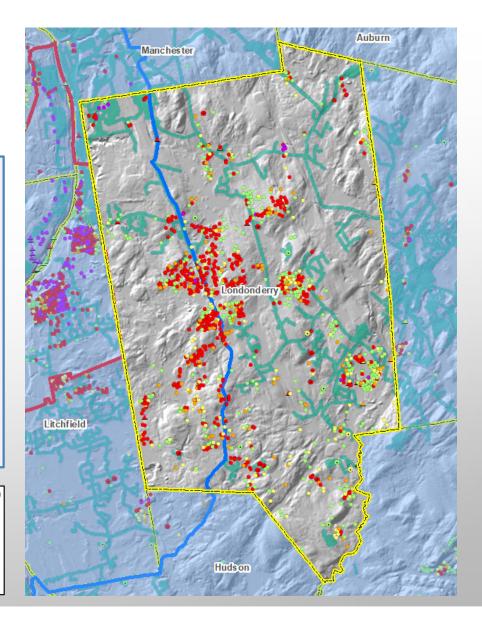
- Approximately 1,187 wells sampled (380 Inside/807 Outside Consent Decree)
- Approximately 561 samples exceed AGQS for one or more PFAS (234 Inside/327 Outside Consent Decree)

*These total include wells (includes monitoring wells) sampled and uploaded to EMD. The totals do not include public water supply wells.



Groundwater PFOA (ng/L)

- 0 6
- >6 9
- 9 12
- >12 70
- >70



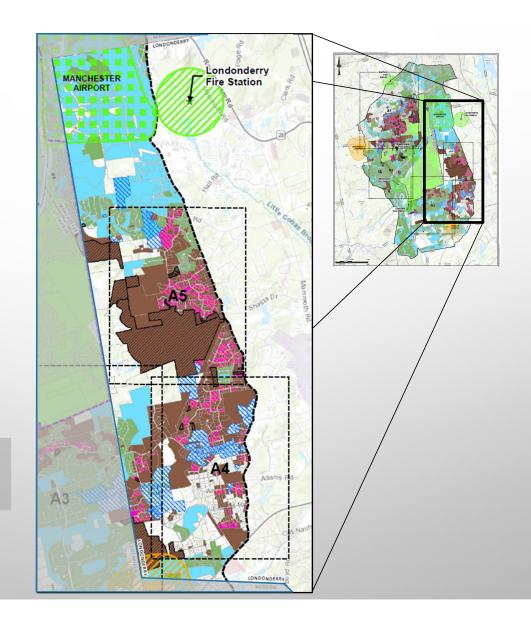
CONSENT DECREE

SAINT-GOBAIN SAMPLING PROGRAM



Source: Golder Associates, Inc., 2021, Work Plan for Sampling of Water Supply Wells and Provision of Alternate Water, Addendum 7, Figure 1A





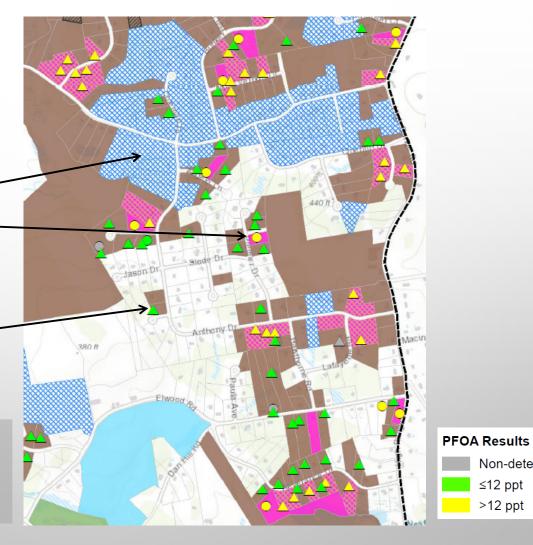
CONSENT DECREE

SAINT-GOBAIN SAMPLING PROGRAM

Why was my property selected for sampling?

- Neighborhood-scale
- Proximity to >AGQS: -60-foot buffer on property
- Low Sample Density: "Quasi-Random"

Source: Golder Associates, Inc., 2021, Work Plan for Sampling of Water Supply Wells and Provision of Alternate Water, Addendum 7, Figure 1E

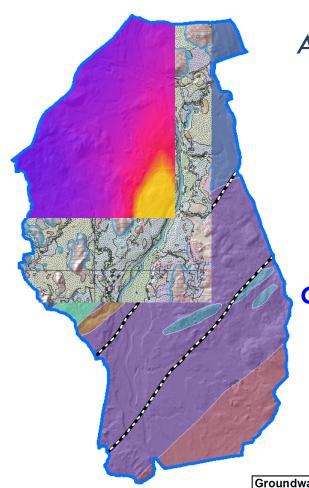


Non-detect

≤12 ppt

>12 ppt





AIR DEPOSITION +

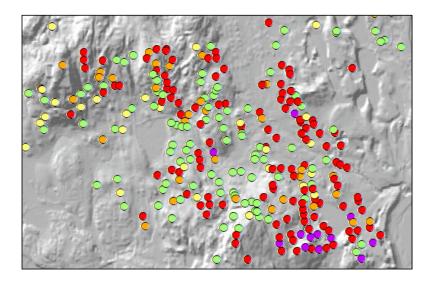
SURFICIAL GEOLOGY +

BEDROCK GEOLOGY +

TIME-RELATED FACTORS =

(E.G. CHANGES IN CHEMICALS RELEASED, PRECURSOR TRANSFORMATIONS, SEASONAL VARIATION, ETC.)

COMPLEX SPATIAL DISTRIBUTION OF PFAS IN GROUNDWATER





Groundwater PFOA (ng/L)

0 - 6

>6 - 9

>9 - 12

>12 - 70

>70

SPATIAL PATTERNS IN LONDONDERRY: TILL DEPOSITS?

PFOA concentrations in groundwater samples tend to be less than or equal to 12 ng/L in the portions of this figure exhibiting a smooth, fluted texture in the LiDAR imagery.

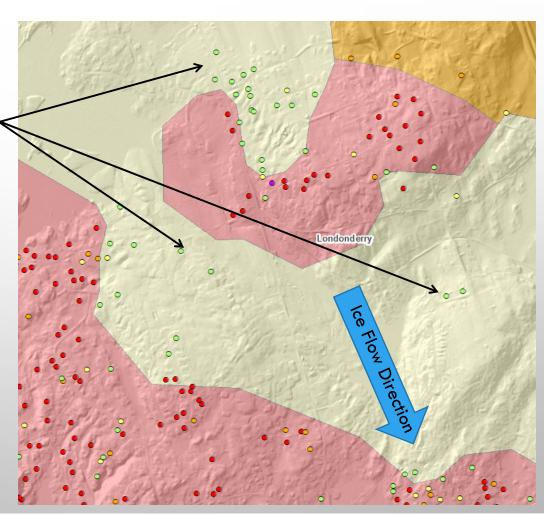
Presumably, the smooth fluted texture is indicative of basal till that was deposited at the base of flowing glaciers.

One possible explanation for the variable spatial distribution of PFOA is that PFAS sorb to the (thicker?) basal till deposits preventing migration of greater levels of contamination into the underlying fractured rock.



Groundwater PFOA (ng/L)

- 0 6
- >6 9
- >9 12
- >12 70
- >70



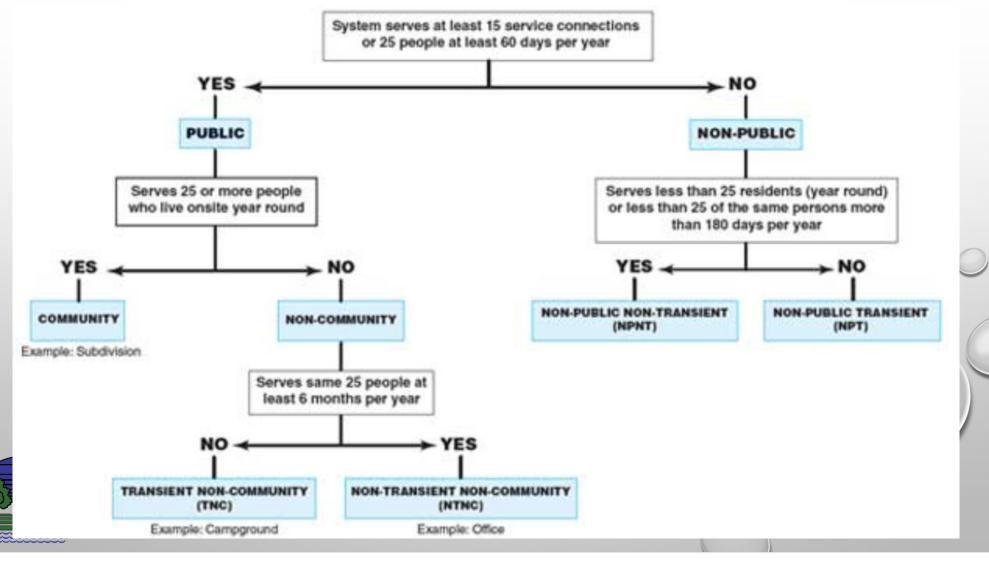


OVERVIEW OF PUBLIC WATER SYSTEMS IN LONDONDERRY

BRANDON KERNEN, ADMINISTRATOR – DRINKING WATER & GROUNDWATER BUREAU



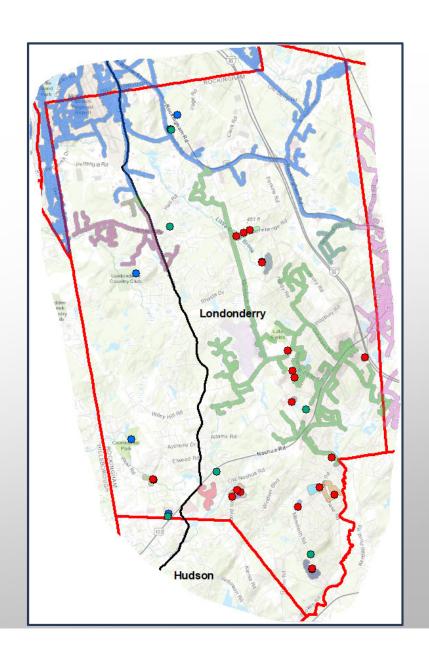
WHAT ARE PUBLIC WATER SYSTEMS



WATER SYSTEMS IN LONDONDERRY

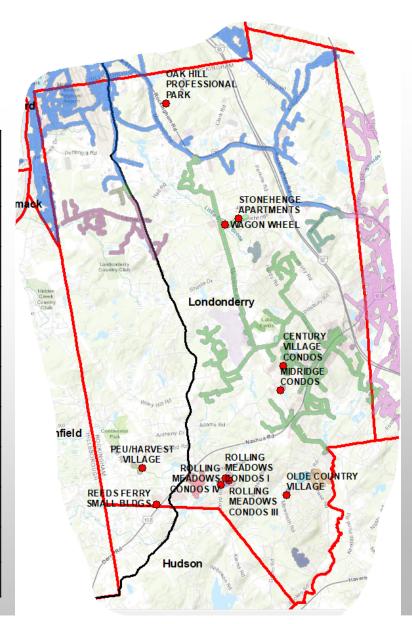
- Standalone Community Water System (23)
- Non-transient/ Non-Community Water System (4)
- Transient/ Non-Community Water System (7)





LOCATION OF PFAS EXCEEDANCES – PUBLIC WATER SYSTEMS

WATER SYSTEM NAME	POPULATION SERVED	PFOA (ppt)
OLDE COUNTRY VILLAGE	130	27
MIDRIDGE CONDOS	100	16
CENTURY VILLAGE CONDOS	875	27
ROLLING MEADOWS CONDOS I	80	31
ROLLING MEADOWS CONDOS III	50	21
ROLLING MEADOWS CONDOS IV	42	18
PEU/HARVEST VILLAGE	175	17
WAGON WHEEL	88	15
OAK HILL PROFESSIONAL PARK	100	13
REEDS FERRY SMALL BLDGS	27	16
STONEHENGE APARTMENTS	105	24



NEW DRINKING WATER STANDARDS IN NH

- PFAS
 - PFOA 12 PPT
 - PFOS 15 PPT
 - PFNA 11 PPT
 - PFHXS 18 PPT
- ARSENIC 5 PPB (6 SYSTEMS MAY BE IMPACTED)
- MANGANESE 0.1/0.3 MG/L (4 SYSTEMS MAY BE IMPACTED)
- 7 SYSTEMS CURRENTLY REMOVE RADIONUCLIDES.



*Other contaminants, including natural contaminants, should be included in town-wide planning.

STANDALONE SMALL COMMUNITY WATER SYSTEMS

- OFTEN LACK FINANCIAL AND TECHNICAL CAPACITY TO OPERATE RELIABLY AND IN ACCORDANCE WITH FEDERAL AND STATE STANDARDS.
- WATER SYSTEM IMPROVEMENTS CAN BE VERY COSTLY TO THE RATE PAYERS BECAUSE OF THE ECONOMY OF SCALE.
- DO NOT PROVIDE FIRE PROTECTION.





FINANCIAL ASSISTANCE PROGRAMS

AMY ROUSSEAU, PFAS RESPONSE ADMINISTRATOR ERIN HOLMES, DWGTF ADMINISTRATOR





PER AND POLYFLUOROALKYL SUBSTANCES REMEDIATION LOAN FUND (PFAS RLF)

- ESTABLISHED UNDER RSA 485-H AS PART OF HOUSE BILL 1264 PASSED IN JULY 2020
- APPROPRIATES \$50M IN STATE FUNDS FOR THE REMEDIATION OF PFAS CONTAMINATION
- LOW INTEREST LOAN PROGRAM FOR COMMUNITY AND NON-PROFIT, NON-TRANSIENT PUBLIC WATER SYSTEMS WITH MCL EXCEEDANCE
- LOAN FORGIVENESS FOR DISADVANTAGED COMMUNITIES
- CONTINGENT REIMBURSEMENT



Link for More Information:

https://www4.des.state.nh.us/nh-pfasinvestigation/?page_id=1287





PFAS TREATMENT DESIGN SERVICES REIMBURSEMENT



- \$800K APPROPRIATION FROM THE DWGTF
- ELIGIBILITY
 - ALL SCHOOLS & CHILD CARE CENTERS
 - TRANSIENT & NON-TRANSIENT PUBLIC WATER SYSTEMS
- BASE REIMBURSEMENT OF UP TO 26% OF TOTAL PROJECT COST



Link for More Information:

https://www4.des.state.nh.us/nh-pfasinvestigation/?page_id=1284









PWS PFAS FUNDING AVAILABILTY

			Dalation	PFAS Specific Funding			
PWS#	PWS Name	PWS Type*	Relation to CD	Design Services		PFAS RLF**	
1395090	Creative Little Angels	Non-Transient	Out	Yes	No	Not non-profit	
1396060	Holton	Non-Transient	Out	Yes	No		
1396070	Towne Square Professional Condos	Non-Transient	Out	Yes	No		
1395140	Victory Baptist School	Non-Transient / Non-profit	Out	Yes	No	No MCL exceedance	
1392010	Oakridge Condos	Community	Out	No	No	No MCL exceedance	
1392040	PEU/Pinehaven Water Trust	Community	Out	No	No		
1392300	Southview Condos	Community	Out	No	No		
1392310	PEU/Ministerial/Parrish Hills	Community	Out	No	No		
1392320	Bitim Apartments	Community	Out	No	No		
1393060	Ponderosa MHP	Community	Out	No	No		
1392180	Century Village Condos	Community	Out	No	Yes	Have a MCL exceedance	
1392030	Olde Country Village	Community	Out	No	Yes		
1392200	Rolling Meadows I	Community	Out	No	Yes		
1392220	Rolling Meadows III	Community	Out	No	Yes		
1392230	Rolling Meadows IV	Community	Out	No	Yes		
1393050	Wagon Wheel	Community	Out	No	Yes	 	
1392070	Midridge Condos	Community	Out	No	Yes		
1396110	Reeds Ferry Small Blds	Non-Transient	In	Yes	No	Have a MCL exceedance, RP assigned	
1392290	PEU/Harvest Village	Community	In	No	No		

^{*} Transient public water systems are eligible only for the Design Services Reimbursement

Enviror

** Status as of 4/7/2021. PFAS RLF eligibility is subject to change based on the PWS specific circumstances.

DRINKING WATER AND GROUNDWATER TRUST FUND (DWGTF)

- ESTABLISHED UNDER RSA 485-F WITH MONIES AWARDED FROM A TRIAL BETWEEN THE STATE OF NEW HAMPSHIRE AND EXXON-MOBIL FOR THE CONTAMINATION OF DRINKING WATER FROM THE GASOLINE ADDITIVE MTBE
- 19-MEMBER DRINKING WATER AND GROUNDWATER ADVISORY COMMISSION (COMMISSION) AWARDS GRANTS AND REVOLVING LOANS FOR DRINKING WATER INFRASTRUCTURE PROJECTS
- NHDES RESPONSIBLE FOR ADMINISTRATION OF THE FUNDS
- COMMISSION IDENTIFIES ISSUES ASSOCIATED WITH CONTAMINATION OF DRINKING WATER AS THE HIGHEST PRIORITY OF THE
- FUND BALANCE AS OF DECEMBER 31, 2020 = \$153 M







DWGTF PUBLIC WATER SYSTEM CONSOLIDATION STUDY

- ADVISORY COMMISSION AWARDED \$200,000 TO NHDES PROGRAM
- \$10,000 GRANTS AVAILABLE FOR SMALL COMMUNITY WATER SYSTEMS (CWS) AND NON-TRANSIENT, NON-COMMUNITY (NTNC) WATER SYSTEMS TO EVALUATE THE FEASIBILITY OF CONNECTING TO A LARGER COMMUNITY WATER SYSTEM
- ELIGIBILITY REQUIREMENTS
 - CWS SERVING UP TO A 1,000 POPULATION
 - NTNC WATER SYSTEM OWNED BY NOT-FOR-PROFIT ORGANIZATIONS (I.E., PUBLIC SCHOOLS)
 - SOURCE(S) EXCEED A DRINKING WATER MAXIMUM CONTAMINANT LEVEL (MCL) PRIOR TO TREATMENT OR A DOCUMENTED WATER SUPPLY SHORTAGE
- APPLICATIONS AVAILABLE BY MID-APRIL FIRST-COME, FIRST-SERVED



SPECIAL PROJECTS ASSISTANCE PROGRAM AND ANNUAL DRINKING WATER INFRASTRUCTURE ASSISTANCE PROGRAM

- FUNDING PATHWAY FOR DRINKING WATER INFRASTRUCTURE PROJECTS.
- LOANS AND/OR GRANTS AWARDED BY THE ADVISORY COMMISSION
- SPECIAL PROJECTS ASSISTANCE PROGRAM CONTAMINATION RELATED PROJECTS CAN BE APPLIED FOR AT ANY TIME (MORE INFORMATION HTTPS://www4.des.state.nh.us/nh-dwg-trust/?page id=1424)
- ANNUAL DRINKING WATER INFRASTRUCTURE ASSISTANCE PROGRAM APPLICATIONS DUE IN SEPTEMBER (MORE INFORMATION https://www4.des.state.nh.us/nh-dwg-trust/?page_id=104)
- ELIGIBLE APPLICANTS
 - PUBLIC WATER SYSTEMS (ANY SIZE)
 - MUNICIPALITIES OR ANY POLITICAL SUB-DIVISION OF THE STATE





AGENDA

- I. INTRODUCTIONS
- II. PFAS DISCOVERY AND NHDES APPROACH MIKE WIMSATT
- III. PFAS INVESTIGATION: DRINKING WATER SAMPLING, AND PFAS OCCURRENCE JEFF MARTS
- IV. OCCURRENCE OF PFAS IMPACTS ON WATER SYSTEMS BRANDON KERNEN
- V. FINANCIAL ASSISTANCE PROGRAMS AMY ROUSSEAU, ERIN HOLMES
- VI. DISCUSSION AND QUESTIONS













MIKE WIMSATT, DIRECTOR

NHDES – WASTE MANAGEMENT

DIVISION

MICHAEL.WIMSATT@DES.NH.GOV

(603) 271-1997

JEFF MARTS, P.G.

SENIOR HYDROGEOLOGIST

JEFFREY.M.MARTS@DES.NH.GOV

(603) 271-6573

BRANDON KERNEN, P.G.

DRINKING WATER AND GROUNDWATER

BUREAU ADMINISTRATOR

BRANDON.M.KERNEN@DES.NH.GOV

(603) 271-1168

AMY ROUSSEAU

PFAS RESPONSE ADMINISTRATOR

AMY.ROUSSEAU@DES.NH.GOV

(603) 848-1372

ERIN HOLMES, P.E.

DWGTF ADMINISTRATOR

ERIN.L.HOLMES@DES.NH.GOV

(603) 848-4259





LINKS FOR MORE INFORMATION

(LINKS ARE LIVE AND CAN BE CLICKED ON)



1-800-742-8498

LINK TO SURVEY MONKEY TO REQUEST SAMPLING OUTSIDE THE CONSENT DECREE AREA:

HTTPS://WWW.SURVEYMONKEY.COM/R/NHDES-S-03-008



PFAS Treatment

https://www4.des.state.nh.us/nh-pfasinvestigation/?page_id=171

PFAS Testing (this guidance will be updated soon to include EPA Method 533 in addition to 537)

https://www4.des.state.nh.us/nh-pfas-investigation/wp-content/uploads/2019/06/pfoa-testing-labs.pdf

PFAS MCL Development Documents -

https://www4.des.state.nh.us/nh-pfasinvestigation/?page id=1036

Link to NHDES Blog Post on Sampling Inside the Consent Decree and Saint-Gobain 'Hotline' - https://www4.des.state.nh.us/nh-pfas-investigation/?p=1279