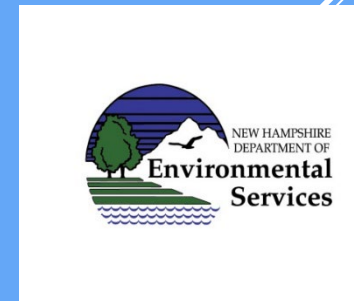


COAKLEY LANDFILL COMMUNITY UPDATE

November 14, 2022



INTRODUCTIONS

- USEPA
 - Skip Hull, Project Manager (Presenter)
 - Kelsey Dumville, Community Involvement Coordinator
 - Courtney Carroll, Human Health Risk Assessor

INTRODUCTIONS

➤ NHDES

- Drew Hoffman, Project Manager (Presenter)
- Mike Wimsatt, Director, Waste Management Division
- Karen Craver, Kelly Thrippleton-Hunter, Robert Thistle, Environmental Health Program
- Amy Rousseau, MtBE Remediation Bureau
- Brandon Kernen, Drinking Water Program
- Jim Soukup, Senior Hydrogeologist, Weston Solutions

AGENDA

6:30 Introductions and Agenda, *Kelsey Dumville, EPA*

6:45 EPA Update, *Skip Hull, EPA*

- Bedrock Investigation Findings
- EPA Action on PFAS
- Next Steps

7:00 NHDES Update, *Drew Hoffman, NHDES*

- Private Well Sampling
- Groundwater Management Permit

7:15 Open House

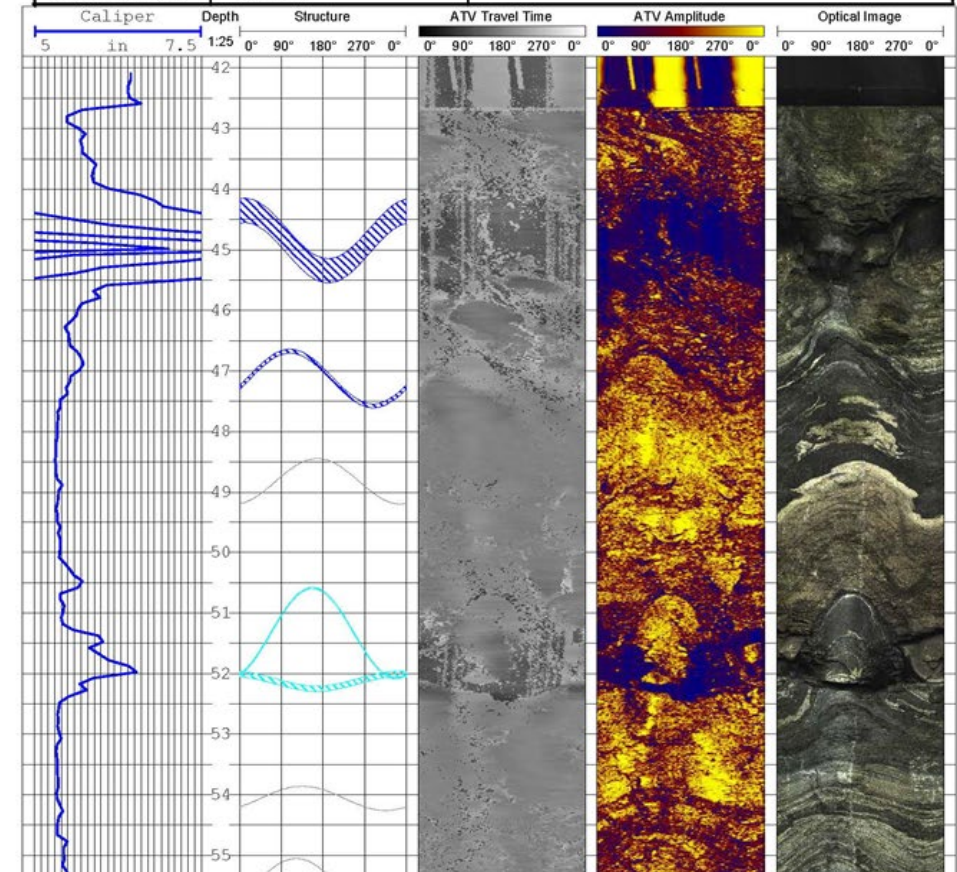
8:00 Adjourn



BEDROCK INVESTIGATION

- Initiated in 2018
 - Understand groundwater flow pathways in bedrock.
- Determine level of contamination in bedrock groundwater.
- Assess the potential for migration of contaminants in bedrock groundwater to potential receptors.

Northeast Geophysical Services 4 Union Street Bangor, Maine 04401 Tel. 207-942-2700 email: ngsinc@negeophysical.com		Log: Plate O-4 Televiewer & Caliper Logs	
		Well: MW-25	
		Site: Coakley Landfill	
Date:	2/23/2021	Location: Greenland, New Hampshire	
Casing Depth:	42.6 ft.	For: CES	
Casing Type:	6 inch steel	Logged by: R Rawcliffe	
Boring Depth:	284.3 ft.	Orientation: magnetic north	
Meas. From:	Top of casing	Structure Plots: black = planar features (faults, foliation, bedding, joints, etc) light blue = possible transmissive fracture dark blue = likely transmissive fracture	
Stickup:	3.25 ft.		
Water Level:	2.71 ft.		



BEDROCK INVESTIGATION (CONT.)

- Investigation activities conducted 2018-2021.
- Interim report submitted 2019.
- Final report submitted December 2021.
 - EPA disapproved final report and directed CLG to address concerns and resubmit.
 - Final report resubmitted September 2022.



BEDROCK INVESTIGATION (CONT.)

➤ Findings

- Flow in bedrock is not always direct but meandering through interconnected fractures.
- Complex interaction between groundwater, surface water and stormwater runoff.
- Migration of contaminants from the landfill via groundwater in bedrock pathways is occurring.
- Significant contaminant migration is west from the landfill, then turns north and south along primary bedrock fracture pathway.
- Some limited contaminant migration to the east.
- Stormwater runoff contributes to contaminant loading.
- Contaminants are reaching 3 private wells via groundwater pathways in bedrock.
- Current evidence does not indicate a direct flowpath from landfill to other private wells.
- Extent of flowpath in bedrock to the south is not defined.
- Continued private well and flowpath monitoring will track any changes.

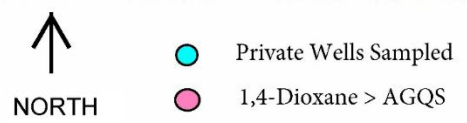
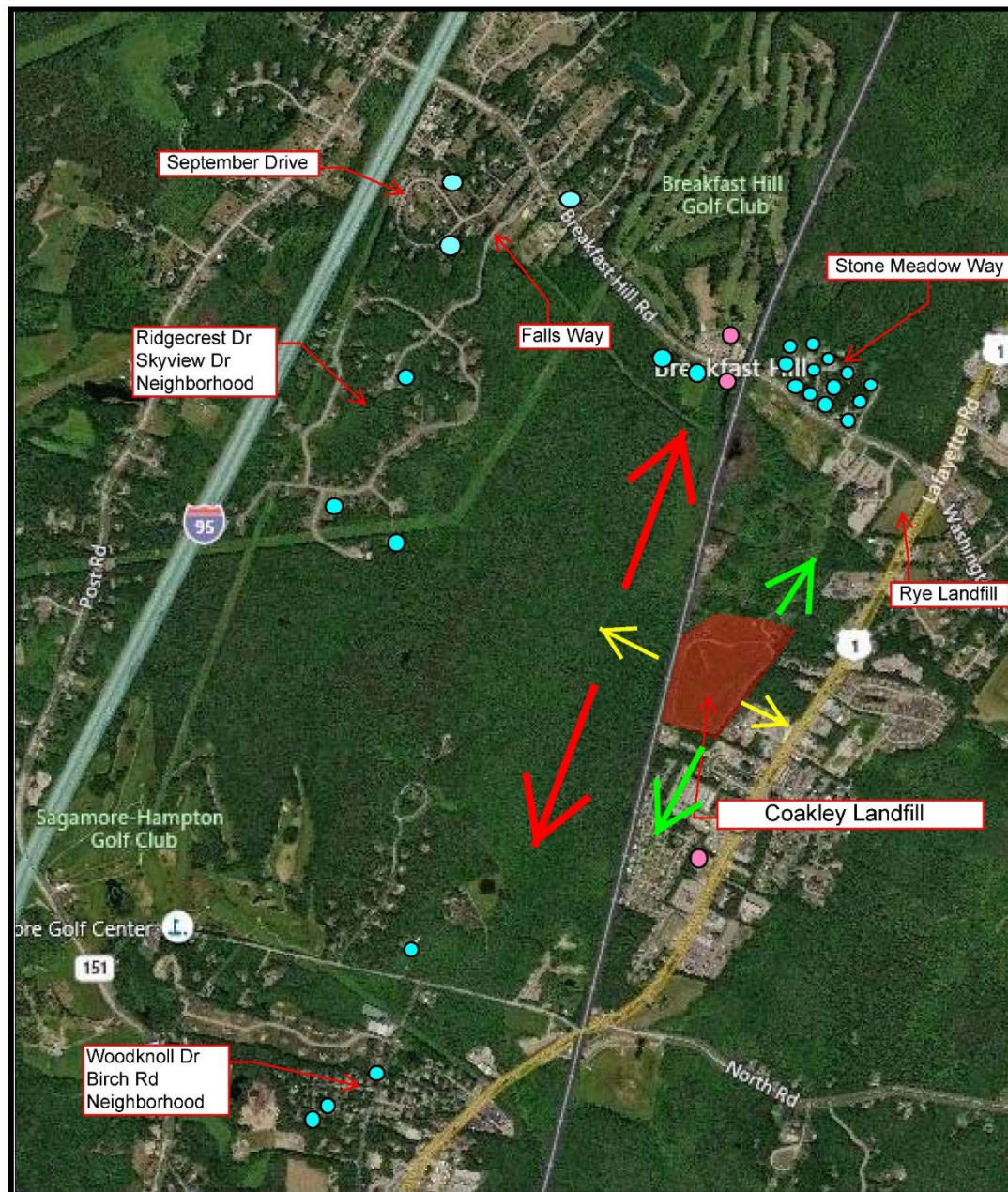


Figure 4 - Area Map with Flow Paths Coakley Landfill and Vicinity

OTHER INVESTIGATION ACTIVITIES

- Landfill cap stormwater runoff
 - Stormwater runoff from landfill cap sampled during storm events.
 - Landfill liner and cover material sampled.
 - PFAS detected in runoff, though runoff events are infrequent.
 - Landfill cap liner and cover material contain PFAS compounds.

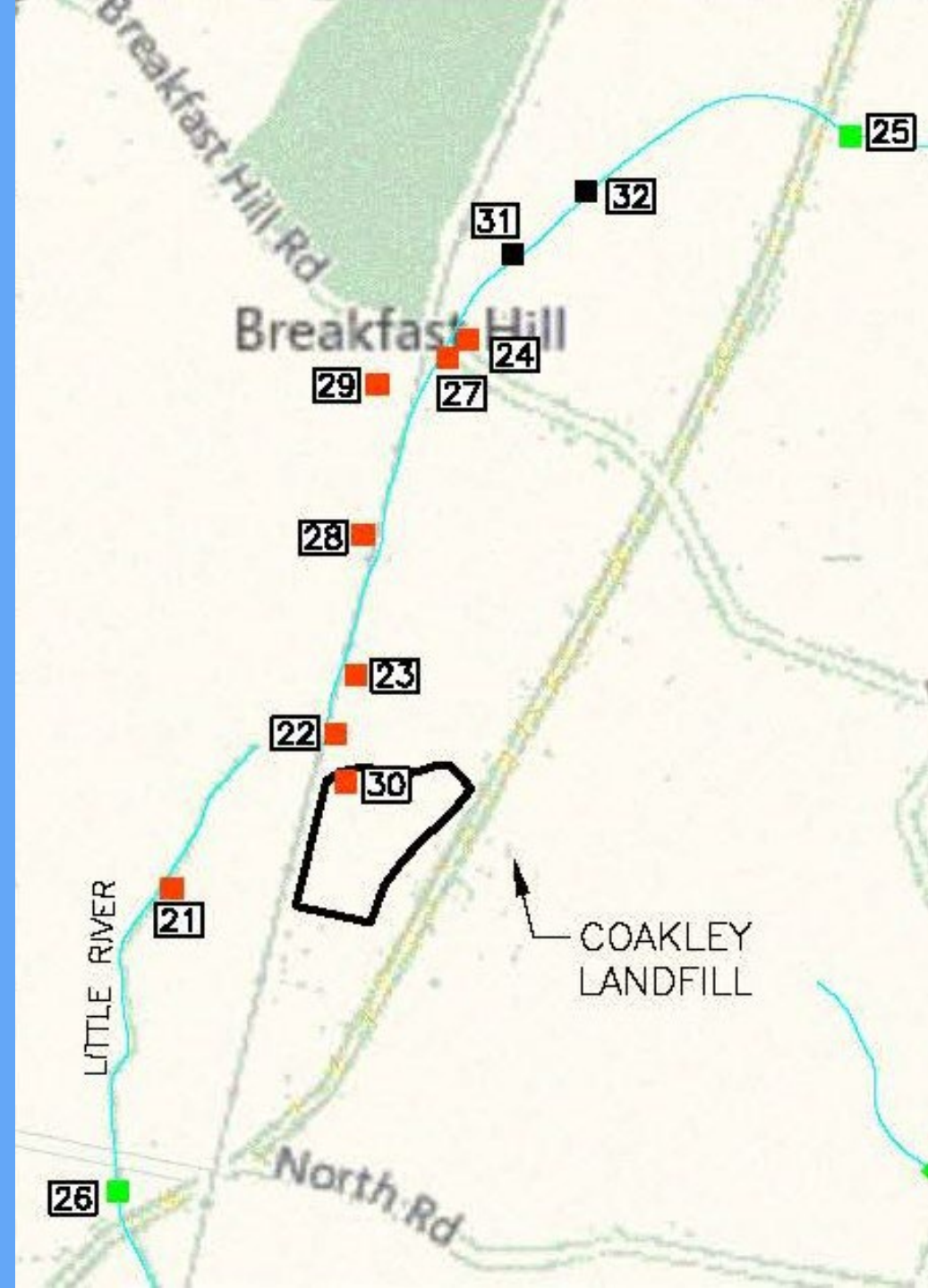


EPA ACTION ON PFAS

- May 2022 - Human health-based screening levels (SLs) for PFAS in groundwater lowered based on new health data from ATSDR.
 - Development of new site-specific SLs for surface water using conservative assumptions for exposure frequency and ingestion.
 - SLs are not enforceable standards.
 - SLs used to determine if a specific contaminant needs further investigation, which is the case at Coakley Landfill.
 - Directed CLG to collect samples from new locations along Berrys Brook.
- August 2022 – EPA initiates process to list PFOA and PFOS as hazardous substances under CERCLA.
- September 2022 – EPA initiates process for creating maximum contaminant level (MCL) for PFAS in drinking water under the SDWA.

UPDATED SCREENING LEVELS

- SLs for surface water in Berrys Brook determined using extremely conservative assumptions:
 - 45- and 120-day exposure frequencies assuming ingestion of surface water.
 - Contaminants in Berrys Brook exceed new SLs.
 - Potential risk from repeated ingestion of surface water.
 - Results from new sampling locations will be compared against new SLs and potential for risk determined.
 - Additional signage and notification may be initiated, depending on results.



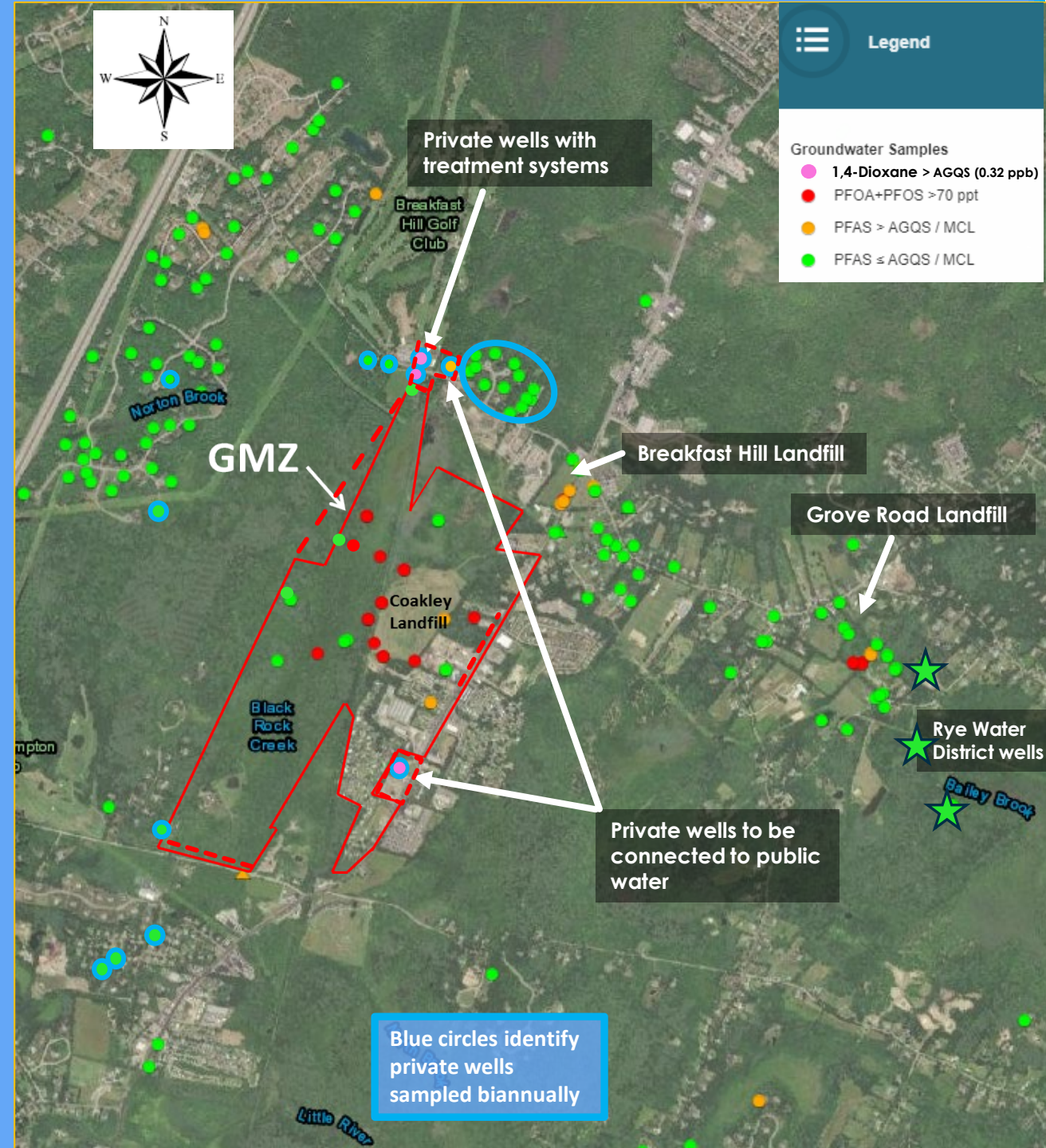
NEXT STEPS

- Continued Private Well Sampling.
- Determine extent of contaminant loading from landfill cap and groundwater discharge to Berrys Brook.
- Installation of additional monitoring wells and long-term monitoring of pathways in bedrock.
- Continued data review and evaluation of risk and protectiveness.



Private Well Sampling Summary

- Private well sampling has occurred since site discovery (1980s)
- Private well sampling expanded in 2016
 - ✓ Over 100 wells initially sampled by NHDES
 - ✓ Ongoing biannual sampling of 24 private wells by CLG
- Data Summary
 - ✓ Four private wells considered “site impacted”
 - ✓ All four wells exceed NH standards for 1,4-dioxane and/or PFOA
 - Two locations have POE treatment systems
 - Two homes will be connected to public water
 - ✓ All 24 wells have had detections of PFAS
 - ✓ Data trend review
- ✓ GMZ modifications



GMZ Modifications

➤ GMZ EXPANSION IS DATA DRIVEN

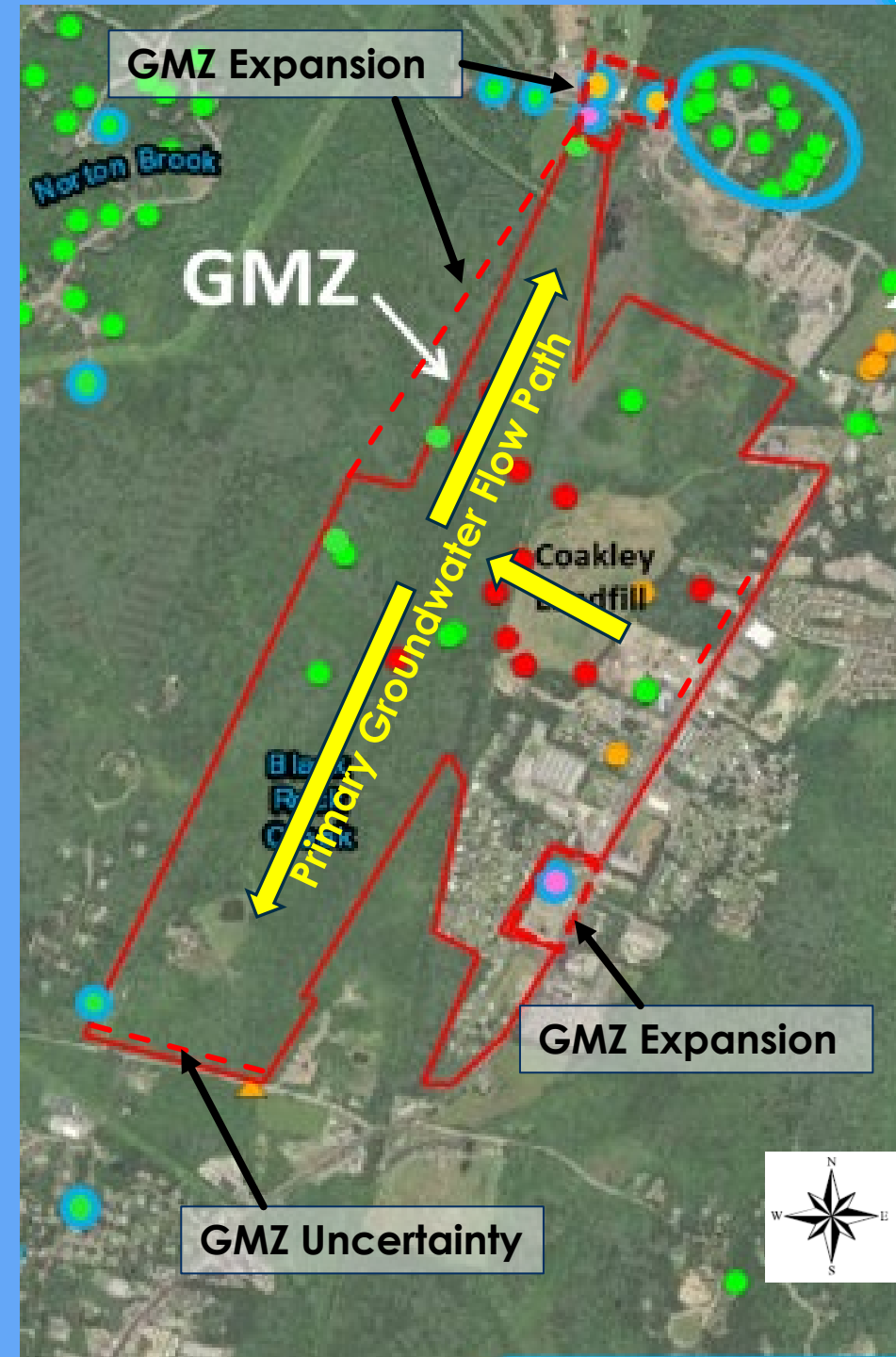
- ✓ 2018 1,4-dioxane AGQS lowered from 3.0 to 0.32 µg/L
- ✓ 2020 lowering of PFAS AGQS
- ✓ Exposure risks addressed

➤ ADJUSTED AREAS OF GMZ

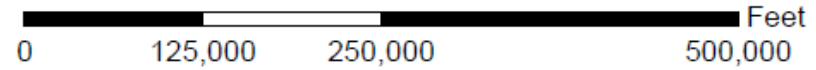
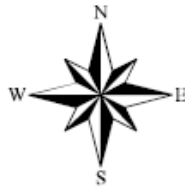
- ✓ NW – overburden groundwater exceeding for 1,4-dioxane
- ✓ North – OB and BR groundwater exceeding 1,4-d and PFOA
- ✓ SE – BR groundwater exceeding 1,4-d
- ✓ South – GMZ uncertainty (access constraints – investigation ongoing)

➤ NEXT STEPS

- ✓ Public water connections
- ✓ New well installation, sampling, and data assessment
- ✓ Finalize GMZ and issue revised Permit
- ✓ Continued site-wide monitoring
- ✓ Coordinate with EPA on data review, risk evaluation, and remedy protectiveness



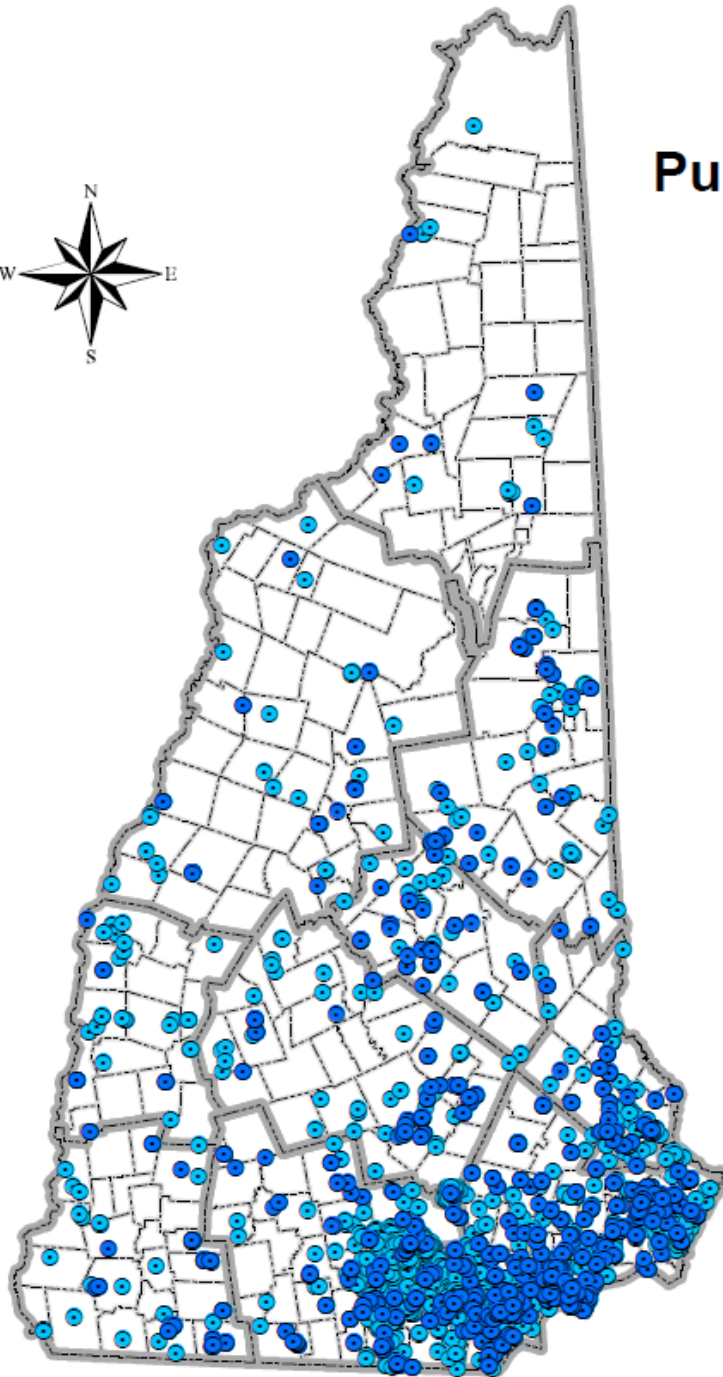
Detections of PFOA or PFOS in Public Water Supplies & Private Wells



1 in = 125,000 feet

Legend

- PWS Detections of PFOA / PFOS
- Private Well Detections of PFOA / PFOS
- ▭ County Boundaries
- ▭ Town Boundaries



The data presented is under constant revision as new sites or facilities are added. The data may not contain all of the potential or existing sites or facilities. NHDES is not responsible for the use or interpretation of this information. Not intended for legal purposes.



COAKLEY LANDFILL CONTACT INFORMATION

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