



Why is the Navy Sampling Drinking Water Wells Nationwide?

The Navy is addressing potential exposure to PFOA and PFOS in drinking water near Naval Base Kitsap-Bangor (NBK-Bangor).

- The Navy issued a policy in June 2016 to address PFOA and PFOS in drinking water.
- The Navy's primary historical release of PFOA and PFOS was firefighting foam.
 - No longer used during training and testing unless fully contained.
 - Currently used for emergency response.
- The Navy is investigating all installations to identify PFOA and PFOS exposure above 70 ppt.



On March 14, 2023, **the EPA proposed a draft regulatory drinking water standard for certain PFAS**, including PFOA and PFOS. In response, the Department of Defense (DoD) has issued the following statement: “DoD respects and values the public comment process on this proposed nationwide drinking water rule and looks forward to the clarity that a final regulatory drinking water standard for PFAS will provide. In anticipation of the final standard that EPA expects to publish by the end of 2023, **the DoD is assessing what actions DoD can take to be prepared to incorporate EPA’s final regulatory standard** into our current cleanup process, such as reviewing our existing data and conducting additional sampling where necessary. In addition, **DoD will incorporate nationwide PFAS cleanup guidance**, issued by EPA and applicable to all owners and operators under the federal cleanup law, as to when to provide alternate water when PFAS are present.”

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 leave a message at
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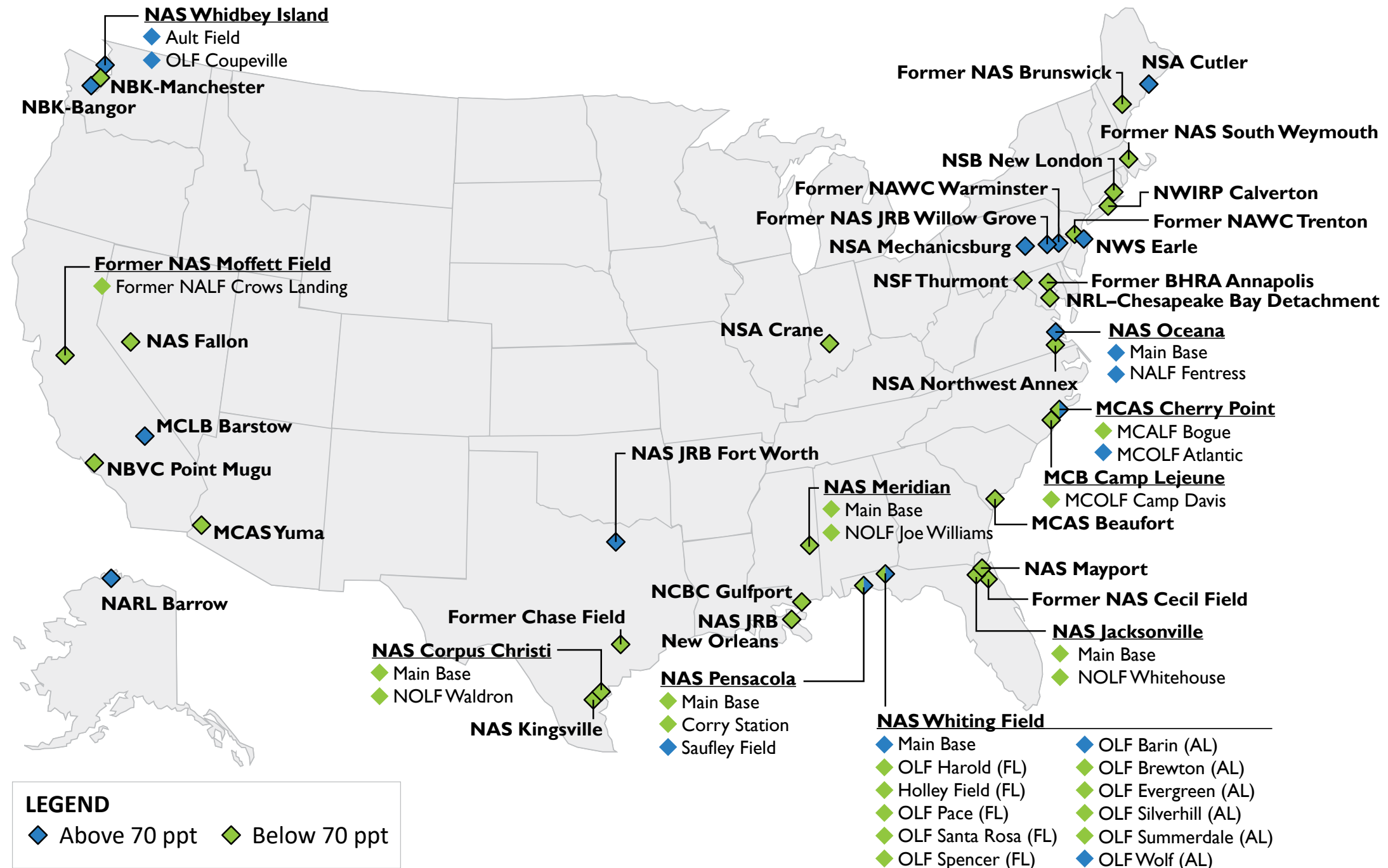
FOR MORE INFORMATION
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ACRONYMS & ABBREVIATIONS			
EPA	U.S. Environmental Protection Agency	PFOA	perfluorooctanoic acid
NBK	Naval Base Kitsap	PFOS	perfluorooctane sulfonate
PFAS	per- and polyfluoroalkyl substances	ppt	part(s) per trillion



Locations of Completed Off-Base Drinking Water Sampling for PFOA and PFOS



The Navy will provide bottled water to properties for drinking and cooking if PFOA and/or PFOS are above 70 ppt.

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NBK-Bangor 2020 Off-Base PFAS Drinking Water Results

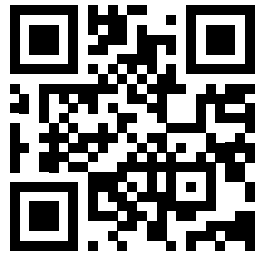


On-Base PFAS Releases

- In 2020, the Navy identified PFAS releases on base that may impact off-base drinking water.
- Information on PFAS release areas is provided in the 2020 Preliminary Assessment Report in the Administrative Record.

FOR MORE INFORMATION

access the NBK-Bangor Administrative Record at <https://go.usa.gov/xh29v> or scan the QR code →

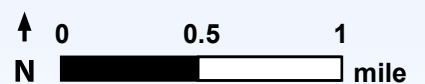


Off-Base Well Sampling

- In 2020, the Navy offered off-base well sampling to properties within 1 mile of PFAS release areas in the direction of groundwater flow.
- The Navy sampled 343 drinking water wells:
 - PFOA and/or PFOS were **not detected in 246 wells.**
 - PFOA and/or PFOS were detected **below 70 ppt in 95 wells** (0.13–57.44 ppt).
 - PFOA and/or PFOS were detected **above 70 ppt in 2 wells** (76.83–200 ppt).

LEGEND

- PFAS release area
- Base boundary
- 2020 sampling area



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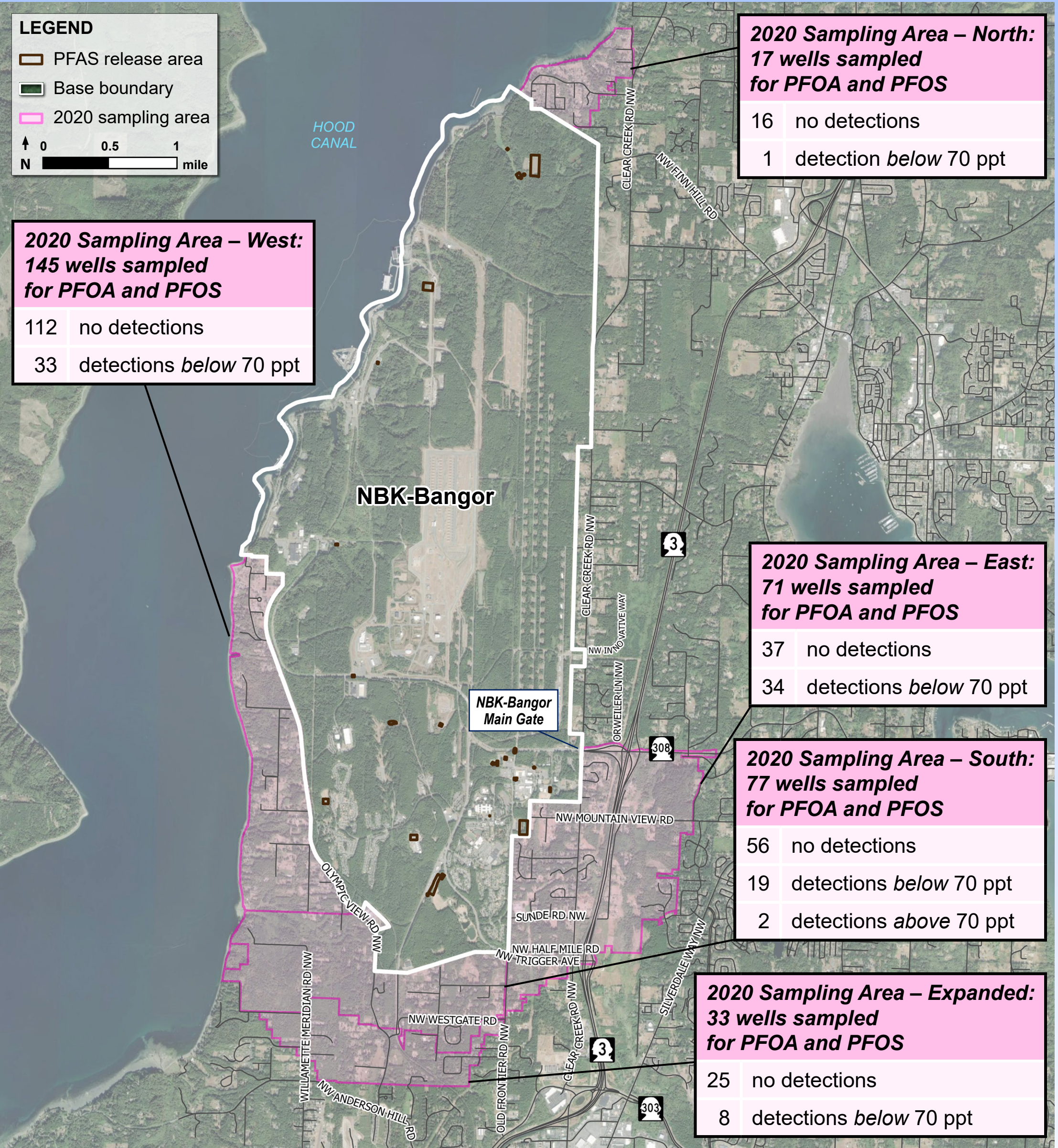


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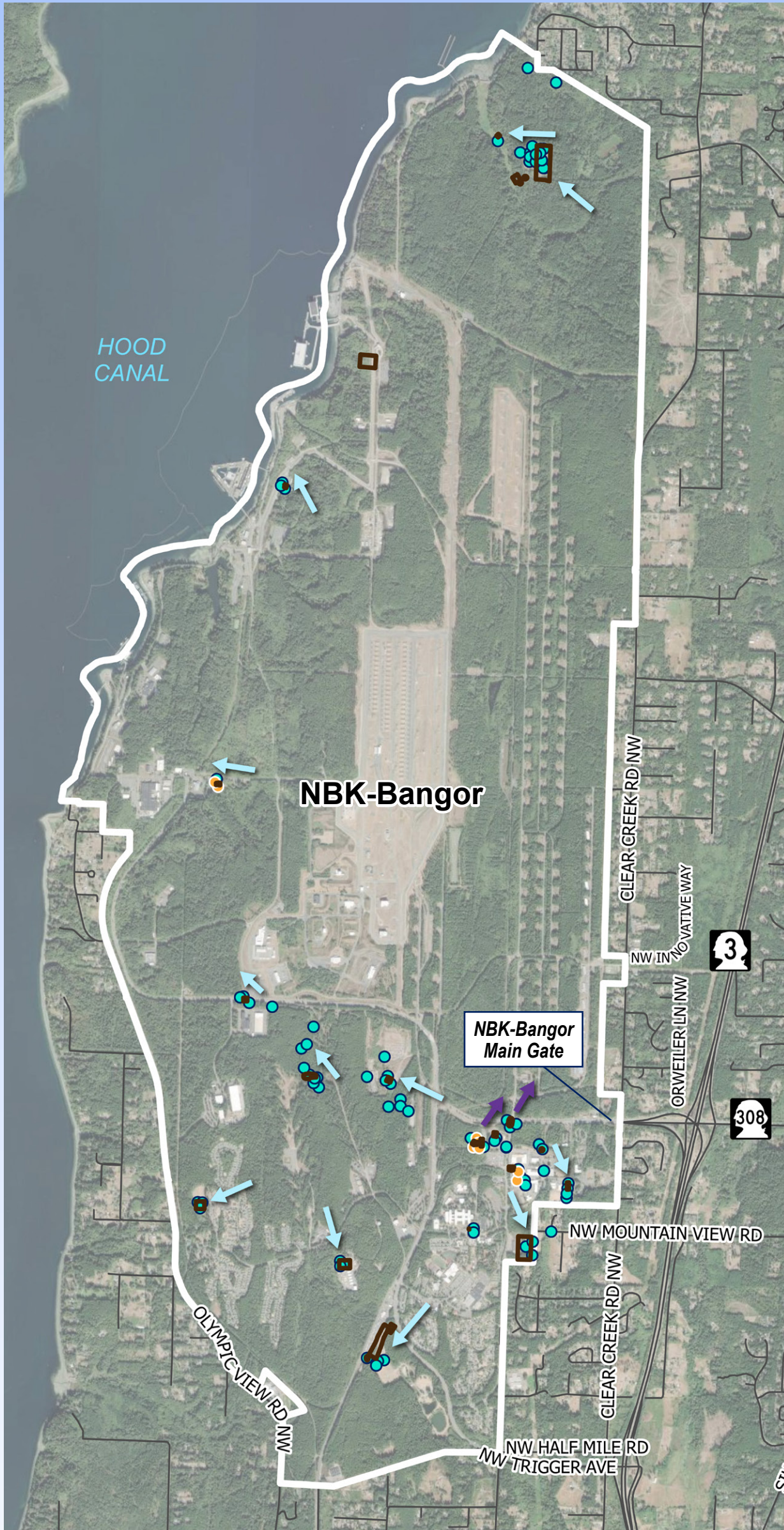
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NBK-Bangor On-Base PFAS Investigation



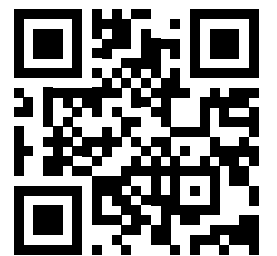
- In 2022, the Navy collected samples at 22 PFAS release areas related to firefighting foam training, testing, spills, storage, or disposal; and metal plating waste.
- PFOA and PFOS detected in groundwater above 70 ppt

PFAS	Concentration range (ppt)
PFOA	91.3–1,140
PFOS	93.6–5,880

- During the on-base investigation, the Navy collected **new information about the direction of groundwater flow near the fire station area.**
- Sampling results for on-base PFAS release areas will be provided in the Site Inspection Report in the Administrative Record (later in 2023).

FOR MORE INFORMATION

access the NBK-Bangor Administrative Record at <https://go.usa.gov/xh29v> or scan the QR code →



LEGEND

- PFAS release area
- Base boundary
- Monitoring well with PFOA and/or PFOS below 70 ppt in groundwater
- Monitoring well with PFOA and/or PFOS above 70 ppt in groundwater
- Shallow groundwater flow direction
- Shallow groundwater flow direction determined in 2022



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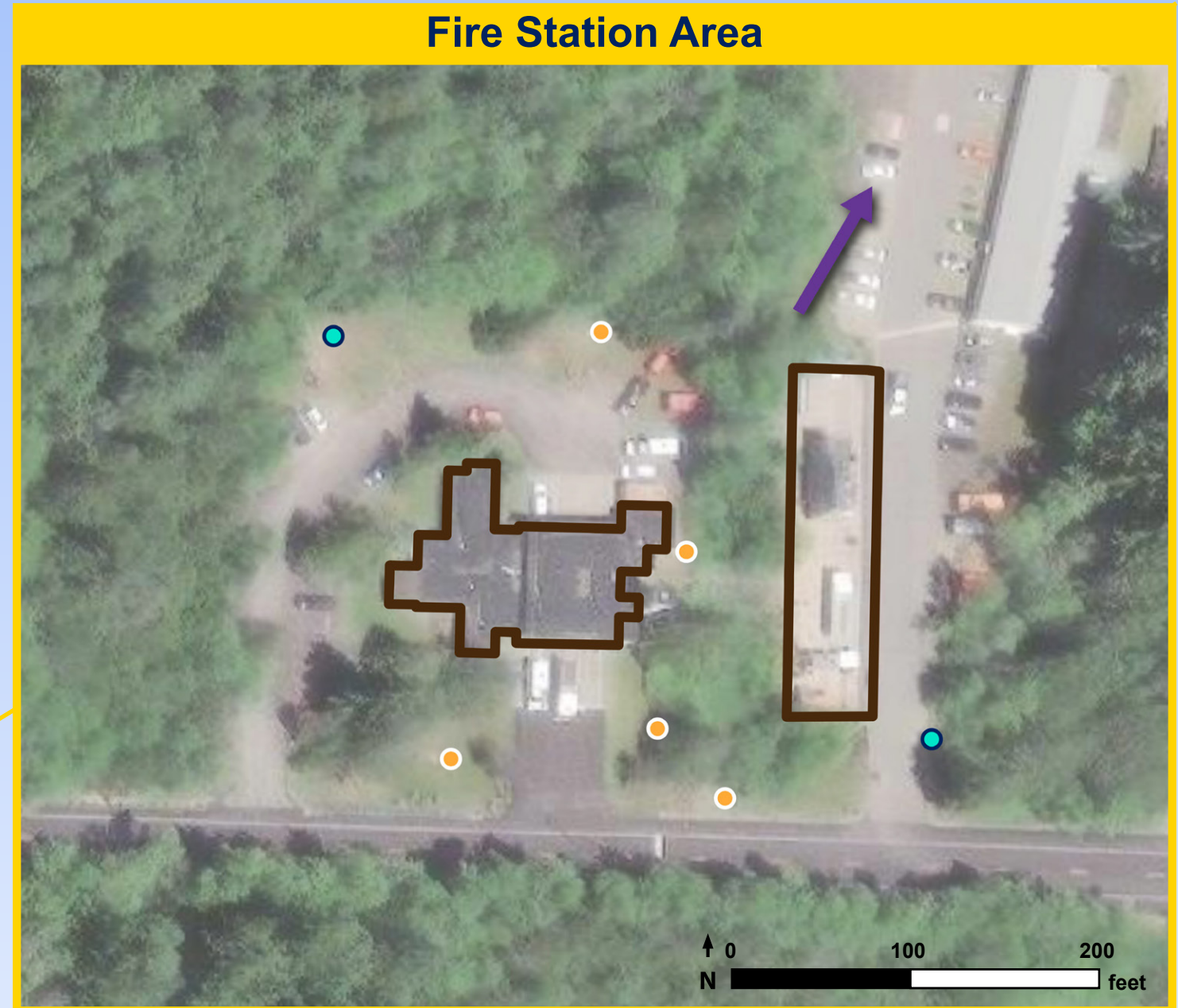
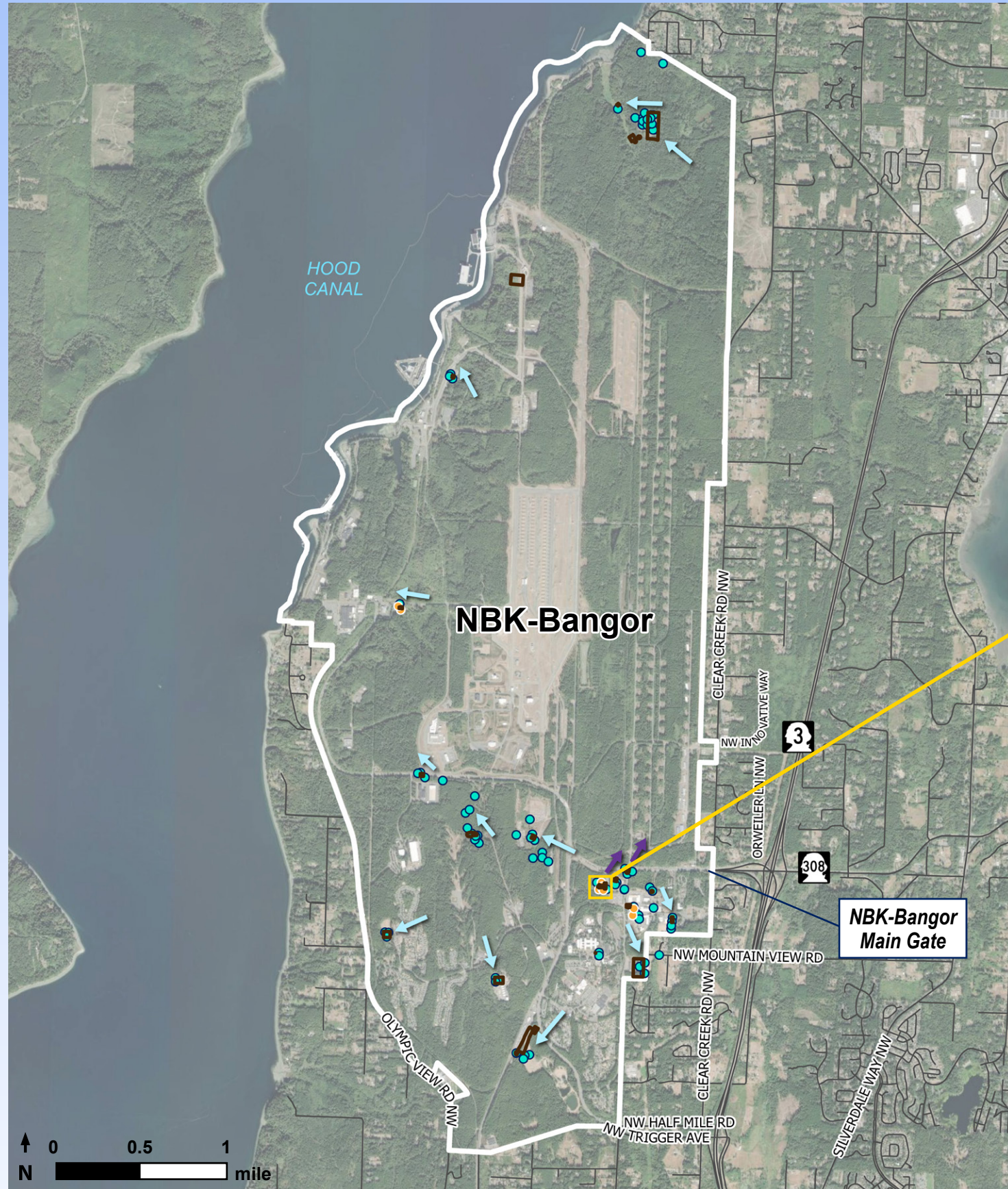


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NBK-Bangor On-Base PFAS Investigation



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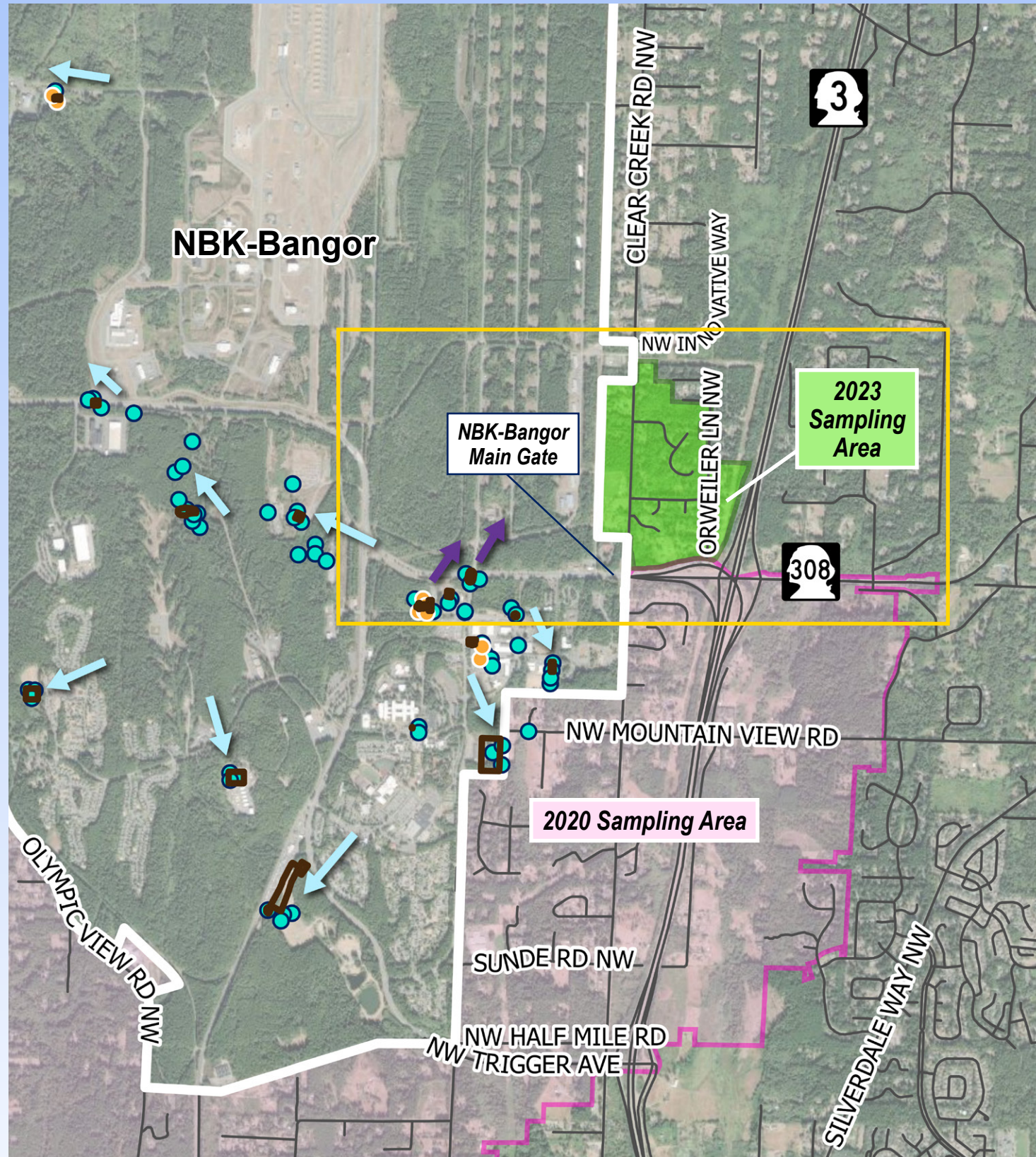
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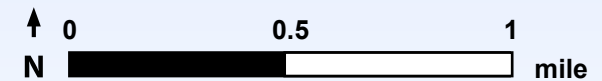
NBK-Bangor Off-Base 2023 PFAS Drinking Water Sampling



- In 2022, the Navy found PFOA and/or PFOS above 70 ppt in monitoring wells in the fire station area.
- The Navy is expanding the sampling area in 2023 to include an area within 1 mile from the fire station area in the direction of groundwater flow.
- The Navy requests to sample drinking water wells:
 - In the 2023 sampling area
 - In the 2020 sampling area if not previously sampled by the Navy
- If your drinking water is provided by a public water system, the Navy does not need to sample your drinking water.

LEGEND

- PFAS release area
- Base boundary
- Monitoring well with PFOA and/or PFOS below 70 ppt in groundwater
- Monitoring well with PFOA and/or PFOS above 70 ppt in groundwater
- Shallow groundwater flow direction
- Shallow groundwater flow direction determined in 2022
- 2020 sampling area
- 2023 sampling area



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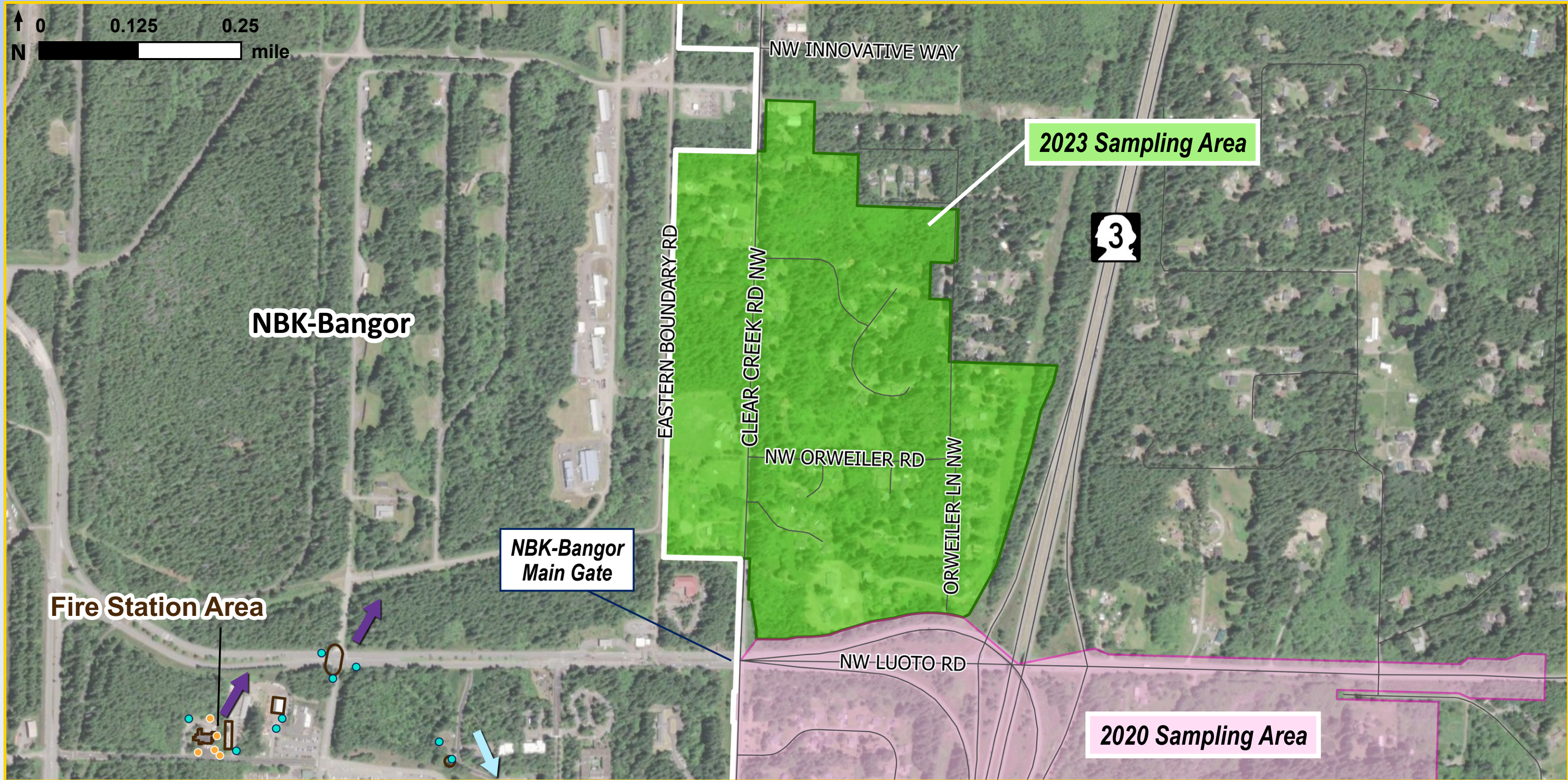
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NBK-Bangor Off-Base 2023 PFAS Drinking Water Sampling



LEGEND

- PFAS release area
- Monitoring well with PFOA and/or PFOS below 70 ppt in groundwater
- Shallow groundwater flow direction
- 2020 sampling area
- Base boundary
- Monitoring well with PFOA and/or PFOS above 70 ppt in groundwater
- Shallow groundwater flow direction determined in 2022
- 2023 sampling area

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Exposure to Per- and Polyfluoroalkyl Substances (PFAS)

What Are PFAS?

- Family of manufactured chemicals.
- PFOA and PFOS are the most studied and understood.
- May be present in drinking water, food, indoor dust, some consumer products, and workplaces.
- Last a long time in the environment.
- Widely used since 1950s in many products, such as:



U.S. Marine Corps / Lance Cpl Vanessa Jimenez
firefighting foam



Image: freepik.com
stain-resistant carpets and fabrics



Image: Kyle Boone / unsplash
water-resistant fabrics



Image: freepik.com
personal care products



Image: Veneria_Aksakova / freepik
nonstick cookware



Image: freepik.com
food packaging

How Can People Be Exposed to PFAS?

- When PFAS move into drinking water, they can be a primary source of exposure.
- Exposure is minor through skin contact when bathing, showering, or swimming.
- Mothers with PFAS in their bodies can transfer PFAS to their fetuses or breastfeeding infants.
- Based on current science, the benefits of breastfeeding appear to outweigh the risks for infants exposed to PFAS in breastmilk.

How Can People Reduce Exposure to PFAS in Drinking Water?

- **Get your drinking water well tested.**
- Use an alternative water source for drinking, cooking, and making baby formula.
- Certain certified filters can reduce PFAS in drinking water.

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Potential Health Effects

What Are the Potential Health Effects?

- Scientists are still learning about how exposure to PFAS affects people's health.
- Exposure to PFAS could increase the risk of:
 - ♥ Higher cholesterol levels.
 - 🍷 Changes in liver enzymes.
 - 👩 Higher blood pressure and preeclampsia in pregnant women.
 - 👶 Lower infant birth weight and changes in growth.
 - 🏠 Lower vaccine response.
 - 🎗 Certain types of cancers (testicular and kidney).

Chemical exposures do not always lead to health effects.

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State Action Levels for PFAS in Drinking Water

State drinking water standards

The Washington State Board of Health set State Action Levels (SALs) for five PFAS in October 2021. These standards:

- ◆ Require most **public water systems** to test for PFAS and take certain actions, like monitoring and public notice, if they find PFAS.
- ◆ Recommend when to take action to reduce PFAS in drinking water
- ◆ SALs are health protection levels for long-term drinking water. They also apply to shorter periods for sensitive groups.

State Action Levels (SALs)

PFOA	10
PFOS	15
PFNA	9
PFHxS	65
PFBS	345

SAL units are in parts per trillion (ppt)

Acronyms

PFAS	per and polyfluoroalkyl substances	PFNA	perfluorononanoic acid
PFOA	perfluorooctanoic acid	PFHxS	perfluorohexane sulfonic acid
PFOS	perfluorooctane sulfonic acid	PFBS	perfluorobutane sulfonic acid



How to minimize exposure when PFAS exceed a SAL in your tap water

- ◆ Use an alternate or treated water source for drinking and cooking if you are pregnant, breastfeeding or mixing infant formula.
- ◆ Install a home filter to remove PFAS from your water.
- ◆ At high concentrations, consider filtering garden and livestock water.
- ◆ Connect to a nearby public water system or well that doesn't have PFAS.
- ◆ For more information go to doh.wa.gov/pfas.

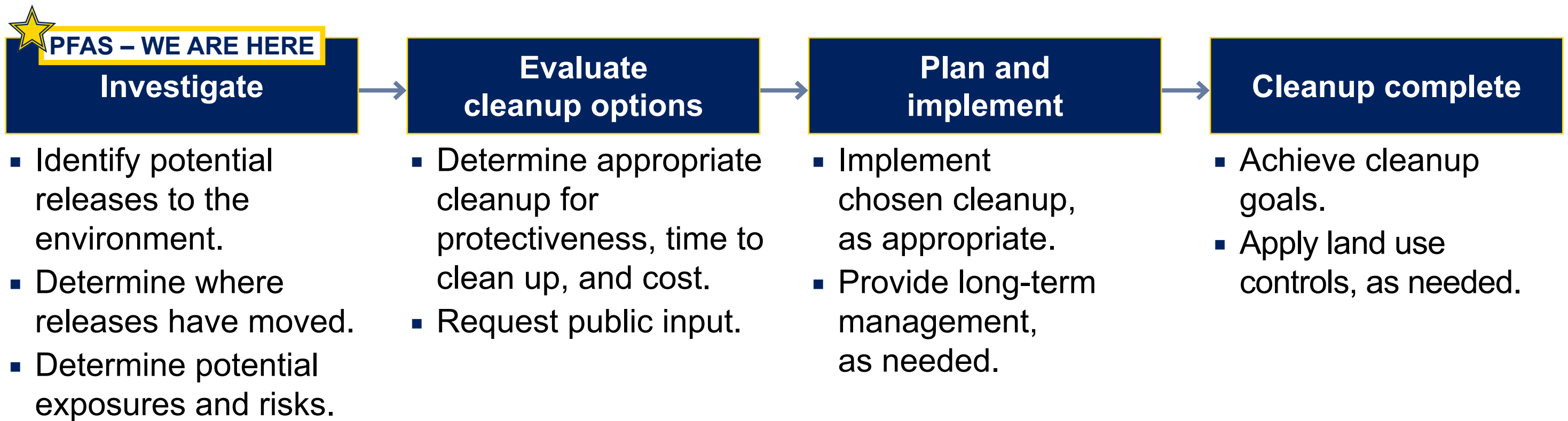


Environmental Cleanup Process

PRIORITY: Protect Human Health and the Environment

- Structured regulatory process (below) used to identify and clean up past PFAS releases.
- At NBK-Bangor, the Washington State Department of Ecology and EPA work closely with the Navy to provide oversight throughout the process.
- Public input is welcome throughout the process.
- This process is lengthy.

Environmental Cleanup Process



The on-base PFAS evaluation is in its early stages.

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Drinking Water Sampling Results Timeline

The Navy requests to sample your drinking water well.


Sequence of Events

Approximate Timeline

1. Navy receives preliminary results.	<ul style="list-style-type: none"> ■ Within 1 month after sample collected.
2. Navy calls property owners and tenants to inform if PFOA and/or PFOS are above or below 70 ppt.	<ul style="list-style-type: none"> ■ Within 24 hours of results received by the Navy.
3. If PFOA and/or PFOS are above 70 ppt, Navy delivers bottled water for drinking and cooking .	<ul style="list-style-type: none"> ■ Within 24 hours of results notification.
4. Navy mails verified lab data (final results) to property owners and tenants.	<ul style="list-style-type: none"> ■ Within 3 months of sampling.

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Sign Up for Your Drinking Water Sampling

Sampling Appointment

- No cost to you.
- Available daily **Thursday, September 21,** through **Friday, September 29, 2023,** **8:00 a.m. to 5:00 p.m.**
Additional times are available upon request

What We Need from You

- Signed access authorization form.
- Completed homeowner questionnaire.
- An adult must be present at the property during sampling.

The Navy will provide bottled water to properties for drinking and cooking if PFOA and/or PFOS are above 70 ppt.

Well Sampling Process

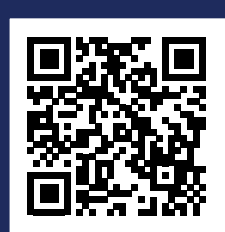
- Samples collected by a team of two experienced contractors:
 - Takes less than an hour.
 - Collected as close to the well as possible.
 - Will run water prior to sample collection.
- Samples will be collected and analyzed according to EPA guidelines.
- Team will take health precautions if requested.

TO SCHEDULE AN APPOINTMENT LATER

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