



# Naval Research Laboratory – Chesapeake Bay Detachment

5813 Bayside Road | Chesapeake Beach, Maryland 20732

## *Drinking Water Investigation Initial Results and Path Forward*

October 2018

In mid-2018, the Navy completed requested sampling of drinking water from wells within designated areas near Naval Research Laboratory – Chesapeake Bay Detachment (NRL-CBD; see Figure 1). Although initial off-base drinking water sampling results have shown few detections of very low levels of PFAS, the Navy is continuing to test drinking water from wells within designated areas near NRL-CBD that have not already been tested. The Navy has developed a protective policy to address past releases of per- and polyfluoroalkyl substances (PFAS). In 2017, the Navy initiated an investigation of PFAS in on-base groundwater and determined that these substances are present in the shallow groundwater at NRL-CBD as a result of testing of extinguishing agents used for firefighting activities, specifically various formulations of aqueous film-forming foam (AFFF). Since PFAS are in the shallow groundwater, there is the potential for these substances to also be present in private drinking water wells in the designated areas because of their proximity and location relative to the NRL-CBD Fire Testing Area where the Navy performs testing of these extinguishing agents.

In the review of available records, the Navy identified property parcels suspected to have drinking water wells within the designated sampling area (Figure 2). There is no legal requirement to conduct drinking water testing. It is a voluntary measure because water quality for our off-base neighbors is a priority for the Navy. The Navy is performing this drinking water sampling in coordination with partners such as the U.S. Environmental Protection Agency (EPA) Region 3, Agency for Toxic Substances and Disease Registry Region 3, Maryland Department of the Environment, and Maryland Department of Health – Calvert County.

### **BACKGROUND**

PFAS are “emerging” contaminants, which have no Safe Drinking Water Act regulatory standards or routine water quality testing requirements. The EPA is currently studying PFAS to determine if regulation is needed. In May 2016, the EPA released lifetime health advisory levels for two PFAS, specifically perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). **Health advisory levels are not regulatory standards. They are health-based concentrations which should offer a margin of protection for all Americans**

Figure 1



### **Legend**



**throughout their lives from adverse health effects resulting from exposure to PFOS and PFOA in drinking water.**

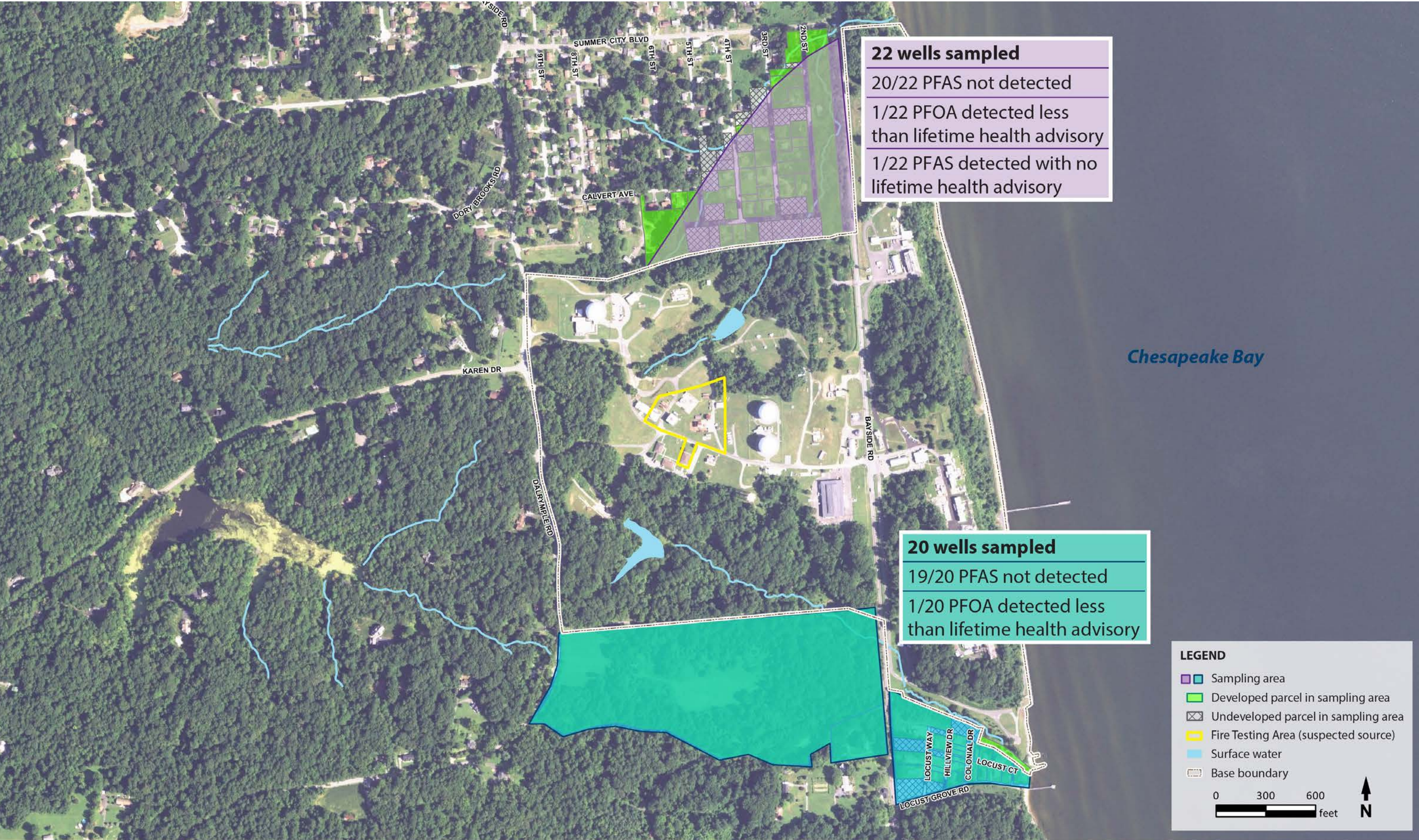
The EPA health advisory level for lifetime exposure is 70 parts per trillion (ppt) for PFOS and 70 ppt for PFOA. When both PFOS and PFOA are found in drinking water, the combined concentrations should not exceed 70 ppt.

Out of concern for our neighbors and a desire to be proactive, the Navy voluntarily initiated the off-base drinking water investigation to determine if past operations at NRL-CBD may have impacted drinking water in private wells near NRL-CBD.

**If your preliminary results show that your drinking water contains PFOS and/or PFOA above the EPA lifetime health advisory, then the Navy will provide bottled water or an alternate water supply until a long-term solution is implemented.**



Figure 2





**NRL-CBD DRINKING WATER INVESTIGATION**

In July 2018, the Navy initiated off-base drinking water sampling near NRL-CBD. The table below summarizes the initial sampling results.

<b>Drinking Water Results near NRL-CBD for PFOS/PFOA</b>			
Samples collected	Not detected	Detected	Detections of PFOS/PFOA above the EPA lifetime health advisory
42	39	3	0

Out of the 42 samples collected by the Navy through September 2018, no samples exceeded the lifetime health advisory of 70 ppt set by the EPA. The results indicate that exposure to PFOS and PFOA is not occurring at the private drinking water wells that have been sampled to date. Since some properties in the initial sampling area did not sign up to have their drinking water tested, **the Navy is requesting permission to sample private drinking water wells in this area that have not already been tested.** At this time, the Navy is not planning to expand the sampling area.

The preliminary results from any additional off-base drinking water sampling are expected within approximately 30 days after collecting the samples. The Navy will keep the results confidential to the extent permitted by law. We will notify the property owners of their personal drinking water results and follow-up actions, if needed. The Navy will provide an alternate water source, likely bottled water, for drinking and cooking for those residents whose drinking water is found to contain PFOS and/or PFOA above the EPA health advisory. The Navy will continue to provide the alternate water source until a permanent solution can be implemented.

**NRL-CBD PATH FORWARD**

The Navy conducted an initial investigation on the NRL-CBD property to determine if PFAS were present in groundwater as a result of historical operations at NRL-CBD. This investigation determined that PFAS were present in the shallow groundwater but not in the deep groundwater (i.e., the Piney Point aquifer). The concentrations of PFAS were highest closest to the Fire Testing Area, with concentrations in groundwater decreasing with distance from the site. Based on these results, the Navy has incorporated the Fire Testing Area into the Installation Restoration Program and is planning a Site Inspection (SI). The SI will determine the presence or absence of PFAS in media (soil, sediment) as well as refine the extent of PFAS in groundwater. The SI results will guide additional on-base investigation and requirements for additional off-base drinking water sampling, if necessary. The Navy will share the results of the SI with the public and our local agency partners.

**HEALTH INFORMATION**

Exposure to PFOS and PFOA appears to be global. Studies have found both compounds in the blood samples of the general population. Studies on exposed populations indicate that PFOS and/or PFOA may cause elevated cholesterol levels and possibly low infant birth weight. In studies conducted using laboratory animals, effects on developmental, neurological, immune, thyroid, and liver function were observed.

Health effects from exposure to low levels of PFAS are not well known and studies are continuing. Blood tests are available to measure these chemicals, but they are not routinely done because the results can be inconclusive and test results do not predict health effects. Long-term exposure effects are still being investigated by the EPA.

***Based on what is known and still unknown about PFOS and PFOA, it is recommended people not drink or cook with water that contains these compounds above the EPA's lifetime health advisory.***

*For updates about this investigation, visit:*

**<https://go.usa.gov/xQFuV>**

*If you have specific questions, contact:*

**[NRLCBDWATER@navy.mil](mailto:NRLCBDWATER@navy.mil)**

**1-877-NRLCBD1 (1-855-675-2231)**

**COMMUNITY OUTREACH**

The Navy will share information with the community in the future through additional public meetings and by maintaining copies of environmental clean up documents in information repositories. The information repositories are maintained on the public website and, during public comment periods, at the Calvert Library Twin Beaches Branch. Access information for the repositories follows:

- Public website: **<https://go.usa.gov/xQFuV>**
- During the public comment period for a proposed plan at **Calvert Library Twin Beaches Branch**  
3819 Harbor Road  
Chesapeake Beach, MD 20732