



# Naval Auxiliary Landing Field Fentress Ongoing PFAS Investigation and Response

October 2018

## BACKGROUND

Per- and polyfluoroalkyl substances (PFAS) are man-made chemicals that have been used since the 1950s in many household and industrial products because of their stain- and water-repellant properties. PFAS are also used for firefighting. PFAS are present virtually everywhere in the world because of the large amounts that have been manufactured and used. Once these compounds are released to the environment, they break down very slowly.

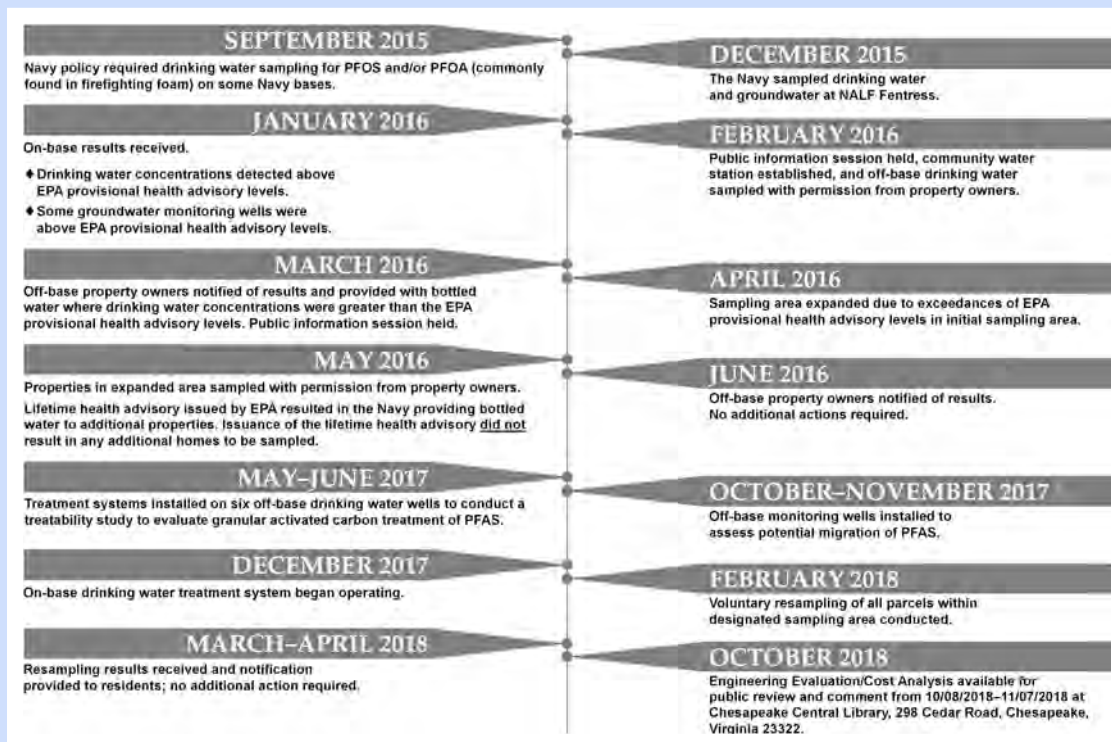
PFAS are classified as “emerging” contaminants, which have no Safe Drinking Water Act regulatory standards or routine water quality testing requirements. The U.S. Environmental Protection Agency (EPA) is studying PFAS to determine if regulation is needed. In May 2016, the EPA released the lifetime health 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 offer a margin of protection for all Americans given a lifetime of 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.

## FOR MORE INFORMATION

The Navy, EPA, Virginia Department of Environmental Quality, and City of Chesapeake federal-state-local partnership continues to focus on PFAS presence in groundwater near NALF Fentress. The agencies are committed to ongoing public awareness and engagement throughout each step of the PFAS investigation. If you have any questions, please contact 757-433-3132 or email [fentressinfo@navy.mil](mailto:fentressinfo@navy.mil). The Navy has also established a website at [www.cnic.navy.mil/FentressInfo](http://www.cnic.navy.mil/FentressInfo), which will be updated as more information becomes available.

## HISTORY

The Navy has developed a proactive policy to assess potentially impacted drinking water and eliminate exposure to PFOS and/or PFOA near installations where there were known or suspected releases of PFAS to the environment. In response to Navy policy, the following actions have been completed to address PFAS contamination in private drinking water in the community surrounding NALF Fentress:



The following is a summary of actions based on drinking water sampling results:

An Engineering Evaluation/Cost Analysis (EE/CA) is currently being conducted to address PFAS in the on-base potable water system and off-base private drinking water within and near NALF Fentress. The EE/CA evaluates long-term alternatives intended to protect base workers and property owners from ingestion of PFOS and/or PFOA at levels above the EPA lifetime health advisory in groundwater used as drinking water. The evaluated removal action alternatives are:

- Alternative 1 – No Further Action – Bottled water would continue to be provided and the pilot granular activated carbon (GAC) treatment systems currently installed as treatability studies at each affected off-base property would be removed. The GAC treatment system for on-base potable water would continue.
- Alternative 2 – Point of Entry Treatment – Consideration of three treatment technologies, including:
  - Alternative 2A – GAC Treatment – Installation and/or continued maintenance of GAC treatment for PFOS and/or PFOA removal.
  - Alternative 2B – Ion Exchange Treatment – Installation of ion exchange vessels for PFOS and/or PFOA removal both on- and off-base.
  - Alternative 2C – Reverse Osmosis Treatment – Installation of reverse osmosis membranes for PFOS and/or PFOA removal both on- and off-base.
- Alternative 3 – Connect to City of Chesapeake Water System – Providing access to city water to the base and property owners with PFOS and/or PFOA above EPA lifetime health advisory levels.

Based on evaluation of the effectiveness, implementability, and the cost of the alternatives, Alternative 3 – Connect to City of Chesapeake Water System **is the Navy's proposed action as it protects current human health** receptors from ingestion of PFOS and/or PFOA at levels above the lifetime health advisory in groundwater used as drinking water.

## WATER FILLING STATION

The Navy and City of Chesapeake have set up a water station at 1564 Mount Pleasant Road, Chesapeake, Virginia 23322 (across the street from Butts Road Intermediate School), where other concerned residents can take containers to fill with potable drinking water treated by the City of Chesapeake.

## Health Information

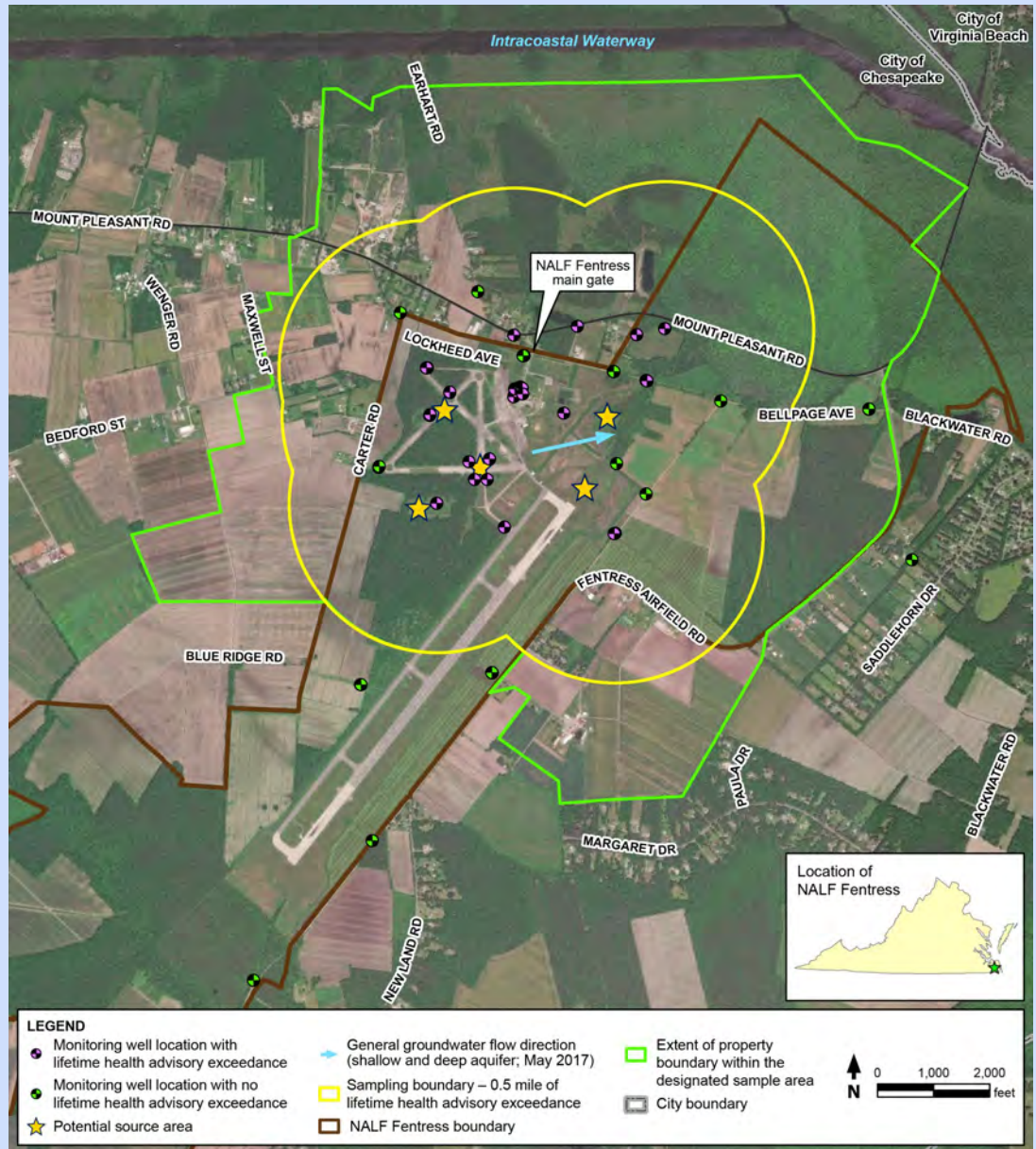
Exposure to PFOS and PFOA appears to be global. Studies have found both compounds in the blood samples of the general human population. Studies on exposed human populations indicate PFOS and/or PFOA may cause elevated cholesterol levels and possibly low infant birth weight. In studies conducted using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

Health effects from exposure to low levels of PFOS and PFOA are not well known, and studies are continuing. Blood tests are available, 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, the EPA recommends people not use water that contains PFOS and/or PFOA above the lifetime health advisory levels for drinking or cooking.*

### OFF-BASE DRINKING WATER SAMPLING

Beginning in February 2019, the Navy will begin voluntary twice-yearly sampling of private drinking water at those properties in the designated area near NALF Fentress to confirm drinking water in the area remains below the EPA lifetime health advisory level established for PFOS and/or PFOA.

The sampling process will take approximately 30 minutes and will involve a team of two technicians entering the home to collect a sample from one indoor tap location. The technicians will use handheld equipment to collect additional information on the water (e.g. pH and temperature). Prior to collecting the sample, the technicians will review the property owner questionnaire provided with the sampling notification packet.



### ACTIONS BASED ON RESULTS

Following sampling, the Navy will notify residents of their personal drinking water sample results, as well as notification of any follow-on actions needed for their home, approximately 8 weeks following sample collection. The Navy will share a summary of results and our next steps of the investigation with the public.

Total PFOS/PFOA Concentration*	Action Based on Results
greater than 70 ppt	The Navy will provide bottled water for drinking and cooking at no cost to these residents until a long-term solution can be put in place.
less than or equal to 70 ppt	The Navy will continue to monitor private drinking water on a biannual basis. No other action will be taken.

\* The Navy will test and provide results for 14 PFAS as recommended by the EPA drinking water testing method; however, only two PFAS (PFOS and PFOA) have lifetime health advisory levels.