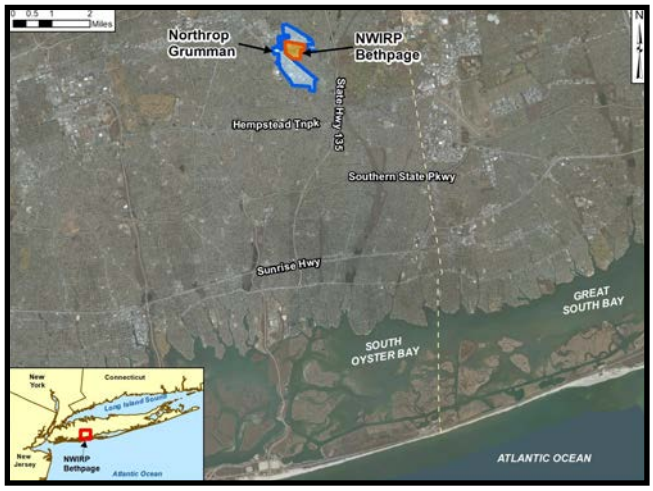
Naval Weapons Industrial Reserve Plant Bethpage
Preliminary Assessment/Site Inspection for Per- and Polyfluoroalkyl Substances

November 2019

The Navy has initiated a comprehensive strategy to address per- and polyfluoroalkyl substances (PFAS) in groundwater at its installations across the nation. The Navy is working with the *New York State Department of Environmental Conservation (NYSDEC)* in developing sampling plans, interpreting results, and making decisions on actions, if needed, to address PFAS and other environmental contaminants at NWIRP Bethpage. As of June 2019, the Navy has completed all five sampling events planned to evaluate PFAS concentrations in Bethpage groundwater and surface water over an approximate one-year period. *At the former Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage, a Comprehensive Environmental Response, Compensation, and Liability Act Preliminary Assessment/Site Inspection (PA/SI) is the first step to assess if PFAS in groundwater is a result of past NWIRP operations.* Recent sampling of onsite monitoring wells identified low levels of PFAS in groundwater.

Background

NWIRP Bethpage was a 109-acre government-owned, contractor-operated facility. It was operated by Northrop Grumman (NG) and its predecessors, including Grumman Aircraft Engineering Corporation (Grumman) from 1942 until 1996. NWIRP's primary mission was the research, testing, design engineering, fabrication, and primary assembly of military aircraft.



General Location Map

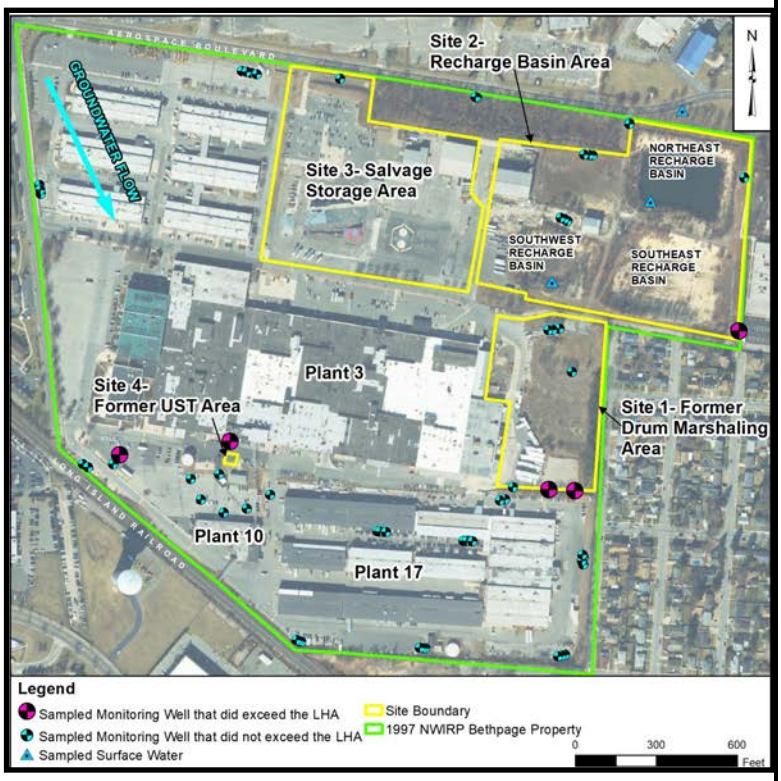
PFAS-containing material was not known to have been widely used at NWIRP Bethpage. However, plating and anodizing operations were conducted at Plant 3 and Plant 5 and may have used small quantities of PFAS compounds in a mist-suppression system for a short period of time.

These operations could have resulted in the release of PFAS to the environment.

PFAS

- PFAS are manmade chemicals that are not naturally found in the environment.
- PFAS is used to repel oil and water. It is used in a variety of industrial and consumer products, such as carpet and clothing treatment and firefighting foams.
- The Department of Defense has used foam to fight aircraft, warship, and fuel fires at many installations.
- The U.S. Environmental Protection Agency (EPA) has not established a regulatory level for PFAS in drinking water.
- The EPA has established drinking water lifetime health advisories (LHA) for two PFAS compounds, perfluorooctanoic acid (PFOA) and perfluoro-octanesulfonic acid (PFOS). These values are conservative and are set to be protective over a lifetime of exposure at these concentrations. These values are not a requirement, but the EPA recommends people not use water for drinking or cooking that exceeds 70 parts per trillion (ppt) for PFOA and PFOS individually or the sum of PFOA and PFOS.

If PFAS was released to groundwater from past operations at the NWIRP, it could have moved away from the release area with the flow of groundwater. For many releases where the source has not been cleaned up, the highest PFAS concentrations in groundwater are found near the release area with decreasing levels further away from this area. In other words, if a significant release had occurred, we would expect to see a grouping of adjacent or nearby monitoring wells showing higher PFAS concentrations in the groundwater on the NWIRP Bethpage property.



PFAS Results (2018-2019)

Sampling Results

The Navy sampled 27 monitoring wells in April 2018 and approximately 50 monitoring wells each in September and December 2018 and March and June 2019. During all five of the sampling events, the Navy also collected 2 to 4 water samples from the NWIRP recharge basins and the discharge from the Bethpage Community Park (BCP) Operable Unit (OU) 3 Interim Remedial Measures treatment system (BCP treatment system). The following is a summary of the results:

1. ***The majority of groundwater sample results (94%) were less than the EPA LHA of 70 ppt.***
   - ***Pink Wells***—Indicates wells that exceed the EPA LHA of 70 ppt. Five wells have sample results that exceed the EPA LHA during one or more sampling events (see figure).
   - For PFOA, the concentrations sitewide ranged from not detected to 157 ppt. Seven of twenty-two results from five wells exceeded the EPA LHA.
   - For PFOS, the concentrations sitewide ranged from not detected to 147 ppt. Three sample results from one well exceeded the EPA LHA.
   - For the sum of PFOA and PFOS, the concentrations ranged from not detected to 239 ppt. Fourteen of twenty-two sample results from five wells exceeded the EPA LHA.

2. Water samples were collected from the North East and South West Recharge Basins and the BCP treatment system discharge. EPA has not established a LHA for surface water.
   - Samples from the recharge basins and the BCP treatment system discharge were collected during periods of no precipitation and periods of precipitation.
   - Northeast Recharge Basin: The sum of PFOA and PFOS results ranged from 4.2 ppt to 40 ppt.
   - Southwest Recharge Basin: The sum of PFOA and PFOS results ranged from not detected to 4.5 ppt.
   - Discharge - BCP treatment system: The sum of PFOA and PFOS results ranged from 5 ppt to 37 ppt.

FOR MORE INFORMATION

Copies of all official environmental program documents are available for review at an information repository located at Bethpage Public Library, 47 Powell Avenue, Bethpage, NY 11714, (516) 931-3907.

Additional information on the NWIRP Bethpage Environmental Restoration Program (ERP) is available online at **http://go.usa.gov/DyXF**

For more information on the NWIRP Bethpage ERP, please contact: Public Affairs Officer, NAVFAC Mid-Atlantic, 9324 Virginia Ave, Norfolk VA 23511-3095