



Background to the Investigation

In March 2017, Defence engaged a leading environmental consultant (WSP Australia) to conduct a detailed environmental investigation into the presence of per- and poly-fluoroalkyl substances (PFAS) on, and in the vicinity of, RAAF Base Townsville (the base). This investigation is part of Defence's review of a number of its properties around Australia that used legacy fire-fighting foams containing PFAS.

Defence has a history of using legacy Aqueous Film Forming Foam (AFFF) for emergency fire fighting situations and for fire fighter training. In 2004 Defence commenced phasing out its use of legacy AFFF containing perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) as active ingredients. The AFFF now used by Defence is a more environmentally safe product.

About per- and poly-fluoroalkyl substances (PFAS)

PFOS, PFOA and Perfluorohexane Sulfonate (PFHxS) belong to a group of chemicals known as per- and poly-fluoroalkyl substances (PFAS).

AFFF containing PFOS and PFOA as active ingredients were once used extensively worldwide and within Australia because of their effectiveness in fighting liquid fuel fires. Perfluorohexane Sulfonate (PFHxS) was also commonly found in the legacy AFFFs as an impurity in the manufacturing process.

PFAS were also used across Australia and internationally in a range of common household products and specialty applications, including in the manufacture of non-stick cookware; fabric, furniture and carpet stain protection applications; food packaging and in some industrial processes. As a result, most people living in the developed world will have levels of PFAS in their body.

PFAS are emerging as a concern around the world because they are persistent in the environment.

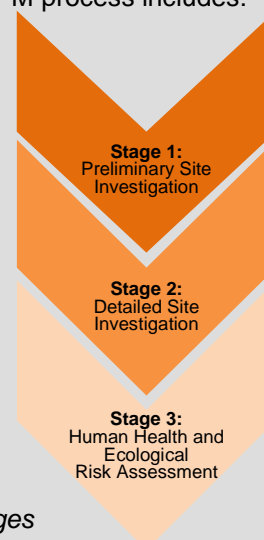


Common sources of PFAS

Objective of the Investigation

The objective for the environmental investigation is to identify the nature and extent of PFAS in the environment from legacy AFFF use at the base and any potential risks to people or the environment. The understanding of these potential risks will assist in developing mitigation strategies to minimise exposure.

The environmental investigation is being undertaken in accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM). The NEPM process includes:



Investigation Stages





The detailed environmental investigation is expected to take approximately 12 months and will include:

- reviewing the historical use, storage and management of AFFF to identify potential sources of PFAS;
- sampling soil, sediment, surface water, groundwater, plant and animals on and off the Base to identify PFAS exposure in the vicinity;
- identifying pathways and receptors for the potential migration of PFAS. A 'receptor' is a person or thing (e.g. plant or animal) that can be exposed to PFAS. A 'pathway' is the way in which they can be exposed (e.g. drinking water or eating food);
- community and stakeholder engagement, including a water-use survey; and
- a Human Health and Ecological Risk Assessment (if required), which will evaluate potential risks to the human population and ecology, and inform actions to mitigate risks.

Stage 1: Preliminary site investigation

The preliminary site investigation (PSI) has now been completed. This stage involved the historical review of AFFF use at the base to identify on-base sources to develop an understanding of migration pathways of PFAS from the source and identify potential receptors.

The PSI findings are being used to develop the sampling plan for the second stage of the investigation, the detailed site investigation (DSI).

Sources: where and when legacy AFFF was used
Pathways: how PFAS moves in the environment and the possible exposure to people and the environment
Receptors: people and the environment that may possibly be exposed to PFAS

Stage 2: Detailed site investigation

The DSI will involve on and off-base sampling in soil, surface water, drainage lines, groundwater and biota to further assess the nature and extent of PFAS on and near the base.

Information will also be collected through the collation of a water use survey provided to local residents within the Investigation Area to understand how water is used.



Map of initial Investigation Area (base boundary in green)

The Investigation Area defines the current extent of the investigation, focussed on potential human and ecology receptors. This area is expected to contract in areas where delineation is achieved (a pathway between source and receptor is not found), whilst potentially also expanding in areas where risk is unacceptable.





Sampling and testing

Sampling and testing for the investigation will involve the collection of soil, sediment, surface water, groundwater, plant and animals on and off the base. Sampling activities outside of the base will be limited to business hours (8am to 6pm) and community members surrounding the work will be consulted in advance.

Soil samples will be taken and groundwater monitoring wells will be installed. To do this a drill-rig will be used. The drill-rig will produce some short-term noise that is not damaging to hearing, as well as some vibration that will not damage buildings.

Boreholes will be made using a small drill-rig and completed either using a cover that is flush with the ground (preferred) or a protruding cover, where there's the likelihood of losing the monitoring well (e.g. in long grass).



Small drill rig used to develop boreholes



Ground-water monitoring wells, flush mount (left) and protruding (right)

From these monitoring wells, groundwater samples will be collected for analysis of potential PFAS presence. Sediment, surface water, plant and animal samples will also be collected from drainage channels and creeks leading into and from the Base as well as from the Townsville Town Common and the Bohle River.

Water Use Survey

A water use survey has been mailed to nearby residents, commencing Monday 5 June 2017, to build an understanding of how water is used within the investigation area. If you live within the investigation area, please complete the water use survey and indicate if you would like your bore water tested, if this is applicable to you. Defence will action these requests in a priority order, depending on location within the investigation area and actual water usage.

Open

•Water use survey opens 06 June 2017

Close

•Water use survey closes end of June 2017

Results

•Water use survey results August 2017

If you would like to register to receive this water use survey by email, please contact the PFAS Project Team using the details provided below.





Government Guidance

The Environmental Health Standing Committee (enHealth) of the Australian Health Protection Principal Committee (AHPPC) has released guidance statements relating to human health.

According to enHealth, there is currently no consistent evidence that exposure to PFAS causes adverse human health effects. However, because these substances persist in humans and the environment, enHealth recommends that human exposure is minimised as a precaution.

enHealth released 'Interim national guidance on human health reference values for PFAS for use in site investigations in Australia' which was endorsed by the Australian Health Ministers' Advisory Council on 15 June 2016.

The Commonwealth Department of Health released final Health Based Guidance Values (HBGVs) for PFAS on 3 April 2017. These HBGVs were developed by Food Standards Australia and New Zealand at the request of the Department of Health and replace the interim enHealth guidelines released in June 2016.

Defence will adopt the final HBGVs in all its environmental investigations including at RAAF Base Townsville.

Supply of alternative drinking water

As a precaution, Defence is providing bottled water to residents who fulfil certain criteria, within the investigation area surrounding the base. As at 13 Jun 17, no residents are in receipt of an alternative water supply.

For further information or to request bottled water, call 1800 842 122.

Keeping the community informed

Defence is committed to regularly updating the community throughout the investigation. As well as community information sessions, updates are provided through the project website, direct mail and information sheets as new information becomes available.

Useful Links

The Australian Government Department of Health has established a PFAS webpage:

<http://www.health.gov.au/internet/main/publishing.nsf/content/ohp-pfas.htm>

Department of Health PFAS hotline: 1800 941 180

Health Based Guidance Values:

<http://www.health.gov.au/internet/main/publishing.nsf/content/ohp-pfas-hbgv.htm>

Contact the Project Team

Phone: 1800 842 122 free call (business hours)

Web: <http://www.defence.gov.au/ID/Townsville/>

Email: Townsville.Defence@wsp.com

Post: PFAS Project Team, Reply Paid 87161, GEORGE STREET, QLD 4003

Media enquiries should be directed to Defence Media Operations on (02) 6127 1999 or media@defence.gov.au

