



RAAF Base Richmond – Detailed Site Investigation Findings

PFAS Investigation and Management Program

Investigation Background

The Department of Defence is undertaking an environmental investigation into the nature and extent of per- and poly-fluoroalkyl substances (PFAS) contamination on and around RAAF Base Richmond.

This factsheet presents a summary of the findings from the Detailed Site Investigation (DSI) and information about the next steps being undertaken by Defence.

The DSI involved sampling and laboratory analysis of groundwater, surface water, soil and sediment to better understand how PFAS moves on the Base and in the surrounding area.



Preliminary Site Investigation

The first stage of the investigations, the Preliminary Site Investigation (PSI), involved desktop studies to identify on-base sources for PFAS contamination; and to develop an understanding of potential pathways to people and the environment. These findings helped to prioritise work for the second stage of the investigation.

Detailed Site Investigation

The Detailed Site Investigation (DSI) commenced in October 2017 and aimed to:

- Further assess the nature and extent of PFAS on, and near the base.
- Investigate how PFAS moves through the environment.
- Generate data to be used in the Human Health and Ecological Risk Assessments.

The DSI involved the sampling of soil, surface water, sediment and groundwater to collect information and better understand how PFAS moves through the environment.

Sampling was conducted within the RAAF Base Richmond Study Area.

The DSI involved:

- 89 groundwater samples from new and existing groundwater monitoring wells
- analysing 49 soil samples
- analysing 37 surface water samples and 36 sediment samples.

Study Area

The 'Study Area' is where Defence has sampled soil, surface water, sediment and groundwater. It was developed from a review of information on environmental conditions in the area including topography, surface water drainage, hydrogeology and land use.

Over the page is a detailed map of the RAAF Base Richmond Study Area, including the surface water and groundwater sampling results.

The full DSI report is available to view at www.defence.gov.au/environment/pfas/Richmond





Findings from the Detailed Site Investigation

Below are some of the key findings that have emerged from the Detailed Site Investigation (DSI).

- To date, there is no evidence that groundwater is used for drinking water supply within the Study Area. There is also limited use of groundwater for watering stock and irrigation within the Study Area.
- There are five areas, on-base, that have been identified as the sources for PFAS contamination. These are areas where old formulations of firefighting foam have been historically used, handled and stored.
- The main migration pathway for PFAS is surface water runoff from the Base, to Rickabys Creek and its tributaries and Bakers Lagoon.
- Samples of surface water from two off-site locations detected PFAS above the Health Based Guidance Values for recreational water use, including a tributary of Rickabys Creek and Bakers Lagoon.
- Surface water samples from the Hawkesbury River had PFAS concentrations below the Health Based Guidance Values for recreational water use.
- PFAS concentrations in a farm dam, and drains close to the Base and Rickabys Creek, were below the Health Based Guidance Values for recreational water use.

Sampling Assessment Guidelines

The sampling results were compared to the guideline values, published in the PFAS National Environmental Management Plan. PFAS concentrations below the guidance values do not conflict with precautionary advice on PFAS exposure. Concentrations above the guidance values may present a risk if exposure is ongoing. The same guidance values are used at all site investigations across Australia.

Concentrations of PFAS in the samples collected during the DSI were compared to these guidance values. Where concentrations exceeded the guidance values, further assessments will be undertaken to understand whether there is an unacceptable risk of exposure to PFAS for humans or the environment.

Next Steps

The DSI identified ways in which people and the environment are potentially exposed to PFAS. A Human Health Risk Assessment (HHRA) and Ecological Risk Assessment (ERA) will be undertaken to further assess the potential exposure risks, identified in the DSI.

This will include additional targeted sampling (already underway) to obtain data to support the HHRA and ERA.

The following will be assessed in the HHRA and ERA:

- Potential exposure to PFAS from contact with skin, incidental ingestion of the water and recreational use of publically accessible surface water.
- Potential for bioaccumulation in livestock, poultry, fish and other aquatic organisms.
- Potential exposure to PFAS via ingestion of fish recreationally caught within the Study Area.
- Potential exposure to PFAS via ingestion of home grown fruit and vegetables within the Study Area.

We will hold more Community Walk-in Sessions in late 2018 to discuss the findings in the HHRA and ERA.

Government Guidance

According to the Environmental Health Standing Committee (enHealth), there is currently no consistent evidence that exposure to PFOS and PFOA causes adverse human health effects. However, because these substances persist in humans and the environment, enHealth recommends that human exposure is minimized as a precaution.

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, newsletters and factsheets as new information becomes available.

Contact

 www.defence.gov.au/environment/pfas/Richmond/

 richmond.defence@aecom.com

 1800 789 291

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

