



RAAF Base Darwin – Investigation Area

PFAS Investigation and Management Program

RAAF Base Darwin Investigation Area

In March 2017, Defence engaged independent environmental consultant Coffey to conduct a detailed environmental investigation into per- and poly-fluoroalkyl substances (PFAS) on, and in the surrounding area of, RAAF Base Darwin.

The first stage of the investigation, the Preliminary Site Investigation (PSI), has now been completed. The second and current stage of investigation, the Detailed Site Investigation (DSI) commenced in April 2017 and involves the sampling of soil, sediment, groundwater and surface water both on- and off-base and the installation of groundwater monitoring wells. Findings from the DSI will inform the Human Health Risk Assessment and Ecological Risk Assessment.

The Investigation Area (Figure 1) was determined and refined as a result of the initial investigation findings. The Investigation Area has been determined by understanding the soil, water flow and aquifer boundaries as well as where testing has confirmed no detectable concentrations of PFAS.

PFAS in the Investigation Area

How does PFAS move from the Base and at what concentrations?

PFAS moves around and off the Base through groundwater and surface water. PFAS moves away from the source areas on-base through leaching of the soil into surface water and groundwater.

There are four waterways within the Investigation Area; Ludmilla Creek, Rapid Creek, Reichardt Creek and Sadgroves Creek. They are fed by surface run-off and man-made drains within the Base and off-base surrounding areas.

Drains leading to Ludmilla Creek have shown readings from 0.05 to 4.4 µg/L for PFAS concentration. Ludmilla Creek itself has shown readings of up to 0.22 µg/L. Rapid Creek, adjacent to the Base and Darwin International Airport has readings of up to 2.2 µg/L. See Figure 2 for further detail.

What soil testing has been completed? What are the outcomes of testing?

Extensive soil sampling was conducted on-base to understand the source areas of PFAS contamination and to help guide remediation and management efforts.

PFAS concentrations within soil in the Darwin Investigation Area do not present an exposure risk for people through direct contact, but could potentially present a risk through

PFAS uptake into home-grown foods. The Human Health Risk Assessment (HHRA) will provide further advice about the consumption of home-grown produce.

Are Rapid Creek and Ludmilla Creek impacted?



Figure 1: RAAF Base Darwin Investigation Area

During 2017, detectable concentrations of PFAS have been reported during several surface water sampling events in Rapid Creek, Ludmilla Creek and drains leading to the creeks.

There has also been detection of PFAS compounds in fish, molluscs and crustaceans that live in Rapid, Ludmilla, Sadgroves and Reichardt creeks.



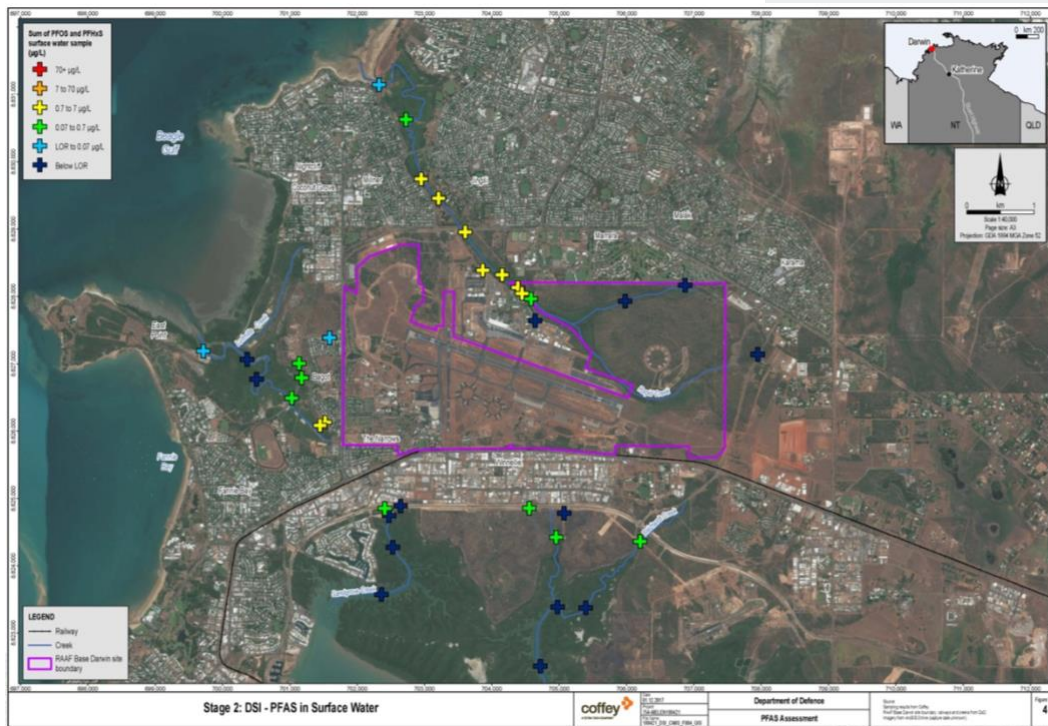


Figure 2: PFAS results from testing in Darwin

I live inside the Investigation Area. What does this mean for me?

Residents with a town water connection can continue to drink the town water. Most of Darwin’s water supply comes from Darwin River Dam. Based on the results of recent PFAS testing by NT Power and Water, the Darwin drinking water is safe for consumption. PFAS is included in NT Power and Water’s 2016-17 water quality testing program.

The Chief Health Officer at the Department of Health has previously advised that water from Rapid Creek and Ludmilla Creek is not suitable for drinking due to fluctuating microbiological levels. Recreational water activities in the creeks should also be limited due to the presence of PFAS above the recreational screening value in areas adjacent to RAAF Base Darwin and drains leading to the creeks.

Residents living inside the Investigation Area who consume water from a bore are asked to contact the community hotline on 1800 316 812.

Human Health Risk Assessment and Ecological Risk Assessment

A Human Health Risk Assessment (IHRA) and

Ecological Risk Assessment (ERA) are being developed to inform residents of potential risks for PFAS exposure.

Defence expects to release the HHRA and ERA reports in the first quarter of 2018.

Next steps

Community Survey

A Community Survey has been released to inform the HHRA and ERA and obtain more information about how water is sourced and used by the community. Information collected will also increase understanding of the type and amount of locally sourced foods consumed by the community. The Community Survey is available online at

www.defence.gov.au/environment/pfas/Darwin or by contacting the community hotline on 1800 316 812.

Additional sampling

Samples of plants, fish and animal products from potentially affected areas will continue to be taken and analysed in 2017 and early 2018. These samples will be used to fill data gaps in the investigation and contribute to a better understanding of the current findings.

Keeping the community informed

Defence will continue to keep the community informed on the outcomes of further sampling and the implementation of management plans. As well as community information sessions, updates will be provided through the project website, direct mail and information sheets as new information becomes available.

Contact Information

RAAF Base Darwin community hotline

- Phone 1800 316 812
- Email PFAS.RAABaseDarwin@coffey.com
- Website www.defence.gov.au/environment/pfas/Darwin
- Post PO Box 2213, Palmerston NT 0830

