



RAAF Base Darwin

October 2024 – Ongoing monitoring and remediation update

Overview

Defence completed investigations for per- and poly-fluoroalkyl substances (PFAS) contamination on and around RAAF Base Darwin in 2018.

The investigations included a detailed investigation of groundwater, surface water and sediment both on and around the base, and sampling of land and water based plants and animals (aquatic biota). Defence also completed a human health and ecological risk assessment to understand the risk of PFAS exposure for people living, working and undertaking recreational activities within the area.

PFAS are generally found in areas where firefighting foams were previously used, stored or disposed of. These are called source areas. Defence found 11 key source areas requiring further investigation or action including:

- former aircraft rescue and firefighting fire station
- the current fire training area
- 2 x former fire training areas
- 4 x former fuel farms
- hangar 31
- former RAAF fire station
- wrapped soil stockpiles area (stockpile of PFAS contaminated soil).

Defence used the findings from the investigations to develop a PFAS management area plan.

What are PFAS?

PFAS are manufactured chemicals that have been used globally in many household, commercial and industrial products, including older firefighting foams. These foams have historically been used worldwide by both civilian and military authorities because they are effective in fighting liquid fuel fires.

The movement of PFAS from source areas into the environment is a concern because these chemicals can accumulate and persist in humans, animals and the environment. To maintain an understanding of PFAS movement and contamination levels, Defence monitors PFAS on and around RAAF Base Darwin.

Project timeline



Investigations and PFAS management area plan published

2016 - 2019



Ongoing monitoring commenced

2019 - ongoing



Additional investigations into PFAS movement

2022



Soil remediation works commence

2022



Remediation action plan developed

2022 – 2023



Soil remediation completed at the former fire training area 1 and the wrapped soil stockpiles area

November 2023



Revision of PFAS management area plan and ongoing monitoring plan

Mid 2024



Commence soil remediation at former fuel farms 4 and 6 and the current fire training area

2024 - 2025

**WE ARE
HERE**



Ongoing monitoring and reporting

Ongoing

About the PFAS Management Area Plan

The management plan outlines actions to manage and reduce the risk of PFAS exposure for the community living and working at RAAF Base Darwin and surrounding areas. This includes reducing the amount of PFAS in the environment and leaving the base. In October 2024, the plan was revised in line with remediation progress and planned remediation activities. The revised RAAF Base Darwin PFAS management area plan will be published on the Defence website at: www.defence.gov.au/about/locations-property/pfas/pfas-management-sites/raaf-base-darwin



Remediation and management activities



Soil remediation works at the former fire training area

Ongoing monitoring at RAAF Base Darwin has shown that PFAS move primarily through surface water. Groundwater discharge to Rapid Creek also contributes to PFAS moving off the base.

Defence is remediating and managing these known source areas of PFAS contamination and will continue to monitor them as part of the ongoing monitoring plan.

The aim of remediation is to minimise PFAS leaving the base by remediating and managing source areas. Over time, this will reduce PFAS on and around RAAF Base Darwin.

In 2023, Defence completed remediation at one former fire training area and the wrapped stockpiles area (stockpile of PFAS contaminated soil).

Future remediation

Ongoing monitoring has confirmed that the former fuel farm 4, former fuel farm 6, and the current fire training area are the largest sources of PFAS leaving the base. Defence plans to remediate these source areas using a method called soil stabilisation.

Soil stabilisation involves digging the contaminated soil out of the source area and treating it with activated carbon to bind the PFAS. This reduces its ability to wash out into stormwater and groundwater. The treated soil is then placed back to the area and covered with a clean layer of topsoil and grass to prevent erosion and minimise exposure to rainwater.

Soil with the highest concentrations of PFAS deemed unsuitable for this remediation method is removed and destroyed at a licensed facility.

Ongoing monitoring program

Ongoing monitoring is an important part of PFAS management at RAAF Base Darwin and involves periodic sampling of groundwater, surface water and aquatic biota during both the wet and dry seasons. This sampling helps Defence understand any changes to where PFAS has been found, and the levels of contamination in the environment.

In the long term, ongoing monitoring helps Defence, regulators and the community understand if actions to reduce PFAS have been effective. It also identifies where more investigation or remediation may need to be undertaken.

Defence continues to work collaboratively with NT Health and the NT Environment Protection Authority to manage PFAS on and around the base.

Defence has recently updated the ongoing monitoring plan in response to the latest ongoing monitoring results, and completed and planned remediation activities.






Aquatic biota sampling of water based plants and animals at Rapid Creek

2023- 2024 Ongoing Monitoring Report

The 2023 - 2024 ongoing monitoring report collates and interprets sampling of groundwater, surface water and aquatic biota conducted between June 2023 and April 2024, from locations on and around RAAF Base Darwin. The ongoing monitoring report also compares the results of the new sampling to previous results.



Number of samples collect and analysed from June 2023 to April 2024

 Groundwater	55 samples collected from 60 groundwater monitoring wells on and off the base.
 Surface water	47 samples collected from 6 surface water monitoring locations on and off the base, including at Rapid Creek and Ludmilla Creek.
 Aquatic biota	60 samples of aquatic biota collected from 4 locations around Rapid Creek and Ludmilla Creek. Aquatic biota samples are collected by NT Fisheries staff.

What were the key findings?

Based on the samples collected on and around RAAF Base Darwin, the levels of PFAS contamination were consistent with previous data, with concentrations in groundwater either stable or decreasing.

The sampling data also indicated the highest concentrations of PFAS were observed at the three source areas planned for remediation in 2024-2025.

The findings from the latest sampling results do not suggest a change in any potential exposure risks for the community. However, residents should continue to follow NT Health's precautionary advice.

The 2023-2024 ongoing monitoring report and factsheet are available to view on the Defence website.

Northern Territory Government precautionary advice

Residents should continue to follow Northern Territory Health's precautionary dietary advice for consumption of wild caught fish, shellfish and crustaceans from the Ludmilla and Rapid Creeks. For further information, please refer to the 'Fishing in Darwin creeks' fact sheet available via their website at: www.nt.gov.au

Next steps

Over the next 12 months, Defence will:

- continue monitoring groundwater, surface water, and aquatic biota on and around the base
- publish the 2023-2024 ongoing monitoring report and factsheet on the Defence website
- commence soil remediation works at former fuel farms 4 and 6 and the current fire training area
- assess remaining source areas to identify appropriate remediation options
- continue to keep the community informed.

Looking for more information?

Scan the QR code below to find out more about Defence's PFAS Investigation and Management Program at RAAF Base Darwin or visit:

www.defence.gov.au/about/locations-property/pfas/pfas-management-sites/raaf-base-darwin



Alternatively, you can contact:



1800 333 362



Defence.OMP@tetrattech.com



Media enquiries

Media enquiries should be directed to Defence Media via email at:

media@defence.gov.au

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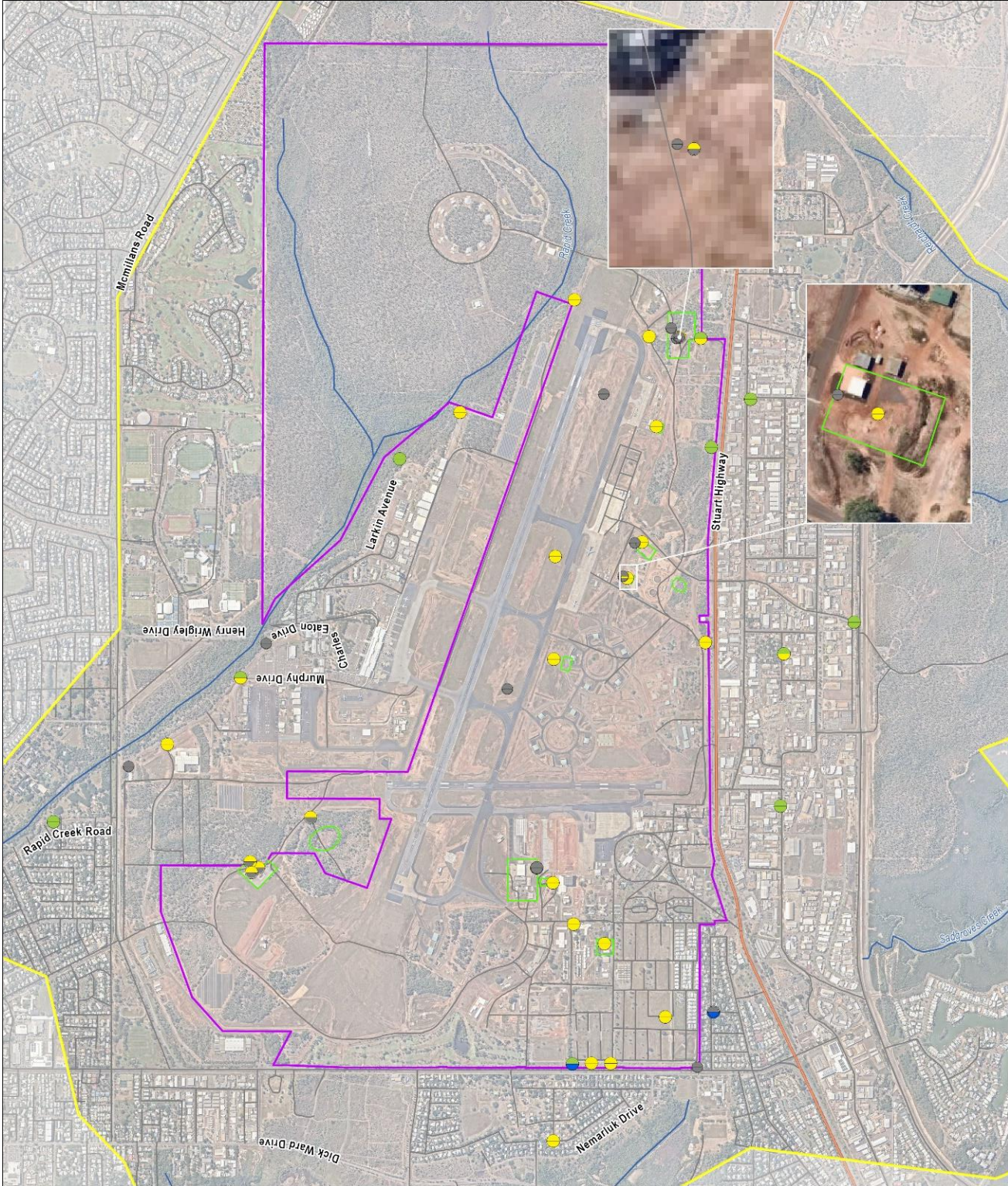
For more information contact 131 450 or visit: www.tisnational.gov.au/

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LEGEND

- Stuart Highway
- Creek
- Base boundary
- Management Area
- PFAS source area
- Sampled in dry season (2023)
- Sampled in wet season (2024)
- Below drinking water guidelines
- Below recreational guidelines
- Exceeds drinking water and recreational water guidelines
- Not sampled



RAAF Base Darwin
Sampling results for 2023 dry season and 2024 wet season