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PFAS INVESTIGATION AND MANAGEMENT PROGRAM

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RAAF Base Amberley

August 2024 – Further site investigations and remediation planning update

Overview

Defence completed investigations for per- and poly-fluoroalkyl substances (PFAS) contamination on and around RAAF Base Amberley in 2020. PFAS is generally found in areas where firefighting foams were previously used, stored or disposed of. These are called source areas.

The investigations included a detailed investigation of groundwater, surface water and sediment both on and around the base. 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.

Defence found five key source areas requiring further investigation or action including:

- the current fire training area
- temporary soil stockpile area (soil storage area)
- wastewater holding tank for fire training area
- base sewerage treatment plant
- the former fire station.

Defence used the findings from the investigations to develop a PFAS Management Area Plan. This plan outlines actions to manage and reduce the risk of PFAS exposure for the community living and working at RAAF Base Amberley and surrounding areas.

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 can be a concern because these chemicals can accumulate and persist in humans, animals and the environment.

Further investigations

Defence completed an assessment in October 2023 to understand the rate at which PFAS is moving through soil, surface water and groundwater off site. The assessment confirmed that the largest amounts of PFAS leaving the base is via surface water through three storm water catchment areas. Defence plans to remediate these areas and will develop tailored remediation action plans for each of these catchments.

Project timeline

Detailed site investigation, human health and ecological risk assessment
November 2018 – September 2020

PFAS Management Area Plan published
September 2020

Sewerage treatment plant, stormwater and wastewater infrastructure upgrades
From Sep 2020 and ongoing

Investigations to prepare remediation action plans for source areas
2020 ongoing

PFAS movement assessment completed
October 2023

Ongoing monitoring and reporting
2021-2023 Report published June 2024

Update PFAS Management Area Plan, ongoing monitoring and reporting, base remediation work
From August 2024
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Upgrade monitoring wells network to help refine remediation planning options
January 2025

Remediation action plans finalised
March 2025

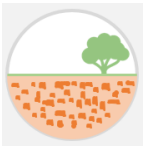
Commence remediation of key source areas
2025 onwards

Ongoing monitoring

Ongoing monitoring is an important part of RAAF Base Amberley PFAS management and involves periodic sampling of groundwater, surface water and sediment. This sampling helps Defence understand any changes to where PFAS has been found, and the levels of contamination in the environment. Following routine inspection of the monitoring network, multiple wells will be repaired, replaced or decommissioned.

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

Number of samples collected and analysed from 2021 to April 2024

GROUNDWATER 	Groundwater is water beneath the earth's surface. It often supplies bores, wells or springs.	271 samples collected from 40 groundwater monitoring locations on and off Base twice per year in April and October
SURFACE WATER 	Surface water is water that collects on the ground and can be creeks, rivers, lakes, wetlands, oceans and more.	327 samples collected from 49 surface water locations on and off Base twice per year in April and October.
SEDIMENT 	Sediment is made of broken down remains of rocks, minerals, plants, and animals that is moved and deposited to a new location.	338 samples collected from 49 sediment locations on and off Base twice per year in April and October.

What were the key findings?

The samples collected showed that the highest levels of PFAS contamination were at known, on-base source areas such as the former fire training area. Slight increases were recorded in several groundwater locations along the base boundary to the west and south-east. Defence will continue to monitor these locations to identify if any action needs to be taken.

2021-2023 Ongoing Monitoring Report

The 2021-2023 ongoing monitoring report provides the PFAS sampling results. This report includes surface water, groundwater, and sediment sampling conducted between 2021 – 2023, from locations on and around RAAF Base Amberley. The ongoing monitoring report also compares the recent results to previous results.

To view the full report, visit the Defence website at: www.defence.gov.au/about/locations-property/pfas/pfas-management-sites/raaf-base-amberley

Latest monitoring results

The latest round of monitoring was completed in April 2024. The results will be processed by an independent laboratory and will be recorded in a future ongoing monitoring report.

Remediation and management activities

Ongoing remediation activities are focused on storm water, as most PFAS moves through surface water at RAAF Base Amberley.

Ongoing works to upgrade stormwater and wastewater infrastructure are occurring across the base. These extensive works are expected to be completed in 2028 and will help reduce the PFAS levels in storm water runoff.

Defence has also commissioned two wastewater treatment plants to treat the water run-off from the current fire training pads at RAAF Base Amberley.

Works to reduce PFAS in sewage wastewater commenced in 2022 with a temporary upgrade of the onsite sewerage treatment plant. In 2023, Defence commenced construction of a new sewerage treatment plant with PFAS treatment capability, which is anticipated to be commissioned in 2025. Once commissioned, the existing plant will be decommissioned, and the surrounding area will be remediated.

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Source areas remediation summary

PFAS key source area	Remediation action/s
Current fire training pads	Remediation Action Plan finalised – site work commencing mid-2025.
Former fire station	Remediation Action Plan finalised – site work commencing mid-2025.
Wastewater holding tank	Remediation Action Plan finalised – site work commencing mid-2025.
Base sewerage treatment plant (STP) (existing)	Remediation Action Plan to be developed. Remediate area once new STP commissioned, remediation work commencing in 2025.
Temporary stockpile area	The stockpile contributes PFAS discharges to stormwater. Remediation Action Plan to be developed.

Queensland Government precautionary advice

The Queensland Government has issued precautionary advice for all fish consumption caught in the following local waterways:

- Bremer River in areas adjacent to RAAF Base Amberley and downstream to Cribb Park, Ipswich
- Warrill Creek adjacent to RAAF Base Amberley
- Swanbank Lake and Oaky Creek
- Bundamba Creek downstream of the Centenary Highway.

In all of the above areas, fishing should be undertaken on a catch-and-release basis only. There is no other precautionary advice for the area.

Precautionary advice

Scan the QR code or visit the Queensland Government website via the link below to learn more: www.qld.gov.au/environment/management/environmental/incidents/pfas/sites/ipswich

Next steps

Over the next 12 months, Defence will:

- continue monitoring groundwater, surface water, and sediment on and around the base
- revise the current PFAS Management Area Plan to reflect longer term monitoring results
- upgrade the monitoring wells network
- develop three remediation action plans for the key source areas
- commence remediation works
- continue to keep the community informed via our website.

Looking for more information?

Scan the QR code below to find out more about Defence's PFAS Investigation and Management program at RAAF Base Amberley or visit: www.defence.gov.au/about/locations-property/pfas/pfas-management-sites/raaf-base-amberley

Alternatively you can contact:

1800 333 362

pfas.enquiry@defence.gov.au

Media enquiries

Media enquiries should be directed to Defence Media via email at: media@defence.gov.au

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RAAF Base Amberley Ongoing Monitoring Locations