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PFAS INVESTIGATION AND MANAGEMENT PROGRAM

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RAAF Base Tindal

October 2024 - Ongoing monitoring and remediation update

Overview

In November 2018, Defence completed investigations into per- and poly-fluoroalkyl substances (PFAS) contamination on and around RAAF Base Tindal.

Defence conducted detailed investigations of groundwater, surface water and sediment 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 found in areas where firefighting foams were previously used, stored or disposed of. These are called source areas. Defence found two key source areas on the base requiring further investigation or action:

- the fire training area
- the fire station area.

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 Tindal and surrounding areas.

Defence continues to work collaboratively with Northern Territory (NT) Health and the NT Environment Protection Authority to manage PFAS impacts.

What are PFAS?

PFAS are manufactured chemicals that have been used globally in many household, commercial and industrial products, including legacy 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 Tindal.

Project timeline

Investigations undertaken and PFAS management area plan developed
2016 – 2019

Temporary Katherine water treatment plant commissioned
2017

Groundwater treatment plants commissioned on-base
2019

Ongoing monitoring commenced
2019 – ongoing

Remediation action plan prepared
2020

Soil remediation works commence
2022

Additional investigations into PFAS movement
2022 -2024

Soil remediation completed at fire station area
November 2023

Permanent Katherine water treatment plant commissioned
May 2024

Revision of PFAS management area plan and ongoing monitoring plan
October 2024
WE ARE HERE

Soil remediation works at fire training area completed
November 2024

Ongoing monitoring and reporting
Ongoing

Remediation update

Remediation aims to minimise PFAS leaving the base by focusing on source areas to reduce the amount of PFAS entering groundwater and surface water. Ongoing remediation activities at RAAF Base Tindal continue to be focused on groundwater and soil. Over time, these remediation works are expected to reduce the amount of PFAS leaving the base.

Groundwater remediation

Two groundwater treatment plants have been in operation at the fire training area and fire station area since February 2019. These plants remove PFAS from groundwater and reduce PFAS leaving the base. To date, these plants have treated around 3,110 billion litres of PFAS contaminated groundwater.

Soil remediation

In 2022, soil remediation started at the fire training area and fire station area. While it is not possible to remove all PFAS from the environment, around 65,000 tonnes of soil has been treated.

Soil remediation at the fire station area was completed in November 2023. Soil remediation at the fire training area is expected to be completed in late 2024.

Katherine water treatment plant

A Defence funded water treatment plant was commissioned in Katherine in May 2024. The new water treatment plant can treat up to 10 million litres of water per day, and replaces the temporary water treatment plant Defence provided in 2017.

The treatment plant will secure a long term drinking water supply for the Katherine community.

Katherine water treatment plant.

Ongoing monitoring program

Ongoing monitoring is an important part of PFAS management at RAAF Base Tindal and involves periodic sampling of groundwater, surface water and aquatic biota. 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, it also helps Defence to understand the effectiveness of remediation actions and identify where more investigation or remediation works may be needed.

2023 - 2024 Ongoing Monitoring Report

The 2023 - 2024 ongoing monitoring report outlines the latest PFAS sampling results from multiple locations on and around the base and compares the data with previous monitoring periods.

Samples collected and analysed from July 2023 to April 2024

Groundwater	**158 samples** collected from 48 groundwater monitoring wells and private bores.
Surface water	**30 samples** collected from on-base, Katherine River, Katherine Hot Springs, Tindal Creek, and Katherine Town Council Swimming Pool.
Aquatic biota	**41 samples** of fish, crustaceans and reptiles collected from local waterways. Aquatic biota samples are collected by NT Fisheries staff.

What were the key findings?

Remediation works at the fire station area and fire training area are reducing PFAS entering groundwater and surface water.

In the Cossack area, PFAS have been detected in groundwater and surface water results. This suggests the plume is moving westward from the base. Defence has provided assistance to community members impacted by the latest results. Defence will continue to monitor these locations to identify if any further community support is required.

Monitoring has identified that PFAS concentrations in groundwater are seasonal in the Katherine region.

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Defence detected PFAS in Cossack during the mid to late 2023 wet season. However, concentrations returned to below detection limits in dry season.

A decrease in PFAS were observed at the base boundary following consecutive surface water sampling events at Tindal Creek. PFAS in the Katherine River and Katherine Hot Springs remained stable, while PFAS concentrations at the Katherine Community Swimming Pool were below the recreational criteria and the drinking water criteria.

Aquatic biota sampling found PFAS concentrations in fish, shellfish and crustacean were generally similar to previous results. This sampling is conducted once per year, with the data used by NT Health to help inform their precautionary advice regarding fish consumption.

Overall, the findings of the ongoing monitoring report **do not** suggest a change in any potential exposure risks for the community within the current management area.

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

Precautionary advice

Residents should continue to follow NT Health's precautionary dietary advice for consumption of wild caught fish and crustaceans from the Katherine River and Tindal Creek. For further information, please refer to the "Fishing in Katherine" factsheet available via their website at: www.nt.gov.au.

Cossack area update

Defence has been monitoring PFAS within Cossack in response to first time detections of PFAS in mid-2023. Since then, additional testing of private bores and water tanks at 58 properties within the Cossack area has been completed, with no detections recorded.

Defence will also continue to monitor the area west of the Katherine River where PFAS were detected during the latest ongoing monitoring period.

The latest sampling results do not suggest a change in any potential exposure risks for the community.

Review of the ongoing monitoring plan

In October 2024, Defence revised the PFAS management area plan and ongoing monitoring plan in line with remediation progress and planned remediation activities.

Proposed changes include:

- additional on-base groundwater sampling locations to track predicted reductions in PFAS concentrations where soil remediation was undertaken
- additional groundwater sampling locations north of the PFAS plume within the Katherine area to confirm PFAS are not moving towards additional communities to the north
- expansion of wet season sampling at all groundwater locations to capture wet and dry season PFAS concentration variability.

Keeping the community updated

Defence continues to offer support to residents as required and will continue to keep the community informed about the management and ongoing monitoring of PFAS on and around RAAF Base Tindal.

Looking for more information?

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

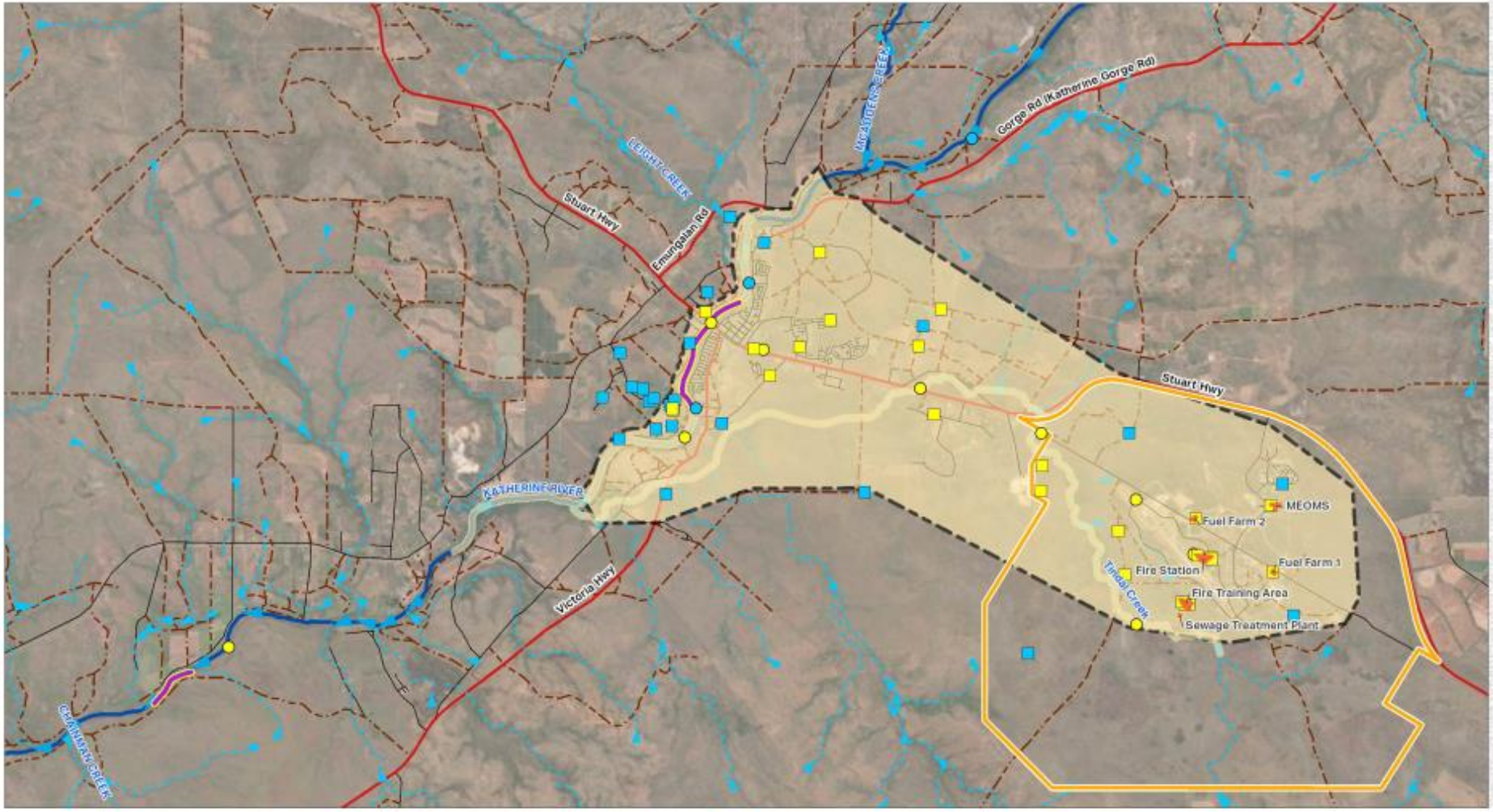
Alternatively, you can contact:

1800 316 813

PFAS.Tindal@truenorthcomm.com.au

Media enquiries

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



GROUNDWATER AND SURFACE WATER LOCATIONS WITH PFHXS + PFOS CONCENTRATIONS ABOVE OR BELOW DRINKING WATER GUIDELINES (JULY 2023 - APRIL 2024 MONITORING PERIOD)

N

0 1 2 3 km

Legend

Groundwater Monitoring Location Results

- Detected below drinking water guideline
- Detected above drinking water guideline but below recreational guideline

Surface Water Monitoring Location Results

- Detected below drinking water guideline
- Detected above drinking water guideline but below recreational guideline

- RAAF Base Tindal
- RAAF Base Tindal Management Area
- Source Areas
- Highway
- Road
- Track
- Katherine River
- Drainage
- Biota Sampling Locations