



Lavarack Barracks

October 2023 – Remediation and monitoring update

Overview

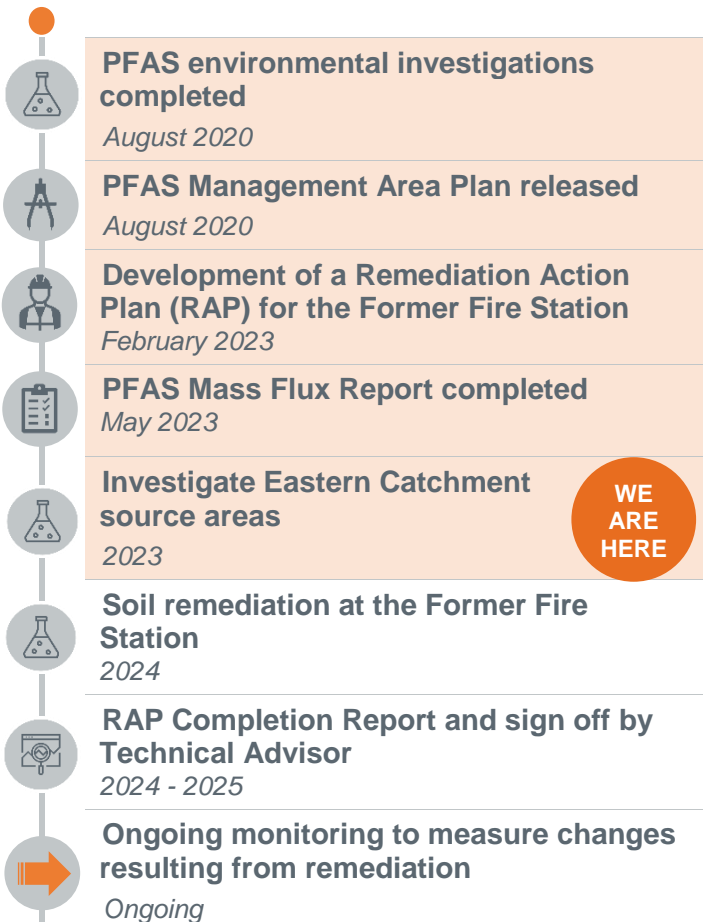
In August 2020, Defence completed a number of investigations to better understand per- and poly-fluoroalkyl substances (PFAS) contamination on and around Lavarack Barracks, resulting from historical use of firefighting foams on the base.

These investigations included a detailed investigation of groundwater, surface water and sediment, both on and around the base. A human health and ecological risk assessment were also completed.

The investigations identified the Former Fire Station, the Former Fire Training Area and the Monocell (an underground waste containment cell) as PFAS source areas on the base.

Findings from the investigations were used to develop a PFAS Management Area Plan that outlines the proposed remediation and management actions.

Program timeline



What are PFAS?

PFAS are manufactured chemicals that have been used in Australia and globally in many common household products and specialty applications.

Firefighting foams containing PFAS have historically been used worldwide by both civilian and military authorities because they are highly effective in fighting liquid fuel fires.

The movement of PFAS from the use of legacy firefighting foam into the environment has become a concern, because these chemicals can persist in humans, animals and the environment.

Learn more about PFAS

Scan the QR code or visit this link to learn more: defence.gov.au/pfas/



About the PFAS Management Area Plan

The PFAS Management Area Plan recommends actions to manage and reduce the risks of PFAS exposure for the community living and working at Lavarack Barracks and the surrounding areas. This includes reducing the amount of PFAS in the environment and leaving the base.

Read the full PFAS Management Plan

The Lavarack Barracks PFAS Management Area Plan is available on the Defence website.

Access it via the QR code or visit: <https://www.defence.gov.au/about/locations-property/pfas/pfas-management-sites/lavarack-barracks>





Mass Flux Assessment

In May 2023, Defence conducted a Mass Flux Assessment that tracks how and where PFAS is moving from the source areas and how much PFAS is leaving Lavarack Barracks.

The Mass Flux Assessment identified that the Monocell is not an ongoing source of PFAS contamination and the Former Fire Training Area is not a major source of PFAS in the surface water. The investigations confirmed there are no additional management actions required in this area.

The Mass Flux Assessment identified source areas within the Eastern Catchment as contributors to Idalia Lakes, and further investigations are occurring to determine where remediation can occur on the base.

Remediation and management activities

Defence is remediating the known source areas of PFAS contamination at Lavarack Barracks.



Remediation means managing contamination and exposure to reduce risks.

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 Lavarack Barracks.

As most PFAS moves through surface water at Lavarack Barracks, the remediation activities focus on addressing PFAS within the top layers of soil.

Former Fire Station

Defence's investigations confirmed that the Former Fire Station is the largest source of PFAS leaving the base, with the soil in this area containing more than 50 kg of PFAS. Defence plans to remediate this source area using a method called soil stabilisation.

Soil stabilisation involves digging the contaminated soil out of the source area and blending it with activated carbon to stabilise the PFAS and reduce its ability to wash out into stormwater and groundwater. The treated soil is then placed back onto the excavation and covered with a clean layer of topsoil and grass to reduce exposure to the weather and run off caused by rain.

Soil with the highest concentrations of PFAS will be removed and then destroyed at a specialised treatment facility. Additionally, some concrete will be removed and safely disposed of off-base.

Defence expects these works to commence in 2024.



Image: Soil remediation works at a NSW Defence base

Ongoing Monitoring Plan

The Ongoing Monitoring Plan is an important part of the Lavarack Barracks management plan. The monitoring plan outlines the periodic sampling of groundwater, surface water, and sediment. This sampling looks at potential changes in the location of where PFAS is found and any changes in the concentrations of PFAS.

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




The monitoring plan is reviewed regularly and Defence will update the monitoring frequency and/or locations of sampling as required in consultation with the Queensland Department of Environment and Science.

2023 Ongoing Monitoring Interpretive Report

The 2023 Ongoing Monitoring Interpretive Report outlines the groundwater and surface water sampling undertaken at multiple locations on and around Lavarack Barracks between October 2020 and March 2023. The report also compares the results of recent sampling to previous results.



Number of samples collected and analysed

Groundwater 	238 samples collected from 40 groundwater monitoring wells
Surface water 	161 samples collected from 31 surface water locations, including Ross River, Idalia Lakes and drainage channels
Sediment 	190 samples collected from the same 31 locations where surface water was collected

What were the results?

Based on the groundwater, surface water and sediment samples collected on and around Lavarack Barracks, Defence found that the PFAS contamination within the monitoring area were on a whole consistent with previous results.

The 2023 Ongoing Monitoring Interpretive Report found:

- Groundwater results were relatively stable. The overall extent of PFAS in groundwater has not changed significantly compared to previous results.
- The highest PFAS concentrations in groundwater are located on-base, near known source areas.
- Some localised PFAS increases in groundwater and surface water were detected at some locations, at varying times, over the monitoring period.
- This includes some increased concentrations found during the post wet-season sampling in 2022 and 2023.
- These temporary increases may potentially be due to above average rainfall transporting PFAS from source areas.
- Off-base surface water locations typically do not exceed human health guidelines for recreational water.
- Residents should continue to follow Queensland Health's precautionary dietary advice for consumption of fish from Idalia Lakes:

The findings suggest no change in any potential exposure risks as outlined previously in the management plan.

Further monitoring

Defence will continue to undertake sampling every 6 months at the locations identified in the management plan and monitoring plan. This data analysis will be included in future reports for Lavarack Barracks and surrounding areas.

For more information about Defence's investigations and management of PFAS on and around Lavarack Barracks, scan the QR code or visit:
<https://www.defence.gov.au/about/locations-property/pfas/pfas-management-sites/lavarack-barracks>



Next steps

Over the next 12 months, Defence will:

- begin soil remediation at the Former Fire Station
- further investigate the source areas within the Eastern Catchment
- continue ongoing monitoring, with the next scheduled sampling events in February/March 2024 and August/September 2024
- 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, or visit:
<https://defence.gov.au/pfas/>



Alternatively, you can contact:



1800 333 362



pfas.enquiry@defence.gov.au



Media enquiries

Media enquiries should be directed to the Defence Media Centre on (02) 6217 1999 or via email at media@defence.gov.au

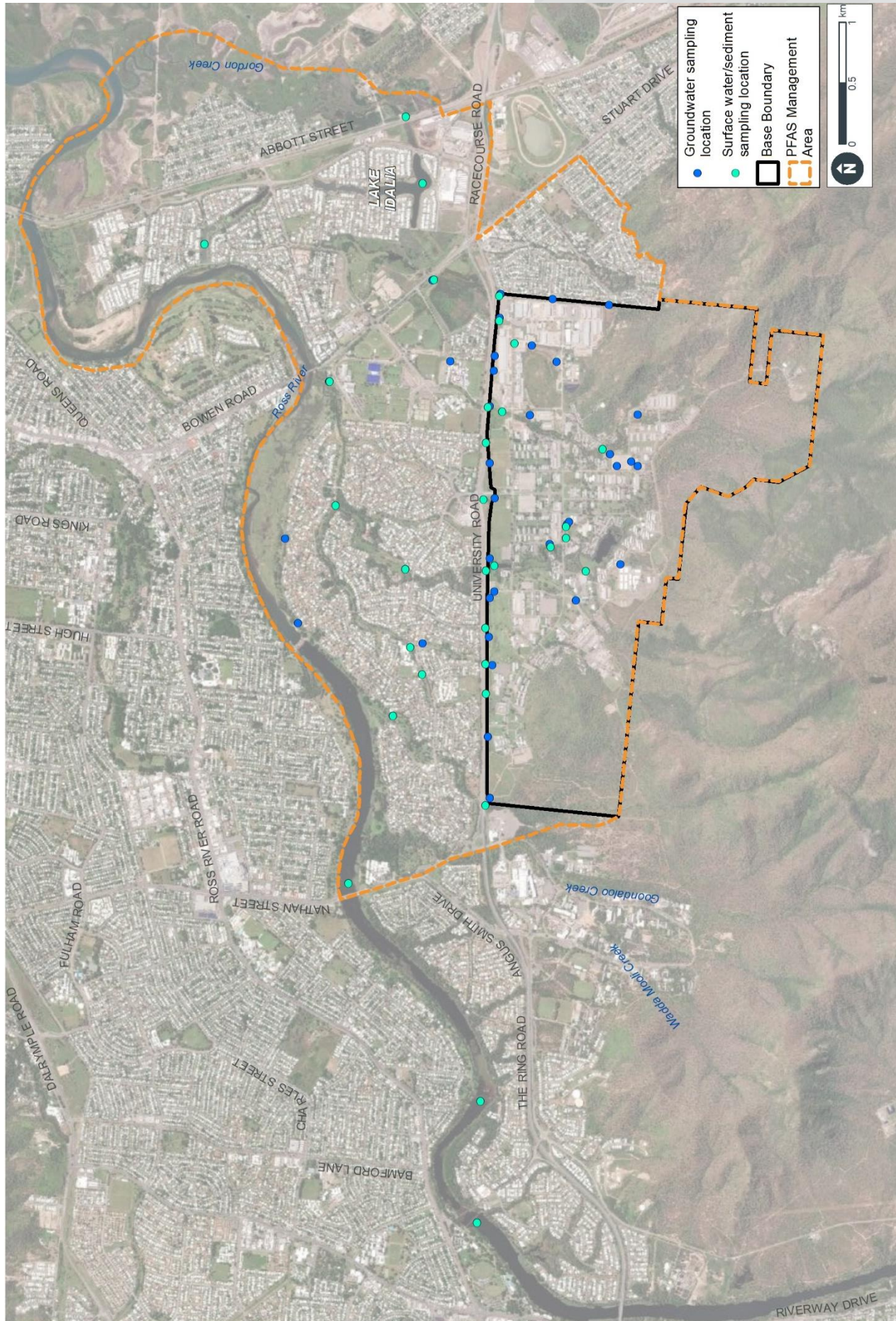


Figure 1
Lavarack Barracks Monitoring Locations