Detailed Ecological Risk Assessment factsheet

RAAF Williams - Laverton

KEY POINTS

- **Defence has completed a Detailed Ecological Risk Assessment for RAAF Williams - Laverton to address recommendations provided in the preliminary Ecological Risk Assessment published in May 2022.**
- **The Detailed Ecological Risk Assessment considered potential risk at key areas on and around RAAF Williams - Laverton including RAAF Swamp, Skeleton Creek, Sanctuary Lakes, and Cheetham Wetlands.**
- **Risks identified in the Detailed Ecological Risk Assessment were generally lower than those from 2022.**
- **Elevated risks have been identified for some resident and migratory aquatic birds and mammals in Skeleton Creek.**
- **Defence will continue to monitor PFAS on and around RAAF Williams - Laverton, and take further action if required.**
- **All plans and reports are published on the Defence website.**

Background

Since 2018, the Department of Defence (Defence) has undertaken investigations to better understand poly- fluoroalkyl substances (PFAS) contamination on and around RAAF Williams - Laverton (the base), resulting from historical use of firefighting foams on the base. The aim of the investigations has been to understand the source areas of PFAS contamination, how it is moving through the environment and the potential risks of PFAS exposure to people and the environment.

Investigations determined that most PFAS are found in areas where firefighting foams were previously used and stored. Four source areas were identified on the base. PFAS moves from these source areas into surface water and groundwater and moves off the base into the wider environment.

Potential risks of PFAS exposure have been assessed in a number of reports, including the following:

- A Detailed Site Investigation, and an Addendum to the Detailed Site Investigation (2020-2021).
- Human Health Risk Assessments for potential off-base risks (2022).
- An Ecological Risk Assessment, assessing specific potential off-base risks (2022).

A Detailed Ecological Risk Assessment has now been published for the base and is available at https://www.defence.gov.au/about/locations-property/pfas/pfas-management-sites/raaf-williams-laverton-raaf-base-point-cook

What are PFAS?

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

Legacy firefighting foams containing PFAS 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 has become a concern because these chemicals can persist in humans, animals and the environment.

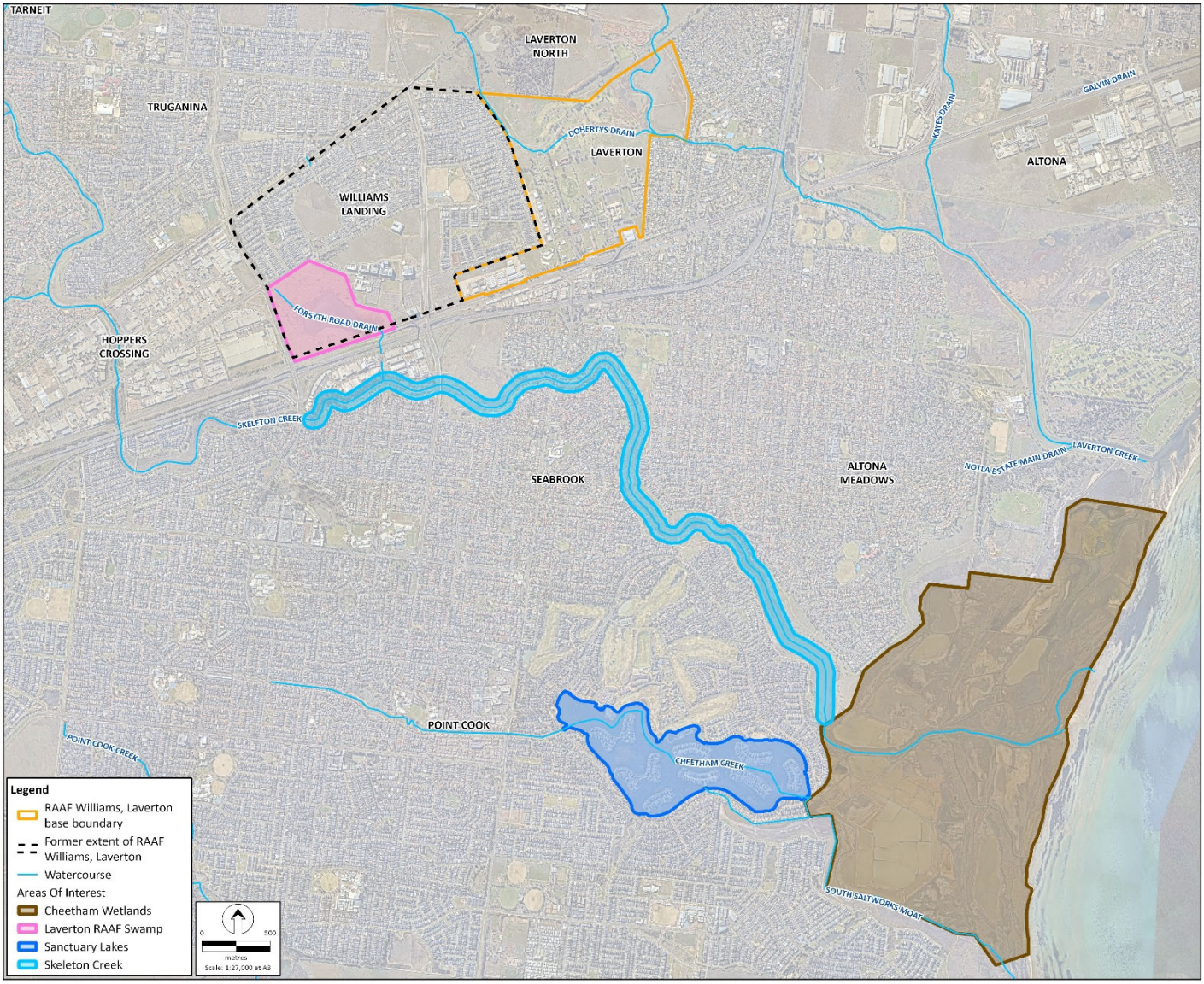
Why was the Detailed Ecological Risk Assessment needed?

The Ecological Risk Assessment released in May 2022 made a preliminary assessment of ecological risk for key water bodies receiving PFAS-affected water from the base. Specifically, these included Laverton RAAF Swamp, Skeleton Creek, Sanctuary Lakes, and Cheetham Wetlands, which are shown on Figure 1.

The 2022 Ecological Risk Assessment recommended additional work, including more sampling to assist with further assessment of ecological risks.

These recommendations were addressed in the Detailed Ecological Risk Assessment.

Figure 1: RAAF Williams - Laverton and the surrounding 'Areas of Interest' for the Detailed Ecological Risk Assessment: Laverton RAAF Swamp, Skeleton Creek, Sanctuary Lakes and Cheetham Wetlands.



Did you know?

PFAS is absorbed by plants at different rates and can accumulate in animals. Animals may ingest small amounts of PFAS from plants and other animals in the food chain, by consuming water containing PFAS, or through ingestion of soil and/or sediment.

Detailed Ecological Risk Assessment

The Detailed Ecological Risk Assessment considered the potential for elevated exposure to PFAS for plants and animals within Laverton RAAF Swamp (in Williams Landing), Skeleton Creek, Sanctuary Lakes and Cheetham Wetlands south of Skeleton Creek. These are referred to as 'Areas of Interest' and are shown on Figure 1.

Environmental samples were collected from each of the 'Areas of Interest'. The results of those samples, along with historical data, were compared to published guideline values to determine if there was potential for PFAS to impact plants and animals. This assessment considered PFAS exposure from both direct contact (i.e., soil, sediment and water in the habitat) or through their food intake (e.g. fish and insects that are the diet of certain birds).

Assumptions were made about amounts of food or water that might be consumed, and the time various animals are likely to inhabit these environments. Using these assumptions, and data from samples, an assessment of risk was completed.

Conclusions

The Detailed Ecological Risk Assessment was able to refine the risk estimates presented within the 2022 Ecological Risk Assessment. The risk estimates identified in 2026 were generally lower than those from 2022, due to additional data and a refinement to the risk assessment process.

The most elevated risks identified at locations closest to RAAF Williams – Laverton. This included at Skeleton Creek, where precautionary advice applies. Other water bodies generally were a lower risk to people, animals and the environment. **Risk Evaluation**

Overall, the findings of the Detailed Ecological Risk Assessment indicate that potential risks to aquatic species were low and acceptable in all 'Areas of Interest'. Risks to air-breathing species which source their food from the 'Areas of Interest' were potentially elevated for some species, as driven by higher levels of PFAS in fish and invertebrates. Estimated risks were highest to predators in Skeleton Creek and risks reduce with distance from the Base.

Next steps

PFAS Management Area Plan

The findings of this Detailed Ecological Risk Assessment, along with other investigation work completed at the base by Defence, will be incorporated into the PFAS Management Area Plan (PMAP). The PMAP for the base was first published in August 2022 and updated in April 2025. The PMAP details activities Defence will undertake to manage the movement of and possible risk of exposure to PFAS from the base.

Ongoing Monitoring Plan

Defence undertakes regular monitoring of surface water and groundwater on and surrounding the base as part of the Ongoing Monitoring Plan (OMP). This monitoring is intended to provide information on changes in the location and concentrations of PFAS originating from the base. This establishes an evidence base for targeted and effective risk management of PFAS contamination to protect human and environmental receptors. The next OMP monitoring round for the base will be during early 2027.

Keeping the Community Informed

Defence is committed to regularly updating the community about ongoing monitoring. Updates will be provided through the project website as new information becomes available.

Contact Us

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Scan the QR code to find out more about Defence's PFAS Investigation and Management Program.

All website links and contact details in this factsheet were correct at the time of publication but may change over time. For the most up-to-date information, please refer to www.defence.gov.au/pfas