



About the Investigation

In April 2016, Defence commenced a detailed environmental investigation to identify the nature and extent of per- and poly-fluoroalkyl substances (PFAS) on, and in the vicinity of, RAAF Base Pearce as a result of the historical use of legacy firefighting foams at the Base.

The investigation will identify whether the use of these foams has resulted in risks to human health or ecosystems, and will help develop strategies to minimise exposure, should these be required.

Preliminary Site Investigation

The first stage of the investigation, the Preliminary Site Investigation (PSI), was completed in June 2016. The PSI involved a historical review of the use, storage, disposal and management of legacy firefighting foam to identify the key sources, pathways and receptors (people, plants and animals) of PFAS contamination.

Detailed Site Investigation

The second stage of the investigation, the Detailed Site Investigation (DSI), commenced in July 2016.

The purpose of the DSI was to improve Defence's understanding of the nature and extent of PFAS impacts within the Investigation Area, specifically:

- What are the sources of PFAS?
- How is PFAS migrating from the base?
- Who is exposed to PFAS?

The DSI sampling occurred in two phases. The second sampling phase was required to fill data gaps that were identified in the first phase.

Sampling is now complete and a detailed report including the sampling results is currently being prepared. This report will be finalized and provided to relevant government agencies, regulatory bodies and the community in early 2018.

The following sampling was conducted as part of the DSI.

DSI Sampling		
Sampling Type	On-Base Samples	Off-Base Samples
Sediment	39	51
Soil	407	60
Surface water	64	58
Groundwater	79	194
Biota (plants and animals)	40	55

DSI Activities Undertaken On-base

- Assessment of 17 potential PFAS source areas by sampling soil, sediment, surface water and groundwater
- Assessment of how PFAS migrates from the base by sampling surface water and groundwater.
- Assessment of impacts to flora and fauna within conservation areas on the base by sampling plants, invertebrates and animal scats (faeces).

DSI Activities Undertaken Off-base

- Assessment of who PFAS is affecting by sampling soil, surface water, groundwater, fruit, vegetables and eggs at various off-base properties.
- Assessment of impacts to aquatic flora and fauna by sampling sediment, surface water, fish and crustaceans.

Figure 1 shows the location of samples taken including plant and animal samples (blue squares), surface water/sediment samples (blue circles), residential bore samples (green circles), groundwater monitoring well samples (blue diamonds) and soil samples (orange triangles).

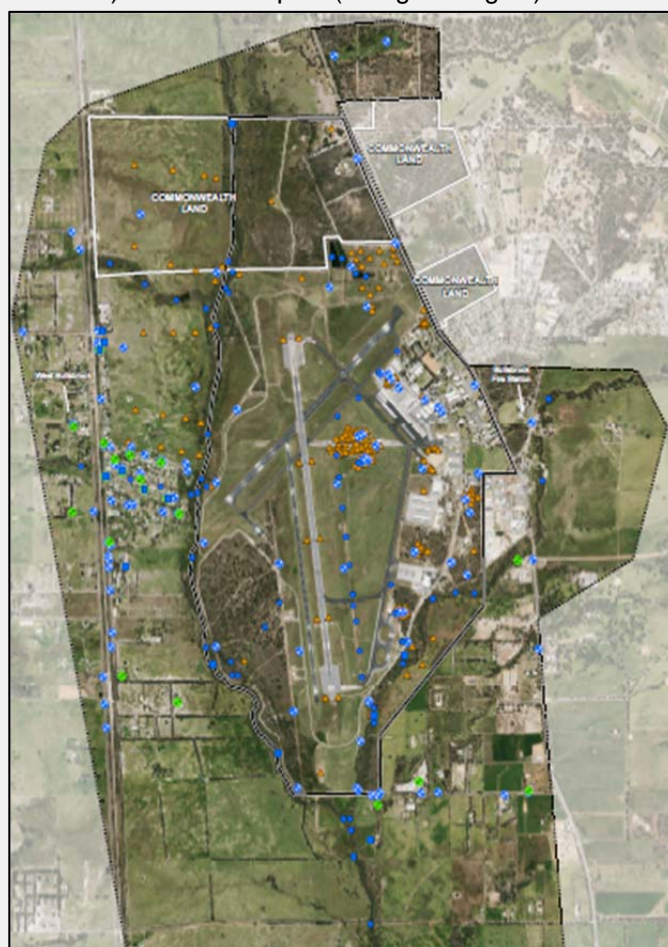


Figure 1 - Location of samples taken.





Human Health and Ecological Risk Assessment

Based on the initial DSI results, Defence commenced a Human Health and Ecological Risk Assessment (HHERA) in late 2016 to better understand the risk of PFAS to people and the environment. The HHERA will also provide recommendations for ongoing management of exposure pathways to ensure the Bullsbrook community is not at risk of unacceptable levels of PFAS.

The HHERA report is expected to be published and communicated to the community in the first half of 2018. Initial findings from the investigation indicate that:

- Of the 17 potential source areas identified, five have been found to be the main PFAS sources including former fire training areas, facilities with PFAS spray systems and a Defence landfill site.
- PFAS has been found on the Base with concentrations in groundwater, surface water and soil exceeding the Health Based Guidance Values (HBGVs) developed by Food Standards Australia New Zealand. Surface water and groundwater on base are not used for drinking.
- Surface water migration from the base is the most significant PFAS migration pathway. PFAS in surface water in the base drainage channels, Ellen Brook and Ki-it Monger Brook exceeds the relevant HBGVs.
- Of the 49 off-base properties where groundwater was sampled, PFAS was detected at seven. PFAS levels were above the drinking water HBGVs at four of these properties. Defence has offered alternative drinking water to affected properties and ongoing monitoring has identified a reduction in PFAS concentrations.
- Fish and crustaceans in the Ellenbrook and Ki-it Monger Brooks have shown low PFAS concentrations. Defence is currently assessing the risks of exposure to these sources.
- PFAS was detected in residential chicken eggs, though the concentrations were below relevant guidance values. No PFAS was detected in fruit and vegetable samples.

Figure 2 illustrates the off-base groundwater results, excluding residents who opted not to consent to their results being published. Larger circles represent results from the second phase of sampling, smaller circles represent results from the first phase. Green circles represent no PFAS detection, orange circles represent a detect above the relevant HBGV.

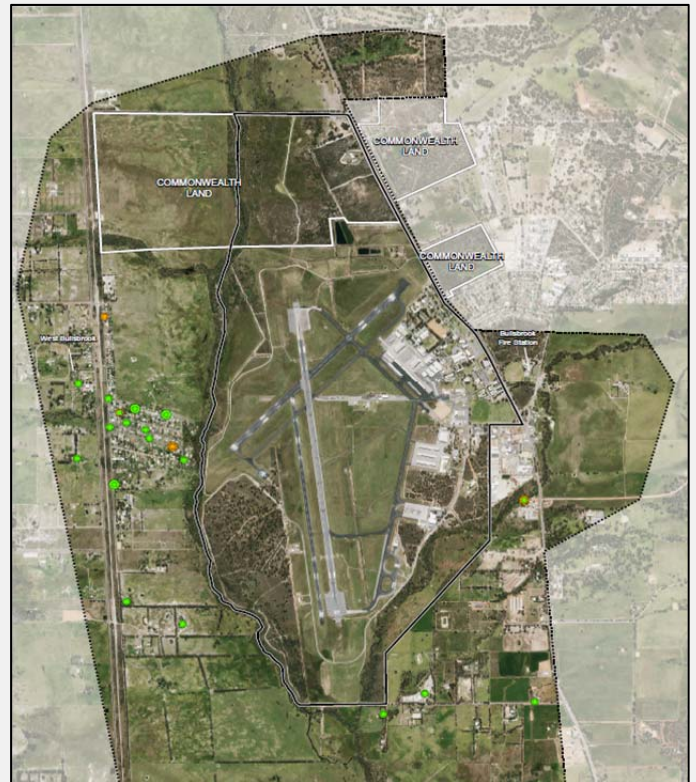


Figure 1 - Off-base groundwater sampling results.

Keeping the community informed

Defence is committed to regularly updating the community throughout the investigation. As well as community information sessions, updates are provided through the project website, direct mail and information sheets as new information becomes available. Once the DSI report is finalized a community walk-in session will be held to inform the local community of findings.

Contact the project team

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