



# RAAF Base East Sale Environmental Investigation

## – update and next steps

### Background to the investigation

The Department of Defence (Defence) has engaged an environmental consultant to undertake an environmental investigation into the presence of per- and poly-fluoroalkyl substances (PFAS) on, and in the vicinity of, RAAF Base East Sale (the base).

The investigation is part of Defence's review of a number of its sites around Australia that used legacy fire-fighting foams containing PFAS.

PFAS are a class of manufactured chemicals that were generally present in aqueous film forming foam (AFFF) used extensively worldwide from about the 1970s by both military and civilian authorities due to its effectiveness in extinguishing liquid fuel fires. From 2004, Defence commenced phasing out its use of legacy AFFF. The AFFF now used by Defence is a more environmentally safe product.

The PFAS of interest to the investigation are principally perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), perfluorohexane sulfonate (PFHxS) and 6:2 fluorotelomer sulfonate (6:2 FtS).

The environmental investigation is being undertaken in accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM).

The NEPM process includes:

- preliminary site investigation (PSI)
- detailed site investigation (DSI)
- human health and ecological risk assessment (HHERA) if required.

### Objective of the investigation

The objective for the environmental investigation is to identify the nature and extent of PFAS in the environment and any potential risks to human health or the environment. The understanding of these potential risks will assist in developing any mitigation strategies to minimise exposure.

### Preliminary site investigation – Key findings

The preliminary site investigation (PSI) commenced in April 2016 and was completed in August 2016.

Some of the outcomes of the PSI included:

- understanding site characteristics;
- identifying possible PFAS **sources** both on and off base based on historical AFFF storage, use and disposal; and
- understanding possible migration **pathways** of PFAS to on or off-base **receptors**.

These activities assist our understanding of potential impacts to people and the environment in the Sale area, from the use of legacy AFFF fire-fighting foams.

This also informs the priorities for the next stage of the investigation.

**Sources:** where and when legacy AFFF was used

**Pathways:** how PFAS moves in the environment and the possible exposure to people and the environment

**Receptors:** people and the environment that may possibly be exposed to PFAS

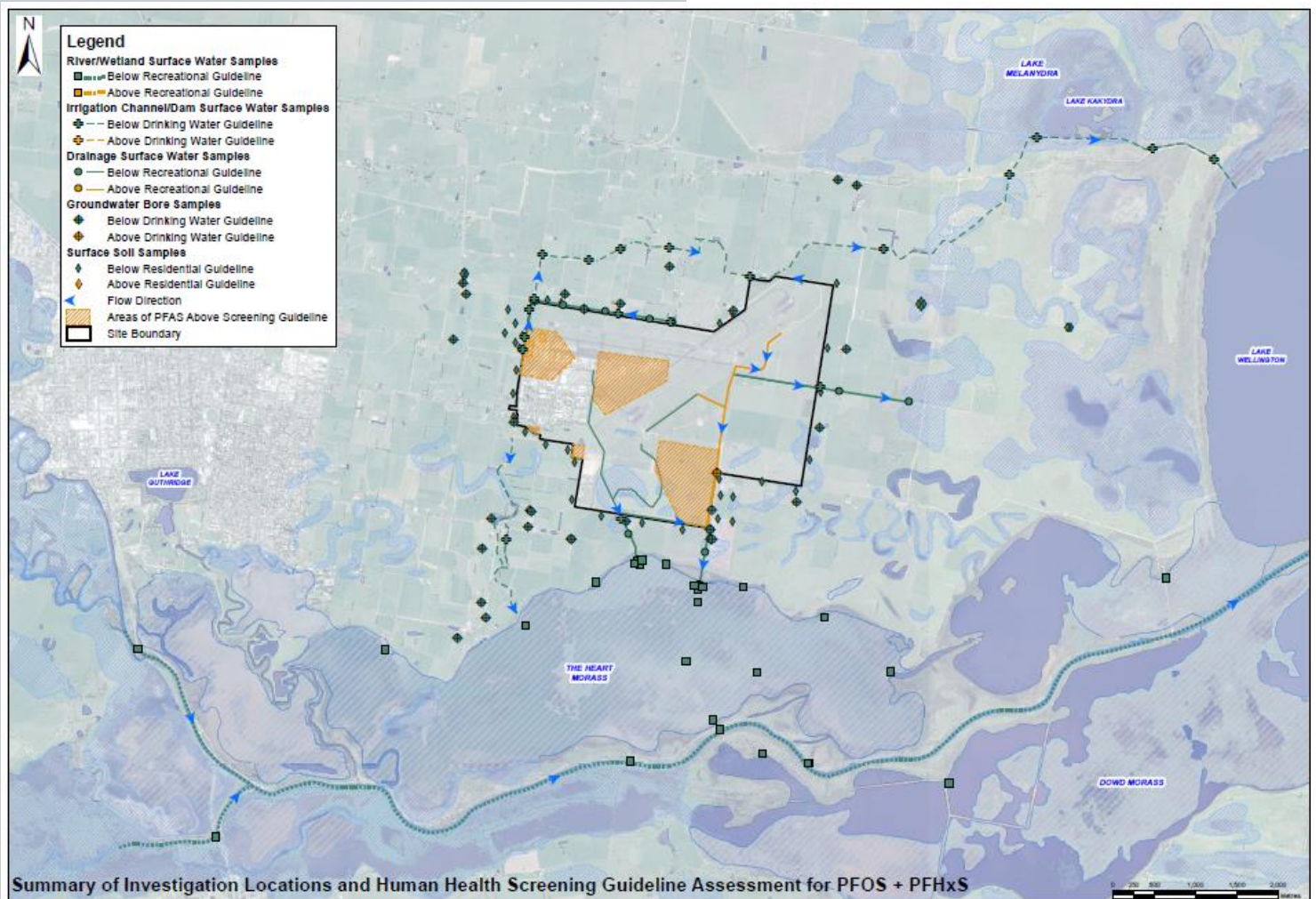




### Detailed Site Investigation (DSI) update

The PSI findings were used to develop the sampling plan for the detailed site investigation (DSI). The DSI is nearing completion and includes on and off-base sampling in soil, surface water, drainage lines and groundwater to further assess the nature and extent of PFAS on and near the base.

Early findings indicate elevated PFAS is present in and around source areas and along surface water drainage lines moving south, and to a lesser extent, east and north off the base (refer map below).





## Human Health and Ecological Risk Assessment (HHERA)

Although the DSI is ongoing, based on the findings to date, Defence has commenced the HHERA process to provide a better understanding of risks posed by PFAS to people and the environment.

### *Process*

The HHERA process in relation to human health and ecological risk involves assessment of:

- the potential for harm;
- receptors and pathways of exposure;
- exposure levels; and
- likelihood of effects occurring.

The results of the risk assessment assist with planning for managing identified risks and remediation (where required).

### *Sampling*

The risk assessment is a detailed, scientific process that will involve further sampling. Selected plants and animals will be tested including fish, ducks, algae and other species.

The properties/areas to be sampled will include the receiving surface water environment, principally the Heart Morass. Other properties will be determined based on the results from off-site sampling and the location of properties in relation to identified PFAS impacted areas.

Property owners where sampling is proposed to occur will be contacted early in the new year about sampling in relation to the risk assessment.

### *Reporting*

Detailed findings from the DSI will be reported back to the relevant government and regulatory bodies, the local community and the public in the first half of next year. Results of the risk assessment are expected in mid-2017.





## Current guidelines and advice

### Health

Due to their widespread use, most people living in developed nations will have some level of PFAS in their body.

PFAS can be naturally eliminated from the body, but this takes time. Accumulation can occur if intake continues.

The Environmental Health Standing Committee (enHealth) advises that there is no consistent evidence that exposure to PFOS, PFHxS and PFOA causes adverse human health effects.

Because these chemicals persist in humans and the environment, enHealth recommends that human exposure to these chemicals is minimised as a precaution.

For more information relating to PFAS and health guidance please refer to the enHealth Guidance Statements that may be found on the Commonwealth Department of Health's website [www.health.gov.au](http://www.health.gov.au).

### Government

Defence investigations are informed by national guidelines.

enHealth have issued interim guidelines for the assessment and management of PFAS. The values were independently reviewed and found to be appropriate and protective of public health.

The interim values set by enHealth will remain in place until Food Standards Australia New Zealand completes an assessment and provides its advice on final human health reference values to the Commonwealth Department of Health.

## Keeping the community informed

Defence is committed to regularly updating the community throughout the investigation. Updates will be provided through the project website, community information sessions, direct mail and information sheets as new information becomes available.

## Contact the Project Team



1800 365 414



[www.defence.gov.au/id/eastsale/](http://www.defence.gov.au/id/eastsale/)



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