



Background to the Investigation

In July 2017, Defence commenced a detailed environmental investigation into per- and poly-fluoroalkyl substances (PFAS) on and in the area surrounding the Bandiana Military Area.

The objective of the investigation is to identify the nature and extent of PFAS in the environment and any PFAS exposure pathways to people, animals or the environment.

Understanding potential PFAS exposures will assist in developing strategies to minimise exposure should this be required.



Preliminary Site Investigation

July-August 2017



Detailed Site Investigation

Mid 2017 – September 2018



Human Health and Ecological Risk Assessment

November 2020



Community Information Session

November 2020



PFAS Management Area Plan

November 2020



Management & Remediation

Ongoing



What are PFAS?

PFAS are man-made chemicals used in products that resist heat, oil, stains and water. The chemicals have been used in Australia and around the world in many common household products and specialty applications. Find out more about PFAS on our website. www.defence.gov.au/environment/pfas/

Investigation Update

A Human Health Risk Assessment (HHRA) has been completed. The aim of the HHRA was to evaluate the potential risk of PFAS exposure for people and the environment in the Investigation Area. The findings of the HHRA are outlined in this factsheet.

An Ecological Risk Assessment was undertaken in parallel with the HHRA. Visit the investigation website for information on the Ecological Risk Assessment and the other investigation stages completed to date. www.defence.gov.au/environment/pfas/Bandiana/

HHRA Sampling Program

The HHRA primarily assessed samples that were collected as part of the Detailed Site Investigation. Some extra samples were collected and analysed from surface water, groundwater, egg (poultry), fish and crustaceans.

HHRA Summary of Findings

The HHRA found that PFAS exposure risks are all low and acceptable for scenarios that currently occur in the Investigation Area.

There were some elevated PFAS exposure risks identified for scenarios that are not known to currently occur, but could take place in the future.





Understanding Human Health Risk Assessment results

Food Standards Australia and New Zealand (FSANZ) have determined how much PFAS a person can be exposed to every day of their life without significant health risk. This is known as the tolerable daily intake.

The HHERA estimated how much PFAS people are exposed to each day from different scenarios, for example, drinking bore water or eating specific foods. These exposures are then compared to the tolerable daily intake to estimate risk.

Low and acceptable exposure risk

Where estimated exposure is lower than the tolerable daily intake, the exposure risk is considered to be “low and acceptable”.

Elevated exposure risk

Where estimated exposure is higher than the tolerable daily intake, the exposure risk is considered to be “elevated”. This does not necessarily mean that adverse health effects will occur, but action may be required to reduce exposure as a precaution. Defence assesses the best ways to address elevated exposure risks in the PFAS Management Area Plan.

The complete Human Health and Ecological Risk Assessment report is available at www.defence.gov.au/environment/pfas/Bandiana/

Risk Assessment Findings

The following tables present scenarios that we know occur or are likely to occur in the Investigation Area.

Table 1: Exposure assessments for people on-base

Exposure Scenario	Exposure-risk
Incidental ingestion or contact with soil, sediment, surface water or groundwater. Risks were assessed for: <ul style="list-style-type: none"> • Military personnel, contractors, and visitors • People who live on-base • Teachers and children at the Bandiana Primary School on land leased from Defence • Adults and children attending the Neighbourhood House 	 Low and acceptable
Consumption of meat and offal from sheep raised on land leased from Defence	 Low and acceptable

Table 2: Exposure assessments for people off-base

Exposure Scenario	Exposure-risk
Drinking and using water supplied by North East Water (extracted from Wodonga Creek) for irrigation of home produce and watering livestock (including poultry)	 Low and acceptable
Incidental ingestion of soils and sediments and inhalation of dust	 Low and acceptable
Incidental ingestion of surface water associated with outdoor recreation (e.g. swimming and boating) at Jack in the Box Creek, Wodonga Creek, Kiewa River, Middle Creek, the Unnamed Creek.	 Low and acceptable
Consumption of recreationally caught yabbies from Jack in the Box Creek and Unnamed Creek.	 Low and acceptable
Consumption of recreationally caught fin fish (including Murray Cod, Golden Perch, Redfin Perch and Trout Cod) from the main Kiewa River channel.	 Low and acceptable
Consumption of home grown produce (eggs and vegetables) irrigated with extracted groundwater adjacent to East Bandiana, northern section.	 Low and acceptable





Possible future exposure scenarios

The HHRA found that PFAS exposure risks are all low and acceptable for scenarios that currently occur in the Investigation Area. The HHRA also considered some scenarios that are not known to currently occur, but may occur in the future. These scenarios and the associated risks are all outlined in the HHRA report.

There were some elevated PFAS exposure risks identified for scenarios that are not known to currently occur but could occur in the future. Defence is working closely with Victorian agencies to assess these risks and to develop management measures including for the following two exposure scenarios:

- Consumption of Carp sourced from the Unnamed Creek and a section of the Kiewa River.
- Managing the use of groundwater for drinking and watering stock in limited locations.

Government Health Advice

The Environmental Health Standing Committee (enHealth) has released guidance statements to help assess public health risks when PFAS have been released into the environment. In July 2019, the statements were updated to reflect the most current evidence relating to PFAS.

The Expert Health Panel for PFAS found that although the scientific evidence in humans is limited, reviews and scientific research to date have provided fairly consistent reports of an association with several health effects.

The health effects reported in these associations are generally small and within normal ranges for the whole population.

There is also limited to no evidence of human disease or other clinically significant harm resulting from PFAS exposure at this time.

As a precaution, enHealth recommends exposure to PFAS be minimised wherever possible whilst further research is undertaken on the potential health effects of PFAS exposure.

If you live or work in a PFAS contaminated area, your state or territory health department can provide you with local advice on how to minimise exposure to PFAS.

For more information, contact the Commonwealth Department of Health.

Phone: 1800 941 180

Web: www.health.gov.au/pfas




Next steps

The findings of the investigation have been used to develop a PFAS Management Area Plan (PMAP) which will recommend actions to manage and reduce the risks of PFAS exposure identified in the HHRA.

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, newsletters and factsheets as new information becomes available. Contact the investigation team if you'd like to receive regular updates.

Contact the Bandiana Military Area Investigation Team

-  1800 531 615
-  www.defence.gov.au/environment/pfas/Bandiana
-  Bandiana.defence@golder.com.au

Media enquiries should be directed to Defence Media on (02) 6127 1999 or media@defence.gov.au.

