



Australian Government
Department of Defence
Estate and Infrastructure Group

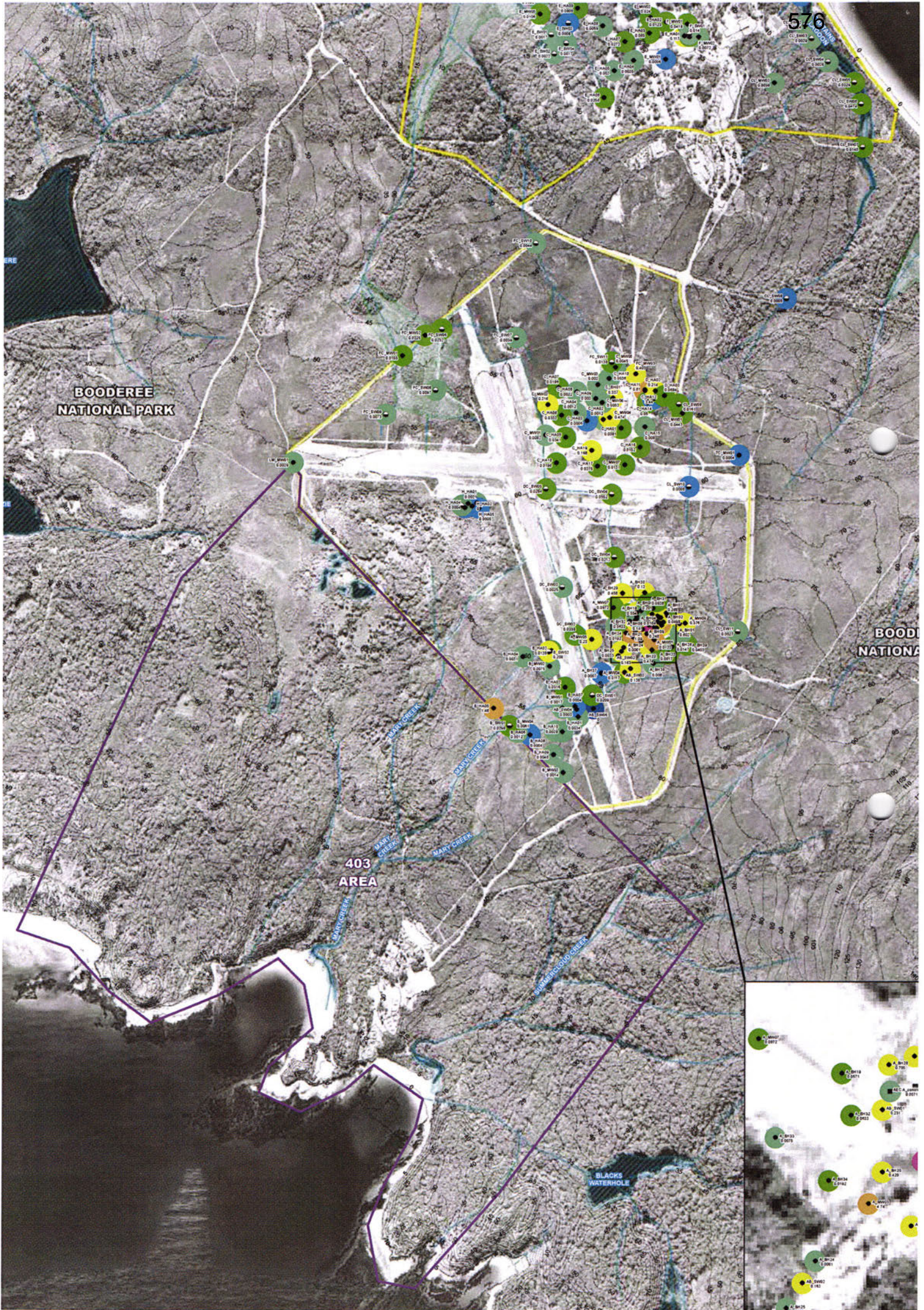
PFAS Environmental Investigation – Jervis Bay Range Facility
PROJECT CONTROL GROUP MEETING # 5

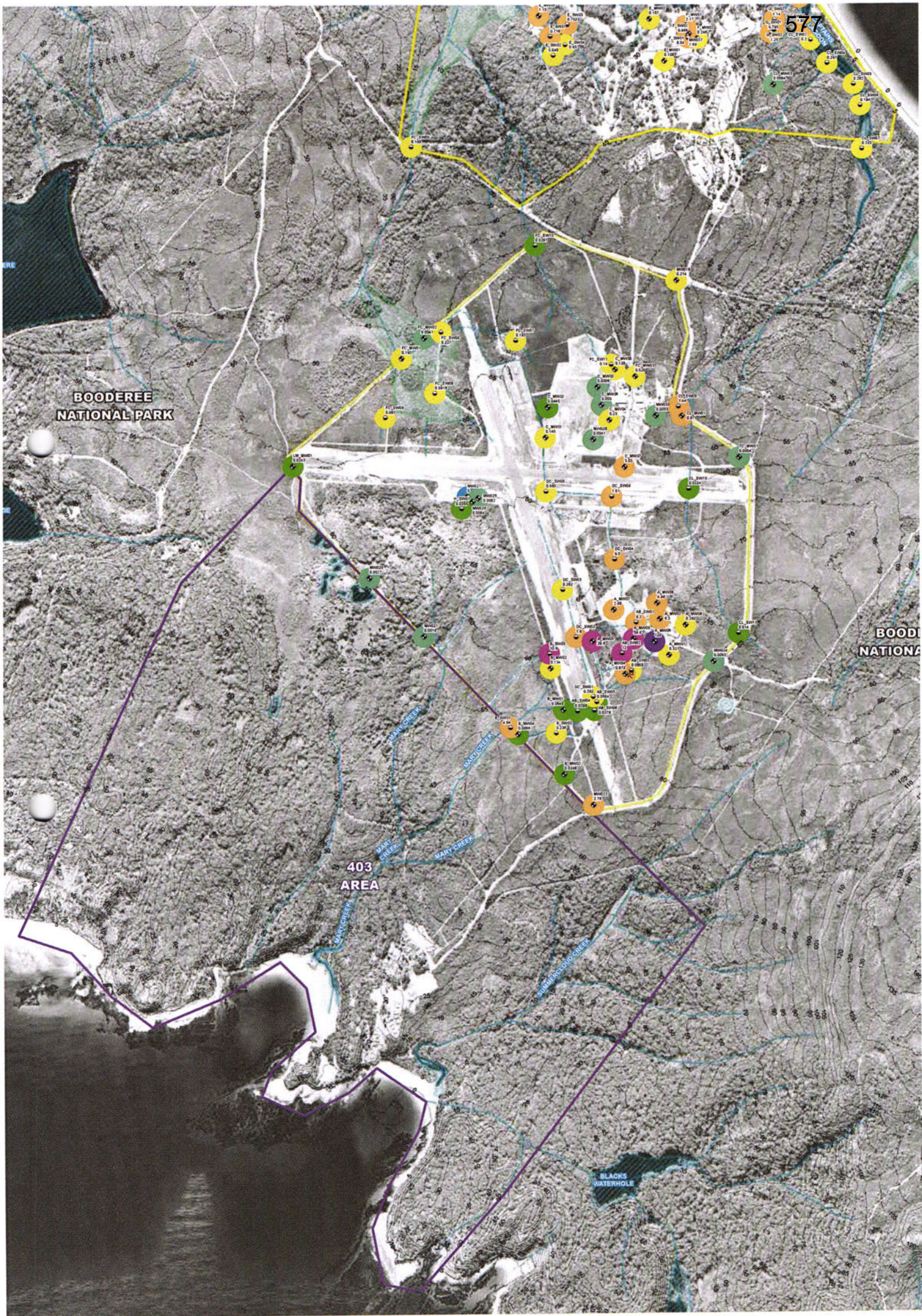
Administrative Details	
Date	Tuesday 18 July 2017
Time	14:00 – 14:45
Venue	Teleconference
Dial-in Details	Toll ----- [REDACTED] Toll-free ----- [REDACTED] Participant PIN: [REDACTED]
Chair	[REDACTED], Defence Project Director
Minutes	Taken by [REDACTED]

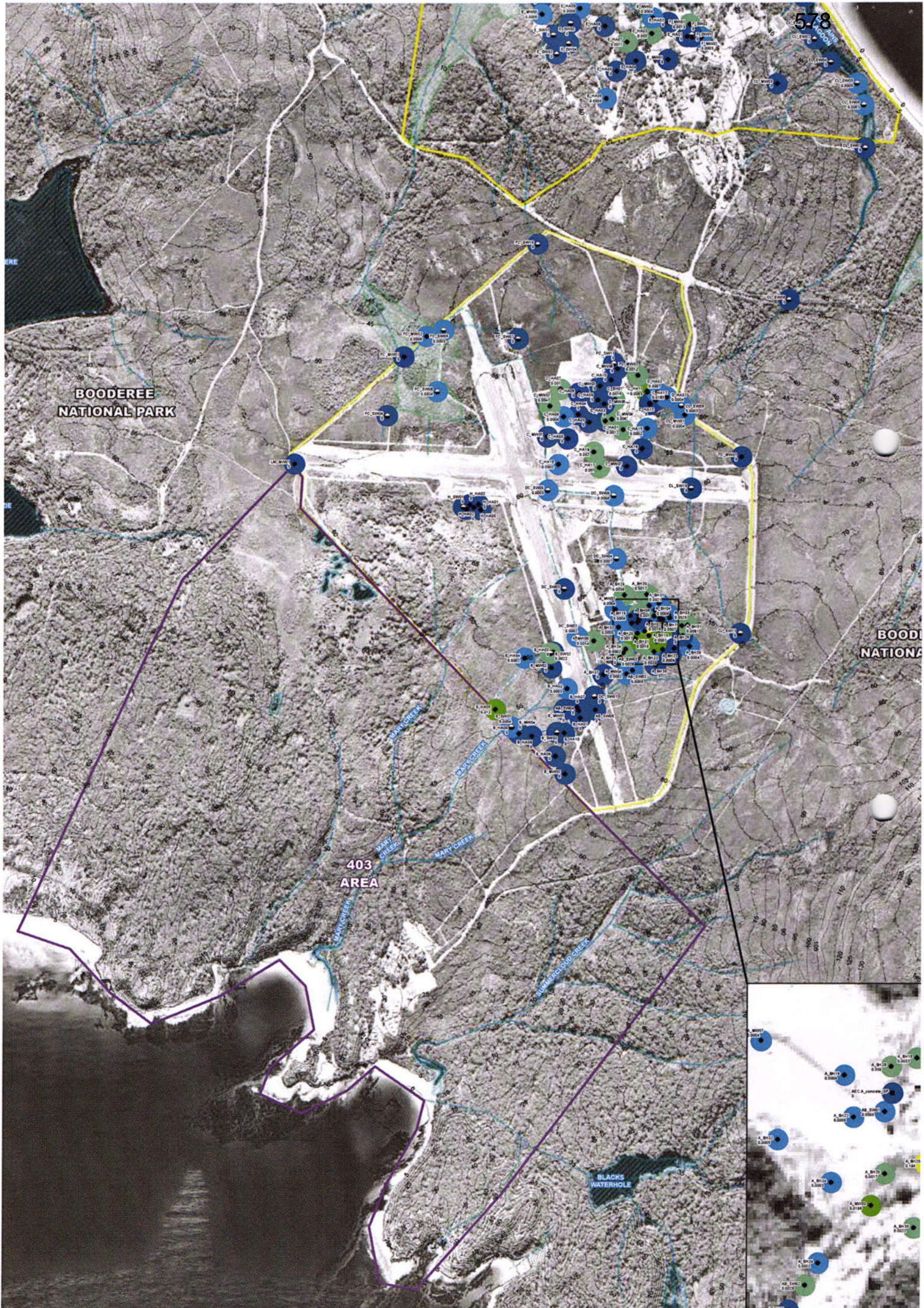
ATTENDEES	
Defence	
[REDACTED]	Project Director, Environmental Investigations
[REDACTED]	Project Manager
[REDACTED]	Assistant Director PFAS Environmental Management
Lead Contractor (LC), GHD	
[REDACTED]	Service Line Leader - LC Project Director
[REDACTED]	Principal Environmental Consultant
[REDACTED]	Stakeholder Engagement
[REDACTED]	Project Manager
[REDACTED] (BC)	Principal – Stakeholder Engagement
Site Auditor (SA), AECOM	
[REDACTED]	Technical Director-Environment Defence appointed peer review
[REDACTED]	Defence appointed peer review
Agencies	
[REDACTED] TM	Jervis Bay Territory Administration
[REDACTED] (SE)	NSW EPA
[REDACTED]	NSW EPA
[REDACTED]	ACT Health
[REDACTED]	Booderee -Park Administrator
[REDACTED]	Spotless Shoalhaven Operations Officer
[REDACTED]	Illawarra Health
Meeting Minutes	

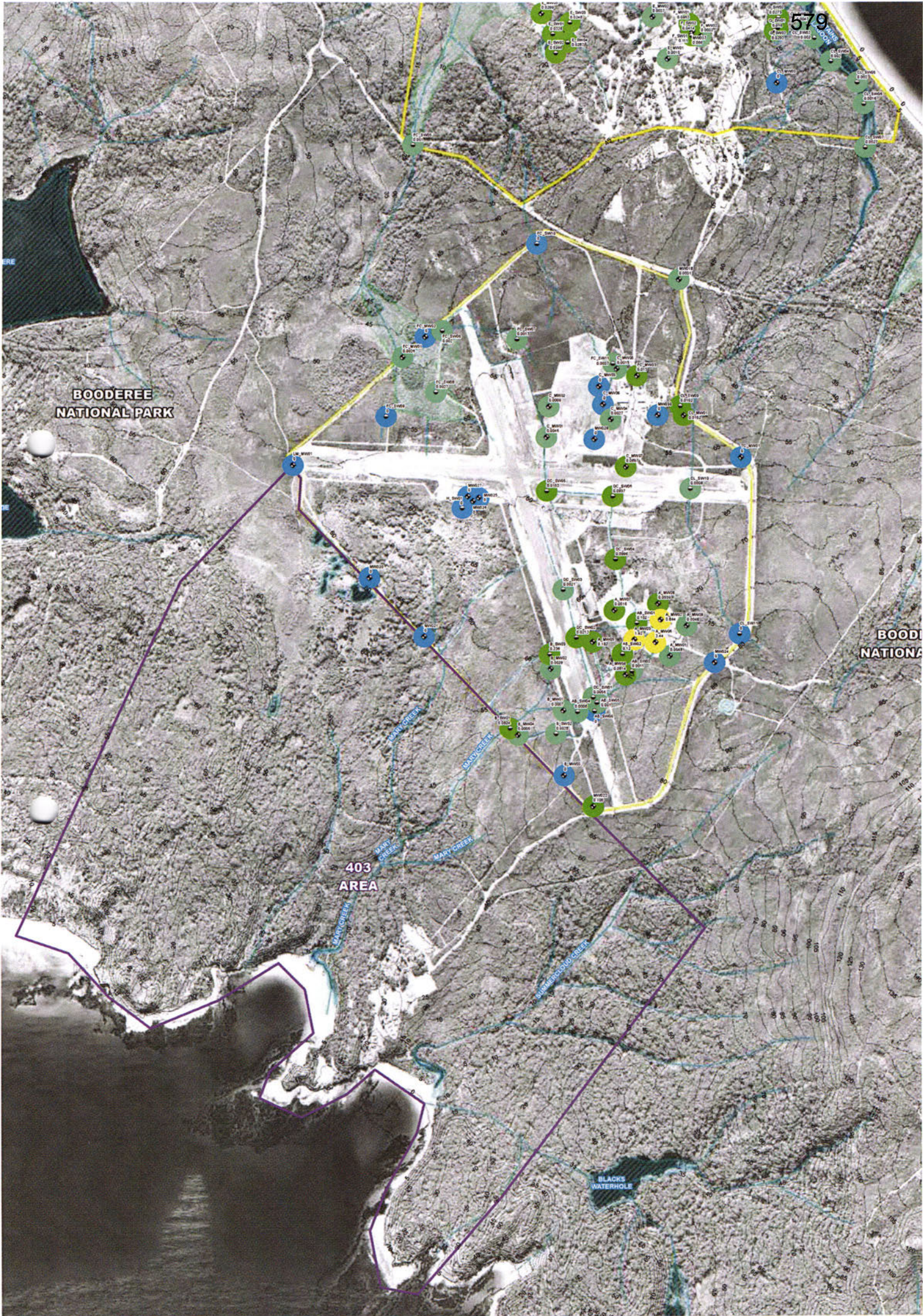
Agenda Item	Summary
Welcome and Conduct of PCG Meetings	<p>█ Defence PFAS -Welcomed attendees to the JBRF PFAS Investigation meeting.</p>
Investigation Progress Detailed Site Investigation	<ol style="list-style-type: none"> 1. (█) (GHD) Provided an overview of the investigation: <ol style="list-style-type: none"> a. Reissue of factual memorandum 3, minor amendments to data table formats. b. Issue of factual memorandum 4 – Summary of leachate results from current and former fire training grounds on site at JBRF. Results indicated low concentrations of PFAS in soil, with higher concentrations of PFAS in concrete detected. c. Issue of factual memorandum 5 – Summary of a concrete stockpile (Lower PFAS levels) , Tank S440 underground tank located fire training ground (Higher PFAS levels) and water treatment plant raw water inlet and potable water distribution tanks (No PFAS detects). d. The water use survey has been completed and the results will be incorporated into the conceptual site model and updated SAQP Rev 2 anticipated to issued to Defence on the 18/08/17. 2. PCG Comments received: <ol style="list-style-type: none"> a. (█) Good result with negative results received for water treatment plant. 3. (█) The uptake of the water use surveys, which commenced end of June, was slow. GHD held community engagements on 9th and 11th of July in the form of a community barbecue to support the uptake of the water use survey. This style of engagement encouraged the best possible uptake of the water use survey with 22 completed. Good information was received on types of bush tucker and localities through the area. No water bores on individual properties were identified, however drinking from local streams was reported as was swimming in local creeks and the ocean. The use of clay from the local area for traditional ceremonies was reported. The main source of biota identified was fish, oysters and pipis from the ocean and some consumption of local fauna of various types. No reports of fishing from local freshwater creeks as the locals are aware of the potential for poor condition water within the creeks, however swimming in the creeks occurs locally. Report of findings will be available soon.
SAQP and Conceptual Site Model	<ol style="list-style-type: none"> 4. (█) JBRF SAQP Rev1 has been reviewed by Defence, Auditor and agencies with all comments received recorded. SAQP Rev 2 will incorporate REV 1 agency comments and water use survey results expected to be issued to the PCG for comment approximately 25/08/17.
Future Stages - Human Health and Ecological Risk Assessment (HHERA)	<ol style="list-style-type: none"> 5. (█) Defence have received GHD's recommendation detailing the requirement for a Human Health and Ecological Risk Assessment (HHERA). GHD has also recommended that numerical groundwater modelling be carried out to support the investigation. It is likely that Defence will accept the recommendation.
Site Auditor Update	<ol style="list-style-type: none"> 6. (█) Site auditor comment – no new actions or issues from last PCG meeting, next expected action review of SAQP Rev 2 in August.

Stakeholder Engagement	<p>7. () Engaging with WBACC board has occurred with members of the board attending the community barbecues. The board has requested the water use survey results for review.</p> <p>8. () WBACC appointment of an independent adviser has not been achieved and there is no indication at this time when this may occur. WBACC has made further enquires about the site auditor () credentials. This presents a possibility that WBACC may consider a role for the site auditor to provide independent advice, however this is not been confirmed in any way.</p> <p>9. () It is expected the issue of SAQP Rev 2 to WBACC for review and endorsement will act as the catalyst for approval to conduct the investigation on offsite locations.</p> <ol style="list-style-type: none"> () Feedback received from Mal Hansen suggests WBACC are waiting for a "Plan" from Defence and then permission will be provided to access the offsite land. () Defence assumes the "Plan" referred to is SAQP Rev 2. () How many serves of locally caught fish/seafood is the community consuming? () Fish, oysters and pipis are (or were in the past) eaten regularly (whenever found). () What is the level of community concern? () A high level of community concern is present, both PFAS and legacy contamination issues. () Does a trust issue exist? () It was identified that some community wont engage with the project as lack of trust exists based on the conduct of previous contamination investigations. () Attended WB board meeting, identified WB board has a degree of sceptitism with the investigation. WB want to obtain a complete list of chemicals used by defence since the 1940's. () Enquired if the investigation is testing for additional contaminates. () Confirmed offsite testing of other contaminates primarily accelerants/hydrocarbons. () Many rumours exist within the community with regards to health impacts. WBACC have requested that National Parks () investigate threatened species to ascertain if threatened species are in decline and what potential causes exist, including relationship to contaminated water. () WBACC requested NP look into contingencies for remote and non remote defence contamination, contained within the Statement of Risk whole of budget paper for 17/18 		
- Community Enquiries	No formal enquiries received in the past month..		
Risks and Issues	10. No additional risks or comments received		
PFAS investigation results	<p>11. Investigation results received to date for PFAS compounds of key concern are shown in the attached Figures respectively:</p> <ol style="list-style-type: none"> sum of PFHxS & PFOS Soil and sediment sum of PFHxS & PFOS Surface and Groundwater sum of PFOA Soil and sediment sum of PFOA Surface and Groundwater 		
Other Business	Nil		
Meeting Close	14:45 PM		
Action Items			
Item #	Description	Owner	Due date
Nil	Nil	Nil	









Stedman, Andrew (Health)

From: [REDACTED]@ghd.com>

Sent: Tuesday, 8 August 2017 11:27 AM

To:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]; Clapham, David; Chester, Heath; Krsteski, Radomir
(Health); [REDACTED]
[REDACTED]; Stedman, Andrew (Health); [REDACTED]
[REDACTED]

Cc: PFASIM Jervis Bay

Subject: RE: JBRF PCG Meeting 5 Minutes

Attachments: JBRF PFAS Investigation June Monthly Report.pdf

Dear JBRF PCG,

Please find attached the June monthly report for the JBRF PFAS Investigation.

Regards,

[REDACTED]

GHD

[REDACTED] | E: [REDACTED]@ghd.com
Level 2, 57 Graham Street (PO Box 621) Nowra NSW 2541 Australia | <http://www.ghd.com/>
[Water](#) | [Energy & Resources](#) | [Environment](#) | [Property & Buildings](#) | [Transportation](#)

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Australian Government
Department of Defence
Estate and Infrastructure Group

PFAS Investigation and Management
Monthly Report- Jervis Bay Range Facility

18 07 2017

BP3-02-B091

26 Brindabella Circuit
Brindabella Business Park
PO Box 7925 Canberra BC 2610

Re: Jervis Bay Range Facility Environmental Investigation – Progress Report June 2017

1.0 Introduction

The following progress report has been prepared by GHD Pty Ltd to provide a summary of activities for the Comprehensive Investigation of PFC Site Conditions at Jervis Bay Range facility, HMAS Creswell and surrounds for the period between 31 May 2017 and 30 June 2017

2.0 Critical items

2.1 New items

- The Detailed Site Investigation (DSI) Sampling Analysis Quality Plan (SAQP) Rev 1, issued to Defence, Site Auditor and Agencies for comment. Comments received and recorded from ACT Government, Spotless and NSW EPA.
- SAQP will be updated to Rev 2 to include agency comments (where required), water use survey community information and biota sampling.
- The Board of Wreck Bay Aboriginal Community Council (WBACC) agreed to allow water use survey interviews to be conducted. Water use survey interviews commenced 19 June 2017.
- Sampling of Jervis Bay water treatment plant, raw water inlet and potable water tanks was carried out with approval from WBACC. Factual results have been provided to the PCG.
- The On-Site sampling has been completed, with additional factual reports of On-Site sampling provided as received to the PCG.
- GHD has prepared advice to defence to investigate the source of the PFAS contamination arising from the Creswell sewage treatment plant and treated effluent water retention basin.

2.2 Previously raised items to be addressed

- The Board of Wreck Bay Aboriginal Community Council (WBACC) was briefed on 11 Apr 2017 to seek agreement to access aboriginal lands for the PFAS investigation. The Board stated that no access to aboriginal lands will be granted, prior to appointment of independent expert to advise WBACC. This directly impacts the DSI works for the '403 land' and the Booderee National Park.

- As a result of the delay associated with accessing aboriginal land (expected to be 3 months or greater) the Detailed Site Investigation (DSI) has at this time been undertaken on Defence land only (with the exception of the water treatment plant). The DSI for non-Defence land will commence when approval from WBACC is provided and will require an update of the SAQP to incorporate feedback received from water use survey and other information provided by the community.

3.0 Project progress

- The following items have been completed this reporting period:
 - WBACC approval to conduct Water Use Survey.
 - WBACC approval to sample surface water from Lakes Windermere and McKenzie.
 - Commencement of Water Use Survey.
 - Sampling of Jervis Bay water treatment plant, raw water inlet and potable water tanks.
 - Factual reports of sampling results provided as received to the PCG.

3.1 Project impacts

- Identification of WBACC independent adviser and approval to conduct investigation on aboriginal lands.
- Requirement to conduct numerical groundwater modelling and Human Health and Ecological Risk Assessment (HHERA).

3.2 Project meetings

Project meetings held this reporting period are presented in Table 1.

Table 1: Summary of meetings held during the June reporting period

Meeting date	Meeting title	Participants	Minutes circulated
20 June 2017	PCG No 4	PCG members	Yes
Recurring Wednesday's	Weekly meetings	JBRF project team – Defence, GHD & Site auditor	Yes

3.3 Project deliverables submitted this period

Project deliverables submitted during this reporting period are presented in Table 2.

Table 2: Project deliverables submitted during the June reporting period

Document status	Title	Date submitted
Final	Factual Memorandum of JBRF sampling results No. 3 (Rev 2)	21 June 2017
Final	Factual Memorandum of JBRF sampling results No. 4	21 June 2017
Draft	Wreck Bay Stakeholder and Community Engagement Plan	20 June 2017

3.4 Project Milestones

The following project milestones were achieved in the June reporting period:

- Approval to conduct Water Use Survey
- Commencement of Water Use Survey

4.0 Project Forecast

The project schedule is enclosed in this document, dated 18 July 2017

4.1 Schedule tracking forecast

- The development and finalisation of the SAQP has been impacted by access to the Wreck Bay community and land and therefore has been delayed.
- SAQP (Rev 2) will be developed which will include:
 - Response to Rev 1 agency comments (where required)
 - Incorporation of water use survey community information
 - Biota sampling.
- Successful negotiation with WBACC to facilitate community water use surveys has been achieved with access to community commencing late June 2017.

4.2 Project deliverables expected next period

- Recommendation for HHERA and Groundwater numerical modelling

4.3 Technical Advisor forecast

The Technical Advisor's achievements and planned activities are presented in Table 3.

Table 3: Technical Advisor achievements and key activities during the June reporting period

Scope item	Achieved to date	Planned for next month
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

5.0 Community enquiries

In this reporting period:

- No community enquiries in total were received via the Community Hotline (1800 987 618) and email (Jervisbay@ghd.com.au)
- There are 0 outstanding stakeholder enquires

6.0 Interaction with Government

Meetings and communications with Government stakeholders are summarised in Table 4.

Table 4: Summary of interactions with Government during the June reporting period

Meeting date	Meeting title	Participants	Minutes circulated
20 June 2017	PCG No 4	NSW & ACT Agencies	Yes

9.0 Requests for information from Defence

- All relevant historical reports associated with JBRF environmental assessments and contamination investigations have been provided to GHD by Defence.

10.0 Other Matters

- Nil

Yours sincerely

[Redacted signature block]

CC:

Enclosures: JBRF Environmental Investigation Key Milestone summary

JBRF Environmental Investigation Key Milestone summary

Item	Start	Finish	
SAQP	30/03/2017	15/09/2017	
Defence, Auditor and Agency review of SAQP Rev 1	04/05/2017	18/05/2017	Defence/Auditor/ACT & NSW Agencies
Finalise SAQP Rev 1	19/05/2017	26/05/2017	GHD
Approval to conduct Water use survey	19/06/2017	07/07/2017	WBACC
Conduct WBAC water use survey	19/06/2017	11/07/2017	GHD/WBACC
Update of SAQP (REV 2) to incorporate water use survey results and Biota sampling	12/07/2017	18/08/2017	GHD
Defence, Auditor and Agency review of SAQP Rev 2	21/08/2017	01/09/2017	Defence/Auditor/ACT & NSW Agencies
WBACC review of SAQP Rev 2	04/09/2017	15/09/2017	WBACC
Finalise SAQP	18/09/2017	30/09/2017	GHD
Off Site Access	15/09/2017	TBA	WBACC/Booderee
Appointment of WBACC independent Adviser	11/04/2017	TBA	WBACC
Approval to conduct Off-Site Groundwater Bore Installation, Soil, Sediment and surface water sampling	11/07/1017	TBA	WBACC
DSI	5/04/2017	28/08/2017	GHD
On-Site Groundwater Bore Installation, Soil, Sediment and surface water sampling (Round 1).	5/04/2017	09/05/2017	GHD
On-Site Groundwater Bore Installation, Soil, Sediment and surface water sampling (Round 2).	TBA	TBA	GHD
Factual report of On-Site sampling results	09/05/2017	11/07/2017	GHD
Off-Site Groundwater Bore Installation, Soil, Sediment and surface water sampling (Round 1)	TBA	TBA	GHD
Off-Site Groundwater Bore Installation, Soil, Sediment and surface water sampling (Round 2)	TBA	TBA	GHD

Item	Start	Finish	
Factual report of Off Site sampling results	TBA	TBA	GHD
DSI Reporting	11/05/2017	14/02/2018	
Defence and Auditor review of Draft DSI Report	16/11/2017	26/11/2017	Defence/Auditor
Update of Draft DSI Report	26/11/2017	28/11/2017	GHD
ACT & NSW State Agency review of draft DSI Report	28/11/2017	22/12/2017	Defence/Auditor/ACT & NSW Agencies
Finalise DSI Report	10/01/2018	14/01/2018	GHD
Final DSI Report approved	15/01/2018	15/01/2018	Defence
Community Information Session	18/01/2018	14/02/2018	GHD/Defence/Agency
Groundwater numerical modelling and Human Health and ecological risk assessment	24/08/2017	25/05/2018	
HHERA Recommendation	18/07/2017	21/07/2017	GHD
HHERA Methodology preparation	24/08/2017	06/09/2017	GHD
Review of Draft HHERA Methodology	07/09/2017	20/09/2017	Defence/Auditor/ACT & NSW Agencies
Implementation	21/09/2017	21/12/2017	GHD
Draft Reporting	05/01/2018	15/03/2018	GHD
ACT & NSW State Agency review of draft HHERA	16/03/2018	26/04/2018	Defence/Auditor/ACT & NSW Agencies
Finalise HHERA Report	27/04/2018	27/05/2018	GHD
Final HHERA report approved	27/05/2018	27/06/2018	Defence
Community Information Session	28/06/2018	28/06/2018	GHD/Defence/Agency

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

Agenda

Introductions	
Investigation Progress (DSI scope and schedule)	<ul style="list-style-type: none"> - Detailed Site Investigation (DSI) - SAQP & Conceptual Site Model (CSM) - Factual memorandums
Future Stages (schedule)	<ul style="list-style-type: none"> - Human Health and Ecological Risk Assessment (HHERA)
Site Auditor	<ul style="list-style-type: none"> - Update from site auditor
Stakeholder Engagement	<ul style="list-style-type: none"> - Meetings and briefs - Community Info Sessions - Community enquiries
Risks and Issues	
Other Business	
Close	

Table 1 - JBRF PFAS Investigation Key Milestone summary August 17

Item	Start	Finish	
SAQP	30/03/2017	11/10/2017	
Defence, Auditor and Agency review of SAQP Rev 1	04/05/2017	18/05/2017	Defence/Auditor/ACT & NSW Agencies
Finalise SAQP Rev 1	19/05/2017	26/05/2017	GHD
Approval to conduct Water use survey	19/06/2017	07/07/2017	WBACC
Conduct WBAC water use survey	19/06/2017	11/07/2017	GHD/WBACC
Update of SAQP (REV 2) to incorporate water use survey results and Biota sampling – Draft SAQP REV 2	12/07/2017	18/08/2017	GHD
Defence and Auditor review of Draft SAQP Rev 2	21/08/2017	12/09/2017	Defence/Auditor
Defence, Auditor and GHD Draft SAQP Rev 2 Workshop	13/09/2017	13/09/2017	GHD/Defence/Auditor
WBACC, ACT & NSW Agencies review of Draft SAQP Rev 2	20/09/2017	04/10/2017	WBACC/ACT & NSW Agencies
Finalise SAQP	04/10/2017	11/10/2017	GHD
Stakeholder engagement	30/01/2017	01/06/2018	
Community engagement Event 1	21/03/2017	21/03/2017	Community/Defence/ACT & NSW Agencies
Community engagement Event 2	25/10/2017	25/10/2017	Community/Defence/ACT & NSW Agencies
Off Site Access	05/10/2017	TBA	WBACC/Booderee
Appointment of WBACC independent Adviser	11/04/2017	TBA	WBACC
Approval to conduct Off-Site Groundwater Bore Installation, Soil, Sediment and surface water sampling	22/08/1017	TBA	WBACC
DSI	5/04/2017	TBA	GHD
On-Site Groundwater Bore Installation, Soil, Sediment and	5/04/2017	09/05/2017	GHD

Item	Start	Finish	
surface water sampling (Round 1).			
On-Site Groundwater Bore Installation, Soil, Sediment and surface water sampling (Round 2).	TBA	TBA	GHD wet weather event
Factual reports of On-Site sampling results	09/05/2017	11/08/2017	GHD
Off-Site Groundwater Bore Installation, Soil, Sediment and surface water sampling (Round 1)	TBA	TBA	GHD
Off-Site Groundwater Bore Installation, Soil, Sediment and surface water sampling (Round 2)	TBA	TBA	GHD
Factual report of Off Site sampling results	TBA	TBA	GHD
DSI Reporting	11/05/2017	14/02/2018	
Defence and Auditor review of Draft DSI Report	16/11/2017	26/11/2017	Defence/Auditor
Update of Draft DSI Report	26/11/2017	28/11/2017	GHD
ACT & NSW State Agency review of draft DSI Report	28/11/2017	22/12/2017	Defence/Auditor/ACT & NSW Agencies
Finalise DSI Report	10/01/2018	14/01/2018	GHD
Final DSI Report approved	15/01/2018	15/01/2018	Defence
Community Information Session	18/01/2018	14/02/2018	GHD/Defence/Agency
Human Health and ecological risk assessment	24/08/2017	25/05/2018	
HHERA Recommendation	18/07/2017	21/07/2017	GHD
HHERA Methodology preparation	24/08/2017	06/09/2017	GHD
Review of Draft HHERA Methodology	07/09/2017	20/09/2017	Defence/Auditor/ACT & NSW Agencies
Implementation	21/09/2017	21/12/2017	GHD
Draft Reporting	05/01/2018	15/03/2018	GHD

Item	Start	Finish	
ACT & NSW State Agency review of draft HHERA	16/03//2018	26/04/2018	Defence/Auditor/ACT & NSW Agencies
Finalise HHERA Report	27/04/2018	27/04/2018	GHD
Final HHERA report approved	27/04/2018	27/04/2018	Defence
Community Information Session	30/04/2018	25/05/2018	GHD/Defence/Agency

Stedman, Andrew (Health)

From:

[Redacted]
Tuesday, 15 August 2017 3:16 PM

Sent:

To:

[Redacted]
[Redacted]
[Redacted]; Clapham, David; Chester, Heath; Krsteski, Radomir
(Health);
[Redacted]
Stedman, Andrew (Health);
[Redacted]

Cc:

Subject:

FW: Water use survey results to Wreck Bay - FW: A few items to discuss.

Attachments:

2126171 -Water Use Survey Findings report_DRAFT.pdf

Dear JBRF PCG,

Attached is the Draft Water use survey, compiled by GHD, using information provided by the Jervis Bay Community.

Wreck Bay Aboriginal Community Council has requested the results of the survey to be presented to the Board, which is scheduled for the 22nd August 2017.

The Draft document attached will be finalised, following this meeting.

Regards,

[Redacted Signature]

GHD

[Redacted]
Level 2, 57 Graham Street (PO Box 621) Nowra NSW 2541 Australia | <http://www.ghd.com/>
Water | Energy & Resources | Environment | Property & Buildings | Transportation

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Department of Defence

Water Use and Biota Survey Jervis Bay Range Facility and
HMAS Creswell – Jervis Bay Territory
Commonwealth of Australia

DRAFT Report of Findings

August 2017

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Appendices

Appendix A – Map and legend used at community barbeque

Appendix B – Water Use Survey

1. Introduction

1.1 Background

The Department of Defence (Defence) has commenced a detailed investigation program at Jervis Bay Range Facility (JBRF) and HMAS Creswell (the base) and surrounding areas of Jervis Bay Territory, Commonwealth of Australia.

The investigation is part of Defence's review of a number of its sites around Australia that used fire-fighting foams containing perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). PFOS and PFOA are two of a number of compounds that are collectively known as PFAS and are emerging as an international concern due to their persistence in the environment.

GHD consulted with residents of Jervis Bay and Wreck Bay villages to understand how they use locally sourced food and water within the field investigation area surrounding JBRF and the base. This information will help inform the off-site investigation program.

This report summarises the findings from surveys that comprised 23 interviews of people who live and/or use water (including animals or plants that are consumed – biota) in the investigation area. The survey was conducted over two weeks, from 19 June to 29 June 2017 with additional information collected during two community barbeque events held on Sunday 9 and Tuesday 11 July, 2017.

1.2 Purpose

The purpose of this survey was to obtain information from local residents about water and land use at their properties and within the investigation area. The results presented in this report will assist Defence in recommending appropriate management strategies throughout the JBRF and HMAS Creswell Investigation.

1.3 Methodology

The chosen survey method was a questionnaire developed to act as a guide when interviewing community members through the collation of both qualitative and quantitative responses. For seven days between 19 and 26 June team members were located at Jervis Bay Territory Administration (JBTA) office (located in Jervis Bay village) or Wreck Bay Aboriginal Community Council (WBACC) office (located in Wreck Bay village). Dates and locations were arranged in collaboration with the WBACC and promoted to the community through notices via letterbox drops. Residents were invited to drop in or make an appointment to complete a survey. Fourteen surveys were completed during the period.

On 9 and 11 July, community barbeques were held with the assistance of members of the Wreck Bay Community, outside the WBACC office in Wreck Bay village. The barbeques were promoted by WBACC through a mailout to their registered members (roughly 300). Attendees spoke to GHD team members to complete a survey. A second method used to capture data at this time was using large coloured aerial maps of the investigation area to allow residents to place coloured coded dots to visually demonstrate how and where they have interacted with land and water in this area. There were 14 attendees at the two barbeques, with nine new surveys being completed (four attendees had previously completed a survey). This is discussed in more detail in section 3.14. and illustrated in Figure 13.

The original map used at the barbeque showing the investigation area and coloured dot legend is attached as **Appendix A – Map and legend used at community barbeque**. A blank copy of the water use survey is attached to this report as **Appendix B – Water Use Survey**.

2. Summary of key findings

There are a number of findings from the water use and biota survey responses that provide an insight into how residents of Jervis Bay Territory use land and water.

The key findings include:

- The majority of respondents (86%) indicated they are private renters. The remaining respondents were the Jervis Bay Village School, shop and police station.
- No respondents had bores located on their properties.
- One respondent, the Jervis Bay Primary School, has rainwater tanks that are used to flush some of the toilets, and to water the school vegetable garden. Town water is used for all other purposes.
- Seven respondents (30%) reported that after wet weather events, water pooled on their property and did not quickly drain away.
- Eighteen respondents (78%) regularly swim (or used to swim, when younger) in the oceans in Jervis Bay Territory.
- Thirteen respondents (57%) regularly swim (or used to swim, when younger) in the rivers or creeks in Jervis Bay Territory.
- Sixteen respondents (70%) regularly fish (or used to fish, or used to fish when younger) from the oceans in Jervis Bay Territory.
- Eight respondents (35%) regularly fish (or used to fish, when younger) from the rivers or creeks in Jervis Bay Territory.
- Nineteen respondents (83%) have consumed or continue to consume flora/vegetation collected from within the investigation area.
- Seventeen of the respondents (74%) have, at some point, used or consumed clay collected from within the investigation area on a regular basis.

3. Water use

The findings of the survey showed that all people surveyed use mains water as their primary water source.

The results also indicate that respondents regularly use land and water around Jervis Bay Territory. All respondents reported using land or water in some way including swimming, fishing, consuming flora or using clay.

All respondents had, at one point lived within the investigation area, with the majority currently living in Wreck Bay village.

3.1 Property type

Nineteen responses (83%) indicated that they rented a private residence. The remaining 13% of respondents (three) were the Jervis Bay Village Primary School, the local takeaway shop/general store and the Australian Federal Police station located in Jervis Bay Village. 57% of respondents (13) currently live in Wreck Bay Village and 26% of respondents (six) live in Jervis Bay Village. Of the 13% of respondents (three) who did not live in either village, two had previously lived in Wreck Bay village and one had lived in Jervis Bay village.

3.2 Type of supplied water

The majority of respondents indicated that there were no bores or water tanks on their property. Survey respondents are all supplied with mains water. The one respondent with water tanks was the Jervis Bay Primary School and water from rainwater tanks is used only to flush some of the toilets and to water the school vegetable garden.

3.3 Surface water on property

Respondents were asked if there was any surface water on the property, including; dam, wetland, creek, surface drain, pond or other. One respondent reported that they had a pond on their property, which was filled by a tap (mains water). 30% of respondents (seven) indicated that after wet weather, water pooled in their front or back yards and did not drain away quickly. Respondents did not indicate that this water was used in any way other than eventually draining away.

3.4 Drinking water from creeks/ivers

The survey asked respondents if they drank water from the creeks and rivers around the Territory. 74% of respondents (seventeen) indicated that they drank (or used to drink) from a number of creeks and rivers around the Territory, while 22% of respondents (five) said they did not. Locations were primarily Mary's Creek and Blacks Waterhole, but also included Summercloud Creek, Whiting Bay and Green Patch. Figure 2 below shows the breakdown of drinking water locations, and the most popular locations for drinking water.

Respondents have been drinking from these creeks and rivers for a range of 12 to 60+ years. Four respondents no longer drink creek or river water; one stopped drinking water from Mary's Creek 20-30 years ago. One stopped drinking from Whiting Bay 16 years ago and one stopped drinking at the Falls (Mary's Creek) about 40 years ago. Both of these respondents were not specific about why they had stopped drinking the water. One respondent stopped drinking around five years ago as they were concerned about potential contamination.

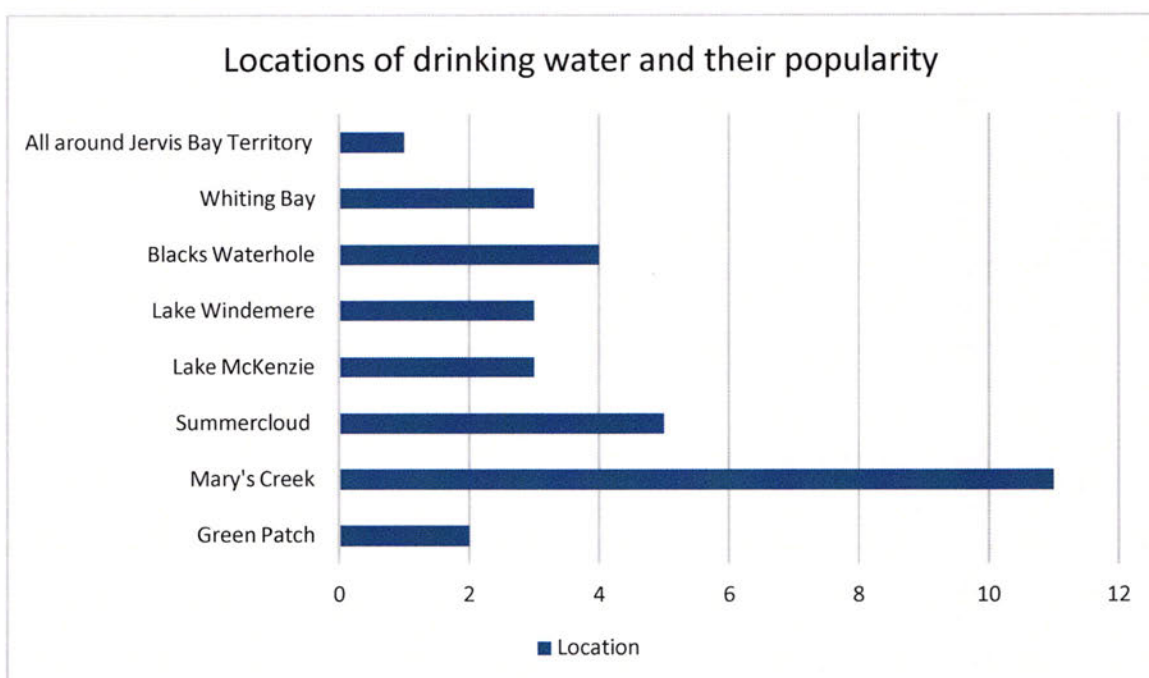


Figure 1 Locations and popularity of water consumed from creeks/river

3.5 Swimming in the ocean

The survey asked respondents if and where they swim in the ocean. 83% of respondents (nineteen) indicated that they swim in oceans around the investigation area regularly, while 13% of respondents (three) said they did not. Locations were primarily Mary's Beach and Summercloud Beach (also known as "Front Beach"). Figure 2 shows the breakdown of where respondents indicated that they swim in the ocean, and the number of people who swim at those spots. Respondents have been swimming in these locations for a range of 12 to 60+ years.

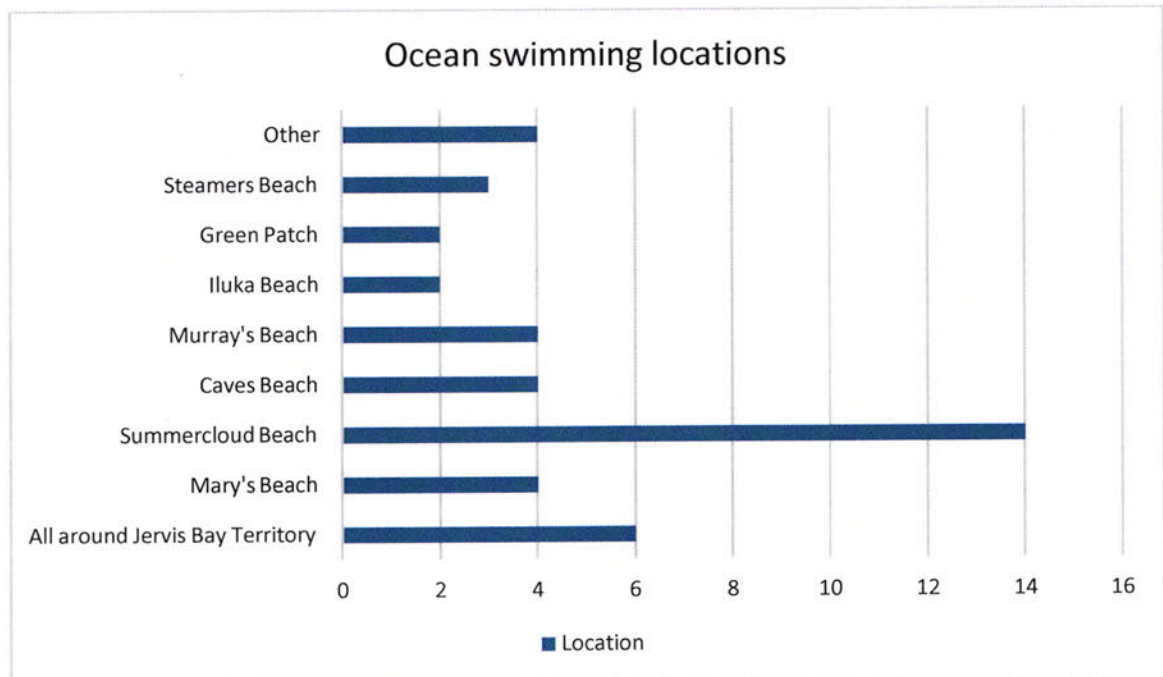


Figure 2 Locations where respondents swim in the ocean

3.6 Swimming in creeks/ivers

The survey asked respondents if and where they swim in creeks or rivers within the investigation area. 65% of respondents (fifteen) indicated that they swim (or in two cases used to swim) in creeks or rivers, while 30% of respondents (seven) said they did not.

Locations were primarily Mary's Beach (also known as 'Front Beach') and Summercloud Beach. Figure 3 below indicates where respondents swim in creeks or rivers. Respondents have been swimming in these locations for a range of 12 to 60+ years. Some older respondents no longer swim, or swim rarely.

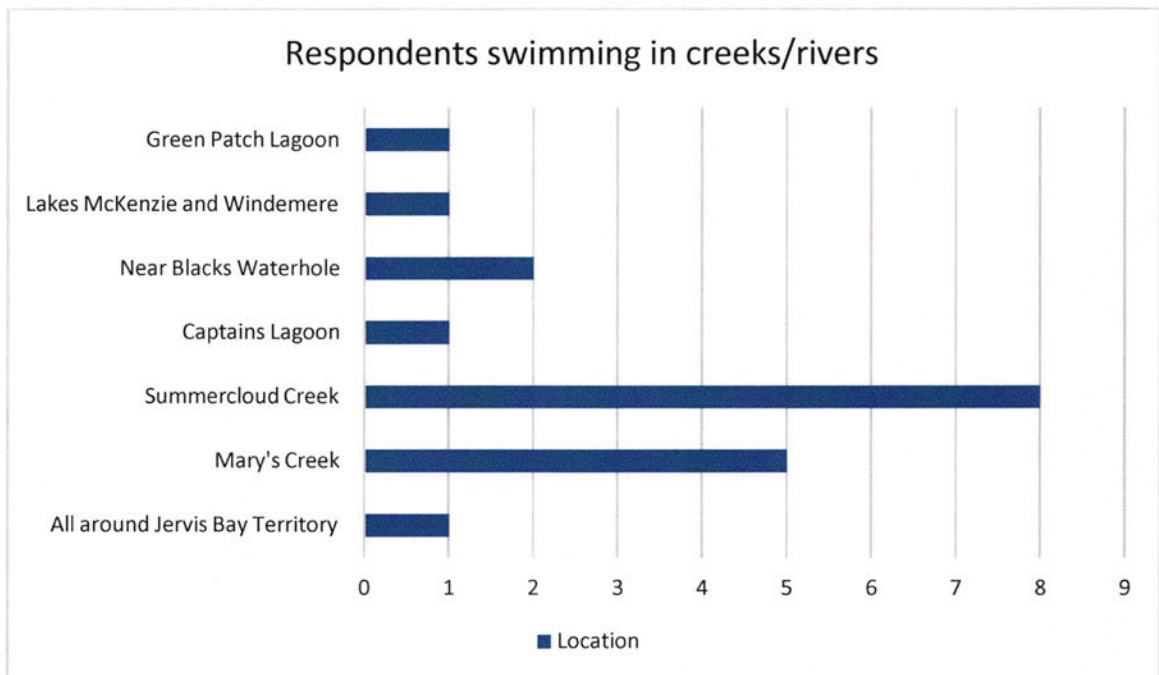


Figure 3 Locations where respondents swim in the creeks/ivers

3.7 Fishing from the ocean

The survey asked respondents if they fished from the ocean, the location of where they fished in the ocean and what they mostly caught. 83% of respondents (nineteen) indicated that they fished at beaches within the investigation area, while 13% of respondents (three) said they did not. The majority of respondents reported that they fished all around Jervis Bay Territory. Figure 4 shows where respondents indicated they fish from the ocean.

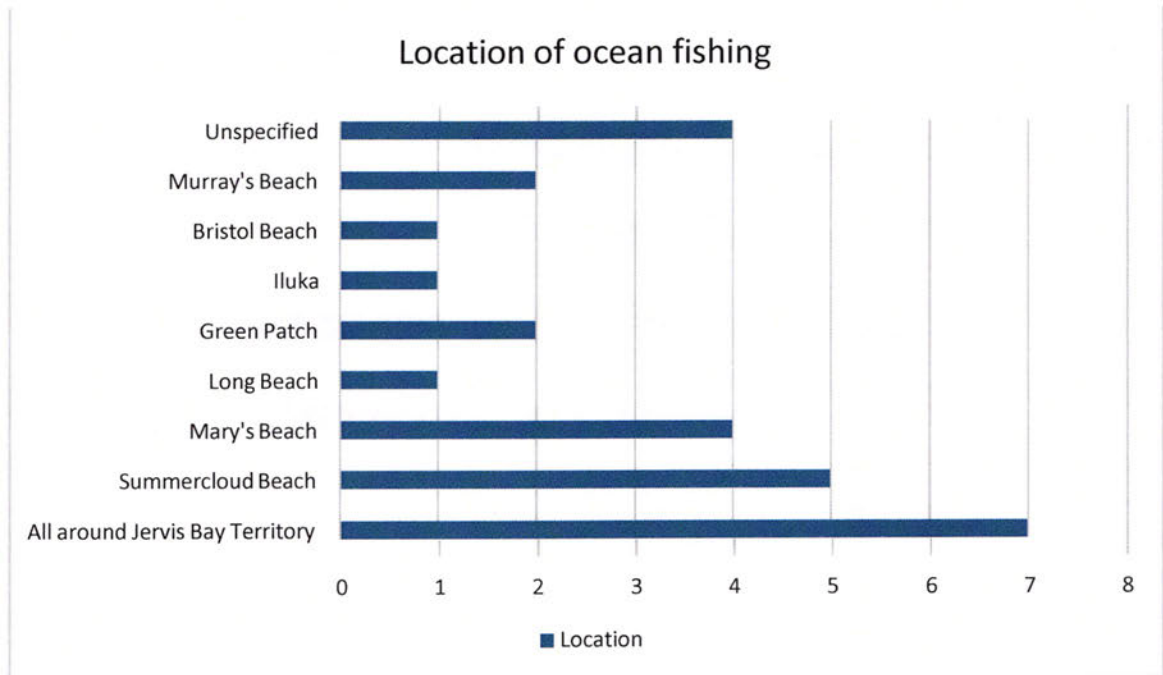


Figure 4 Locations where respondents fish from the ocean

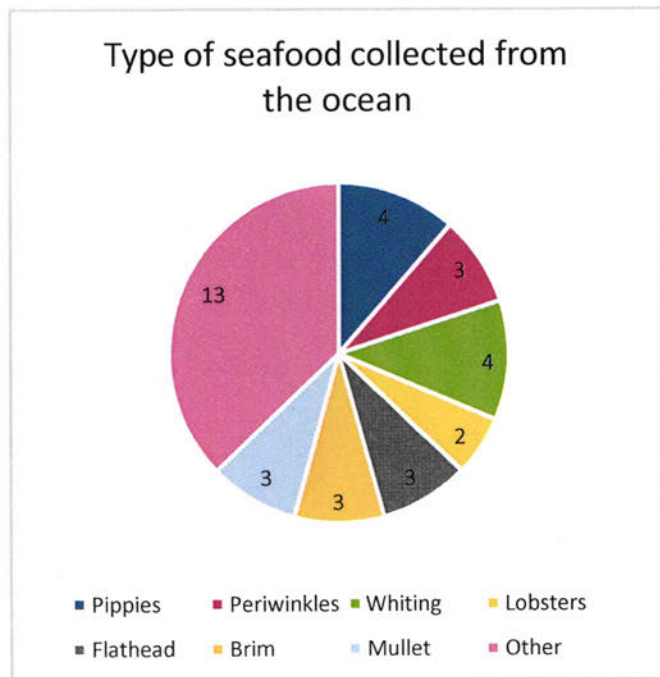


Figure 5 shows the types of seafood caught or collected. Respondents have been fishing at these locations for a range of 12 to 60+ years. One respondent said that they had stopped fishing in the area in the last six months due to concerns about potential contamination.

Figure 5 Types of seafood collected

3.8 Fishing from creeks/ivers

The survey asked respondents if they fished from creeks or rivers, the location of freshwater fishing and what they caught. 61% of respondents (fourteen) indicated that they fished in creeks or rivers within the investigation area, while 35% of respondents (eight) said they did not. The majority of respondents reported that they fished from Mary's Creek and Summercloud Creek (or the surrounding areas). Figure 6 shows which creeks and rivers respondents use for fishing.

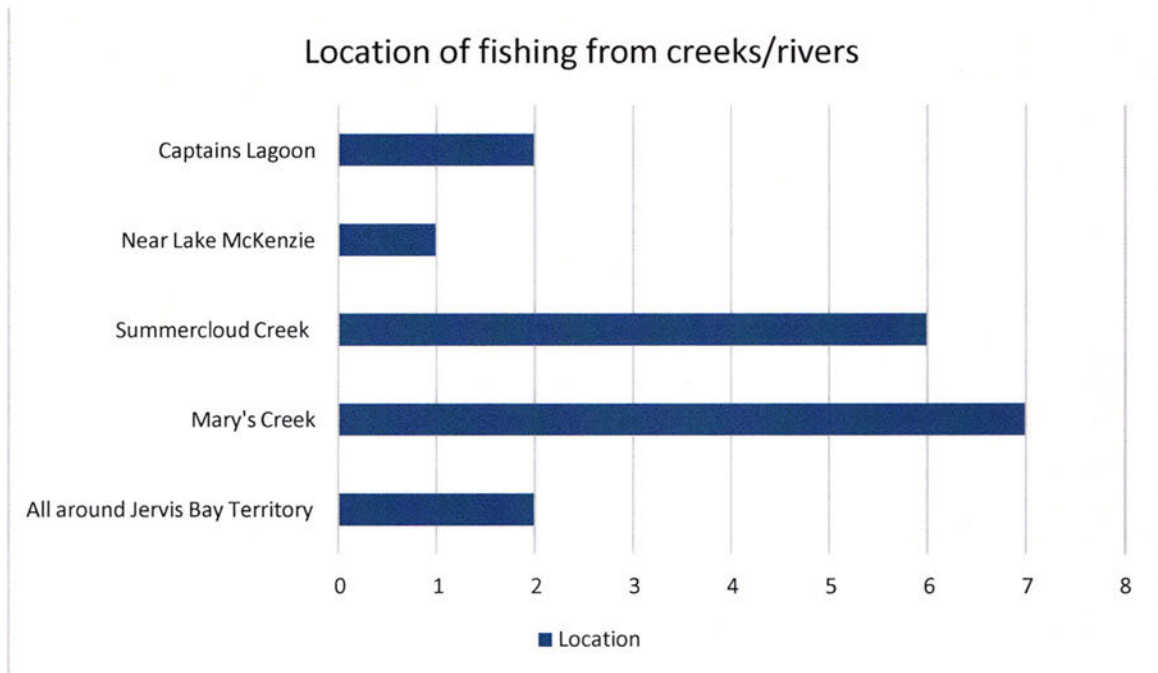


Figure 6 Locations where respondents fish from creeks/ivers

Figure 7 shows the types of fish collected from creeks and rivers. Respondents have been fishing at these locations for a range of 12 to 60+ years. One respondent reported that they fished for yabbies from Mary's and Summercloud Creeks 40 years ago, but doesn't any longer. They stopped collecting yabbies due to contamination concerns.

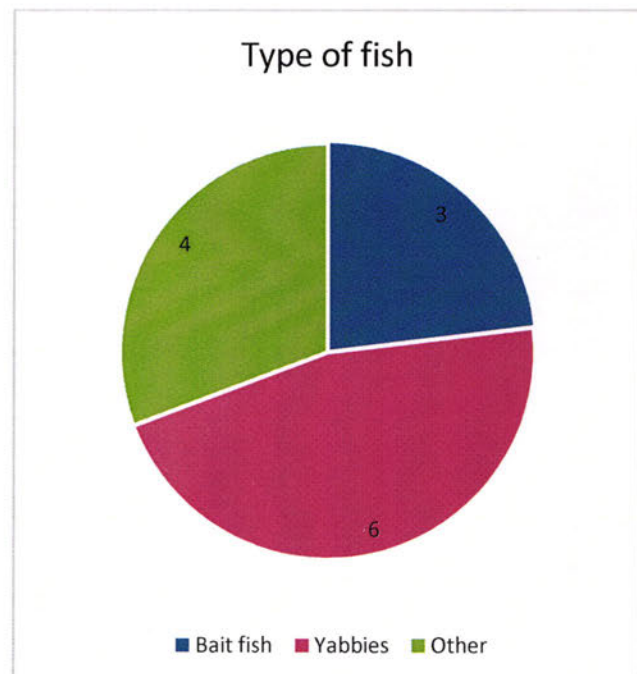


Figure 7 Types of fish collected from creeks/ivers

3.9 Eating flora

The survey asked respondents if they consumed flora/vegetation collected within the investigation area. 78% of respondents (eighteen) indicated that they collected and consumed flora, while 13% of respondents (three) said they did not. The majority of respondents reported that they collected flora from all over Jervis Bay Territory. Figure 8 indicates where respondents collect flora.

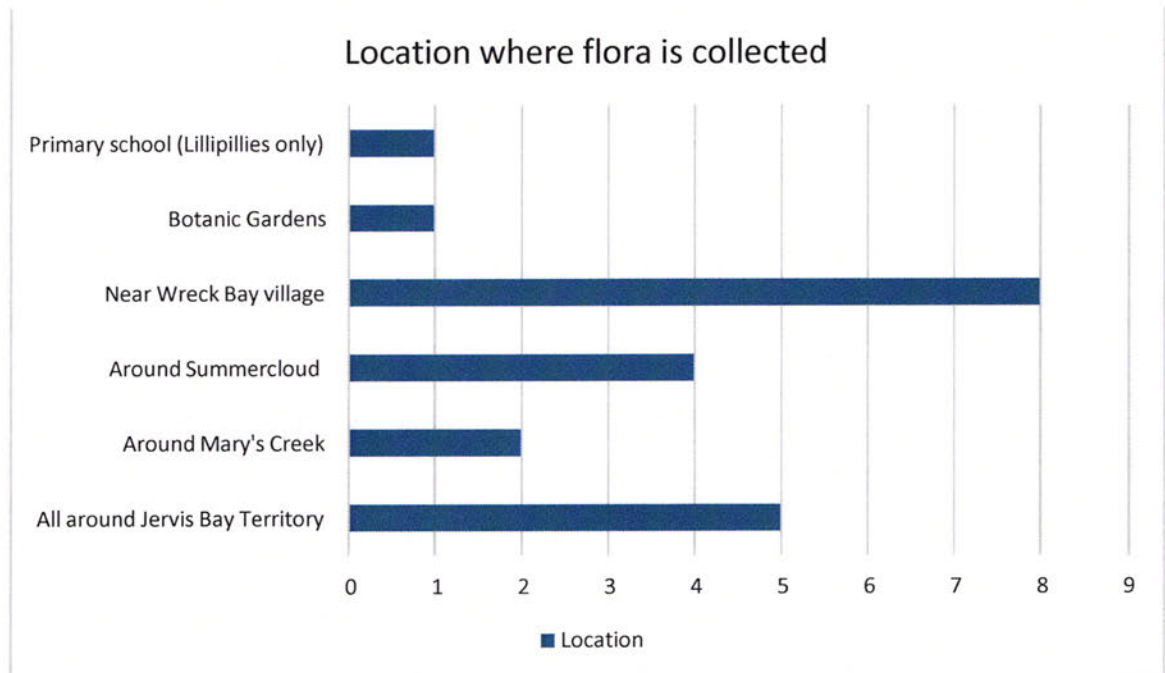


Figure 8 Locations where respondents collect flora

Figure 9 illustrates the type of flora that respondents collect. Respondents have been collecting and consuming flora from these locations for a range of 12 to 60+ years. Two respondents reported that they no longer collected flora but did not specify why. All of these plants are collected for consumption.

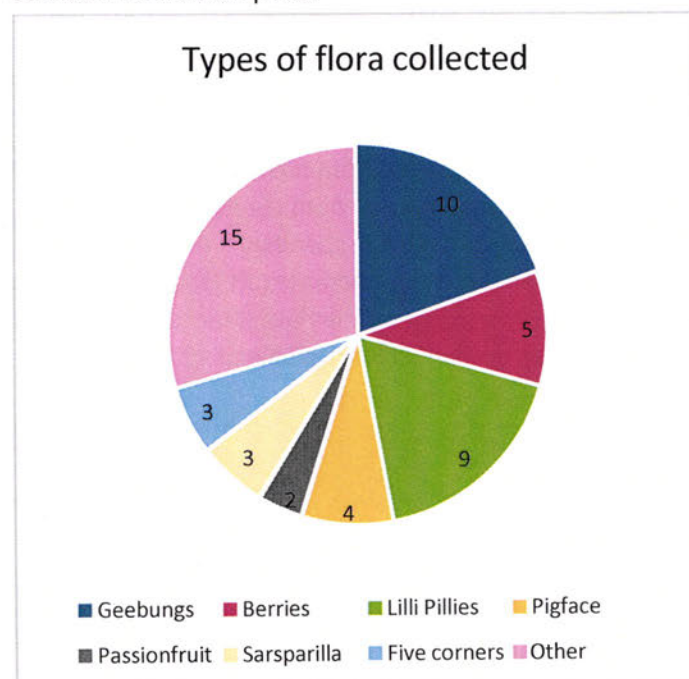


Figure 9 Types of flora collected and consumed

3.10 Eating fauna

No respondents indicated that they ate fauna found in Jervis Bay Territory. Two people reported that they knew that historically, people did eat fauna such as, kangaroo, possum, rabbit and birds in the area but this no longer occurs.

3.11 Using water collected from creeks for cooking

Respondents were asked if they used water collected from creeks or rivers for cooking. 30% of respondents (seven) indicated that they have cooked with water collected from creeks and rivers, while 65% of respondents (fifteen) said they did not. Figure 10 describes where respondents collected water.

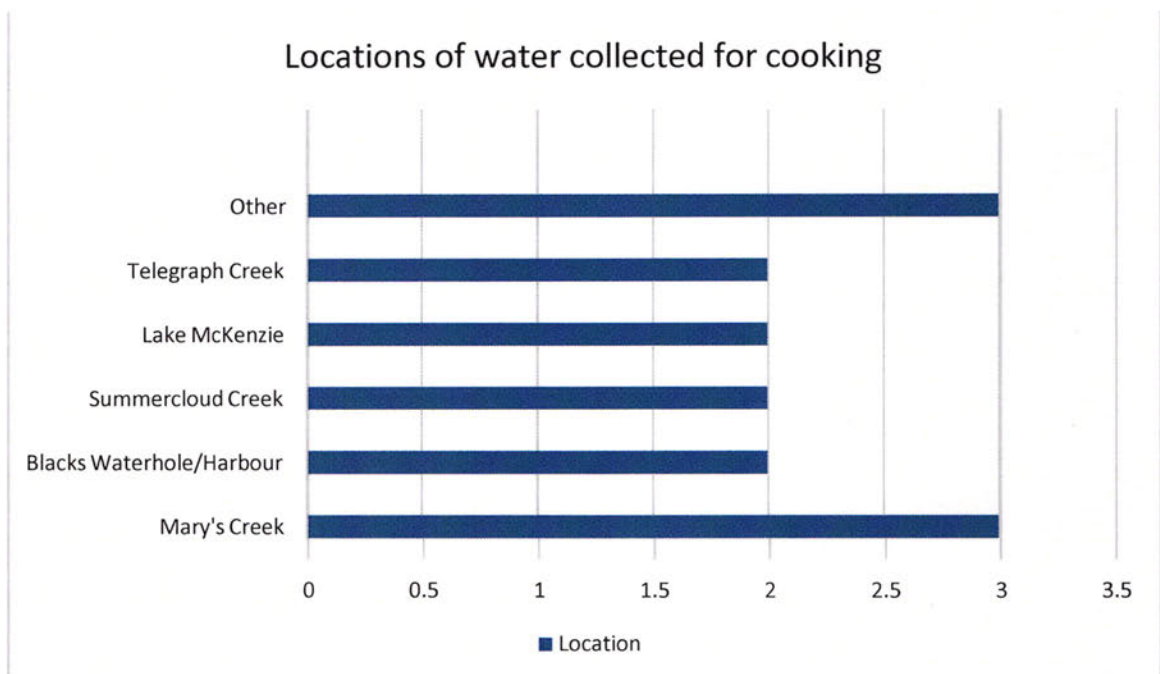


Figure 10 Where water has been or is collected for cooking

3.12 Using water collected from creeks for washing

Respondents were asked if they used water collected from creeks or rivers for washing. 87% of respondents (twenty) said that they did not collect water from creeks or rivers for washing, while 9% of respondents (two) indicated that they had. One respondent said that they have occasionally used water from the creek west of the aerodrome (JBRF) for washing. Another respondent said that they had occasionally washed at The Falls (Mary's Creek) as a child. The two respondents washed in the creeks as children in the 1950s and 1970s.

3.13 Eating or using clay

Respondents were asked if they consumed or used locally sourced clay. Clay can be applied to the skin for sun protection or ceremony, may be consumed for mineral benefits or may be played with by children. 70% of respondents (sixteen) indicated that they used clay from within the investigation area, while 26% respondents (six) said they did not. The majority of respondents reported that they used it as a topical application, usually as a sunscreen. 13% respondents (three) said they knew that in the past pregnant women consumed the clay when they had cravings. Figure 11 indicates the areas where respondents collected clay.

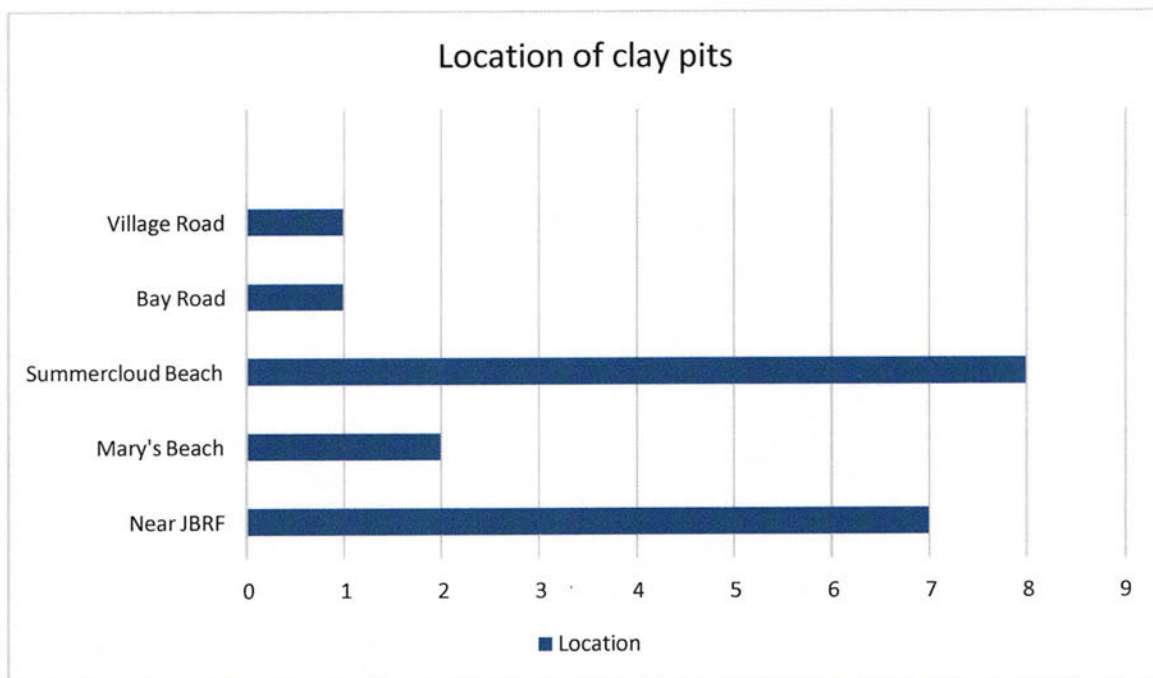


Figure 11 Where clay is collected

Figure 12 illustrates the reason respondents used clay. Respondents have been collecting and consuming clay from these locations for a range of 12 to 60+ years. 17% respondents (four) said that they had only used the clay as children.

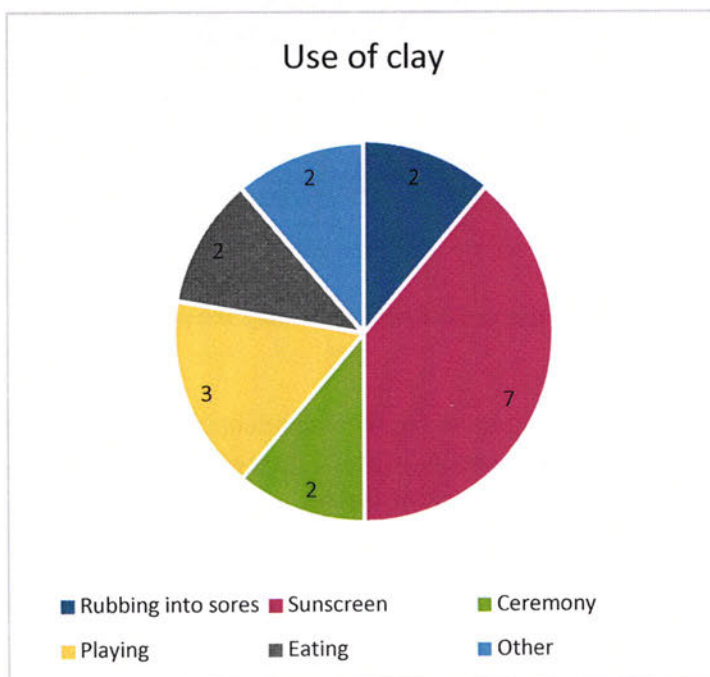


Figure 12 Use of clay

3.14 Additional comments

On 9 and 11 July, community barbecues were held and surveys taken. A second method used to capture data from the community members who attended the barbecues was using large coloured aerial maps of the investigation area to allow residents to place coloured coded dots to visually demonstrate how and where they have interacted with land and water in this area. There were 14 attendees at the two barbecues, with nine new surveys being completed (four attendees had previously completed a survey).

The data collected visually indicates the ongoing activities occurring between the Wreck Bay and Jervis Bay Communities and the environment within and close to the investigation area.

The map with collated responses which also shows the investigation area, and colour dot legend is shown below as Figure 13 - Collated Map Responses.

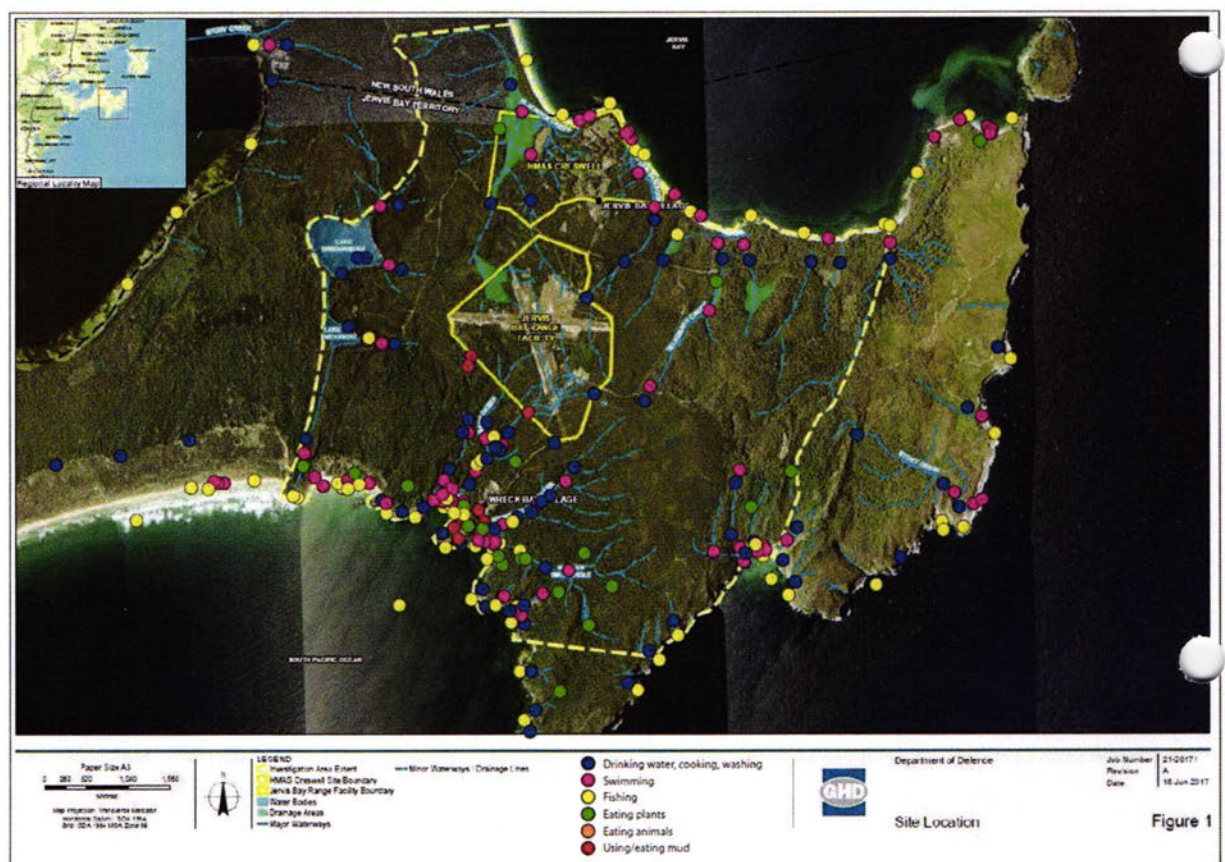


Figure 13 Collated Map Responses

A small number of respondents provided some additional comments that may be relevant to the investigations. Table 1, below summarises the comments and the number of respondents who raised the same issues.

Table 1 Additional comments

Number of respondents	Comments
Three	"There are a lot of community members who have died because of cancer or heart disease. We are dealing with different exposures over different generations."
Three	There are historical stories of people born in the 1930s and 1940s eating fauna. This included possums, birds, kangaroo, rabbits and porcupine [we assume this is echidna].
Three	<p>References to the Coffey report:</p> <ul style="list-style-type: none"> • Contamination in firefighting area which is referenced in the Report. • "Level of contamination was to be monitored (at border [on WB] of JBRF) but Defence hasn't done anything. Remediation Action Plan from the Coffey Report laid out actions to be taken by Defence in partnership with the community but nothing has happened. This has caused the lack of trust." • "Health risks (Coffey Report) around carcinogens haven't been communicated."
Two	How do you quantify the loss of cultural knowledge, through not being able to forage, etc. We lived off land, it was our whole life.
Two	Defence used to do burn offs on JBRF using rubber tyres. In North Easterly winds, black smoke used to come towards community. It would go for hours on a daily basis.
Two	<p>Buried drums with unknown contents:</p> <ul style="list-style-type: none"> • "There was talk of Defence burying drums down the back of the JBRF, on the south western side." • "There were 44 gallon drums buried [outside the testing area], near Bherwerre Track. Pippi's are collected in the area on a regular basis."
Two	<p>Wells:</p> <ul style="list-style-type: none"> • There was an old well used for water (30 years ago) - near Summercloud Beach. • There were wells in mission days.
Two	Since awareness of contamination, kids have been banned from eating yabbies (which are deformed), bush food, etc.
Two	In 1964 Lake McKenzie was overflowing and running into Lake Windemere.
One	Information about Booderee National Park and worker practices.
One	Request for blood tests.
One	"At the moment [June 2017] there is a white substance on the bottom of Mary's Creek, we don't know what it is."

Number of respondents	Comments
One	Kids sit in the water laying around the village after wet weather.
One	There is no link between health providers monitoring the area and the community.
One	"Flight patterns and high usage (of planes and helicopters) in the area affects plants. The fuel goes over the land, but no one has captured environmental impacts or impacts on people. They look at impacts that are visible but miss the invisible impacts."
One	"Lack of consultation/communication from the WBACC board about this investigation/project (amongst other issues) is frustrating for the community."
One	Used to be a firefighter and did drills at JBRF. I thought foam was going into a holding.
One	Foams used to run into Lake Windemere.

4. Conclusion

Residents of Jervis Bay Territory are connected to mains water; no respondents who lived in a private residence reported that they had bores or water tanks.

The survey results indicate that the residents of Jervis Bay Territory regularly use the land and water within the investigation area.

Given the number of people who regularly consume seafood, flora, clay or water it is recommended that investigation includes sampling in the areas indicated on the maps. A number of testing sites and different types of media (e.g. biota, surface water, soils, sediment) may need to be sampled and tested for PFAS and other chemicals.

Appendices

Appendix A – Map and legend used at community barbeque



Appendix B – Water Use Survey

Water Use Survey – Jervis Bay Territory

The Department of Defence is seeking to understand how water is used in the local area and requests your help to answer survey questions about water and land use on your property, and the quantity and type of local foods you and your family eat (such as meat, fruit and vegetables). This survey is an important part of the investigation and will assist in developing the detailed sampling program.

This investigation will determine the extent and levels of per- and poly-fluoroalkyl substances (PFAS) on, and around some of its bases around Australia. For more information regarding this investigation you can contact us on 1800 987 618 or at JervisBay@ghd.com

Your participation in this survey is voluntary and you do not have to provide an answer to each question if you choose not to. The privacy statement below explains how the information you provide will be used.

Privacy Statement

This information is being collected by GHD on behalf of the Department of Defence.

Your response will inform Defence's investigation of the environmental conditions in the Jervis Bay Range Facility investigation area. Supply of this information is voluntary. If you choose not to provide this information, Defence will not be able to take into account your specific circumstances. For more information about the investigation go to <http://www.defence.gov.au/JervisBay> or contact us through the telephone or email address provided (1800 987 618 or JervisBay@ghd.com)

The information you provide may be shared with Defence's technical advisors, relevant government agencies and organisations, and business entities directly involved in the environmental assessment program. Such organisations may include but are not limited to: Wreck Bay Aboriginal Community Council, Parks Australia, NSW Environmental Protection Agency, ACT Health, NSW Health, Jervis Bay Territory Administration.

The Defence Privacy Policy is available at <http://www.defence.gov.au/Privacy.asp>. The Defence Privacy Policy contains information on how an individual may apply for access to their personal information and how an individual may apply to have their personal information amended. The Defence Privacy Policy also contains information for individuals on how to make a privacy complaint to Defence if they consider Defence may have breached the Australian Privacy Principles. The Defence Privacy Officer can be contacted by email at: defence.privacy@defence.gov.au.

Date: _____ / _____ / _____

Name: _____

Property address: _____

Postal address: _____

Phone number: _____

Email address: _____

1. What type of property are you responding about? (if your property is used for more than one use, please select multiple answers)

private residential – owned

private residential – rented

school / childcare

Other (please specify

2. How many people usually live at this property?

3. How long have you lived at this property?

4. How is water currently supplied to your property? Please select more than one answer if required.

mains water

rain water

bore water

Other (e.g. recycled water): _____

5. Do you have water tanks on your property?

Yes

No

If there are no water tanks on your property, please go to Question 10.

6. How many water tanks are on your property and what material they are made from? (e.g. concrete, iron, poly, fibreglass)

7. Are your water tanks above or below ground?

8. Have your water tanks contained bore water either currently or in the past? Please select more than one answer if required.

- No
- Yes – my water tank/s are **currently** mixed with bore water
- Yes – **in the past** my household rain water tank/s were mixed with bore water
- I use / have used bore water to clean my rain water tanks

How often do you clean your tanks with bore water? _____

9. Are your water tanks plumbed directly into the house and used for household purposes?

- Yes – the water tanks are plumbed directly to the house to supply household water
- No - the water tanks are not connected to the house but water is sometimes used for household purposes
- No - water is used for outdoor purposes only

10. Is there any surface water on your property?

- dam creek pond
- wetland surface drain other
- none

If yes – please specify and outline any uses of surface water that you may be aware of

If there is no bore on your property, please go to Question 15.

11. How many bores do you have on your property?

Active bores _____

Inactive bores _____

12. Please provide further details about your bore(s) if known.What is / are the depth(s) of your bore(s)?
_____When were the bores installed?
_____Has the water quality of your bore ever been tested? If yes, would you be able to provide the results?
_____How much water do you take from the bore in a year?

Do you take water from your bore and store it on site (in dams, tanks etc.)?

 Yes NoIf yes - please specify how many dams / tanks and their capacity

_____**If you extract bore water and store on site in a dam, what is that water generally used for?**

_____**13. Is, or has your bore/s ever been, plumbed directly into the house and used for household purposes?** Yes – the bore is / was plumbed directly to the house to supply household water No – the bore is not directly connected to the house

14. How often do you or your family use water (other than mains water) on your property for the activities listed below? Please tick all that apply.

	Daily	Weekly	Monthly	Occasionally	Never	Years of use
Drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cooking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other indoor use (e.g. showering, washing up)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Outdoor use (e.g. swimming pool, sprinkler play, washing vehicles)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Watering fruit / vegetable garden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lawn watering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Watering for livestock (drinking or irrigation of feed)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Watering for poultry (drinking or irrigation of feed)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Irrigation of commercial horticulture / crops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dust suppression (commercial sites)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fire fighting water (commercial sites)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Aquaculture (growing fish) (private or commercial)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other uses (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

15. How often do you, or your family do the following activities? Please tick all that apply. Feel free to use the supplied maps to show locations.

	Daily	Weekly	Monthly	Occasionally	Never	For how many years?
Drinking water from creeks/rivers/etc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If so, whereabouts?						
Swimming in ocean	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If so, whereabouts?						
Swimming in creeks/rivers/etc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If so, whereabouts?						
Fishing from ocean	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If so, whereabouts?						
Fishing from creeks/rivers/etc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If so, whereabouts?						
Eating flora (vegetables/leaves/etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If so, whereabouts?						
Eating fauna	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If so, whereabouts?						
Using water collected from creeks for cooking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If so, whereabouts?						
Using water collected from creeks for washing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If so, whereabouts?						
Eating clay/mud	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If so, whereabouts?						

Daily Weekly Monthly Occasionally Never For how many years?

Other uses (please specify)

Whereabouts?

16. If you answered yes to fruit / vegetable gardens, please indicate below what type of fruit and /or vegetables you currently grow or previously used to grow and who consumes it.

17. If you answered yes to watering of livestock or poultry, please indicate below what types of animals you currently have or previously had on your property, what produce is consumed (e.g. meat / milk / eggs) and who consumes it.

18. Please provide any additional comments here.

Thank you for completing this questionnaire. If you have any questions, please contact the GHD Team:

email: JervisBay@ghd.com or phone 1800 876 618.

GHD

GHD, Level 15, 133 Castlereagh Street Sydney NSW 2000
 T: 61 2 9239 7000 F: 61 2 9239 7000 E: sydmail@ghd.com.au

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Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	█ ████	██████		█ ████		25/07/2017
B	█ ████	██████		██████		2/08/2017

*Approved saved on file

www.ghd.com



Stedman, Andrew (Health)

From: [REDACTED]
Sent: Friday, 18 August 2017 2:43 PM
To: [REDACTED]; Clapham, David; Chester, Heath; Krsteski, Radomir (Health); [REDACTED]; Stedman, [REDACTED]; Nightingale, Kristy MISS 3; Jones, Joshua; Corrie Ford; Glendon Lee
Cc: PFASIM Jervis Bay; [REDACTED]
Subject: RE: Water use survey results to Wreck Bay - FW: A few items to discuss.
Attachments: 21_26171_Z017_Potable water_Results.pdf

Dear JBRF PCG,

Attached is the figure illustrating the PFAS results for water sampling conducted by GHD at Jervis Bay lakes and water treatment plant.

All samples returned non-detects (or below Limit of Reporting (LOR)).

It should be noted that the investigation is yet to conduct the more intrusive sampling at the lakes.

It should be noted that Lake Windermere supply's the Jervis Bay water treatment plant, not Lake Mckenzie.

Regards,

GHD
 [REDACTED] E: [REDACTED]
 Level 2, 57 Graham Street (PO Box 621) Nowra NSW 2541 Australia | <http://www.ghd.com/>
[Water](#) | [Energy & Resources](#) | [Environment](#) | [Property & Buildings](#) | [Transportation](#)

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Water Concentrations (µg/kg)

- 100 - 500
- 10 - 100
- 0.7 - 10
- 0.07 - 0.7
- 0.01 - 0.07
- LOR - 0.01
- <LOR

Note: LOR for surface water samples LM_SW01 - LM_SW04 and LW_SW01 - LW_SW03 is 0.01.

<p>Paper Size A3</p> <p>0 115 230 460 690 920</p> <p style="text-align: center;">Metres</p> <p>Map Projection: Transverse Mercator Horizontal Datum: GDA 1994 Grid: GDA 1994 MGA Zone 56</p>		<p>LEGEND</p> <ul style="list-style-type: none"> Investigation Area Extent HMAS Creswell Site Boundary Jervis Bay Range Facility Boundary Surface Water sample Proposed Water Sample Locations 	Water Pipeline		<p>Department of Defence</p> <p>PFHxS + PFOS Concentrations Water Supply</p>	<p>Job Number 21-26171 Revision A Date 17 Aug 2017</p>
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Figure 1



Australian Government
Department of Defence
Estate and Infrastructure Group

PFAS Investigation and Management
Monthly Report- Jervis Bay Range Facility

5 08 2017

BP3-02-B091

26 Brindabella Circuit
Brindabella Business Park
PO Box 7925 Canberra BC 2610

Re: Jervis Bay Range Facility Environmental Investigation – Progress Report July 2017

1.0 Introduction

The following progress report has been prepared by GHD Pty Ltd to provide a summary of activities for the Comprehensive Investigation of PFC Site Conditions at Jervis Bay Range facility, HMAS Creswell and surrounds for the period between 30 June 2017 and 31 July 2017

2.0 Critical items

2.1 New items

- GHD collected a water sample from S440 on 28 June 2017 to assist the action plan for the replacement/remediation for the underground storage tank. GHD have issued factual memo 5 to communicate the results to project team and EMOS contractor (Spotless).
- GHD conducted water sampling on 28 June 2017 at the three above ground potable water storage tanks and the raw water inlet pipe (total of 4 samples) at the potable water treatment facility. GHD have issued factual memo 5 to communicate the results to project team and PCG.
- GHD received written confirmation from WBACC to undertake surface water sampling at Lake Windermere and Lake Mckenzie and collected 7 samples on 27 July 2017.
- GHD completed the Water Use Survey between 17 June and 11 July. The program included the consultation team being present at Wreck Bay and Jervis Bay village during the first two weeks, and attendance by the consultation team at two community barbecue sessions on Sunday 9 July and Tuesday 11 July.
- GHD have issued the Draft Water Use Survey report for Defence comment, with presentation of the report requested by WBACC board.
- GHD has issued groundwater numerical modelling and HHERA recommendation to Defence.
- GHD has prepared preliminary investigation advice (28/06/17) relating to the use water from the retention dam. GHD are developing a proposal to investigate the source of PFAS infiltration into the STP for consideration by Defence.