

I hereby give notice that a meeting of the Strategy and Policy Committee will be held on:

Date: Tuesday, 12 November 2019
Time: 10.00am
Venue: Tararua Room
Horizons Regional Council
11-15 Victoria Avenue, Palmerston North

STRATEGY AND POLICY COMMITTEE

AGENDA

MEMBERSHIP

Chair	Cr RJ Keedwell
Deputy Chair	Cr JM Naylor
Councillors	Cr AL Benbow
	Cr EM Clarke
	Cr DB Cotton
	Cr SD Ferguson
	Cr EB Gordon
	Cr FJT Gordon
	Cr WM Kirton
	Cr NJ Patrick
	Cr WK Te Awe Awe
	Cr GJ Turkington

Michael McCartney
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TABLE OF CONTENTS

1	Welcome / Karakia	5
2	Apologies and Leave of Absence	5
3	Public Forums / Deputations / Petitions	5
4	Supplementary Items	5
5	Members' Conflict of Interest	5
6	Update on Per- and polyfluoroalkyl substances (PFAS) investigations <i>Report No: 19-170</i>	7
7	National Pesticide Survey <i>Report No: 19-171</i>	19
8	Iwi Relationships Quarterly Update <i>Report No: 19-172</i> <i>Annex A - Treaty Settlement Process and Areas of Interests</i>	27 33
9	Horizons One Plan - Plan Change Progress Update <i>Report No: 19-173</i>	37

AGENDA

1 Welcome / Karakia

2 Apologies and Leave of Absence

At the close of the Agenda no apologies had been received.

3 **Public Forums:** Are designed to enable members of the public to bring matters, not on that meeting's agenda, to the attention of the local authority.

Deputations: Are designed to enable a person, group or organisation to speak to an item on the agenda of a particular meeting.

Requests for Public Forums / Deputations must be made to the meeting secretary by 12 noon on the working day before the meeting. The person applying for a Public Forum or a Deputation must provide a clear explanation for the request which is subsequently approved by the Chairperson.

Petitions: Can be presented to the local authority or any of its committees, so long as the subject matter falls within the terms of reference of the council or committee meeting being presented to.

Written notice to the Chief Executive is required at least 5 working days before the date of the meeting. Petitions must contain at least 20 signatures and consist of fewer than 150 words (not including signatories).

Further information is available by phoning 0508 800 800.

4 Supplementary Items

To consider, and if thought fit, to pass a resolution to permit the Committee/Council to consider any further items relating to items following below which do not appear on the Order Paper of this meeting and/or the meeting to be held with the public excluded.

Such resolution is required to be made pursuant to Section 46A(7) of the Local Government Official Information and Meetings Act 1987 (as amended), and the Chairperson must advise:

- (i) The reason why the item was not on the Order Paper, and
- (ii) The reason why the discussion of this item cannot be delayed until a subsequent meeting.

5 Members' Conflict of Interest

Members are reminded of their obligation to declare any conflicts of interest they might have in respect of the items on this Agenda.

Report No.	19-170
Information Only - No Decision Required	

UPDATE ON PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) INVESTIGATIONS

1. PURPOSE

- 1.1. This report provides Council with an update on progress around investigations into contamination of land and water by **per- and polyfluoroalkyl substances** (PFAS) in the Horizons Region, primarily arising from the use of fire-fighting foam.
- 1.2. The focus of this report is on the technical findings of these investigations and excludes discussion around any regulatory activity. We provide an update on PFAS sampling programmes at Ohakea Air Base, Bulls public water supply, Palmerston North Airport and Feilding Fire Station. It is also noted that while the report touches on the proposed water supply for the Ohakea community, it is not the focus of this report.

2. EXECUTIVE SUMMARY

- 2.1. PFAS is an acronym for a group of chemical compounds known as per- and poly-fluorinated alkyl substances that have been extensively manufactured and used worldwide. PFAS is an emerging issue following detection in soil and water on and around **New Zealand Defence Force** (NZDF) and other sites in New Zealand.
- 2.2. In the Horizons Region, PFAS has been:
 - Identified in soil, surface water and groundwater in and around NZDF Base Ohakea, near Bulls, at levels that exceed a range of human health and environmental guideline values.
 - Detected at levels below human health drinking water guideline values in the Bulls public water supply, wastewater treatment plant influent and effluent streams, and in shallow groundwater in the vicinity of Bulls township.
 - Detected in soil, surface water and groundwater in and around Palmerston North Airport at levels that exceed human health and environmental guideline values.
 - Identified as a part of an investigation into further at-risk sites in the Horizons Region as part of a national PFAS site prioritisation work programme. **Fire and Emergency New Zealand** (FENZ) is also investigating its sites for potential PFAS contamination, after completing a prioritisation and assessment exercise last year. An independent experienced environmental consultancy, **Pattle Delamore Partners** (PDP), is carrying out Preliminary Site Investigations of eight prioritised sites around the country, which includes one site in our region (Feilding Fire Station).
- 2.3. This report provides a general update on activities relating to PFAS in the Horizons Region however, does not discuss regulatory actions undertaken in relation to any of these activities. Roles and responsibilities with regard to investigating and monitoring PFAS in the environment are set out in the following guidance document: <https://www.mfe.govt.nz/publications/hazards/pfas-investigation-response-and-funding-guidance>.
- 2.4. A comprehensive site investigation of Base Ohakea has been completed by NZDF and the final report has been received by Horizons (September 2019). The report, commissioned by NZDF and prepared by PDP, includes predictive modelling of the PFAS plume and

concludes that the plume is likely persist over many decades. Uncertainty around the fate and transport suggest that ongoing monitoring of the PFAS plume is required and this is now a key focus for local agencies. A copy of the PDP (2019) report 'RNZAF Base Ohakea PFAS Investigation: Comprehensive Site Investigation Report' outlines the findings of this study and a copy is available, along with other technical reports, on the MfE website: <https://www.mfe.govt.nz/land/pfas-and-poly-fluoroalkyl-substances/latest-updates/pfas-and-pfoa-documents-released-under-oia>.

- 2.5. A separate report, commissioned by Horizons and delivered by Jacobs, outlines the findings of an investigation into the detection of PFAS in the Bulls water supply bores. This study identified the presence (and potential sources) of PFAS in surface and groundwater in and around Bulls township. A report by Jacobs (2019) 'Bulls Water Supply PFAS Investigation' is now complete and a copy is available via Horizons' website. This report outlines recommended next steps for the Bulls investigation.
- 2.6. Other areas of investigation detailed in this report include **Palmerston North Airport Limited** (PNAL), which is led by PNAL in collaboration with local Councils (including Horizons); and Feilding Fire Station, led by FENZ in consultation with the AoG group.

3. RECOMMENDATION

That the Committee recommends that Council:

- a. receives the information contained in Report No. 19-170.
- b. approves the ongoing use of budget up to an amount of \$60,000 for monitoring and technical work around the issue of per- and polyfluoroalkyl substances and related substances. This budget is approved to be from general rate reserves, with expenditure to occur over the 2019-20 and 2020-21 financial years.

4. FINANCIAL IMPACT

- 4.1. Costs associated with PFAS investigations to date have included project management, sampling, analysis, reporting and national and community engagement. Some of these associated costs are additional to those identified as part of the proposed Science and Innovation work programme presented to Council through the recent Long Term Plan process.
- 4.2. Additional funding up to \$100,000 was approved by Council in May 2018 to investigate the source of PFAS in the Bulls water supply bores over the 2017-18 and 2018-19 years. The approximate spend to date, excluding staff time, is in the order of \$40,000 and we are now seeking permission to utilise the \$60,000 of remaining budget inside the 2019-20 and 2020-21 financial years.

5. COMMUNITY ENGAGEMENT

- 5.1. Community engagement has not been undertaken in preparation of this report.
- 5.2. To date the **Ministry for the Environment** (MfE) as the All of Government lead agency has led communication around the national response to PFAS. A guidance document 'PFAS Communication, Engagement and Information Sharing Guidelines' was developed by MfE and a copy is available on their website.
- 5.3. With regard to Ohakea, communication was initially lead by NZDF however, as investigations progressed, **Manawatū District Council** (MDC) has increasingly taken a lead role in communication locally with support from **Rangitīkei District Council** (RDC) and Horizons. RDC has also engaged with local water users as part of the Bulls water

supply investigation, as required. Horizons staff have worked with local councils, central government and defence, attended community meetings, hui with local iwi, and meetings with land owners directly affected by contamination at Ohakea. Our intention is to continue to support our City and District Councils around community engagement, including providing communications support where necessary.

- 5.4. Communications around the detection of PFAS at Palmerston North Airport have been a collaborative initiative between **Palmerston North City Council** (PNCC), **Palmerston North Airport Limited** (PNAL) and Horizons.
- 5.5. Horizons' role to date has largely been around the provision of technical support for sampling investigations, participation in the AoG working group and communicating findings around investigations within the region.
- 5.6. Information for communities about PFAS is available:
 - Specific animal health or food safety questions can be directed to 0800 00 83 83
 - Specific health enquiries can be directed to your GP or Healthline 0800 611 116
 - Ministry for the Environment's website: <http://www.mfe.govt.nz/land/pfas-and-poly-fluoroalkyl-substances/about-pfas>

6. SIGNIFICANT BUSINESS RISK IMPACT

- 6.1. There is no immediate significant risk associated with this report.

7. BACKGROUND

- 7.1. PFAS is an acronym for a group of chemical compounds known as per- and polyfluoroalkyl substances that have been extensively manufactured and used worldwide.
- 7.2. PFAS compounds are a complex family of more than 3,000 synthetic fluorinated organic chemicals, although not all are currently in use or production. These compounds have been used for a wide range of products since the 1950s, including fire-fighting foams for flammable liquid fires. Their use at airports and other fire training sites across New Zealand has resulted in the accumulation of PFAS in soil and water in and around some sites in New Zealand, including NZDF Base Ohakea.
- 7.3. Knowledge and understanding of PFAS impacts on both human health and the environment are rapidly evolving. PFAS compounds in the environment are considered to be emerging contaminants of concern because they are known to be environmentally stable, mobile, persistent, and bioaccumulative.
- 7.4. There is evidence there may be health effects associated with sustained exposure to some PFAS. Interim guideline limits for drinking water have been established by the Ministry of Health (MoH, 2017), and Australian Government Department of Health (AGDoH, 2017) for non-potable water / contact recreation. For the sum of total PFOS + PFHxS the drinking water guideline limit is set at 0.07 µg/L (micrograms per litre) and for PFOA 0.56 µg/L. These levels are based on a person weighing 70kg drinking 2 litres of water everyday over a lifetime without any significant risk to health. Other guideline values for ecosystems and biota have also been applied to some studies.
- 7.5. We consulted with MidCentral District Public Health Service in the preparation of this report who confirmed that the current messaging from the **Ministry of Health** (MoH) is:

"There is no conclusive evidence that PFOS and PFOA exposure will result in future health problems. The evidence of health effects is not clear, and some effects may not be clinically significant. All New Zealanders are expected to have some measurable PFAS in their blood given the widespread use of PFAS since the 1950s.

A 2013 study for the Ministry of Health found that the concentrations of PFOA in the serum of adult New Zealanders are generally similar to, or lower than, those in the USA, Canada, Germany, and Australia and PFOS concentrations are significantly lower than those in USA, Canada, Germany, and Australia.

Long term studies in the United States (on occupationally-exposed people and exposed communities) have not consistently shown that PFAS exposure is linked to adverse health effects. However, many of these studies reportedly have significant methodological issues that limit the conclusions that can be drawn from their findings.”

Working with Central Government

- 7.6. An **All of Government** (AoG) governance group spanning MfE (as lead agency), **Ministry for Primary Industries** (MPI), **Environmental Protection Authority** (EPA), MoH, FENZ, NZDF and **Local Government New Zealand** (LGNZ) was established to oversee and co-ordinate the response to PFAS contamination in New Zealand.
- 7.7. A national working group provides technical guidance and co-ordination of national efforts, and presently includes representatives from local councils including Shayne Harris (Manawatū District Council) and Abby Matthews (Horizons Regional Council), as well as staff from FENZ and a number of other regional councils and unitary authorities.
- 7.8. The working group have largely been responsible for co-ordinating the compilation of national guidance material and ensuring the AoG governance group is aware of progress relating to both regional and national investigations. This has included the development of [draft guidelines for sampling and analysis of PFAS](#), and disposal of PFAS containing water to trade waste (lead by EPA).
- 7.9. Information is regularly updated on the MfE website: <http://www.mfe.govt.nz/land/pfas-and-poly-fluoroalkyl-substances>. This includes information about the AoG National PFAS Programme, the latest health and environmental information, as well as guidance material and information for agencies involved in responding to PFAS contamination.

8. DISCUSSION

Ohakea Air Base

- 8.1. Horizons was initially approached by MfE representatives in late November 2017, and officially advised of contamination at the Ohakea Air Base in December 2017. Investigations at Base Ohakea were initiated by NZDF in 2015 and identified high risk areas for PFAS contamination. Initial sampling undertaken by NZDF identified PFAS in soil, surface water and groundwater (including in a groundwater bore beyond the Ohakea property boundary) prompting the need for further investigation beyond Base Ohakea.
- 8.2. Investigations carried out by NZDF between 2015 and 2018 confirmed the presence of PFAS at and beyond Base Ohakea in soil, surface and groundwater. A number of these samples exceeded the interim drinking water guidelines (MoH, 2017); non-potable / contact recreation guideline; and a number of samples and/or stock watering and fodder irrigation screening values. Likely sources and pathways have also been identified through Detailed and Comprehensive Site Investigation reports.
- 8.3. Sampling of soil, watercress, vegetables, milk, eggs and cattle tissue and pig tissue was also completed. Where necessary, advice has been provided to land owners. Further advice around the consumption of kai awa species from the Makowhai Stream and nearby tributaries was also provided by MPI and Horizons, Manawatū District Council and MfE met with local iwi to discuss this advice and recommendations. A copy of this advice is available on the Horizons website.
- 8.4. A summary of findings is provided in the report ‘RNZAF Base Ohakea PFAS Investigation: Comprehensive Site Investigation Report’ commissioned by NZDF and completed by

independent consultancy PDP. A copy of the report 'RNZAF Base Ohakea PFAS Investigation: Comprehensive Site Investigation Report' outlines the findings of the sampling investigations and PFAS plume modelling, and a copy is available, along with other technical reports, on the MfE website: <https://www.mfe.govt.nz/land/pfas-and-poly-fluoroalkyl-substances/latest-updates/pfas-and-pfoa-documents-released-under-oia>. This report was recently received by Horizons (September 2019).

8.5. In addition to outlining the results of the various sampling programmes, the NZDF report covers predictions for the existing and future groundwater plume with the assistance of a 3D groundwater flow and transport model. The report authors acknowledge that there is significant uncertainty associated with estimates of plume 'above detection' extent (3,600 hectares) and mass (50 – 70 kg) of PFOS + PFHxS ($\geq 0.001 \mu\text{g/L}$). The report concludes (among other things) that:

- The plume is expected to continue migration and expansion in the current west to south-west direction of travel, before beginning a slow process of depletion.
- The maximum future extent of the plume area 'above detection' is estimated to peak at around 4,300 ha in more than 50 years time, and decrease below its current extent (area) in around 75 to 100 years.
- Modelling predictions for a number of different scenarios are also reported.

8.6. It should be noted that the maps below (Figures 1 and 2) published by NZDF show the plume extent where concentrations are greater than $0.06 \mu\text{g/L}$ i.e. where the plume is close to or above the interim drinking water guideline value of $0.07 \mu\text{g/L}$ rather than the 'above detection' extent which (the report indicates) covers a wider area.

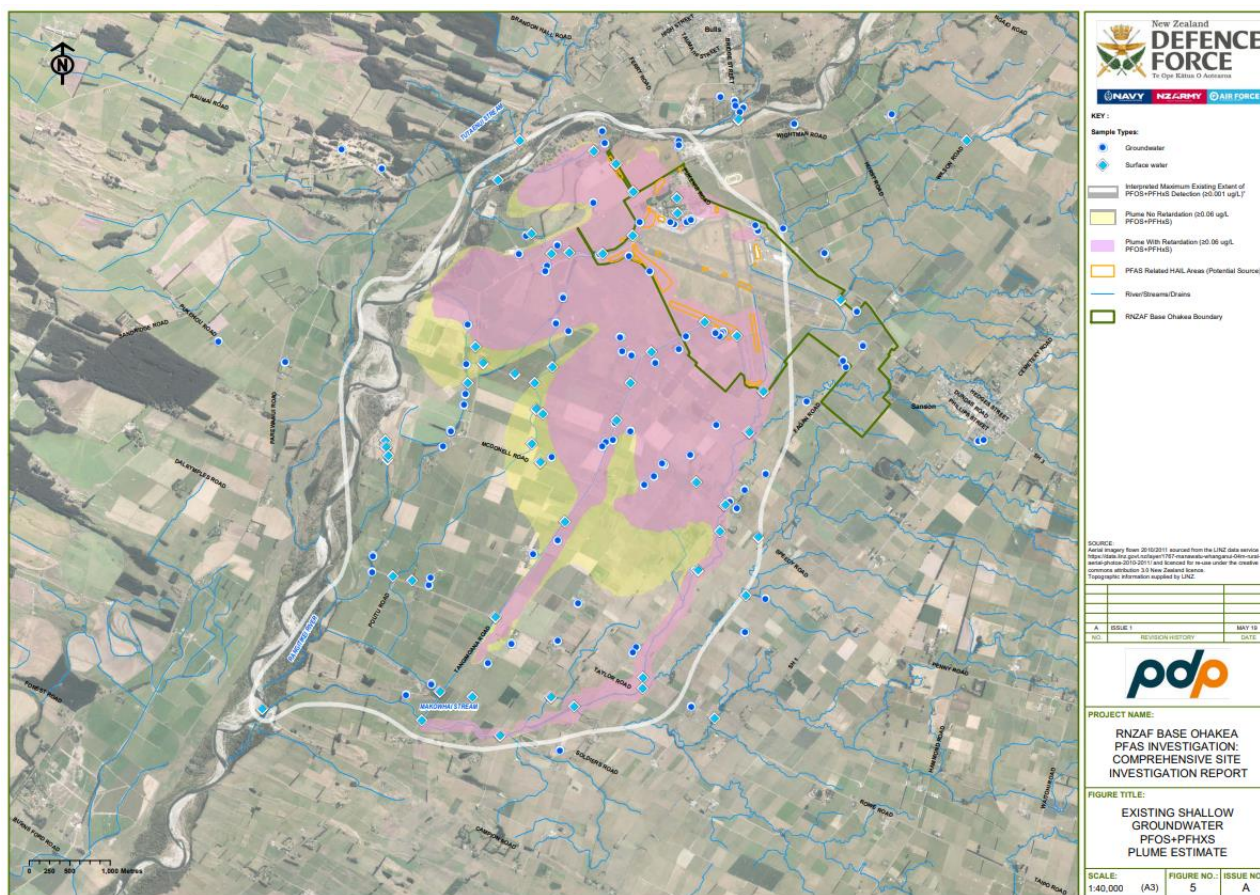


Figure 1 Current modelled extent of the PFAS plume is greater than $0.06 \mu\text{g/L}$ i.e. where the plume is close to or above drinking water guideline value of $0.07 \mu\text{g/L}$. The pink and

yellow areas represent the plume under different potential groundwater conditions. Orange outlines show the PFAS potential source areas (designated HAIL sites). Dark blue circles show the groundwater bores sampled, and light blue diamonds, surface water sampling sites. Image courtesy of NZDF and PDP sourced from www.mfe.govt.nz. Note the extent where PFAS is detectable is a larger area than the extent shown.

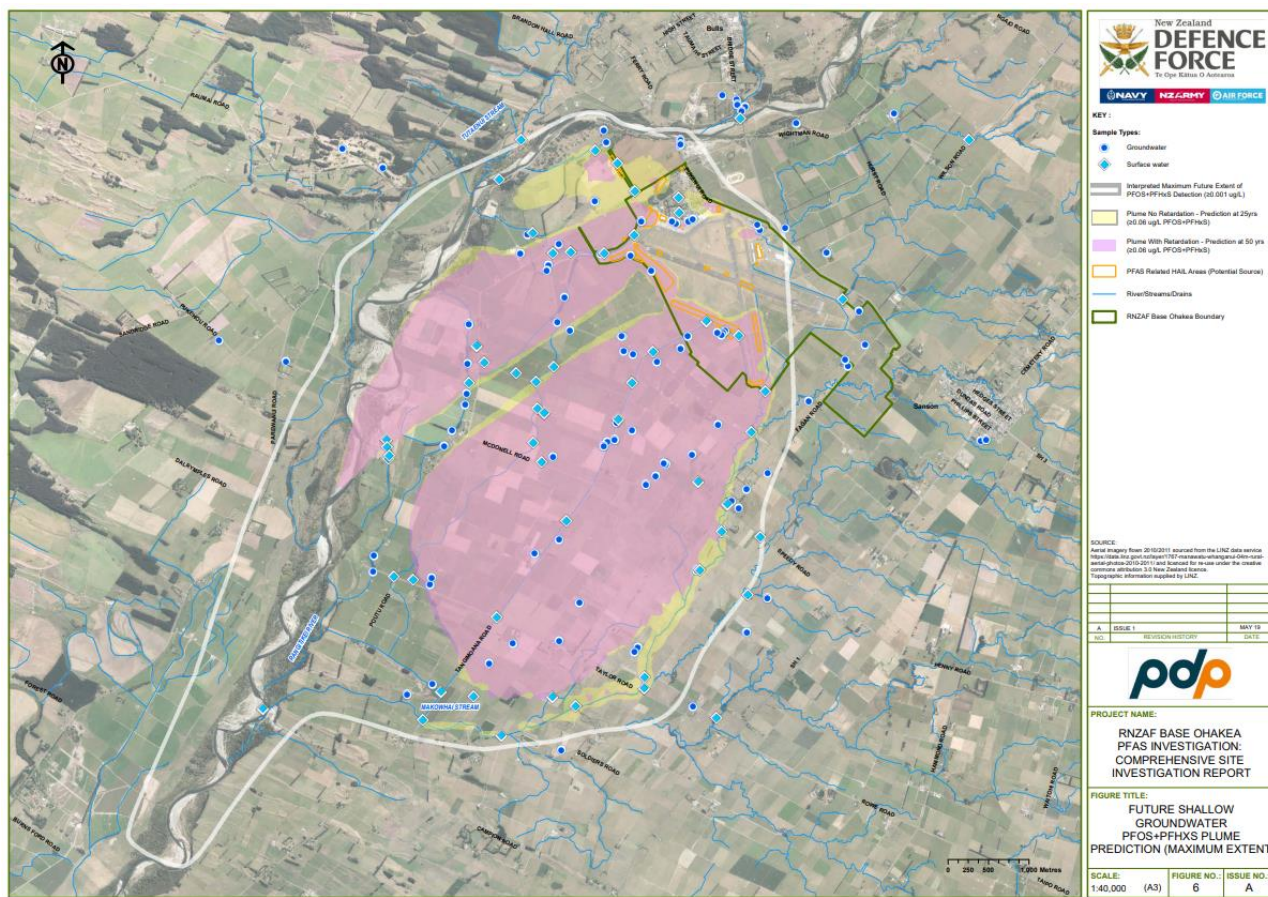


Figure 2 Predicted modelled extent of the PFAS plume >0.06 µg/L at 25-50 years. The pink and yellow areas represent the plume under different potential groundwater conditions. Orange outlines show the PFAS potential source areas (designated HAIL sites). Dark blue circles show the groundwater bores sampled, and light blue diamonds, surface water sampling sites. Image courtesy of NZDF and PDP sourced from www.mfe.govt.nz.

- 8.7. The report suggests that there is potentially a significantly greater mass of PFAS in the unsaturated soil (soil above the water table) than in groundwater and that leaching of PFAS from these soils may provide an ongoing and long-term source of PFAS to groundwater.
- 8.8. Surface water has also been identified by PDP as an important transport pathway for PFAS, with both the Makowhai Stream and Rangitikei River intercepting shallow groundwater flow. Plume migration/transport via groundwater beyond these surface water bodies cannot be ruled out however, due to the hydrogeology of the area, these surface water bodies likely represent the ultimate receiving environment.
- 8.9. The report concludes that the plume is expected to persist in concentrations >0.06 µg/L (i.e. close to, or above, drinking water guideline limits) for many decades. This has implications for local drinking water supplies in the long-term, including the Base Ohakea water supply and local private supplies for human consumption, and in some cases stock drinking water. Our understanding is that MDC has designed a water supply scheme to

provide for the long-term supply of secure water to both Base Ohakea and surrounding water users, and that there is potentially scope for this supply to extend to Bulls township.

- 8.10. Presently, to our knowledge, there is no long-term monitoring programme for the Ohakea area proposed. Horizons is looking to design a monitoring programme that will primarily focus on tracking the plume and checking model assumptions. This is the proposed focus for PFAS monitoring and research expenditure by Horizons over the coming year. We do not propose to extend this monitoring to biota and ecosystem health at present. Further resourcing will be required if Council wishes to pursue such investigations. A key part of the design of a monitoring programme will be defining what the monitoring and reporting will provide as well as understanding the cost implications of completing the monitoring and reporting on this information.

Bulls Water Supply Investigation

- 8.11. Sampling of the Bulls and Sanson water supplies was initially completed by NZDF at the request of Manawatū and Rangitikei District Councils and Horizons Regional Council as part of the Base Ohakea investigation. Testing results were clear of PFAS in the Sanson water supply but returned low level positive results (below interim drinking water guideline limits) in four of the five Bulls water supply groundwater bores.
- 8.12. The source of PFAS in the Bulls water supply bores was unclear, and in July 2018, Horizons engaged contaminated land and hydrogeology experts from Jacobs to undertake an initial sampling investigation to determine the extent of PFAS in surface and groundwater and identify potential sources of contamination. A report by Jacobs (2019) 'Bulls Water Supply PFAS Investigation' is now complete and a copy is available via Horizons' website.
- 8.13. The Bulls water supply provides water to an estimated population of around 1,700. The bore field comprises five production wells located close to State Highway 3, 100 m to 200 m north of the Rangitikei River. Bulls town centre lies approximately 1.2 km to the north; Base Ohakea is located on the southern side of the Rangitikei River approximately 1 km southwest of the well field. Four of these bores are shallow (with screen depths ranging from 4.5 to 11.7 m depth). One bore is deeper (screened from 25.6 to 31.6 m depth) and appears to be somewhat confined from the shallow bores.
- 8.14. A number of sources of PFAS contamination in close proximity to the Bulls well field were initially identified. These included: Base Ohakea; the site of the Skyhawk crash that occurred in 1996; and potential sources of contamination within Bulls township. A former Feltex Carpets wool scouring plant was also identified on the eastern side of the Rangitikei River (now Kakariki Proteins) some 7.8 km up-gradient of the Bulls well field.
- 8.15. The Skyhawk crash site has since been investigated by NZDF and now seems unlikely to be a PFAS source for the Bulls well field.
- 8.16. According to NZDF-commissioned reports the groundwater flow model developed for Base Ohakea (PDP, 2017) does not indicate hydraulic connection between Base Ohakea and the Bulls well field. Despite Horizons making multiple requests for further details around this modelling, we are yet to receive the necessary information. To help address this information gap, Jacobs has undertaken an initial assessment for Horizons which indicates that direct hydraulic connection between the Bulls well field and PFAS source areas within Base Ohakea is unlikely, even under pumping conditions at the well field. However, as we have been unable to assess the modelling completed for NZDF, uncertainty remains and at this stage, Base Ohakea remains a potential source of PFAS for the Bulls well field.
- 8.17. Three potential sources have been identified within Bulls township, comprising the Bulls Fire Station (storage and use of PFOS containing aqueous film forming foams (AFFF)), the former Bulls (Rangitikei) Landfill (disposal of PFAS contaminated wastes) and the waste

water treatment plant (WWTP) effluent ponds (from influent trade waste contaminated with PFAS).

Item 6

8.18. The conceptual model provide by Jacobs is shown in Figure 3.

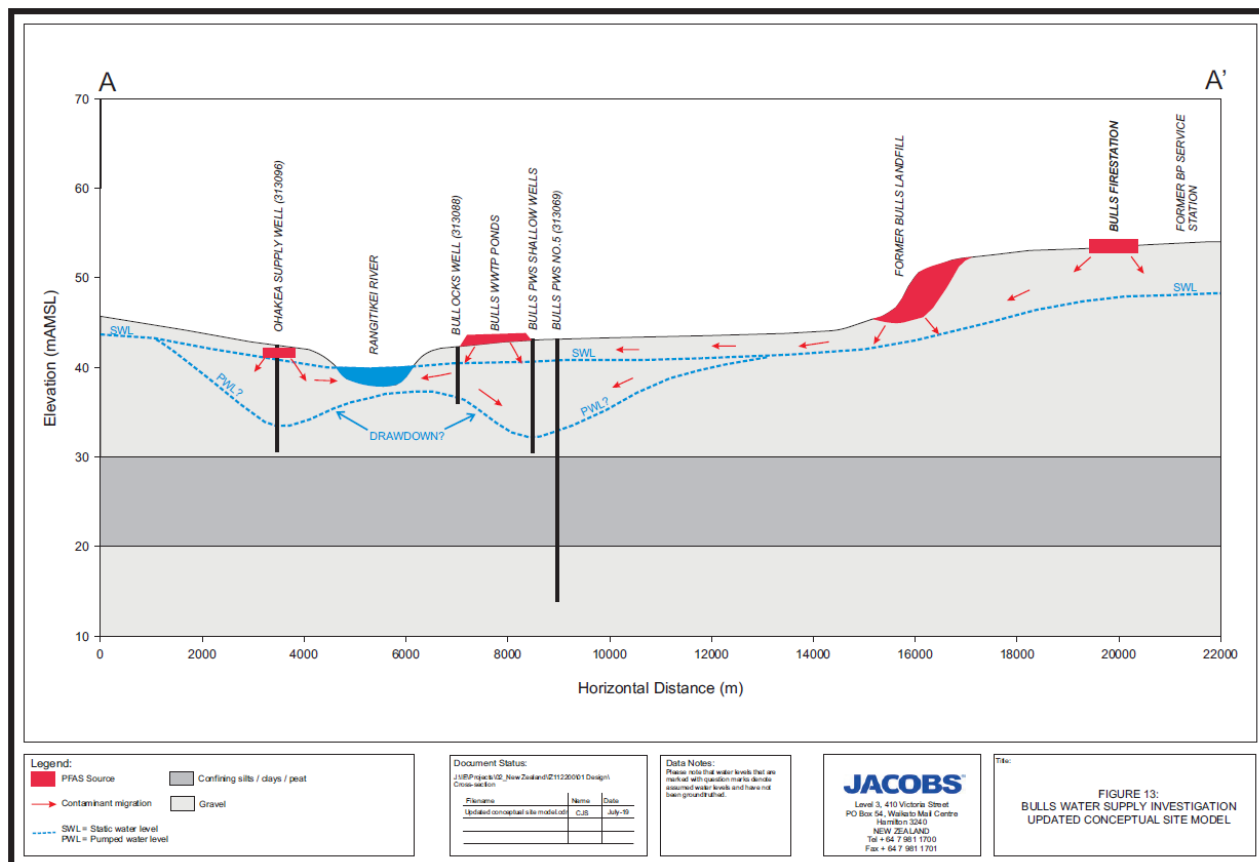


Figure 3 Conceptual model for the Bulls investigation. Water supply bores are shown as black vertical lines (Ohakea to the left of the river, Bullocks well directly to the right of the river and Bulls water supply bores further to the right). Potential sources include the Bulls Fire Station and former Bulls landfill (in red to the right of the cross section), Bulls wastewater treatment ponds (directly to the right of the river) and Ohakea (to the left). Red arrows indicate potential contaminant transport directions and the blue lines the static water level at rest and under pumping conditions. Source: Jacobs (2019).

- 8.19. A survey of surface waterways and groundwater bores was commissioned by Horizons and undertaken by Jacobs to establish if this contamination is more widespread than just the Bulls water supply. The initial focus of this study has been to establish the extent of contamination and identify the source (or sources) of PFAS.
- 8.20. Analytical results for groundwater samples targeting the potential source areas indicate the widespread presence of PFAS (PFOS and PFHxS) in shallow groundwater from beneath Bulls township to the Rangitikei River and extending from at least the southern edge of the former Bulls landfill to the WWTP, a distance of about 2 km. The groundwater contains concentrations of PFOS & PFHxS between approximately 0.01 µg/L and 0.02 µg/L. The observed concentrations are low in comparison to concentrations detected in shallow groundwater within and immediately down gradient of Base Ohakea and are less than the adopted drinking water standards for PFOS & PFHxS of 0.07 µg/L and PFOA of 0.56 µg/L.
- 8.21. Presently, given the levels of PFAS detected in the environment, there does not appear to be an immediate health risk posed to the local community as a result of the positive detections of PFAS in the Bulls water supply and this water is considered safe for human

consumption. However, there are a number of further actions that could be undertaken by RDC and Horizons to further refine our understanding of the presence of PFAS in the environment in and around Bulls township.

8.22. Actions that RDC may wish to undertake include:

- Compile records of the operational history of the Bulls Landfill, including the origin and types of waste, to determine whether the landfill accepted waste from Base Ohakea, the Skyhawk crash site, the former Feltex Carpets wool scouring operations at Kakariki or sludge from the Bulls WWTP.
- Consider the installation of groundwater monitoring wells at the toe and within the landfill so that ongoing monitoring and investigation can be undertaken.
- Complete a review of the construction of the WWTP ponds to assess likelihood of losses to groundwater.
- Review sludge disposal practises for the WWTP ponds to ensure appropriate management of potentially PFAS contaminated sludge.

8.23. Actions for Horizons to undertake include:

- Further assessment of Base Ohakea as a PFAS source, involving the compilation of a hydrogeological conceptual model based on lithological data for bores supplied by HRC using Leapfrog™ software and clarification in relation to pumping conditions and river flows assumed in the Base Ohakea groundwater flow model. These data may assist with further understanding hydraulic connectivity of groundwater in the shallow Holocene terrace gravels on the northern and southern side of the Rangitikei River near the Bulls well field, and the potential for PFAS impacted groundwater to be drawn into the Bulls well field from PFAS sources at Base Ohakea.
- It appears that no further useful information is currently available from FENZ in relation to PFAS containing foam storage and management at the Bull fire station. It is recommended that FENZ be provided with the findings of this investigation. (Note this action has already been completed).
- Sample the discharge from the Kakariki Proteins effluent ponds, with analysis for PFAS.

8.24. While the current monitoring suggests that PFAS levels are below guideline values, we recommend that ongoing monitoring of the Bulls water supply is also considered and RDC continue to consider the findings of the report in relation to the drinking water supply, landfill and wastewater treatment plant.

Palmerston North Airport

8.25. In November 2018, Horizons worked with staff from Palmerston North Airport (PNAL), Palmerston North City Council (PNCC) and MidCentral Public Health Service to identify and investigate contamination arising from historic fire testing at the airport.

8.26. Initial testing of soil, sediment and water identified PFAS in the former training area around the rescue fire station, and concentrations of PFOS and PFHxS in excess of the interim drinking water guidelines in all surface water samples taken from the stream north of the airport and the drain to the south of the airport. Subsequent sampling identified elevated concentrations in the Mangaone Stream that exceeded the interim drinking-water guidelines. None of the samples exceeded the aquatic ecotoxic limits for 90 per cent of species in disturbed water courses.

8.27. Twelve private water supply bores were also tested. One of these samples had trace levels of PFOS above the limit of reporting, but 58 times lower than the interim drinking-water guideline value. PFAS were not detected in the remaining eleven bore samples.

- 8.28. PNCC confirmed through testing that there is no presence of PFAS in the public water supply and that this water is safe for consumption. We consider the future risk to this supply to be negligible, given the depth of these bores and relatively confined nature of the deeper strata.
- 8.29. MidCentral Health advised at the time of reporting that, given the levels detected, there was no acute health risk to residents arising from the presence of PFAS in or around PNAL. This means that exposure to PFOS and/or PFOA will not pose any significant health effects today however, MPI advised people to avoid food gathering such as eels and watercress from:
- Mangaone Stream
 - Richardsons Line Drain (including its headwater tributaries that cross Railway Road to the east of the Airport)
 - Various streams near the Airport flowing through – Madison Ave and Jefferson Cres area
 - Clearview Park and McGregor Street.
- 8.30. Horizons engaged with MPI in drafting this report, and their recommendation to avoid food gathering at the above locations remains in place.

Feilding Fire Station

- 8.31. Fire and Emergency New Zealand (FENZ) is investigating its sites for potential PFAS contamination, after completing a prioritisation and assessment exercise last year. An independent experienced environmental consultancy, Pattle Delamore Partners (PDP), is carrying out Preliminary Site Investigations of eight prioritised sites around the country. One of these sites (Feilding Fire Station) is located within the Horizons Region. PDP completed the Preliminary Site Investigation at Feilding Fire Station between June and September 2019.
- 8.32. Fire and Emergency New Zealand (FENZ) received the technical recommendations from PDP and based on these, PDP carried out preliminary soil sampling at Feilding. FENZ is waiting to receive the sampling results, and will provide an update stakeholders on the findings and any next steps once these results have been received. Information about FENZ PFAS investigations can be found here: <https://fireandemergency.nz/research-and-reports/per-and-poly-fluoroalkyl-substances-pfas/>.

9. CONSULTATION

- 9.1. Limited consultation on the content of this report was undertaken with a range of agencies and stakeholders. FENZ provided an update on Feilding Fire Station. MidCentral District Public Health provided an update on health advice. MPI was also consulted around food gathering advice associated with the Palmerston North Airport. A copy of the Bulls report was shared with and discussed with MDC and RDC representatives prior to this paper being produced.

10. SUMMARY

- 10.1. Horizons has been working with government agencies and key stakeholders around PFAS since we were officially notified of contamination at Ohakea in December 2017.
- 10.2. Horizons' efforts to date have largely focussed on investigating PFAS detections in the Bulls water supply and supporting the AoG working group. We have also provided technical support to MDC around the development of the water supply proposal. Communication of the outcome of various investigations underway in the region has also

been a key focus, with this November Strategy and Policy 2019 report providing the most recent update.

- 10.3. Jacobs (2019) recommend a number of further actions to refine the Bulls Water Supply investigation. Horizons will continue working with RDC, FENZ and relevant stakeholders to determine the next steps for this investigation. Further work will include sampling of the discharge from the Kakariki Proteins effluent ponds, with analysis for PFAS.
- 10.4. With the initial site investigation complete, the focus of the Base Ohakea investigation now moves to ongoing monitoring of the PFAS plume. Horizons staff are currently liaising with NZDF and local Councils, along with the AoG group to establish a future work programme.

11. TIMELINE / NEXT STEPS

- 11.1. Horizons continues to support PFAS work programmes in the region through participation in the AoG working group, and liaison with agencies and organisations investigating PFAS contamination in our region. The most recent working group meeting took place on Wednesday 6 November 2019, with the next meeting scheduled for Wednesday 4 December 2019.
- 11.2. Further work to establish an ongoing monitoring programme for Ohakea is expected to be initiated inside the current reporting year and delivered over the next 12 months.
- 11.3. A meeting between Horizons and Palmerston North Airport is tentatively planned for November 2019 (date to be confirmed) and we await further information from FENZ following the investigation at Feilding Fire Station.

12. SIGNIFICANCE

- 12.1. This is not a significant decision according to the Council's Policy on Significance and Engagement.

13. REFERENCES

- 13.1. Jacobs (2019) Bulls Water Supply PFAS Investigation. Report prepared for Horizons Regional Council, October 2019.
- 13.2. PDP (2019) RNZAF Base Ohakea PFAS Investigation: Comprehensive Site Investigation Report. Report prepared for New Zealand Defence Force, August 2019.
- 13.3. PDP (2017) PNZDF Ohakea – Groundwater Assessment and PFAS Fate Prediction. Report prepared for New Zealand Defence Force, November 2017.

Abby Matthews
SCIENCE AND INNOVATION MANAGER

Jon Roygard
GROUP MANAGER NATURAL RESOURCES & PARTNERSHIPS

ANNEXES

There are no attachments for this report.

Report No.	19-171
Information Only - No Decision Required	

NATIONAL PESTICIDE SURVEY

1. PURPOSE

- 1.1. This report presents the results of the National Pesticides Survey, a four-yearly groundwater monitoring programme co-ordinated by the **Institute of Environmental Science and Research** (ESR) that has been running since 1990. Sampling was carried out by regional councils and unitary authorities in late 2018 and for the first time included glyphosate (a herbicide used in Roundup and other products) and a suite of **emerging organic contaminants** (EOCs). A copy of the full report is available on the ESR website: <https://www.esr.cri.nz/assets/National-Survey-of-Pesticides-and-EOCs-in-GW-Report-for-RC-v2.pdf>.

2. EXECUTIVE SUMMARY

- 2.1. The most recent results from the National Pesticides Survey, co-ordinated by ESR and delivered in partnership with regional councils and unitary authorities, were recently published in October 2019. This national-scale groundwater survey is carried out every four years by participating councils (including Horizons) and has been running since 1990. This is the eighth survey, and the first to include glyphosate, glufosinate (a broad spectrum herbicide) and their metabolites, and a suite of EOCs. Fourteen of the Regional and Unitary Authorities participated in the 2018 survey.
- 2.2. Pesticides, which include insecticides, fungicides, herbicides and plant growth regulators, are commonly used in New Zealand to control insects, diseases and weeds in primary industries such as agricultural farming, forestry and horticulture. Nationally, 279 wells were tested for pesticides (including acidic herbicides and a suite of organochlorine, organophosphorus and organonitrogen pesticides). There were 68 wells (24.4%) with pesticides detected, with 28 of these wells having two or more pesticides detected. None of the pesticides found exceeded national health guidelines for drinking water, and most pesticide detections were less than 0.5% of the **maximum acceptable value** (MAV) set out in the New Zealand Drinking Water Guidelines.
- 2.3. Glyphosate is widely used in New Zealand and other countries as a general purpose herbicide. It binds to soil and is readily degraded and therefore is not expected to leach to groundwater however, a recent study in the USA identified low levels of glyphosate in some groundwater samples. Glyphosate was found in just one of the 135 wells tested (Otago Region) at low concentration, well below **World Health Organisation** (WHO) guideline values. In this case, contamination is likely to be the result of poor well head protection.
- 2.4. Emerging organic contaminants can arise from a range of sources including sewage treatment plants, industrial effluents, stormwater, agricultural run-off and domestic wastewater discharges. Most EOCs are used extensively by people and do not have significant human toxicity when used under normal conditions however, some of these compounds have shown some endocrine disrupting effects in surface waters and environmental or ecological impacts are largely unknown. The survey identified extremely low levels (parts per trillion) of organic contaminants in 85 of 121 (70%) wells tested. Around 25 of the 29 compounds analysed were detected in at least one well however, none of these were detected at levels that would pose a health risk to people. Further

research is required to understand what issues low levels of EOCs present to New Zealand's ecosystems.

2.5. In the Horizons Region, a total of 20 bores were tested for pesticides and glyphosate, and eight bores for EOCs. Two of the 20 bores (10%) tested for pesticides and herbicides returned positive detections for three variables: bentazone – a selective post-emergent herbicide (detected in one bore), alachlor – a pre-emergent herbicide and metalaxyl – a fungicide (both detected in one bore). None of the 20 bores (0%) tested for glyphosate or its metabolites returned a positive result. Six out of eight bores (75%) tested for emerging organic contaminants returned low concentration positive results, which included preservatives, caffeine, ibuprofen, estrone (hormone found in dairy/swine effluent), sucralose (artificial sweetener), plasticiser (BPA) and UV filters/stabilisers.

2.6. Bore owners in the Horizons Region who participated in the survey were contacted by phone initially, and via a follow up email, to notify them of any positive survey results and provide a link to the summary report. The remaining bore owners have also subsequently been contacted via email and provided with a link to the report.

3. RECOMMENDATION

That the Committee recommends that Council:

- a. receives the information contained in Report No. 19-171.
- b. endorses the proposed approach.

4. FINANCIAL IMPACT

4.1. Costs associated with the National Pesticides Survey were previously budgeted at \$25,000 for lab costs as well as associated staff time, and the survey was delivered inside this budget.

4.2. Future surveys could potentially include a greater number of bores and/or a wider range of variables if desired – for example, EOCs could be included in all bores. However, this would likely require further investment or redirection of existing budget (assuming there is no significant reduction in sampling/analysis/reporting costs in future).

5. COMMUNITY ENGAGEMENT

5.1. Community engagement has not been undertaken in preparation of this report.

5.2. Information about the National Pesticides Survey, including a copy of the report, is available on ESR's website <https://www.esr.cri.nz/home/about-esr/media-releases/groundwater-pesticide-survey-finds-organic-contaminantsnew-news-page/>.

6. SIGNIFICANT BUSINESS RISK IMPACT

6.1. There is no immediate significant risk associated with this report.

7. BACKGROUND

7.1. The National Pesticides Survey has been completed every four years since 1990, with Horizons participating in every survey since 1994. The survey is co-ordinated by ESR, with sampling carried out by regional councils and unitary authorities. The latest survey was conducted from September to December 2018 and for the first time included testing for glyphosate and a suite of EOCs.

- 7.2. Previous surveys in New Zealand have detected low levels of pesticides in some groundwater bores, particularly those intercepting shallow, unconfined groundwater. While the concentrations of detected pesticides have generally been less than 1% of the respective MAV, there have been occasional exceedances. Triazine pesticides, which are commonly used to kill weeds, are the group of pesticides most commonly detected.
- 7.3. Survey results are reported by ESR in the 'National Survey of Pesticides and Emerging Organic Contaminants (EOCs) in Groundwater 2018', and are available on the ESR website.

8. DISCUSSION

Programme design and site selection

- 8.1. Wells for the 2018 survey were selected based on the importance of an aquifer to a region, known application and storage of pesticides or likely use of organic contaminants in the area, and the vulnerability of the aquifer to contamination. Monitoring wells were selected to represent both natural aquifer conditions and sites that were vulnerable to contamination, the latter of which was based on the following criteria:
- shallow, unconfined and vulnerable aquifers
 - significant and important aquifers
 - past and present land use
 - known or suspected pesticide storage and use
- 8.2. Where possible, wells from previous surveys that had positive detections of pesticides and/or herbicides were included in the 2018 survey. Well owners are contacted prior to the survey to seek permission to access sites for sampling. Sampling is carried out by Horizons, with analysis and reporting completed by ESR.
- 8.3. Horizons sites were selected based on the criteria set out above. As such, there is likely a bias toward locations where detections of these contaminants are expected to occur, and the survey should not be considered spatially representative of the approximately 8,700 groundwater bores in the region. Locations of bores sampled are shown in Figures 1 and 2.

Pesticides

- 8.4. Pesticides, which include insecticides, fungicides, herbicides and plant growth regulators, are commonly used in New Zealand to control insects, diseases and weeds in primary industries such as agricultural farming, forestry and horticulture. Nationally, 279 wells were tested for pesticides (including acidic herbicides and a suite of organochlorine, organophosphorus and organonitrogen pesticides).
- 8.5. Nationally, a total of 279 wells were sampled and analysed for a suite of pesticides, including 20 wells from the Horizons Region. A total of 68 wells returned positive detections, including two wells located within our region. The maximum number of pesticides detected in a single well was six (two in the Horizons Region). Most detections were less than 0.5% of the MAV identified in the New Zealand Drinking Water Standards, with the highest detection being dieldrin – detected at a concentration of 0.025 µg/L.
- 8.6. In the Horizons Region, three different types of pesticide or herbicide were detected in two out of 20 groundwater wells tested throughout the region. Bentazone was detected at 0.14 µg/L in Well 315027, while alachlor (0.59 µg/L, or 3% of MAV) and matalaxyl (0.024 µg/L, or 0.024% of MAV) were detected in Well 372034. There is no MAV for bentazone. The locations of these detections are shown in Figure 1.

Glyphosate

- 8.7. Glyphosate is widely used in New Zealand and other countries as a general purpose herbicide. Because it binds to soil and is readily degraded, it is generally not expected to leach to groundwater, and is more commonly detected in surface waters. However, a recent study in the USA found low levels of glyphosate in groundwater samples, raising concerns about the potential presence of glyphosate in drinking water supplies.
- 8.8. No MAV has been set for glyphosate in drinking water. New Zealand follows the World Health Organisation guidelines when setting its MAVs. While there is currently no WHO guideline for glyphosate, WHO does have a Health Based Value for glyphosate of 900 ppb (the equivalent of 900 µg/L).
- 8.9. Most regional councils had wells tested for glyphosate, with the exception of Hawke's Bay Regional Council, West Coast Regional Council, Nelson City Council, and Waikato Regional Council. Nationally, a total of 135 wells were analysed for glyphosate, glufosinate and their principal metabolites, including 20 wells from the Horizons region.
- 8.10. Glyphosate was only detected in one well from the 135 wells that were tested and none of the 20 wells tested in the Horizons Region. This well, located in the Otago Region, showed evidence of poor well-head protection and the contamination likely came from containers that were stored near the well. The detected level of 2.1 ppb is far below the WHO Health Based value of 900 ppb for glyphosate.

Emerging Organic Contaminants (EOCs)

- 8.11. EOCs include chemicals found in personal care products such as shampoos, insect repellants, sun-screen, antibiotics and other pharmaceuticals, caffeine and nicotine, and industrial compounds. Sources include sewage treatment plants, industrial effluents, stormwater, agricultural run-off and domestic wastewater discharges.
- 8.12. Most EOCs are used extensively by people and do not have significant human toxicity when used under normal conditions however, some of these compounds have shown some endocrine disrupting effects in surface waters and environmental or ecological impacts are largely unknown. There are no MAVs set for EOCs in New Zealand. There are no or very few guideline values for EOCs regarding ecological impacts as the relevant studies are sparse. As such, very little is known of their occurrence or transport characteristics in New Zealand.
- 8.13. The survey identified extremely low levels (parts per trillion) of organic contaminants in 85 of 121 (70%) wells tested. Around 25 of the 29 compounds analysed were detected in at least one well however, none of these were detected at levels that would pose a health risk to people. Further research is required to understand what issues low levels of EOCs present to New Zealand's ecosystems.
- 8.14. Due to the high cost of analysis, just eight of the 20 bores sampled for pesticides and glyphosate were selected for analysis of emerging organic contaminants. Six of these bores returned 22 low-level detections of EOCs that included preservatives, caffeine, ibuprofen, estrone (hormone found in dairy/swine effluent), sucralose (artificial sweetener), plasticiser (BPA) and UV filters/stabilisers. The locations of these detections are shown in Figure 2.
- 8.15. Per- and polyfluoroalkyl substances (PFAS) – other emerging contaminants – were not included in the survey however, these substances are subject to other investigations underway. An update on PFAS is provided in a separate paper.

9. CONSULTATION

- 9.1. Consultation on the content of this report has not been undertaken.

10. TIMELINE / NEXT STEPS

- 10.1. The ESR National Survey of Pesticides and Emerging Organic Contaminants (EOCs) in Groundwater 2018 report recommends that monitoring is extended and that further research is carried out to quantify the potential risks to ecosystems for the EOCs most frequently detected in the survey.
- 10.2. The regional sector has a special interest group (SIG) for groundwater (Groundwater Forum) which engages with research institutes and other government agencies around groundwater monitoring and research. The Forum provides a useful contact point for discussion around the next steps and Horizons will continue to engage with the Forum around future monitoring and research around these potential contaminants.
- 10.3. The next survey is scheduled for late 2022.

11. SIGNIFICANCE

- 11.1. This is not a significant decision according to the Council's Policy on Significance and Engagement.

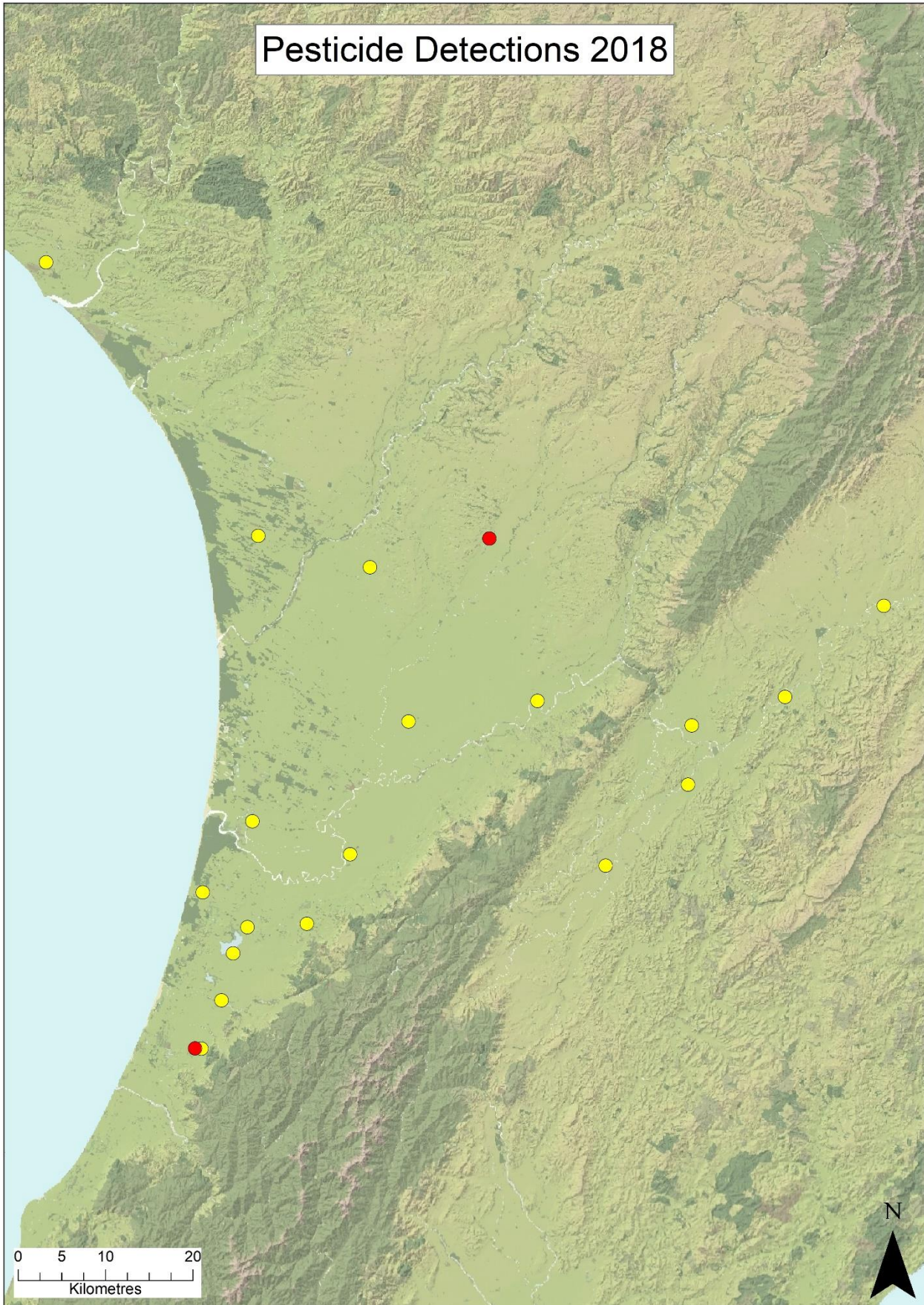


Figure 1: Horizons wells sampled for pesticides – no detection is shown in yellow, wells with positive detections are shown in red.

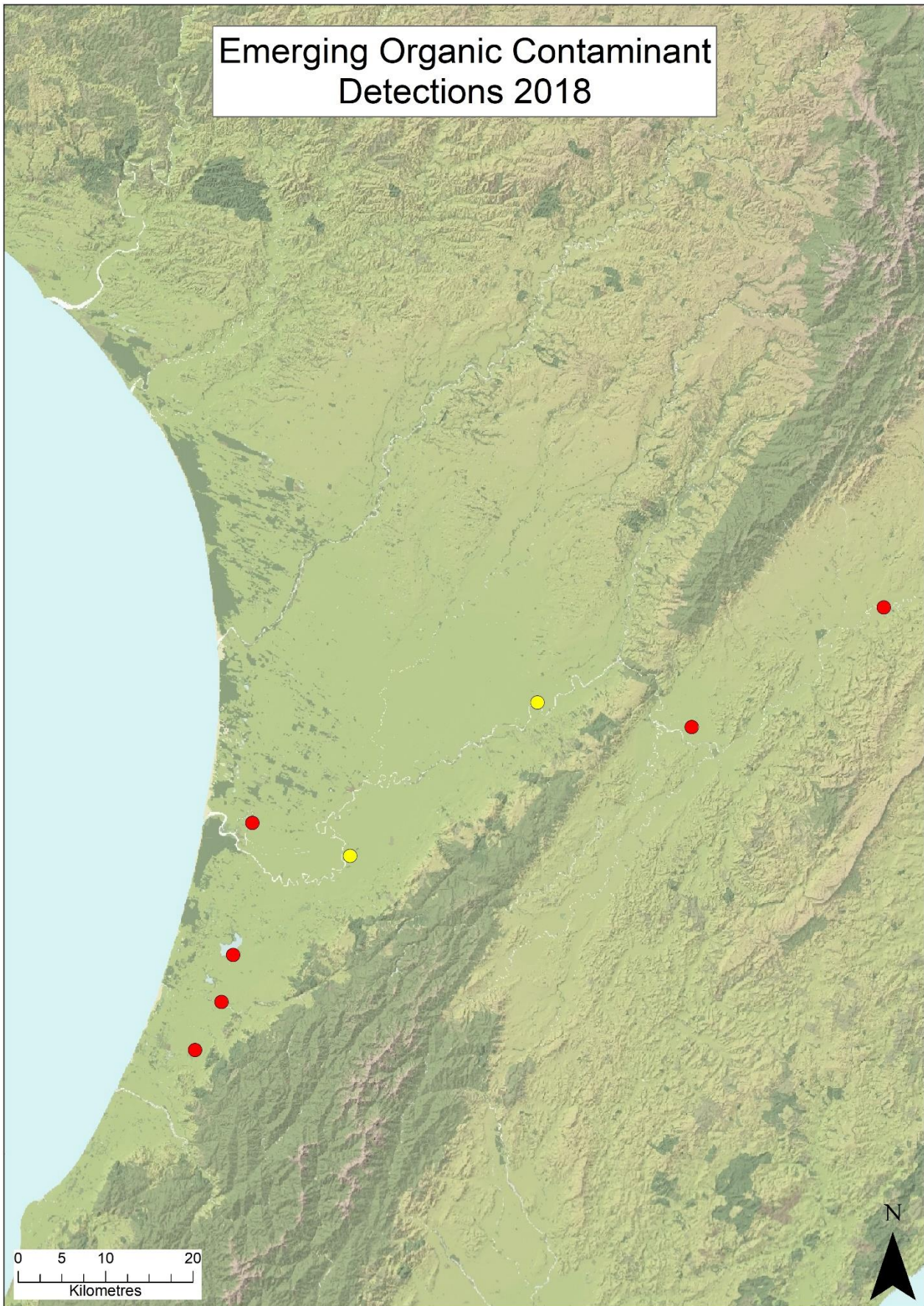


Figure 2: Horizons wells sampled for emerging organic contaminants – no detection is shown in yellow, positive detections are shown in red.

Stephen Collins
SCIENTIST - GROUNDWATER

Abby Matthews
SCIENCE AND INNOVATION MANAGER

Jon Roygard
GROUP MANAGER – NATURAL RESOURCES AND PARTNERSHIPS

ANNEXES

There are no attachments for this report.

Report No.	19-172
Decision Required	

IWI RELATIONSHIPS QUARTERLY UPDATE

1. PURPOSE

- 1.1. This report provides a quarterly update to Council on iwi and hapū relationships in the region, including Treaty matters that require engagement with Council.

2. EXECUTIVE SUMMARY

- 2.1. Horizons maintains a range of relationships with iwi and hapū in the region, with some groups actively engaged in statutory processes, including resource consents and monitoring. Iwi with interests in the region are at a range of stages in terms of advancing their treaty claims and settlements, and as a result there are a range of treaty obligations that sit with Council.
- 2.2. This report provides an update in relation to two treaty arrangements, the recently passed Ngāti Rangī settlement, and the Te Korowai o Wainuiārua Treaty settlement currently in progress. The Ngāti Rangī settlement contains a co-governance framework for Te Waiū o Te Ika, the Whangaehu River. Horizons is required to nominate a member for appointment to the statutory body of Ngā Wai Tōtā o te Waiū, the Whangaehu river strategy group.

3. RECOMMENDATIONS

That the Committee recommends that Council:

- a. receives the information contained in Report No. 19-172 and Annex;
- b. notes that the Ngāti Rangī Settlement Act includes Te Waiū o Te Ika framework, a co governance arrangement for the Whangaehu River;
- c. nominates a member for appointment to the statutory body of Ngā Wai Tōtā o te Waiū to be confirmed at the Regional Council on 26 November 2019;
- d. releases any public announcement regarding the appointment at a time that is mutually agreeable to iwi and councils;
- e. notes that a relationship agreement is being drafted with Te Korowai o Wainuiārua;
- f. notes that Te Korowai o Wainuiārua will update Council on their settlement aspirations on 26 November 2019.

4. FINANCIAL IMPACT

- 4.1. There are no financial implications associated with this report.

5. COMMUNITY ENGAGEMENT

- 5.1. Horizons engages with iwi and hapū across the region within Treaty of Waitangi settlement processes, as well as the ongoing relationship building and normal business activities.

6. SIGNIFICANT BUSINESS RISK IMPACT

- 6.1. There is no significant business risk associated with this item.

7. IWI ENGAGEMENT ACTIVITIES

- 7.1. Horizons engages with iwi and hapū across a range of activities, including resource management processes (consenting, monitoring and freshwater work), partnership work (planting and water management, co-governance) and treaty settlement processes. The capacity of iwi and hapū to engage varies across the region, and they often have multiple agencies seeking their attention; as well as delivering their own functions and services to meet the needs of their people within their rohe.

Treaty Settlements

- 7.2. Treaty settlements and their associated processes are complex and from time-to-time can lead to tension between iwi groups, particularly where there is overlap between iwi and their Areas of Interest recognised by the Crown. This is an issue that council officers look to sensitively manage, especially when engaging on issues related to an iwi Area of Interest. This includes having regard to mana whenua interests and settlement progress, and an understanding that there may be differences of opinion between groups on where an Area of Interest may start or finish.
- 7.3. Horizons engages with iwi and Te Arawhiti, (previously known as the Office of Treaty Settlements), in pre-settlement processes and post-settlement arrangements. Attached at **Annex A** is a list of the iwi within the region, and their progress in Treaty settlement claims. There are currently 26 iwi listed with seven having settled. Ngāti Toa Rangatira are on the table; although they reside entirely outside of the region their Area of Interest reaches up to Whangaehu.
- 7.4. The Council also works with a unique, post settlement governance entity; Ngā Tāngata Tiaki, who were formed through the Te Awa Tupua settlement (Whanganui River Settlement). Similar settlements for other natural features such as Mount Ruapehu and Tongariro National Park are ongoing and will impact on the region. As with the Te Awa Tupua settlement, these claims also have multiple iwi involved.
- 7.5. Treaty related work, including pre-settlement discussions and post settlement implementation can require both short-term significant resource input and long-term ongoing commitments from Council. There are two settlement-related matters of focus in this quarter. The first is the requirement, under the Ngāti Rangī settlement, to nominate a member for appointment to the Ngā Wai Tōtā o te Waiū statutory body, a strategy group for the Whangaehu River. The second is the drafting of a relationship agreement, as part of Te Korowai o Wainuiārua settlement negotiations. These matters are further explained below.

Ngāti Rangī Settlement

- 7.6. The Ngāti Rangī Settlement Act; passed on 25 July 2019, includes Te Waiū o Te Ika (the Whangaehu River) Framework, a co-governance arrangement for the Whangaehu River. Included within Annex A is a map of their Area of Interest.
- 7.7. The framework has numerous parts including Te Mana Tupua o Te Waiū o Te Ika (**Te Mana Tupua**). This recognises Te Waiū o te Ika as is a living and indivisible whole from Te Wai ā-moe (crater lake) to the sea, comprising physical (including mineral) and metaphysical elements, giving life and healing to its surroundings and communities. The framework also includes Ngā Toka Tupua o Te Waiū-o-Te-Ika (**Ngā Toka Tupua**) which are the four intrinsic values that represent the essence of the catchment.

- 7.8. Horizons must recognise and provide for Te Mana Tupua and Ngā Toka Tupua when preparing, varying, changing or approving a regional policy statement or regional plan. That requirement applies equally to any Civil Defence Emergency Management Group Plan being developed, reviewed or approved by the Joint Committee of local authorities that make up the Civil Defence Emergency Management Group for the region.
- 7.9. A statutory body, Ngā Wai Tōtā o Te Waiū (**Ngā Wai Tōtā**), is responsible for preparing and approving Te Tāhoratanga o Te Waiū, the strategy to advance the health and well-being of the catchment.
- 7.10. Ngā Wai Tōtā has eight members and is deemed a permanent Joint Committee of Councils. Four iwi members will represent the post settlement governance entities of Ngāti Rangī, Ngāti Apa, Uenuku Charitable Trust and Whanganui Land Settlement Negotiation Trust. The other four members will represent Horizons Regional Council, and the district councils of Rangitīkei, Ruapehu and Whanganui.
- 7.11. Horizons will provide the administrative support for Ngā Wai Tōtā. This includes the provision of services required by the body to carry out its functions under the settlement legislation, the Local Government Act 2002, or any other Act that applies to the conduct of Ngā Wai Tōtā. The Crown will provide a one-off payment of \$400,000 as a contribution towards the cost of establishing Ngā Wai Tōtā and developing Te Tāhoratanga o Te Waiū, the strategy. Once produced the strategy needs to be publicly notified.
- 7.12. Horizons must provide technical support to Ngā Wai Tōtā and resource this from within existing work programmes, and must endeavour to accommodate unbudgeted resource requests from Ngā Wai Tōtā where possible. The members of Ngā Wai Tōtā may be supported at any meeting by technical advisers.
- 7.13. All members are appointed for a three-year term unless they resign or are removed by the appointing organisation. In appointing a member to Ngā Wai Tōtā, an appointing organisation must be satisfied that the person has the appropriate mana, skills, knowledge, or experience to participate effectively in Ngā Wai Tōtā; and to contribute to the achievement of the purpose of Ngā Wai Tōtā.
- 7.14. As Ngā Wai Tōtā is a small, clearly defined group it is anticipated that it will be formed relatively quickly. The Act requires that each appointing organisation use its best endeavours to appoint members within 40 working days of the settlement date. The settlement date is 40 working days after the Act was passed into law; therefore, the appointments should, ideally, be made by 20 November 2019.
- 7.15. Fortunately, the timeline allowed for a member to be appointed from the newly elected Council, however, the time available for decision making is limited. Notwithstanding the best endeavours date, given the Council meeting schedule and consideration required, it is recommended that an appointment be confirmed at the Council meeting of 26 November 2019.
- 7.16. There are no specific selection criteria beyond being a current member of Council nominated by agreement. When considering appointment to the Te Awa Tupua strategy group, the previous Council chose to select a member who was representative of the catchment and had a desire to fill the role. Alternately, Council may wish to consider nominating a member who they believe will be suitably qualified for the role, and is able to make the commitment to serve on Ngā Wai Tōtā for the full term of appointment. Given that this is a governance appointment to a statutory body under Treaty settlement arrangements, it would be prudent to confer and agree with Ngāti Rangī on the timing for public announcement of the full membership of Ngā Wai Tōtā, which would include the Council nominee.

Te Korowai o Wainuiārua

- 7.17. The Uenuku Charitable Trust is progressing a settlement for Ngāti Uenuku, Ngāti Tamahaki and Ngāti Tamakana. These iwi formed a large natural grouping called Te Korowai o Wainuiārua. Included within Annex A is a map of their Area of Interest.
- 7.18. In late 2018, Te Korowai o Wainuiārua achieved Agreement in Principle with a centre-piece of their aspirations being to develop an inland island ecological sanctuary called Pōkākā. They seek to restore the bio-diverse forest resource and to support the breeding, reintroduction and conservation of endangered fauna and flora species.
- 7.19. The sanctuary would be part of the Erua Conservation Area, and would have a halo area for pest destruction, that will include public conservation land. Horizons is developing a relationship agreement with the governance entity focussing on participation in biodiversity restoration, pest management within the halo area, and other matters of mutual interest.
- 7.20. A kaitiaki plan for the Wainuiārua rohe is to be drafted by the iwi to guide environmental planning and decision making within the rohe. This may have implications for Horizons, and we will continue to build a partnership approach with iwi wherever possible.
- 7.21. Te Korowai o Wainuiārua and Horizons are in the initial stages of drafting a relationship agreement. Parties are working towards having the document presented to Council for discussion and ratification prior to the settlement being initialled which is anticipated to occur in mid-2020. An invitation to meet and update Horizons Council on their negotiations and aspirations has been accepted by the settlement group. They will present to Council at the 26 November 2019 meeting.

RMA related activities

Consent Processing

- 7.22. Horizons circulate weekly reports of consent applications that have been lodged with Council to 10 iwi groups and Ngā Tāngata Tiaki. Iwi capacity and capability to engage with consents is highly resource dependent with many engaging on a voluntary basis, although there are a few small, iwi funded environmental teams in the region. Some iwi choose to contract out the work to experienced planners, although this can lack the cultural context.
- 7.23. Overlapping areas of interest can lead to multiple iwi being informed about an individual consent. This can create some issues for iwi, and add complexity for the applicant, and also to the authorisation process. Horizons expects that any cost incurred by iwi to respond will be borne by the applicant. However, there is a growing call from iwi for council to provide assistance, including resourcing, to help iwi to provide initial feedback to all consents. Options to consider how this may be addressed this will be canvassed in the next quarterly update to Council.

RMA Training

- 7.24. Horizons has designed and delivered a package of three free introductory RMA workshops for iwi which are aimed at supporting iwi to build capability and capacity to engage with RMA processes. The content of the workshops provide a basic understanding of the RMA (including consenting processes) and an introduction to the Horizons One Plan. The training was introduced in 2019 and we have had good interest so far, with three iwi undertaking the training so far, and several others signaling interest in taking part.

Plan Change Consultation

- 7.25. Horizons are statutorily required to undertake consultation with iwi in regard to any changes to the One Plan. Last year we started engagement with iwi about plan change 2, and have continued to have a steady stream of communication to ensure they were informed about the proposals prior to notification, and invited their engagement in whatever form they felt was most useful (face-to-face meetings, email, marae visits). Horizons will continue to engage as the plan change programme progresses.

Catchment Planning processes

- 7.26. The previous council initiated discussions with iwi on the freshwater planning work programme for the Manawatū River catchment, and a co-governance arrangement was adopted. Good progress has been made in discussions, and a terms of reference has been considered by all parties. Membership discussions are continuing, with iwi wanting to ensure that representation is appropriate and serves the best interests of the catchment in order to develop a strategy that will endure, and support the restoration of the health of the catchment (particularly the Manawatū river).

Essential Freshwater Package

- 7.27. Iwi have been separately consulted with by Government on the proposed Essential Freshwater package. As anticipated, there is not one clear view from iwi in the region. Horizons has encourage iwi to submit their views to Government on the proposals included in the package, in particular the implications for treaty settlement arrangements to be met, and the potential limitations on future development of Maori owned land. Iwi have also been advised of the timeframes included in the Government's reform package and the potential disruption that could cause to the future of the catchment planning.

Other matters

Relationship agreements

- 7.28. Horizons have several Memorandum of Partnership agreements in place, and are continuing to work with all iwi to ensure they have the opportunity to develop these with Council when they feel they are at a stage that is appropriate to do so. Agreements are based on shared values, aspirations and interests and generally have a small work programme attached that Horizons help to resource.

Central Government Funded Projects

- 7.29. Te Mana o Te Wai and the Freshwater Fund provide an opportunity for Iwi and Horizons to work in partnership to submit applications and then build a longer term relationship in implementing the work programme resulting from successful funding rounds. The Freshwater Team engage and work with iwi on the ground; these activities build positive relationships with council staff and iwi members.

8. NEXT STEPS

- 8.1. Once Council has selected an appropriate nominee for appointment as a member to the strategy group, Ngā Wai Tōtā, this will need to be confirmed at the Council meeting of 26 November 2019. Council officers will then inform Ngāti Rangī as required, and make arrangements in agreement with Ngāti Rangī about when the membership of the full group will be publicly announced.
- 8.2. Te Korowai o Wainuiārua settlement group will present to Council on their negotiations and aspirations on the 26 November 2019. This will be a good opportunity for Councillors to hear about their aspirations for people, what they hope to achieve through their treaty settlement arrangements with the Crown, and the relationship they would like to have with Horizons.
- 8.3. The next quarterly report will provide options to consider how the Council can further support iwi to build their capability and capacity to engage with Council on environmental management and RMA matters.

9. SIGNIFICANCE

- 9.1. This is not a significant decision according to the Council's Policy on Significance and Engagement.

Jerald Twomey
SENIOR POLICY ANALYST IWI

Nic Peet
GROUP MANAGER STRATEGY & REGULATION

ANNEXES

A Treaty Settlement Process and Areas of Interests

TREATY SETTLEMENT PROCESS AND AREAS OF INTERESTS

Stages of the Process

Listed below are the stages of negotiation that an Iwi or Large Natural Grouping will go through in a settlement process.

Pre Negotiation

- Iwi establish and mandate their claimant group
- Determine the Terms of Negotiation with Crown. This covers who will participate as negotiators and what they want to achieve. It also confirms the claimant group, to make sure that everyone in the group will benefit from the settlement.

Negotiation

- Seek an Agreement in Principle (**AIP**). This shows the redress that will be agreed on in the final settlement. It is lacking detail; that will be settled after the signing of the AIP. This may take between 12 – 18 months.
- Draft the Deed of Settlement (**DOS**). This is the longest part of the settlement and involves working out the details that will be in the settlement. This typically takes 18 months or longer.
- Initial the DOS. The document is now ready for the claimant group to consider and is initialed by the Crown and negotiators.
- Seek Iwi approval of DOS. The claimant group discuss and vote upon the draft DOS.
- Iwi sign the **DOS**

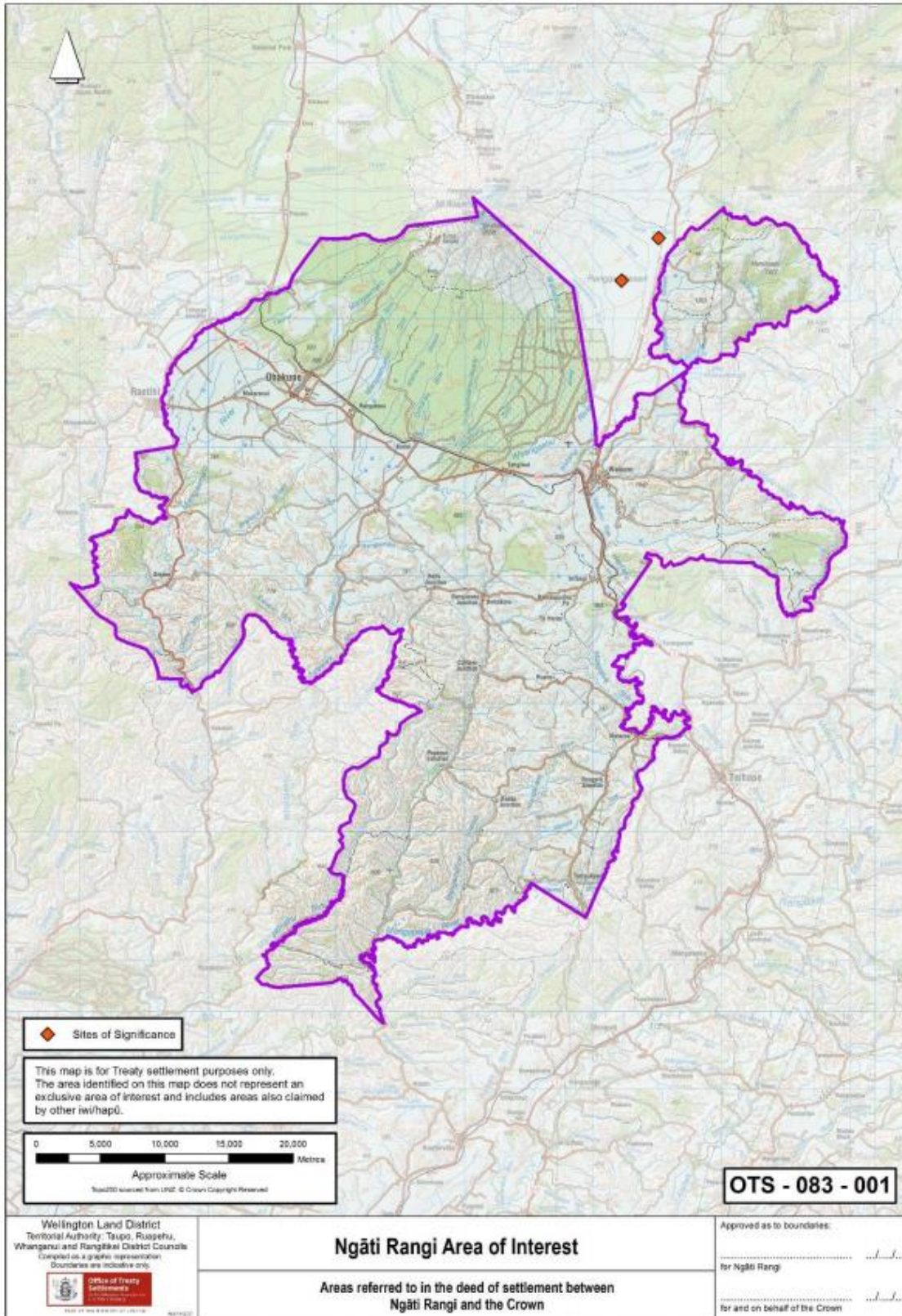
Legislation

- The bill is Introduced
- 1st Reading
- Goes to Select Committee
- 2nd & 3rd Readings then passed
- Enacted through approval from the Governor General; becomes law.

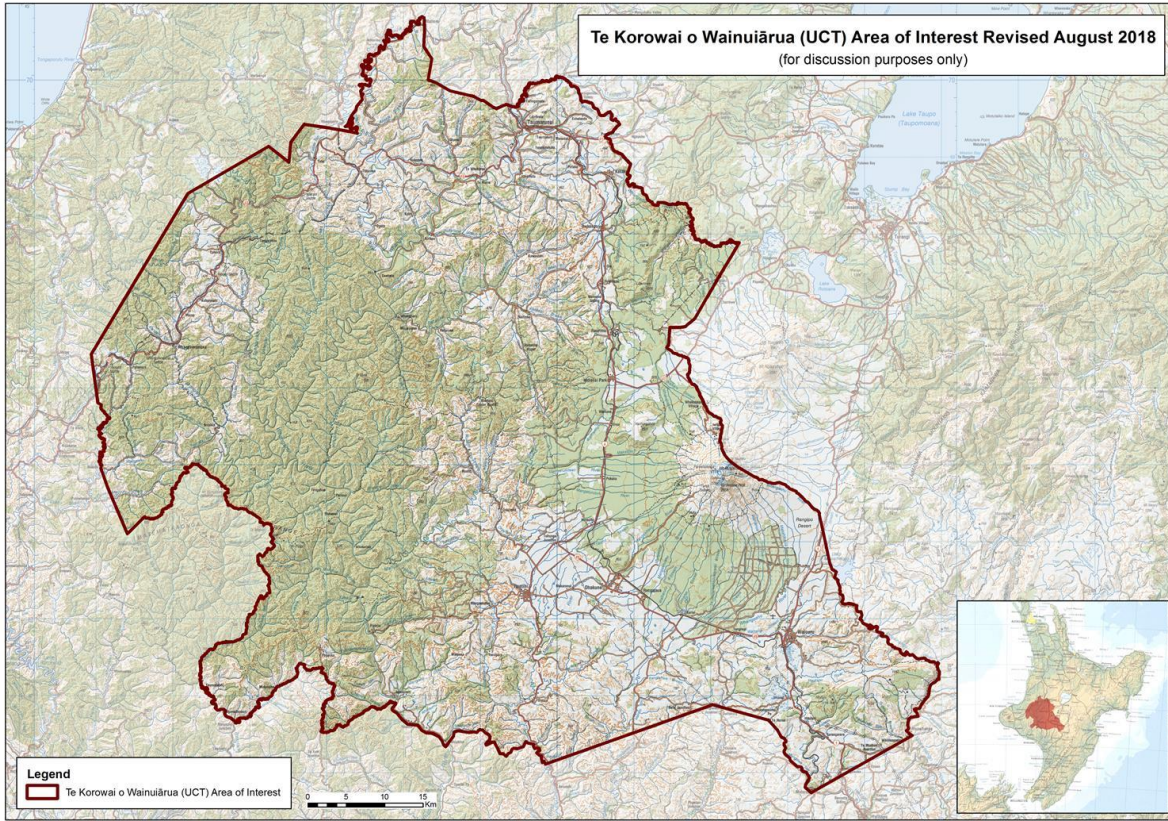
Iwi Progress

Iwi /Settlement	Position in Settlement Process
Ngaa Rauru Kiitahi	Settlement Legislation was passed on 27 June 2005
Ngā Wairiki Ngāti Apa	Settlement Legislation was passed on 9 December 2010
Ngāti Toa Rangatira	Settlement Legislation was passed on 17 April 2014
Rangitāne o Manawatū	Settlement Legislation was passed on 7 December 2016
Te Iwi o Whanganui (River Claim)	Te Awa Tupua (Whanganui River Claims Settlement) Settlement Legislation was passed on 15 March 2017
Rangitāne o Wairarapa, Tamaki Nui ā Rua	Settlement Legislation was passed on 10 August 2017
Ngāti Tūwharetoa Land Settlement	Settlement Legislation was passed on 13 December 2018
Ngāti Rangi	Settlement Legislation was passed on 25 July 2019
Ngāti Kahungunu ki Wairarapa, Tāmaki nui-a-Rua	A Deed of Settlement was initialled on 22 March 2018
Ngāti Maniapoto	Have AIP, moving to Deed of Settlement in 2019. Includes iwi of Ngāti Rereahu and Te Ihingarangi
Ngāti Maru	Have AIP, move to Deed of Settlement in 2019
Ngāti Tamahaki Ngāti Tamakana Ngāti Uenuku	Large Natural Grouping – Te Korowai o Wainuiārua AIP signed on 23 November 2018
Ngāti Tamaūpoko Ngāti Tūpoho	Large Natural Grouping - Whanganui Lands Settlement Trust. AIP signed on 30 August 2019.
Muaūpoko	Terms of Negotiation were signed on 14 December 2013
Ngāti Hāua	Terms of Negotiation were signed on 24 July 2017
Ngāti Rangatahi	Has mandate to progress a settlement
Ngāti Hauiti	Engaged in Waitangi Tribunal Hearings. Seeking to mandate a claimant group
Ngāti Tamakōpiri	
Ngāti Whitikaupeka	
Ngāti Hinemanu Me Ngāti Paki	
Ngāti Raukawa	Engaged in Waitangi Tribunal Hearings
Te Iwi Mōrehu	Pan Tribal

NGĀTI RANGI AREA OF INTEREST



Te Korowai o Wainuiārua Current Area of Interest



Report No.	19-173
Decision Required	

HORIZONS ONE PLAN - PLAN CHANGE PROGRESS UPDATE

1. PURPOSE

- 1.1. To provide Council with an update on the progress of plan changes being advanced to iterate the Horizons One Plan.

2. RECOMMENDATION

That the Committee recommends that Council:

- a. receives the information contained in Report No. 19-173.

3. FINANCIAL IMPACT

- 3.1. There is no impact on existing budgets as a result of this report.

4. COMMUNITY ENGAGEMENT

- 4.1. The Council has carried out community engagement on plan changes in alignment with the requirements of **Schedule 1 of the Resource Management Act 1991 (RMA)**. There has been engagement with iwi, stakeholder groups and the wider community around the difficulties in implementing the One Plan's nutrient management provisions and how we might resolve them.

5. SIGNIFICANT BUSINESS RISK IMPACT

- 5.1. Freshwater management issues attract public interest, and there is a lack of consensus around solutions or approaches. A loss of public or ministerial confidence in Horizons' ability to make timely or appropriate decisions would have significant ramifications.
- 5.2. The Council has continued to advance this work to progress towards resolution for our immediate nutrient management implementation issues, while being cognisant of the Government's broader freshwater proposals, likely direction and potential impact.

6. BACKGROUND

- 6.1. The Council has begun the process of evolution of the One Plan to ensure that it maintains currency with Government policy, as well as accounting for progress in environmental management and policy. There were also some immediate issues that needed to be addressed in relation to the regulation of nutrient management for intensive farming operations arising from the declaration decisions of the Environment Court.
- 6.2. The Council has completed Plan Change 1, an administrative change that did not require a RMA schedule 1 process to be undertaken. This plan change incorporated a number of administrative adjustments and interim steps required by the **National Policy Statement for Freshwater Management (NPSFM)**.
- 6.3. Plan change 2, which focused on addressing nutrient management issues for existing intensive land uses was notified on 22 July 2019. This plan change was prepared with the

awareness of Government's intention to propose changes to management of freshwater, while also recognising the Minister for the Environment's strong interest in the Council advancing work to resolve the nutrient management issues highlighted by the declaratory proceedings.

- 6.4. An outline of further proposed plan change work was provided to the previous Council. This is anticipated to require review once the final shape of the Essential Freshwater package proposed by Government is known.
- 6.5. The Council is also required to make changes to the One Plan to align with the National Planning Standards that were made operative earlier this year. The Council is also required to undertake a review of each section of the Plan at least once in a ten year period.

7. DISCUSSION

Plan Change 2

- 7.1. The Plan Change 2 work programme continues to advance. Submissions on the plan change closed on 21 October 2019. A total of 84 submissions were received, with good engagement across the community (individual farmers and growers, community and stakeholder groups, iwi, and non-government organisations).
- 7.2. The Council is preparing a summary of submissions for release in early November, with the submissions process to be complete by the end of the year. Further research is being commissioned to support the plan change evidence requirements, along with seeking expert opinions to respond to the issues raised in submissions. Work is also underway on drawing together information to develop the Council's report to the hearing panel on the submissions.
- 7.3. Work has been completed to consider Plan Change 2 in light of the Government's Essential Freshwater proposals. Given the timing of the proposals, and the further work required to refine these before they are able to be promulgated, it is expected that the Plan Change will be advanced to the decisions stage prior to the Essential Freshwater proposals being completed.

Plan Change 3

- 7.4. The Council has continued preparatory work to develop proposals to resolve the remaining nutrient management issues not captured in Plan Change 2 (primarily new intensification activities where these exceed the table limits, and intensive activities that are looking to move within or across catchments and support environmental improvement).
- 7.5. The Council has also looked to advance the science and technical work to further implement the NPSFM, and has begun work on establishing limits and targets for values and attributes common to both the One Plan and the current NPSFM.
- 7.6. Due to the uncertainty surrounding the final shape of the Essential Freshwater package, officers have delayed the presentation of proposals to Council that were due to be presented in November for early-stage discussion. The proposals contained in the Essential Freshwater package do not currently offer a solution to address the nutrient management implementation issues faced by Council, but would serve to further constrain options for land owners if they were to be promulgated as proposed.

Plan Change 4

- 7.7. The Council has undertaken an initial scoping exercise of the work required to implement the National Planning Standards, as well as address minor administrative fixes that have been identified through the implementation of the plan over the last five years.

- 7.8. Regional Councils are required to implement the National Planning Standards within three years, including the development of an e-plan. We anticipate that we will be able to meet the requirements for implementation to reformat the plan and adopt standard definitions within the timeframe, with the majority of this development work scheduled to be completed in 2020.
- 7.9. However, the development of an e-plan is unlikely to be achievable in this timeframe due to the technical development required, the coordination and integration with territorial local authorities within the region, and the technical infrastructure required to be in place to support the plan. The Ministry for the Environment signalled that support would be available for the e-plan work but this has not yet eventuated.

Sectional review of the One Plan

- 7.10. Review and evaluation work is scheduled to begin before the end of the year, with an initial focus on completing evaluation of both the regional policy statement and regional plan components relating to land, biodiversity, climate change, natural hazards, coast and water (except for water quality) issues. The results from these evaluations will form the basis for a future plan review, and ensure we meet our obligations for completing a review of each part of the plan at least once in a 10 year period.
- 7.11. A second and third tranche of evaluation work is planned to be completed in further years, with all review and evaluation issues completed prior to 2024. The ability to resource these areas of work will be dependent on the Government's policy changes in the intervening period.

8. NEXT STEPS

- 8.1. Council officers will continue to follow the Schedule 1 process for plan change 2, with a view to the hearings process being conducted in February-March 2020. Given that submissions have closed, we will also prepare a further update from the Chair on progress of Plan Change 2 to the Minister for the Environment. We will continue to maintain a watching brief on the Essential Freshwater package, and proposed RMA changes, and update Council on these matters in due course.

9. SIGNIFICANCE

- 9.1. This is not a significant decision according to the Council's Policy on Significance and Engagement.

Rebecca Tayler
MANAGER POLICY & STRATEGY

Nic Peet
GROUP MANAGER STRATEGY & REGULATION

ANNEXES

There are no attachments for this report.