

DRINKING WATER ASSESSMENTS UNDER THE LOCAL GOVERNMENT ACT - A HAWKE'S BAY CASE STUDY

Bridget O'Brien, WSP New Zealand Ltd

ABSTRACT (500 WORDS MAXIMUM)

By July 2026, all territorial authorities need to have undertaken an assessment of drinking water services in their districts as a result of changes made to the Local Government Act. These assessments need to determine water supply demand, safety, quality and any potential risks. Assessments include communities who receive drinking water services from councils and other drinking water suppliers.

Wairoa District Council, Napier City Council, Hastings District Council and Central Hawke's Bay District Council jointly undertook the Hawke's Bay Private Water Supplies Project. Its purpose was to engage with a sample of private water suppliers and assess the risks to their water supply so that they could:

- Understand how best to assess private water supplies when undertaking their assessments of drinking water services
- Support their communities to provide safe drinking water
- Influence the way these assessments are carried out across the rest of New Zealand
- Understand their potential liability with under-performing private water supplies.

Potential private water supplies were identified through interviews with key stakeholders, reviewing previous water and sanitary services assessments and multiple GIS data sources. It is estimated that there are between 3,900 and 6,900 private water supplies in Hawke's Bay.

Fifty engagements with private water suppliers were held, which included a face-to-face interview and a questionnaire about their water supply. Finding suppliers willing to engage in the project took a significant amount of time and effort. This will be much more straightforward once all supplies are registered in 2025.

Key findings were that most private water suppliers did not understand the changes being proposed in the Water Services Bill (which was enacted partway through the project). Two thirds of the water supplies were untreated; treatment was more common on bore supplies, but was uncommon on roof water and spring water supplies. Many suppliers did not have an alternative water supply that they could connect to if they lost access to their water supply.

Taking the learnings from this project, we recommend that the councils take the following steps for their drinking water assessments:

- 1 Identify and prioritise communities to focus on those with the greatest need.
- 2 Engage with communities to understand any issues they have with the quantity and quality of their drinking water, and to improve the understanding of private drinking water supplies in those communities.
- 3 Engage with a sample of private drinking water suppliers in those communities to gain a deeper understanding of the safety and sufficiency of water in those communities.
- 4 Summarise the findings and recommendations, and use these to inform the council's Asset Management Plan, Infrastructure Strategy and Long Term Plan (or the Water Services Entity's Asset Management Plan and Infrastructure Strategy). Report back to communities on the results and recommendations about how they can be supported to provide access to safe and sufficient water for their community.

KEYWORDS

Drinking water assessments, private water suppliers, 3 Waters Reform, Local Government Act

PRESENTER PROFILE

Bridget O'Brien is a Chartered Professional Engineer with over 20 years of experience. Before joining WSP as a Technical Principal – Water & Wastewater, she led the Asset Planning – Water & Wastewater team at Christchurch City Council. She is passionate about improving the way we do things and improving drinking water safety for everyone.

INTRODUCTION

Under its 3 Waters Reform programme, the Government introduced new drinking water legislation. The Water Services Act (2021) requires more of councils and private drinking water suppliers:

- An amendment to section 125 of the Local Government Act 2002 (LGA) requires councils to undertake drinking water assessments for their communities to determine water supply demand, safety, quality, and any potential risks. Assessments include communities who are served by a council supply and other drinking water suppliers and arrangements. Assessments must be completed every three years; the first one is due by November 2026. This is an ongoing obligation for councils and does not transfer to the water services entities.
- Anyone who supplies drinking water to more than a single domestic house is now a drinking water supplier. This is a significant change from the Health Act, where only those that supplied at least 25 people were a water supplier.
- By 2028, all unregistered drinking water suppliers will need to meet the requirements of the new Water Services Act, drinking water standards, and the

Drinking Water Quality Assurance Rules (Rules) or a drinking water acceptable solution.

Wairoa District Council, Napier City Council, Hastings District Council and Central Hawke's Bay District Council are working together to prepare for these changes and wanted to engage with private drinking water suppliers to help understand what this means for the councils and their communities.

WSP and its social research subconsultant FOLKL were commissioned in July 2021 by the four councils to undertake the Hawke's Bay Three Waters Private Water Supply Project. Its purpose was to engage with a sample of private water suppliers and assess the risks to their water supply (quality and quantity), so that the Hawke's Bay councils can:

- Understand how best to assess private water supplies when undertaking their assessments of drinking water services
- Support their communities to provide safe drinking water
- Influence the way these assessments are carried out across the rest of New Zealand
- Understand their potential liability with under-performing private water supplies.

PROJECT METHODOLOGY AND KEY FINDINGS

IDENTIFYING PRIVATE WATER SUPPLIES

Known and possible private water supplies were identified through interviews with key stakeholders, reviewing councils' previous water and sanitary services assessments and applying a logical process to interpret multiple GIS data sources.

Three communities in each district were selected to undertake engagements with private water suppliers. Contact was made with 186 people and 50 engagements with private water suppliers were held (see Figure 1 for a map).

The engagement method was a face-to-face interview along with a site visit to the water supply. The Survey 123 app was used to capture the information about the water supply. Capturing data in a standardised format increased the efficiency of the site visits and resulted in more consistent outputs. It also enabled analysis of the data to gain insights from the 50 surveys that were undertaken. Private water suppliers that participated were informed about the changes to drinking water legislation and how they could comply.

There was an extensive learning process to develop a system which streamlined the identification and engagement process. Finding suppliers willing to engage in the project took a significant amount of time and effort. This will be much more straightforward once all supplies are registered in November 2025.

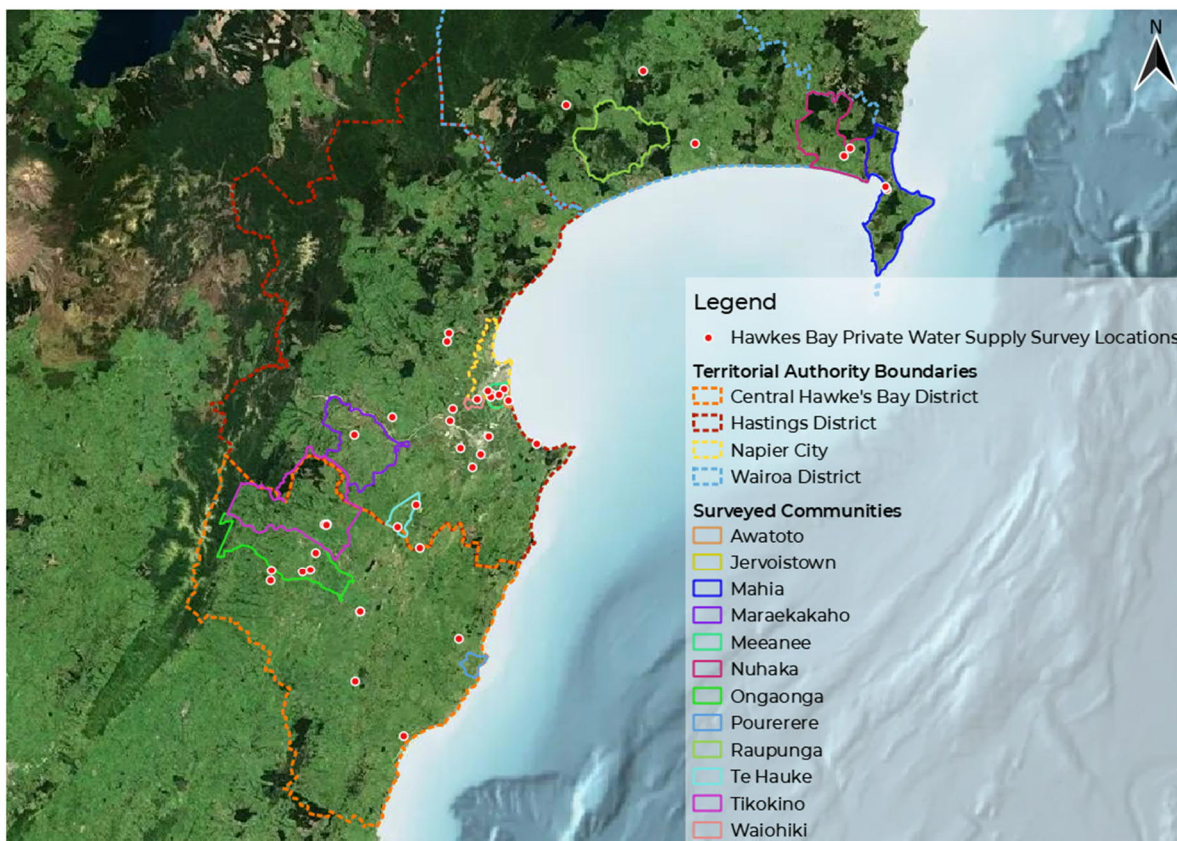


Figure 1: Map showing location of all engagements

RESULTS

RESULTS - IDENTIFYING PRIVATE WATER SUPPLIES

There is a lack of information on private drinking water supplies, with at best only a point to show the location of a water supply if it was a registered water supply or had a resource consent. This meant that there was low confidence in the GIS mapping as a way of identifying water suppliers. Previous water and sanitary services assessments and personal knowledge were found to be more reliable methods for identifying private water suppliers. The lack of mapping of the extent of each water supply made it difficult to identify who was served by a water supply and who was not.

KEY FINDINGS - PRIVATE WATER SUPPLIES

Key findings about the 50 water supply systems that were assessed were:

- Almost all the supplies were either a very small supply (serving <50 people) or small supply (serving 50-500 people) as defined in the draft Drinking Water Quality Assurance Rules. Only one was a large supply (serving >500 people).
- 70% of supplies used bore or spring water, with most of the remainder using roof water. Only one surface water source was assessed.

- 42% of suppliers did not have an alternative water supply that they could connect to if they lost access to their water supply.
- 67% of the water supplies did not treat the water. Treatment was more common on bore supplies (50%) but was uncommon on roof water and spring water supplies.
- The most common forms of treatment were cartridge filtration and UV disinfection. Only one supply had any other form of treatment, which was the one that used surface water.

Extrapolating the results to the Hawke's Bay region indicates that there could be between 2,600 and 4,600 private water supplies with untreated water.

RESULTS - ENGAGEMENT APPROACH

The political context influenced the way that the project was delivered. The project began while the Water Services Act was still the Water Services Bill, and the wider Three Waters Reform programme was undergoing debate about the future ownership of council water supplies. There was uncertainty as to what qualified as a private water supply and there was hesitancy and distrust among some project participants.

Suppliers were generally hesitant to participate, due to concern with the Government's Three Waters Reform programme, a perception that the councils were looking to enforce the proposed changes for suppliers, and that by giving consent, that their private information would be provided to Government. Most suppliers did not understand the changes being proposed and the new obligations for drinking water suppliers and councils.

After participating, almost all suppliers found the experience useful and appreciated understanding their obligations and the implications for their supply. By the end of the project, water suppliers who had been interviewed were referring other private water suppliers to the project team. This indicates that the use of champions could be a good way to engage with private water suppliers.

SUGGESTED APPROACH FOR DRINKING WATER ASSESSMENTS

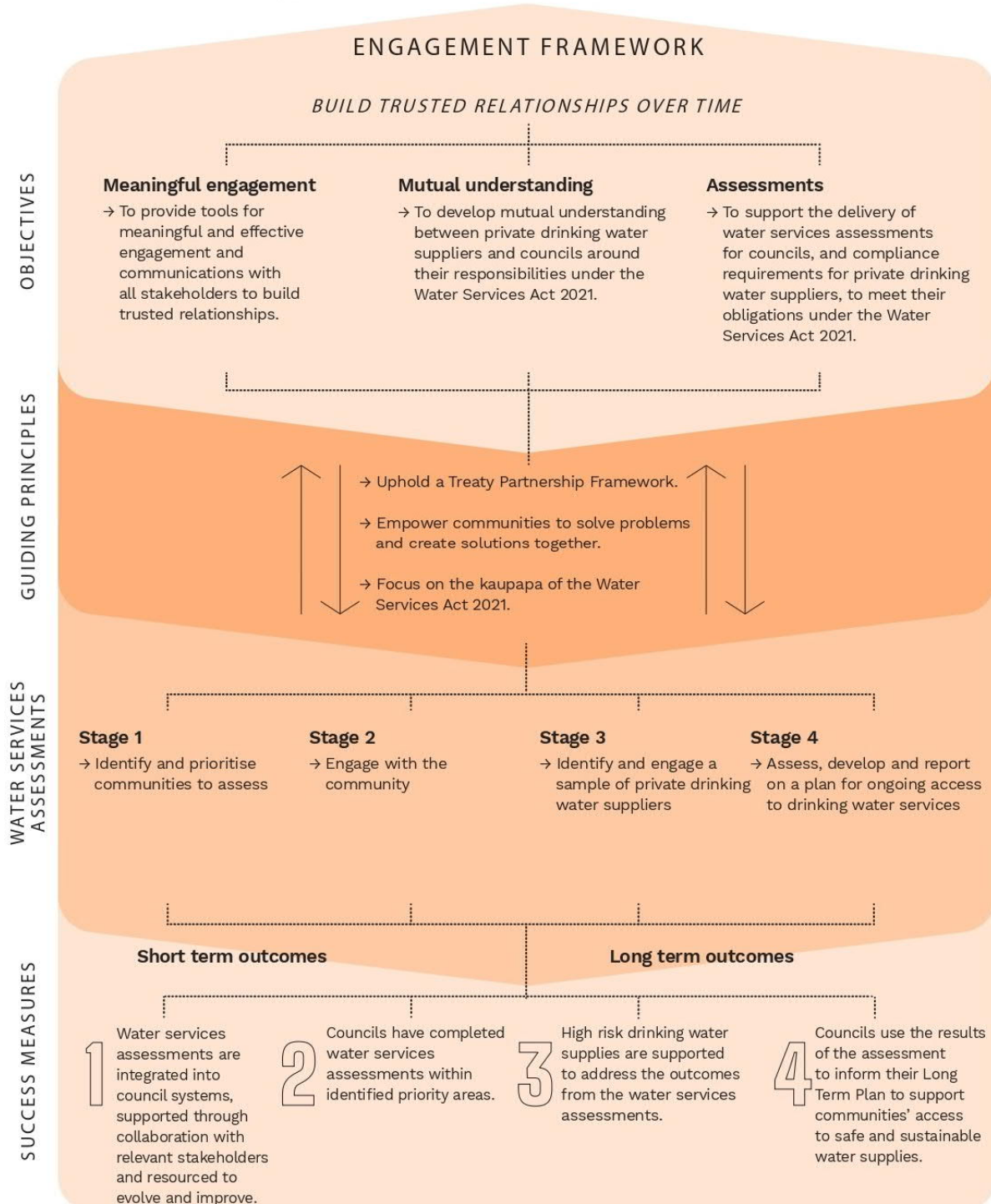
Drawing on the insights and research findings from this project, the intent of this methodology and framework is to provide the strategic direction for drinking water assessments. The assessment approach acknowledges that the proposed steps will need to remain flexible and adaptive at each step to allow the project team to engage and address any community or stakeholder concerns or programme complexities as they arise.

The suggested engagement framework shown in Figure 2 has drawn on the field research, stakeholder engagement and desktop research undertaken during this project to provide a high-level visual aid to undertake drinking water assessments. The intention is that this framework remains a flexible 'living document' to adapt to ongoing situations as more knowledge is gained about supplies, suppliers and the processes to undertake assessments.

Engagement Framework.

STRATEGIC DIRECTION: Stakeholder Engagement; Communications Strategy; and Assessment Framework.

PURPOSE: The purpose of this Engagement Framework is to provide guidance and a strategic approach for communication and engagement with private drinking water suppliers who are not registered under the Water Services Act 2021. The focus is on very small and small suppliers relating to council obligation to undertake water services assessments.



Engagement methods, communications and other relevant information, tools and template examples are provided in the Communications and Engagement Strategy.

Figure 2: Suggested engagement framework

The four steps outlined below address each of the requirements in section 125 of the LGA and propose the method and engagement techniques to undertake drinking water assessments. The four steps are:

- 1 Identify and prioritise communities to assess
- 2 Engage with the community
- 3 Identify and engage a sample of private drinking water suppliers
- 4 Summarise the findings and recommendations, use these to inform the council's (or water services entity's) investment strategy and report back to the community.

STEP 1 - IDENTIFY AND PRIORITISE COMMUNITIES TO ASSESS

Due to the large number of private water suppliers, it would be extremely difficult to assess every private drinking water supplier in an entire district every three years, due to resourcing and cost constraints, and difficulty gaining consent and access to water supplies. A strategic focus on different areas may need to be taken every three years, that requires other areas not to be assessed in such detail.

Section 125 of the LGA requires each territorial authority to 'inform itself about the access that each community in its district has to drinking water services by undertaking an assessment of drinking water services'.

The LGA defines 'community' in terms of a physical area under Schedule 6 'Constitution of communities' section 2(2) that states:

The boundaries of a community must coincide with the boundaries of the statistical meshblock areas determined by Statistics New Zealand and used for parliamentary electoral purposes.

Furthermore, section 2(1) states that an Order in Council or resolution must:

- (a) fix the boundaries of the community and describe them in a manner that makes them readily capable of identification; and
- (b) assign a name to the community.

A community for a drinking water assessment should therefore be defined using the statistical meshblock areas (formerly known as census meshblock areas) determined by Statistics New Zealand. Adjacent meshblocks can be grouped where these represent a single community (see Figure 3 for an example). Engaging with the community in Step 2 can provide further opportunity to define the community boundary from their perspective.



Figure 3: Example community – Nuhaka

To prioritise communities for assessment, it is recommended that a high-level needs assessment of each community's drinking water is undertaken for the district. This could be informed by the findings of previous water and sanitary services assessments, supplies with known issues identified by key stakeholders (e.g. Taumata Arowai) and council information on reticulated and unreticulated service areas.

Key census data could also be used to prioritise communities (e.g. deprivation index, household density, population). Figure 4 shows these statistics for the communities in Central Hawke's Bay District (where the size of each bubble indicates the population). Those with higher deprivation and/or population (in the upper and right hand side of the graph) could be prioritised for assessments (and potentially for investment).

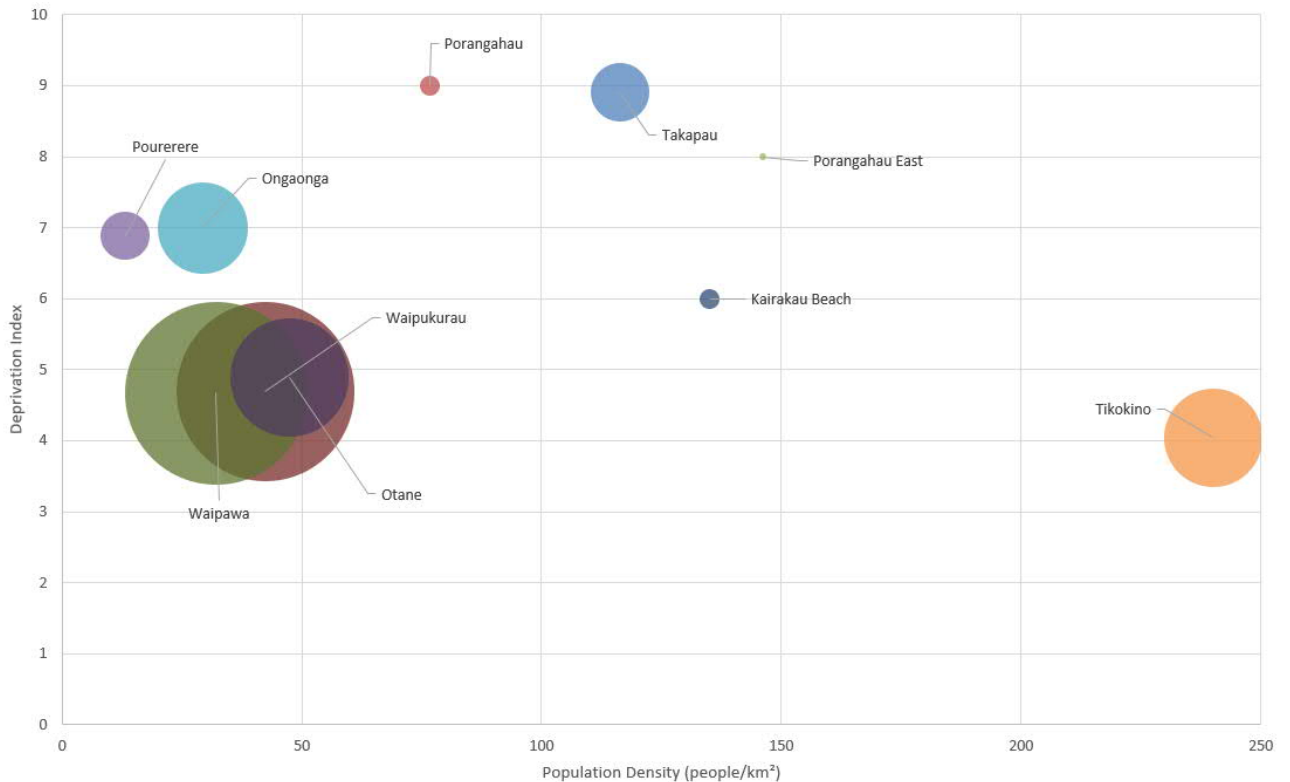


Figure 4: Population, deprivation index and household density for communities in Central Hawke's Bay District

To obtain the information on the nature of the services and characteristics of a community itself, a greater understanding of each community is required. To gain this and to create ongoing, sustainable assessments, there is value in working with the people in the community who will be impacted. Therefore, as part of this step, developing a plan to communicate and engage early and with transparency with communities will be an essential part of the drinking water assessment.

The selected communities will need to be informed of the council's obligation to undertake an assessment of the community's drinking water services. This will require information on:

- Why council intends to do the assessment
- How the assessment process will be completed
- What that will mean for the community
- How they can find out more information.

STEP 2 - ENGAGING WITH THE COMMUNITY

Engaging with communities is an opportunity to discuss the drinking water regulations and what this means for them and their water supplies. This could potentially be done in collaboration with Taumata Arowai. Therefore, Step 2 focuses on further identifying private water suppliers and determining the extent to which the community is receiving drinking water.

Engaging with the community could be via a 'town hall/community hall' style engagement. The event could include information for private water suppliers about the Water Services Act, Rules and Acceptable Solutions. Breakout groups could be used to discuss the nature of supplies and characteristics of the community, along with an opportunity for suppliers to provide information about their water supplies and register their interest in participating in the sample of private drinking water supplier programme (Step 3). Incentives for participating could include drinking water testing and a supply assessment with high-level improvement suggestions.

Discussions could be around their safety and access to drinking water, with the goal being to create pathways so that they are informed, connected and supported. For example, the information could be collected by interested parties during town hall/community hall events and provide a platform and support for the supply group to discuss their situation.

By taking a community approach to understanding people's water supplies, a picture of the wider extent of the community's drinking water can be established and assessed by councils. It can also connect members of the community and direct specific supply groups towards solutions for both individuals and the wider group of people who rely on a particular source of drinking water.

Offering advice and support will help to build trusted relationships and identify private drinking water suppliers, as supplier groups discuss what is available.

Communications and engagement methods could include:

- Information that is easy to find and understand (e.g. website, printed material)
- Online portal for private water suppliers to notify the council of their interest in participating
- Working with 'community champions' and key people within communities to create communication between councils and water suppliers and their consumers

Identifying (including potential high risk) private water suppliers to participate in individual drinking water supply assessments, provides a basis to understand particular cases at a more granular level.

STEP 3 - IDENTIFY AND ENGAGE WITH A SAMPLE OF PRIVATE DRINKING WATER SUPPLIERS

Undertaking a drinking water assessment at a community level without including engagement with individual suppliers may not be a completely effective approach. This is because it may miss the level of detail required to gain a better understanding of the types of suppliers and the people that they supply drinking water to. It also provides a limited understanding of the specific needs of those supplies and the nuances of each group.

Therefore, Step 3 involves completing an engagement with a sample of private water suppliers in a community to satisfy the assessment of safety and quality of

drinking water and to help identify and assess any other public health risks relating to the drinking water services supplied to the community.

It is suggested that a similar approach could be used as for this project, which involved a face-to-face interview and a visit to the water supply, to gain an understanding of the water supplier, their drinking water supply and the risks associated with it.

STEP 4 - ASSESS, DEVELOP AND REPORT ON A PLAN FOR ONGOING ACCESS TO DRINKING WATER SERVICES

The results of the drinking water assessments will help to understand people's access to sufficient and safe drinking water. The assessments can assist with identifying the best option to support the community where identified risk or defects have been found. This may include investment by the council (or water services entity) to improve the safety and security of the water supply, directing the community to potential funding sources, and educating suppliers about how to provide safe drinking water.

In some cases, it may be more cost-effective and resilient to extend the council's water supply reticulation to service properties on the outskirts of town, or to provide a water supply scheme for a community, rather than having many small treatment systems.

It is important that people are informed about the outcomes of the drinking water assessment and what the council (or water services entity) and the community will do about it. Each community will be different and may have varying capability or capacity to be involved, which can be identified during the assessment steps and supported accordingly.

During the project, it was found that many suppliers wish to be a part of the solution and kept informed on any decisions that may impact them. Therefore, it is suggested that the councils partner with the private drinking water supply communities and stakeholders to design plans to address and support the conclusions drawn from the drinking water assessment. This could include advisory working groups and summary reports back to the community through letter drop, notice boards, online websites and community meetings.

By completing the communications and engagement 'loop' on the outcomes of the drinking water assessment, a council will build trusted relationships with its private drinking water supply communities, thus creating an established relationship with communities to continue and sustain the requirement to undertake assessments every three years.

It is anticipated that the methodology and engagement steps will continue to evolve and improve as new information becomes available and communities, suppliers and individuals become more familiar with the requirements of the Water Services Act.

CONCLUSIONS

RECOMMENDATIONS FOR MAPPING WATER SUPPLIES

The lack of mapping of the serviced area of private water supplies was a significant hindrance for the project. When registering as a drinking water supply, water suppliers are required to inform Taumata Arowai about the area that their drinking water supply supplies. To allow the areal extent of water supplies to be understood by councils, Taumata Arowai and researchers, it is recommended that Taumata Arowai consolidates this spatial information in GIS and makes it available. This would make it far easier to identify whether a property is serviced by a water supply, which would be helpful for councils undertaking drinking water assessments and population-based epidemiological studies.

If Taumata Arowai is not going to provide the spatial extent of water supplies in GIS, then the confidence in the location and extent of private water supplies would be improved if councils (including regional councils) captured spatial data about private water supplies as part of the building consent and resource consent process (e.g. subdivision consents and water permits). However, this would be much poorer quality data than the comprehensive data set that Taumata Arowai holds as the regulator.

SUGGESTED APPROACH FOR DRINKING WATER ASSESSMENTS

Taking the learnings from this project, it is suggested that the councils take the following steps for their drinking water assessments under the amended Local Government Act:

- 1 Identify communities using groups of statistical meshblocks. Prioritise communities to focus on those with the greatest need, using council and stakeholder knowledge and key census data (e.g. deprivation index, population, household density). Identify drinking water supplies using data from Taumata Arowai.
- 2 Engage with communities to understand any issues they have with the quantity and quality of their drinking water, and to improve the understanding of private drinking water supplies in those communities.
- 3 Engage with a sample of private drinking water suppliers in those communities to gain a deeper understanding of the safety and sufficiency of water in those communities.
- 4 Summarise the findings in a report, highlighting any water quality or quantity risks for each community, and recommendations to address these risks. Report back to communities on the plan on the results of the drinking water assessment and how they can be supported to provide access to safe and sufficient water for their community (e.g. funding, education). The recommendations in the report can be used to inform councils' Asset Management Plan, Infrastructure Strategy and Long Term Plan (or the water services entity's Asset Management Plan and Infrastructure Strategy). An engagement framework has been developed to support this recommended approach and is shown in Figure 2.

The nature of this project and aspects of the research process, particularly the qualitative research and engagement components, represent a 'snapshot' in time and must be recognised and situated against the wider socio-political context that the research has been completed within. As such, the recommendations and information contained in this paper should continue to be reflected upon and remain adaptive and responsive, so that councils can continue to improve how they undertake drinking water assessments in the future.

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