Water Services Authority – Taumata Arowai

Kāhu Environmental report

The following document has been proactively released by the Authority. Some parts of this information, if requested, would be withheld under the Official Information Act 1982 (the Act) to protect the privacy of natural persons (section 9(2)(a)). Where this is the case, minor redactions have been applied in the report. We do not consider that the need to withhold the redacted information is outweighed by other considerations which render it desirable in the public interest to make that information available.

Context for this report

The Water Services Authority – Taumata Arowai (the Authority) has developed proposals for draft national standards for wastewater treatment. As part of that process, the Authority engaged a range of technical experts to support the development of the proposals.

A Technical Review Group was established to provide expert feedback on the draft standards. The Technical Review Group considered options for a discharge to water standard and provided feedback on its preferred option. This feedback highlighted areas that required further technical advice, including applying a specific te ao Māori perspective informed by practitioners who have extensive experience working with iwi and hapū.

Kāhu Environmental was subsequently identified through a procurement process as a supplier that has credibility with iwi and hapū and expertise in wastewater treatment arrangements informed by experience with iwi and hapū. Kāhu Environmental was commissioned to provide:

- a review of treatment limits and receiving environment categories for the proposed discharge to water standard and advice whether the treatment limits and receiving environment categories were credible and acceptable to hapū and iwi
- advice on whether the treatment limits and receiving environment categories appropriately reflect the intergenerational lens that Māori have around protection, preservation, and care of receiving environments
- advice on whether the treatment limits and receiving environment categories are internally consistent, across the limits
- advice on the proposed framework for overflows based on the views of Māori practitioners from an iwi and hapū perspective
- a case study on the beneficial reuse of biosolids to land from an iwi and hapū perspective, contingent on permission to share iwi and hapū views being confirmed
- a summary of the Treaty settlement arrangements in the Waikato, Waipā and Whanganui River catchments and advice on areas that should be considered when meeting obligations under these arrangements in relation to wastewater standards, including relating to Te Ture Whaimana and Te Awa Tupua
- advice on any other Treaty settlement arrangements that may need to be considered in relation to the setting of wastewater standards.

This work was undertaken between 4 December 2024 and 28 February 2025. It included involvement from other iwi and hapū practitioners who were paid for their time and input. The Authority and Kāhu Environmental collaborated on a long list of individuals to invite to participate. However, the Authority did not engage directly with practitioners and was not notified which practitioners ultimately took part in wānanga.

The Kāhu Environmental report considered early versions of the proposals, and did not consider the final version of the wastewater standards proposals that have now been released for public consultation.

The Authority is considering the Kāhu Environmental report along with the other technical input and submissions that have been provided in relation to the proposed wastewater standards. The Kāhu Environmental report has provided a valuable perspective on the proposed standards and will support the Authority's further analysis of them. The report will help to inform the Authority's final advice to the Minister, along with other inputs.

January 2025

REPORT

REVIEW OF PROPOSED WASTEWATER STANDARDS

INSIGHTS FROM EXPERTS AND A REVIEW OF TREATY SETTLEMENTS

For:
Taumata Arowai

kāhu
ENVIRONMENTAL

Acknowledgement

The mātauranga and kōrero that this report is built on were generously offered by Māori experts from across the motu, who contributed their wisdom over the busy holiday period. We are immensely grateful for that. The words of people with different experiences, different expertise and from different parts of the country provide an invaluable understanding of the wastewater kauapapa, its impact and benefits. Not everyone is named here, but to you all, e kore rawa e mutu te mihi. Nā koutou ngā kōrero i rau ki te kumete, kia māringi mai mō te katoa. Tēnā rawa koutou.

Voice of this report

Unless stated, this report reflects the insights of both the experts we consulted and our own internal team.

While we've made every effort to capture quotes accurately, slight variations may occur.

Version

VERSION	DATE	AUTHOR	REVIEWER	COMMENTS
1	05-02-2025	Kāhu Environmental	Taumata Arowai	Draft for technical review
2	27-02-2025	Kāhu Environmental	Helen Marr	Final
3				
4				

Executive Summary

Being involved in wastewater consent processes is important to Māori

Māori have invested significant time, energy and resources into the wastewater kaupapa over generations by:

- participating in wastewater working groups when invited
- negotiating Memoranda of Understanding (MOU), joint management agreements, mana whakahono ā rohe, and seats at council committee and resource consent decision-making committees
- preparing cultural impact statements
- making submissions on resource consents
- presenting technical and cultural evidence at hearings
- appeals to the Environment Court and higher Courts.

They have invested this time and effort because it:

- fulfils their intergenerational responsibility to care for the environment
- protects tūpuna water bodies, and their relationship with the taonga dependent on those tupuna
- maintains values and uses of water important to wellbeing and culture like wai ora, and mahinga kai
- fulfils their responsibility to send clean water to downstream neighbours
- helps right past wrongs that have resulted from the pollution of water
- protects and restores the mauri of the water.

This mahi is an expression of tino rangatiratanga.

Any potential cost and time saving benefits to Māori of the proposed approach may not be realised.

We understand that one of the policy goals of the Standards is that treatment standards will protect Māori values, and that will mean Māori won't need to be involved in individual resource consents and will save time and money as a result.

Based on our experience and our conversations with Māori experts, we believe this benefit is unlikely to be fully realised. The treatment standards are limited in scope, and aspects of

sewage treatment discharges that are not covered by the Standards (such as volume, time of discharge, discharges to air and groundwater, and contaminants not covered by the treatment standards) will still have to go through the full consent process. Māori will still have to be involved in resource consent processes to ensure their values are provided for within those other matters. Considerable time and effort will still need to be expended in the resource consent process, albeit it may be reduced in scope by the treatment Standards.

Being involved in decision-making for wastewater resource consents is a valuable means to exercise tino rangatiratanga, and that may be lost.

The approach to the proposed treatment Standards combined with proposed changes to the Water Services Act and the Resource Management Act (currently before Select Committee) removes Māori involvement in decision-making on the aspects of wastewater discharges covered by the Standards. As currently proposed, Māori are excluded from decisions about treatment levels for contaminants covered by the Standards, even if they have arrangements, MOU or mana whakahono a rohe agreements that cover those matters. If the Standards include a non-notification clause, Māori will not be able to make submissions on those matters covered by the Standards or make an appeal. This aspect of the Standards may be in direct conflict with Treaty Settlement arrangements that require Māori voice and decision making relating to the health of awa and moana, such as those for the Waikato and Whanganui awa.

If the proposed discharge Standards make aspects of the discharge a controlled activity, decision-makers have limited ability to impose conditions on controlled activities. Conditions cannot be imposed that would frustrate on the activity for which the consent is sought. This means if a discharge to water is sought, a decision maker can't impose a condition requiring a discharge to land. It can also mean a decision maker's ability to impose conditions about timing and volume of discharge is severely constrained if that would impact achieving the Standards.

This feature of the proposed treatment Standards removes the ability of Māori to exercise tino rangatiratanga, and kaitiakitanga over those aspects of the wastewater decisions. The removal of those abilities will impinge on the relationship Māori have with their whenua, their wai and the taonga within them. There is a risk this will not uphold Crown obligations to Te Tiriti.

Māori values need to be better incorporated into the Standards.

The treatment Standards themselves are not seen as acceptable from a Māori perspective. In many cases, implementing the Standards could result in worse outcomes for certain water contaminants than what is currently achieved under the existing process and guaranteed by current consent conditions. The Standards are not precautionary enough to guarantee good outcomes in all places, and the technical work acknowledges an aspect of 'unders and overs'. The concept of 'unders and overs' is not appropriate from a te ao Māori perspective, as it allows degradation in one rohe on the assumption it can be 'offset' by improvement in another rohe. This approach was specifically appealed by Ngāti

Kahungungu and roundly rejected by the Environment Court as being inconsistent with the RMA in Ngati Kahungungu vs The Hawkes Bay Regional Council (ENV-2013-WLG-000050). This led to a change in the National Policy Statement for Freshwater Management to remove the policy approach of maintaining 'overall' water quality.

Due to the loss of decision-making power, inadequate water quality outcomes, and uncertain or minimal benefits in process and cost for Māori, the proposed implementation of these Standards will lead to a net loss for Māori.

The Standards need significant changes to be acceptable from a Māori perspective.

The Standards are currently not acceptable to Māori because they are inconsistent with Māori values and attitudes towards waste and water. These themes are explored in more detail later in the report. Here is a summary.

- Discharging wastewater directly to water is abhorrent to Māori.
- Setting standards at the end of the pipe does not consider the state and values of the environment being discharged into.
- The Standards don't consider downstream environments that are more sensitive to contamination than the initial discharge point, and as a result, fail to uphold the principle of ki uta ki tai.
- The microbial Standard doesn't protect mahinga kai.
- The nutrient Standards will not protect ecosystem health.
- The Standards lock in current practices and technologies for generations, offering no scope for improvement unless they are revised in the future and councils choose to update consent conditions.
- The Standards remove the ability of iwi and hapū to leverage for improvements through the consenting process. In practice, this is typically the only opportunity for improvements in treatment levels to be made.
- The Standards fail in their goal to maintain and improve water quality.

More input into the Standards is needed from iwi and hapū to meet obligations to Te Tiriti o Waitangi.

Meaningful iwi and hapū involvement is key to upholding the Treaty principle of partnership. Stricter standards would better reflect the principle of protection. The current framework excludes iwi and hapū from decisions on effluent quality, undermining the principle of participation.

Recommendations

An amended approach that adopts a precautionary stance and ensures ongoing Māori involvement in decision-making could lead to standards that offer real benefits for Māori. These recommendations relate to both the Standards themselves and the policy and legislative changes that relate to them. These operate together and influence the acceptability of each other.

To be acceptable, the approach would have to:

- Apply the Standards as minimum standards (not absolute standards).
- Set the Standards at a very precautionary level that all but guarantees healthy ecosystems, safe mahinga kai and maintains or improves water quality (more stringent standards, set out in more detail below).
- Continue to provide for Māori to make submissions and be involved in decision-making processes if they choose (the standards should not mandate controlled activities and non-notification).
- Reduce the guaranteed resource consent term to 15 years.

A precautionary approach that may result in acceptable standards would:

- Set standards that ensure the protection of ecosystem health and mahinga kai, which the proposed Standards currently fail to do.
- Set standards that would protect the most sensitive downstream environments affected by any discharge (usually a lake, wetland or estuary).
- Set standards that ensure mahinga kai is abundant, healthy and safe to gather and eat everywhere.
- Prohibit discharges in or near mahinga kai sites, wāhi tapu, wai tapu and areas where people swim.
- Consider cumulative effects that affect the quality of the water before the discharge occurs and take downstream impacts into account.
- Be measured in the waterbody, after reasonable mixing, not at the end of pipe.
- Set different standards based on the quality and values of the water receiving the waste, instead of a one-size-fits-all/dilution-based approach. A matrix approach could be used.
- If a dilution-based approach is used, it is possible that the Standards currently proposed for the 'very low dilution ratio' category *may* be acceptable to Māori *if* only applied to larger water bodies.

- not apply to small waterbodies (currently identified as 'low' or 'very low' dilution ratio categories), and should not apply to discharges to lakes, natural wetlands or estuaries (these should have more stringent conditions, applied locally through resource consents).
- Apply the same standards to small schemes in small catchments (instead of less stringent standards).
- Include a standard for total loads of nutrients and monthly or seasonal loads for sensitive receiving environments.
- Require discharges to shellfish areas to have a viral limit derived via combined Quantitative Microbial Risk Assessment and plume excursion modelling.
- Include a mechanism to ensure all resource consents for wastewater treatment plants (WWTP), not just those coming up for renewal, must apply the monitoring and reporting framework for overflows.
- Require that the risk assessment framework for the monitoring overflows be developed with mana whenua input.
- Require that overflow reporting requirements mandate faster, direct reporting to mana whenua.
- Make overflows a restricted discretionary activity, not a controlled activity.

Technical recommendations – wai:

$cBOD_5$:

- The Standard for $cBOD_5$ need to be lowered to be considered a precautionary approach and acceptable to iwi and hapū. A $cBOD_5$ Standard of less than 5 mg/L may be acceptable to iwi and hapū if applied across all rivers and streams and if discharges to low and very low dilution environments are not allowed. Limits for open ocean are needed, as well as a lower limit for inshore waters. The effect of ammonia on oxygen demand should be explicitly accounted for in the Standard.
- Investigate whether Total Organic Carbon would be a more effective indicator of water quality than cBOD.

Total Suspended Solids:

- Amend the TSS Standard to be less than 5 mg/L for harbours and low-energy coastal/inshore waters.

- TSS standards should be lower than 20 mg/L in high dilution rivers, and less than that in other river environments, and in lakes and wetlands.
- TSS numbers should be maximums, not annual averages. You should include a TSS Standard for the open ocean environment.
- Consider whether Suspended Solids Concentration would be a more suitable Standard than TSS.

Ammoniacal Nitrogen:

- Include upper percentile and absolute maxima standards to protect aquatic life.
- Consider upstream or background levels of ammoniacal nitrogen and engagement with iwi and hapū to consider the impacts of the Standard in its local context.

Total Nitrogen:

- Consider using a Standard for Dissolved Inorganic Nitrogen instead of TN for rivers and streams.
- Develop Standards that would result in a median of 0.001 mg/L TN in the river or stream being discharged into, including natural background levels and discharges from other sources.
- Consider existing levels of nitrogen and ensure water quality does not degrade.
- Lakes and wetlands should not be included in the nitrogen standards, and if they are, the Standards should account for different lake and wetland types, their current state and their sensitivity to nutrients. Any standard for nitrogen in lakes and wetlands should ensure water quality is maintained or improved.
- Loads, as well as concentrations, should be used for nutrients.
- You should include a Nitrogen Standard for the open ocean category.

Total Phosphorus:

- Include a more stringent Total Phosphorus Standard to maintain healthy ecosystems.
- Consider using Dissolved Reactive Phosphorus instead of TP.

- To protect rivers from phosphorus effects on periphyton to an A-band level, with a 5% risk of underprotection, you would need to set the standard at a level that results in a median of 0 TP mg/L in the river. We recommend this as the precautionary approach.
- To protect rivers from phosphorus effects on periphyton to a C-band level, with a 5% risk of underprotection, you would need to set the standard at a level that results in a median of 0.006 mg/L TP in the river. This would not be considered a precautionary approach.
- To protect macroinvertebrates to an 80% protection level, you would need a mean DRP in river of 0.019 mg/L, and a 95th percentile of 0.054 mg/L. We do not consider a protection level of 80% to be precautionary.
- Loads, as well as concentrations, should be used for nutrients.
- Consider including a limit for the open ocean category.

E. coli:

- Ensure that pathogens are reduced to very low numbers prior to discharge to meet the expectations of iwi and hapū.
- The bacterial contamination standard should ensure all waters are safe for mahinga kai (whether the area is identified for mahinga kai or not).

Enterococci:

- Establish a way to protect marine mahinga kai from viral contamination. Enterococci standards for marine environments will not protect against human viruses. People eating shellfish from affected areas might get sick.
- Develop more stringent standards for enterococci to protect Māori values, mahinga kai and shellfish gathering.
- Be more prescriptive and robust around monitoring and reporting to tangata whenua and communities when a discharge exceeds limits that are safe for kai to be gathered and consumed.

Compliance statistics:

- Include 95th percentile compliance statistics.
- Include more contaminants, particularly for wetlands, lakes and estuaries.

- Consider seasonal variations.
- Include a mechanism to adapt to improving technology.

Technical recommendations - whenua:

- Incentivise the Discharge to Land Standard, and enable Councils to prioritise discharge to land options.
- Integrate mātauranga into the risk-based framework through discussions with iwi.
- Treat wastewater to a high enough standard to provide for economic reuse. (We understand consideration of reuse of treated water is being considered in an updated version of the standards, which was not available at the time we produced this report.)
- Promote wastewater discharge to land during the summer.
- Use Dissolved Reactive Phosphorus as a parameter rather than Total Phosphorus.
- The Nitrogen Standard should consider N pathways.
- Include minimum setbacks from waterbodies.

Te Tiriti o Waitangi:

- Engage directly with each iwi to discuss how the proposed Standards align with Treaty obligations and Settlement requirements.
- Complete a full review of relevant Treaty settlements for nationwide consistency.

Table of Contents

1 Background

1.1 The standards

Here is our understanding of the proposed treatment standards based on the information we had available when we spoke to Māori experts and did the analysis for this report.

The framework we have investigated in this report spans technical discharge performance standards, changes to the Water Services Act and the Resource Management Act. Those pieces of work together change the scope of performance standards and how performance standards operate, particularly how they relate to the resource consent process. For ease of reference, we have referred to this package of legislative changes and performance standards as 'the Standards' in this report.

Taumata Arowai is developing wastewater performance standards. They are intended to provide a nationally consistent approach that will replace the current 'patchwork' of regional plan rules and individual consents with variable consent conditions. There aren't any existing wastewater standards prepared by Taumata Arowai. Under the existing law, any standards would be considered 'minimum' standards. Under changes proposed by the Local Government (Water Services) Bill currently before Select Committee, the Standards would be 'absolute' standards that cannot be varied by rule or resource consent.

This would mean that rules and resource consents won't be able to impose stricter or more lenient standards, nor impose any receiving water standards for the contaminants covered by the standard. The Standards would take precedence over any regional policy statements, national policy statements, the New Zealand Coastal Policy Statement, and any existing rules in a plan.

As part of developing the wastewater Standards, Taumata Arowai has worked with local and regional councils, industry experts, and members of its Board and Māori Advisory Group.

The wastewater performance Standards define the quality of wastewater at the 'end of pipe' before it is discharged to land or water.

The Standards will apply to municipal wastewater discharges (those owned by local or central government agencies) but will not apply to individual septic tanks or privately owned wastewater systems, which will follow the normal plan rule or resource consent process.

The Standards are for wastewater discharges to land and to fresh and coastal water, an overflows standard and a standard for applying biosolids to land.

Standards for total nitrogen, total phosphorus, cBOD, suspended solids, and microbial contamination will apply where wastewater is being discharged to fresh water (including lakes and wetlands) or coastal water (including estuaries). These were set out in "9_12_24 Preliminary Proposed Standards for water" and Technical Advice on Discharge to Water Standards: Advice on Proposed Standards.[1]

Standards for total nitrogen, total phosphorus and *Escherichia coli* (*E. coli*) will apply where wastewater is being discharged to land. A risk management, site assessment and standards matrix were included in the document titled "Preliminary Outputs Discharge to Land_20Dec2024". The technical standards for contaminants were included in Technical Advice on Wastewater Performance Standards: Discharge to Land. (Advice on Proposed Standards).[2] The later report was not available when we spoke to external Māori experts but has been considered by internal Kāhu experts for this report.

Smaller wastewater treatment plants serving fewer than 1,000 people won't have to comply with the discharge to water Standards. These plants account for more than 50% of wastewater systems in Aotearoa. Instead, they will follow lower and different standards outlined in slide 9 in the document "9_12_24 Preliminary Proposed Standards for water."

The discharge to water Standards vary depending on how much the receiving water dilutes the wastewater. Flowing water has a dilution calculation based on the flow of rivers and the amount of discharge. Lakes, wetlands, estuaries and harbours, inshore waters or open oceans have set dilution ratios irrespective of the size of the waterbody. The dilution ratios do not consider the existing level of contaminants in the receiving water before the discharge.

If the Standard does not cover a contaminant or an exception is allowed, the Standards will not apply, and bespoke consent conditions can be set to manage those contaminants.

There will likely be exemptions to the discharge to water Standards when the discharge is:

- to a water body that is high-quality/pristine
- directly to an aquifer (known as deep well injection). There are currently no discharges of this type in New Zealand
- to natural wetlands (i.e., those that are neither lined nor sealed). We are not sure how this interacts with the discharge to water Standard for wetlands
- near a drinking water abstraction point with low dilution. We don't know yet what the distance and dilution thresholds would be

[1] E. Diack, G. Hall, J. Crawford and S Saha. Technical Advice on Discharge to Water Standards: Advice on Proposed Standards. 20 December 2024. Prepared by GHD, Beca and Stantec.

[2] Bennett, J. (17 January 2025). Technical Advice on Wastewater Performance Standards: Discharge to Land. (Advice on Proposed Standards). Prepared by: GHD.

- to a water body with naturally high levels of contaminants covered by the standard.

There will likely be exemptions to the discharge to land Standards if a discharge is:

- to very heavy or very porous soils
- within a buffer zone of surface water or homes
- close to drinking water sources
- on sites that are wāhi tapu
- on land people gather kai
- on land that is important for biodiversity
- on land that is saturated, frozen or covered in snow, or prone to flooding.

We don't yet know the distances or thresholds that would trigger these exemptions.

The Local Government (Water Services) Bill currently before Select Committee would change the RMA to require that consents for wastewater discharges meeting these standards will be granted for 35 years. The standards may also specify whether or not the resource consent will be notified or not, and may set the activity status for these discharges, such as controlled (where consent must be granted) or discretionary activities. However, it's not yet clear if the standards will include non-notification requirements or an activity status.

The standards include a framework for overflows. This requires risk management plans to be prepared and published and compulsory telemetered monitoring at all high risk, new and uncontrolled overflow points. Overflows would have to be publicly reported. If overflows meet these requirements to have a management plan and report incidences, they would be a controlled activity.

1.2 Our brief

You asked us to:

Review the treatment limits and the framework for overflows and **gather the views** of Māori practitioners to help you understand these questions:

- Are the treatment limits and receiving environment categories credible and acceptable to hapū and iwi?

- Do the treatment limits and receiving environment categories reflect the intergenerational lens that Māori have around protection, preservation and care of receiving environments?
- Are the treatment limits and receiving environment categories internally consistent and relative across the limits?
- Is the proposed framework for overflows acceptable?

The answers to these questions are covered in Part 1 of this report.

Provide a case study on the beneficial reuse of biosolids to land from an iwi and hapū perspective, contingent on permission from the iwi.

The case study is included in Appendix 3.

Provide advice on interactions with Treaty Settlement arrangements, as follows.

- **Summarise** the Treaty settlement arrangements in the **Waikato and Waipa catchments** (including deeds/accords, Treaty settlement Acts, and any planning or resource management arrangements) and **provide advice** on areas that Taumata Arowai should consider when meeting obligations under these arrangements in relation to wastewater standards, including to have particular regard to Te Ture Whaimana.
- **Summarise** the Treaty settlement arrangements in the **Whanganui catchment** (including deeds/accords, Treaty settlement Acts, and any planning or resource management arrangements) and **provide advice** on areas that Taumata Arowai should consider when meeting obligations under these arrangements in relation to wastewater standards, including to have regard to Te Awa Tupua and Tupua te Kawa.
- **Provide initial advice** on any **other Treaty settlement arrangements** that Taumata Arowai may wish to consider concerning wastewater standards so that Taumata Arowai can decide whether further advice is required.

1.3 Limitations

There were some limitations on our mahi.

The work was carried out over December and January, and this limited the availability of Māori experts to contribute to the mahi. For areas where we were not able to get the views of experts, we've relied on our in-house expertise for detailed technical analysis. There was limited time, and the Standards were being developed in parallel to our mahi, which limited the amount of information available to Māori experts when they provided their views. For example, the Māori experts did not have a chance to review the numbers in the discharge to land standard, only the risk matrix framework. The Standards were still in development when we wrote this report, and so the version of the Standards this report

is based on may not be the same as the final version of the Standards when they are released to the public. Because of the highly complex nature of how the parameters interact with receiving environments and the number of parameters and receiving environments involved, some complexities may not have been fully explored. We have tried to highlight where this may be the case throughout the report.

1.4 Our method

We followed a five-step process to meet our brief.

Step 1: Document review. December 9th to 19th. We reviewed the documents you provided us (see Appendix 2 for the full list of references). Our internal experts provided some analysis to help focus our questions for other experts.

Step 2: Engaging experts. Working with you, we identified a list of 46 reputable Māori experts experienced in the wastewater kaupapa. We reached out to everyone on the list between December 12th and 20th to check their availability for providing feedback on the standards within the given timeframes. We got 14 positive responses.

Step 3: Sharing information with experts. We sent the available experts the key documents and a high-level summary (based on your documents) on the 6th of January. The documents we sent to the experts are identified with an asterisk in the list of references in Appendix 2.

Step 4: Collecting feedback. We collected feedback from Māori experts from the 6th to the 21st of January using a combination of methods – survey, one-on-one interviews, written feedback, and an online workshop.

Step 5: Analysing the kōrero. We analysed the kōrero from internal and external experts from the 21st to the 31st of January and wrote up our findings in this report.

1.5 Who we consulted

The mātauranga and kōrero in this report are from Māori experts with specialist knowledge in wai, whenua, science, ecology, mātauranga Māori, engineering, and wastewater treatment. Their areas of expertise are highlighted in Figure 1, and Figure 2 outlines the locations of their mahi across the motu.

To protect their anonymity, we have coded quotes within this report.

Expert distribution across knowledge areas

Figure 1 Expert distribution across knowledge areas

Figure 2 Where the mahi of surveyed experts is based

2 Part 1: The Standards through a te ao Māori lens

2.1 Māori view being involved in wastewater consent processes as important

Māori have invested significant time, energy and resources into the wastewater kaupapa over generations by:

- participating in wastewater working groups when invited
- negotiating Memoranda of Understanding (MOU), joint management agreements, mana whakahono ā rohe, and seats at council committee and resource consent decision-making committees
- preparing cultural impact statements
- making submissions on resource consents
- presenting technical and cultural evidence at hearings
- appeals to the Environment Court and higher Courts.

They have invested this time and effort because it:

- fulfils their intergenerational responsibility to care for the environment
- protects tūpuna water bodies, and their relationship with the taonga dependent on those tupuna
- maintains values and uses of water important to wellbeing and culture like wai ora, and mahinga kai
- fulfils their responsibility to send clean water to downstream neighbours
- helps right past wrongs that have resulted from the pollution of water
- protects and restores the mauri of the water.

This mahi is an expression of tino rangatiratanga.

2.1.1 The Standards need considerable amendment to be consistent with Māori values

There is some support for Standards as a concept, but the approach currently proposed in the Standards is not considered to protect Māori values and, as a result, is not supported by Māori experts.

> **"These standards fall short of a true and genuine Te Mana o Te Wai values, approach and framework." [P8]**

> **"The standards don't whakamana our values and that's pretty much the full stop." [P6]**

> **"So, it kind of, it looks back to a little bit of colonialism – this is still a process to allow us to discharge into moanas, into the environment but it doesn't go to the heart of te mana o te wai and to use water as a taonga, as a resource." [P3]**

The Māori values that are impacted, and the ways in which they are affected, are outlined in the following sections.

To be acceptable to iwi and hapū, the Standards should include an aspiration that no wastewater will discharge directly into the wai in the future. They should take an integrated approach, reflecting how the parameters interact together and within their unique and contextualised environment and they would involve appropriate tikanga around managing discharge within one's own rohe to the highest degree possible. These themes are expanded on in the following sections.

If the Standards were amended, they could be acceptable and provide for Māori values. Revised standards should be:

- precautionary, protective and improve the environment
- allow for innovation
- preserve the ability for iwi and hapū to be involved
- retain the ability to set higher standards if the local context required it.

To know when higher standards are warranted, the Standards framework should provide an avenue for Māori participation in the resource consent process.

> **"If the proposed standards must proceed, to provide clear guidance for councils / CCOs and to provide Taumata Arowai a clear measure to regulate against, then I would hope they are set as a national minimum standard, but that avenues are created within the system for iwi and hapū to inform decision-making around suitable thresholds specific to place which may be more stringent." [E9]**

Alternatively, the Standards could be reframed as guidance.

> **"My preference is that *guidance* on WWTP design effluent quality is established rather than standardising it. This gives Councils, water services authorities, and consent decision-makers clarity on what *should* be achieved but doesn't apply this as the pinnacle end-point but instead the bottom line subject to receiving water requirements." [P10]**

Survey results showed that 92 per cent of respondents thought the draft Standards were unacceptable as currently proposed (Figure 3).

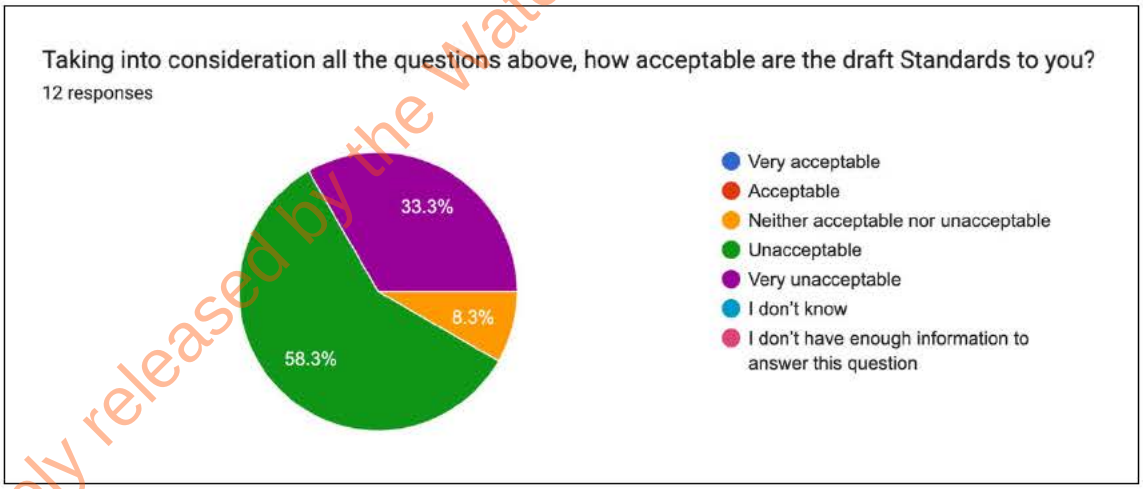

Figure 3 Survey responses to the question of acceptability of the Standards

2.2 Upholding tino rangatiratanga

The Standards should be amended to provide a voice for iwi and hapū in decision-making about their rohe. This is one way that mana whenua exercise tino rangatiratanga. These recommendations should be read alongside Part 2, which discusses the interaction between the standards and Te Tiriti o Waitangi obligations.

2.2.1 Recommendations

- The Standards should be minimum standards, not absolute standards. This would provide for local variation for protecting water or land.
- The Standards should provide for iwi and hapū to make submissions on resource consents and provide evidence and information into the decision-making process that informs when and how the Standards are varied.

2.2.2 The Standards should be amended to be minimum standards, not absolute standards

Proposed changes to the law currently before Parliament aim to establish the standards as 'absolute' standards. This means that resource consents won't be able to impose stricter or more lenient standards. These standards would take precedence over any regional policy statements, national policy statements, the New Zealand Coastal Policy Statement, and any rules in a plan. The framework also provides for the standards to specify whether or not a resource consent will be publicly notified. If the Standards include a non-notification direction (and we don't know yet if they will or not), iwi and hapū would not be able to make a submission or present evidence to a hearing.

Wastewater discharges can deeply impact mana whenua. Applying an absolute standard removes iwi and hapū voices from making decisions about key aspects of wastewater treatment discharges and the impact on their rohe. Framing the Standards as absolute standards that cannot be varied by rule or resource consent removes the unique cultural context of each wastewater discharge location. It does not allow for decision-making by iwi and hapū about wastewater treatment discharges in their rohe.

Council owners and operators do not know everything about the communities or the specific local environment in which the discharge will occur. There should be space for local iwi and local communities to input into what happens to their waters.

> **"Communities, including iwi and hapū, need to be involved in decision-making. They set the desired attribute states that inform limits and standards." [E2]**

> **"WWTPs can cause great harm to mana whenua, so they need to be involved in their development and consenting. Otherwise, the local context can be ignored." [E1]**

Survey results show that every respondent thinks that the Standards do not meet the Crown's Treaty obligations. (Figure 4).

The survey question in full: 'Once established, no public WWTP discharge (that services more than 1000 people) will be able to have conditions that are either less stringent *or* more stringent than the standards. How well do you think the "absolute" standards meet iwi and hapū inter-generational decision-making to protect, preserve and care for environments long-term?'

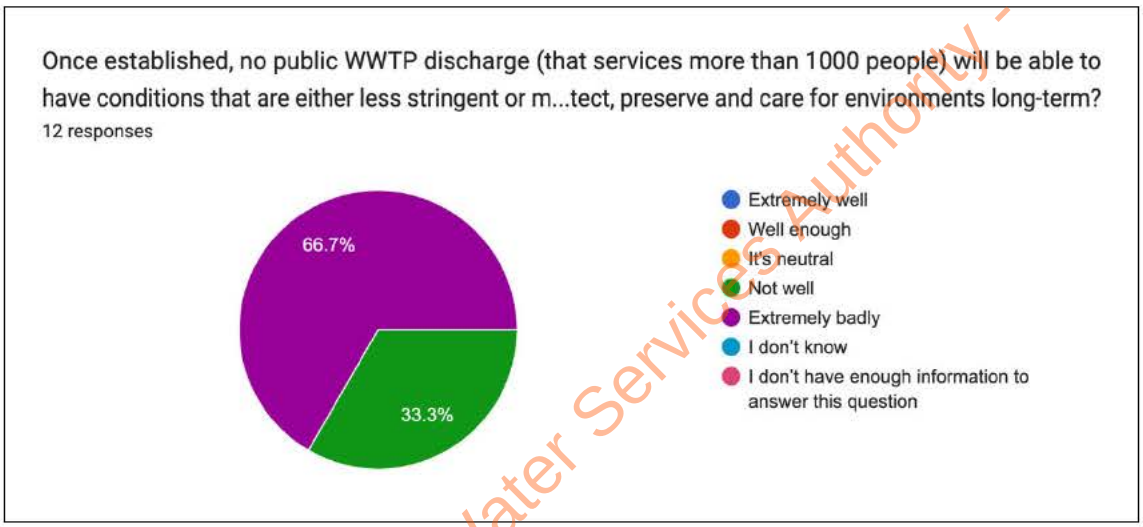

Figure 4 Survey responses to the question of 'absolute' standards.

2.2.3 The Standards should provide for iwi and hapū to be notified and to make submissions

While the resource consenting process is time-consuming and expensive for Māori to be involved in, it is through the consenting process that iwi and hapū have opportunities to improve and change the environmental and cultural outcomes for te taiao, whānau now and future generations.

> **"Submissions have *always* added value to the decision and sometimes the value isn't from written submissions, it comes from the commissioners having the opportunity to listen and to question submitters to tease out the issue." [E10]**

> **"If iwi and hapū can't have a say over discharges in their area, the iwi and hapū won't be able to make inter-generational decision-making to protect, preserve and care for environments long-term." [E3]**

Including Māori in the notification process brings long-term environmental and cultural benefits.

> **"Through subsequent consenting we have moved from primary [treatment], and then it went from primary to secondary, and then tertiary and then it went to UV. Through pushing back on Council every time we have had reconsenting, we have been able to get some improvements in what's coming out of the pipe. That still doesn't fix the overall thing – that we don't want the waste in the moana, so you know.**
>
> **It's challenging to have to continue to compromise and work within the system but at least we can see the sea grass growing in the harbour, we can see the tāmure coming back, we can see the environmental changes that are happening from moving from a primary treatment to having a higher degree of treatment. But that doesn't mean to say […] there won't be intergenerational damage caused by some of these emerging contaminants that our whānau continue to consume daily and weekly." [E6]**

2.3 Expressing tikanga

2.3.1 Recommendations

- Amend the Standards to be more stringent for both discharges to water and discharges to land, as set out in sections 2.6 and 2.7 of this report.
- Ensure that the Standards provide for wastewater to be treated to a high enough standard that iwi and hapū are satisfied with the quality of water leaving their rohe and entering the rohe of neighbouring iwi.
- Ensure the Standards provide for the appropriate metaphysical cleansing, as determined by iwi and hapū at place.
- Amend the Standards to provide for iwi and hapū voice in the decision-making process so that they can identify values at place and appropriate approaches for their own rohe, including for how the mauri of the water can be protected and which is the most appropriate discharge environment.

2.3.2 The Standards should allow for expression of the tikanga of iwi and hapū

Tikanga are the way Māori do things, based on te ao Māori viewpoints, perspectives, knowledge and practices, both traditional and recent. Tikanga provides guidance on how to conduct ourselves, collectively and individually. This includes how to protect the environment, how to manaaki others and how to stay culturally, spiritually and physically safe.

> **"I am yet to see how tikanga ā-iwi, tikanga ā-hapū can be applied to each of the standards and see how each rohe is effectively engaged concerning their taiao, waterbodies and natural environments within the standards. Iwi should have the ability to set their own criterion, guideline regulations specific to their whenua, wai, taiao, mahinga kai, wāhi tūpuna, wāhi tapū and tāngata." [E8]**

The standards do not currently reflect the tikanga of iwi and hapū, as explained in the following sections.

2.3.3 The Standards should provide for wastewater to be appropriately treated, both physically and metaphysically

For most iwi, in most circumstances, discharging wastewater to wai is completely unacceptable.

Discharges of wastewater impact on the mauri of the water, water quality, the ability of the water to support aquatic life, mahinga kai, ability to conduct ritenga, and how acceptable it is for iwi and hapū to interact with the wai at those places, for example through swimming, waka activities, diving etc. Furthermore, only addressing the physical aspects of the wastewater, such as pathogen levels, suspended solids, and nutrient and contaminant concentrations, is insufficient from a te ao Māori perspective. Even a high-quality discharge fails to address the metaphysical aspects, such as the state of the mauri.

> **"Under the proposed rationale, such concepts wouldn't be acceptable solutions as the standard is very focused on disposing the hamuti as opposed to allowing it to transform from tapu to noa." [E10]**

> **"Using (receiving environment) water as a treatment process is culturally abhorrent and unacceptable." [P3]**

> **"This is completely unacceptable. It essentially puts the onus on the environment to sort out what we should be responsible for. Going against core cultural principles by destroying mauri, imbalances tapu and noa through its mixing, blatantly neglects principles of whakapapa, rangatiratanga and te mana o te wai." [P7]**

> **"The discharge of human municipal wastewater into, especially for us on the coast into water, absolutely doesn't align with our hapū and iwi values so it doesn't matter what the dilution rates are, it doesn't matter what the different readings are for each of the various parameters – bottom line – the discharge of wastewater into the marine environment off our coast is absolutely unacceptable." [P6]**

To meet iwi and hapū values, discharges need to be treated to a high physical standard as well as allowing iwi and hapū at place to determine how the metaphysical aspects can be

protected and provided for, for example through passing the high-quality treated effluent through Papatūānuku before any final discharge to water.

The mauri of the water has not been well addressed in the Standards

For most iwi and hapū, all waste needs to be well treated and then, once well-treated, to pass through Papatūānuku to be cleansed before it goes to wai.

> **"The approach discharges treated wastewater – in a compromised state of mauri – directly into the receiving environment, without connecting with Papatūānuku. Not only has the water not been spiritually cleansed, there is potential that it will contribute to a degradation in quality." [P9]**

> **"For us, the mauri attached to wastewater or hamuti is very different to the mauri in the water, so dilution doesn't solve the problem. Changing the limits doesn't solve the problem either. For us, that, in order to change the mauri, restore the mauri, adapt the mauri of that wastewater, it needs to go through Papatūānuku and come back to the wai cycle in order for that to be restored." [KM6]**

This means that in an ideal situation, wastewater discharge will be treated to a high level through the WWTPs and discharged to whenua before going into the wai.

2.3.4 The standards shouldn't use dilution as a key part of the framework

The Standards for discharge to water are based on the amount of dilution a waterbody will provide to the discharge. This appears to incorporate an element of using the water as part of the treatment process, which is considered unacceptable.

> **"I don't think you can call them 'end of pipe' standards when they rely on a dilution factor. One, there is too much local variation to calculate that nationally, and two, that does not address te ao Māori viewpoints about wasterwater discharges to water." [KE15]**

> **"The dilution ratio is assumed to account for assimilation. In my opinion, this assumption is flawed, and there is a high risk of**

environmental degradation based on the current status of the receiving environments…. Further, the broad categories do not acknowledge variability in assimilation capacity." [E2]

"A healthy river with the same flow (and hence dilution ratio) as an unhealthy river will have a different assimilation capacity. Similarly, a stream in Northland with the same low dilution ratio as a coastal stream in Westland will have a different assimilation capacity. These streams should not be categorised together. If they are, the most protective standards should be applied to both." [E2]

"[I'm] against the principle of this entirely, but if it was in effect, then the dilution ratios should be determined on a place-based case, especially for low dilution ratio scenarios." [E7]

If the discharge to water Standard continues to use dilution as a key part of the framework, which is not recommended, the dilution ratio will need to be high enough to protect the most sensitive downstream environments and account for local unknown context-based situations, including current and predicted state of the water body and existing contaminant loads. It would also need to exclude very low and low dilution ratio environments, and should exclude lakes, wetlands and estuaries.

2.3.5 The Standards need to provide for iwi and hapū to have input into the appropriate place to discharge wastewater

Iwi and hapū need the ability to have input into decisions about the appropriate discharge environment (for example land versus water) as well as the appropriate treatment standards. This will vary across the motu and will need to weigh up specific values. Some may be more open to discharge to water if it means protecting other sensitive environments next to or on land.

Redaction applied under s9(2)(a) of the OIA

"There is a scenario I'm working at the moment down at the [NAME] sewage treatment plant for [Iwi Name]. [redacted] of the iwi are completely opposed to ocean outfall, any discharge to water, they're opposed to, yet one of the iwi there are like, actually we don't mind that because the only land available is

> **going to filter out to our estuary and if you discharge into our estuary, it's going to be a big no as well". [P3]**

2.3.6 The Standards need to ensure that waste from one iwi rohe should not be transferred to another

Iwi Māori strongly believe that wastewater should not be discharged from one iwi rohe to another. There is a duty of care to ensure that water sent downstream to neighbouring iwi should be of as high a standard as possible. The Standards to not have any provision to require this.

> **"That concept of pushing waste into another rohe… almost everywhere I've gone and that have been talking about our waste and what are we going to do about it, from an iwi perspective, it's that it's our waste and we need to deal with it. We aren't going to dump it." [KE15]**

This could be addressed by higher treatment standards and/or the ability to apply higher treatment standards where wastewater is going to flow into another rohe. As discussed above, the higher treatment should include metaphysical as well as physical treatment.

2.4 Providing for mahinga kai

> **"Kauaka e tuku para ki ō wāhi kai – Never pollute waste to areas where you gather food." [E13]**

2.4.1 Recommendations

- The Standards need to be more protective of mahinga kai, and ecosystem and human health.
- The Standards need to be more stringent, as set out in sections 2.6 and 2.7.
- Iwi and hapū need to be involved in decision-making processes so they know about discharges and can be involved in setting appropriate standards.
- The overflows Standard needs to be more stringent, as discussed in section 2.8.
- Biosolids should not be discharged to land close to water or used for growing food.

2.4.2 The Standards should ensure it is safe to undertake mahinga kai practices, at all times and in all places, so that no one gets sick from gathering or eating kai

Mahinga kai incorporates all the species traditionally used for kai, tools, or other resources. It includes the places those species live and the act of catching or harvesting them. Mahinga kai also encapsulates the knowledge and practices connected with catching, harvesting, preparing and storing kai, and gathering and using resources. Lastly, it incorporates the transfer of mahinga kai knowledge from generation to generation.

The ability to feed one's guests with abundant, lavish kai is essential for Māori. Iwi and hapū pride themselves on providing for their visitors, and particular iwi are known and recognised for certain kai species. Some mahinga kai species are already in danger, with some listed as 'At Risk – declining' and others listed as 'Threatened'.[3] Iwi and hapū are already finding it difficult to supply the kai they want to or were able to in the past. This also impacts the ability to transfer and uphold knowledge about these species – a key part of mahinga kai – as it's difficult to teach the next generation how to catch and prepare a kai that you can no longer locate in your waters or are only able to find in very low numbers.

Iwi and hapū collect kai broadly across the motu. These sites are not always known to councils or decision-makers and iwi and hapū may intentionally keep this knowledge sacrosanct. Importantly, marae are often situated remotely, and hapū from those marae will usually collect kai within the local area (collecting outside of your hapū area without permission is not seen as ok to do). Because many mahinga kai sites are unknown beyond the local context, the Standards must ensure it is safe to undertake mahinga kai practices, at all times and in all places, so that no one gets sick from gathering or eating kai and that iwi and hapū have the opportunity to ensure their mahinga kai areas are protected, as part of the wastewater consent processes.

Additionally, for mahinga kai to be provided for, waterbodies and their catchments need to be healthy. The species in there need to be abundant enough that mahinga kai practices can occur, the water needs to be safe to enter and be in contact with, and the kai collected needs to be safe to eat. The species present need healthy water across their lifecycles. For our migrating species, this means both healthy oceans and healthy rivers. It also means healthy enough to support the whole food web. You cannot protect mahinga kai by protecting discreet sites. Safe and abundant mahinga kai requires healthy ecosystems, ki uta ki tai.

The current iteration of the Standards does not ensure that it is safe to eat kai taken from the water because:

[3] See https://www.doc.govt.nz/about-us/science-publications/conservation-publications/nz-threat-classification-system/ for details

- The *E. coli* and enterococci treatment Standards are based on the Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas (2002) (Recreational Guidelines).[4] These guidelines do not protect places to gather kai. They were designed for recreational contact only, not for this purpose. They should not be applied to wastewater discharges at all.[5]

- Shellfish concentrate the pathogens they consume. For a standard to be precautionary for kai gathering, and therefore acceptable to iwi and hapū, a much higher level of treatment would be required than those currently proposed in the Standards. More work is required to understand what that level may be. However, this should not include the use of a dilution ratio.

- The enterococci standard for estuaries and ocean categories is very unlikely to protect shellfish gathering areas from human virus contamination (see section 2.6.8 for more detail). The proposed Standards are likely to undermine mahinga kai values. (We understand a QMRA assessment is being considered in an updated version of the standards, which was not available at the time we produced this report.)

The standards are not stringent enough to provide for the healthy ecosystems necessary to provide for mahinga kai. This is set out in detail in the discussion of the ammonia, nitrogen and phosphorus standards in section 2.6.

2.4.3 The Standards should not allow for biosolids to be discharged on land that is used for food growing, or where contaminants may enter water

From a Māori perspective, New Zealand's biosolid standards fail to ensure cultural safety. Contaminants with unknown risks are not adequately managed, posing potential concerns for long-term land use. The experience and views of Ngāti Rangi on the use of biosolids in their rohe are set out in the case study in Appendix 3.

[4] Ministry for the Environment Manatu Mo Te Taiao. (2002). Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas: Wellington, New Zealand. Updated in June 2003.

[5] The Recreational Guidelines rely on established relationships between pathogens. These proven relationships allow the use of indicator pathogens to provide a proxy for the presence of other pathogens. The relationships between these pathogens are altered by sewage discharges and do not hold true once effluent has been treated.

2.5 Protecting our tūpuna awa, roto and moana

2.5.1 Recommendations

- The Standards need to be more precautionary to protect tūpuna values.
- The Standards need to allow for climate change and include flexibility to improve wastewater treatment over time. Upgrades when new technology and data are available should be enabled by the Standards.
- The Standards should be framed in a way that responds to the current state (including upstream impacts and cumulative effects within the catchment) and values of the whenua and wai.
- The Standards should not use dilution as a method to set treatment standards.
- The Standards need to protect the most sensitive downstream environments and account for local context.
- To achieve an integrated approach, more work is required to understand how the Standards fit into the existing legislative framework and the consequence of this in how it interacts with other competing policy directions.
- Small wastewater treatment plants need to provide the same level of treatment to protect wai as large ones.

2.5.2 The Standards need to be more precautionary to protect our tūpuna awa, roto and moana

The background reports about the Standards state a goal and assumption that the Standards take a precautionary approach. Precaution is typically achieved when standards are set some distance away from the level at which conditions would become unacceptable, and any uncertainty in the information is resolved in a way that is protective of the environment rather than enabling activities by default. This type of precautionary approach is required by the NPS-FM (clause 1.6).

The Standards are not considered precautionary because:

- they would allow a degradation of water quality
- they do not protect against illness for mahinga kai
- they don't adequately incorporate Māori values.

- the development of the Standards has not yet adequately incorporated mātauranga Māori
- they don't consider local, upstream and downstream conditions, sensitive environments or cumulative effects
- they set treatment standards that are lower than is currently being achieved in some existing resource consents.

Because the Standards don't consider the relationship iwi Māori have with the wai, as well as kawa, tikanga and ritenga, kōrero tuku iho and mātauranga Māori, and because they do not sufficiently protect the water or mahinga kai, there is a high level of concern that precaution has not been reflected within the limits of these Standards.

> **"From a te ao Māori perspective, the standards are not precautionary and never will be. No standard will be precautionary if it cannot account for mātauranga and the knowledge of kaitiaki on a case-by-case basis." [E10]**

International examples referenced in the background technical work are a good starting point, but they do not fit the New Zealand context particularly well:

> **"Looking at the international standards that they have referenced, those countries don't necessarily have the best rivers either, or the best waterways. I've recently been in the Netherlands, they have been tilted as being one of the best in dealing with stormwater and how they manage their rivers, the difference is Holland has two rivers. There's not the same scale as New Zealand, so really when they are using a standard, they really need to compare apples for apples in the absence of there being one in New Zealand. I didn't find anything in here really challenged the status quo, it kind of just allowed for things to be done a lot more easily." [E12]**

> **"Most of the limits proposed are based on international best practice and guidance which is a sensible starting point, but improvements can always be made, including more nuanced national or regionally specific guidelines for setting limits on a case-by-case basis." [E10]**

A precautionary approach would aim to protect the most sensitive waterbodies in a catchment, but because the standards do not account for the local context or apply standards to protect downstream waterbodies (such as lakes, wetlands and estuaries), the Standards cannot be considered precautionary. Section 2.6 sets out concerns relating to ki uta ki tai and the Standards for lakes and wetlands in more detail.

2.5.3 The Standards need to take into account the current health of the wai and cummulative impacts within the catchment

The Standards overlook the condition of the water into which the discharge is being made. The impact of a discharge depends on the environment into which it is released. The effects of discharges on waterbodies are cumulative, and more impacted environments are less able to accept further discharges. This means the impact of discharges that meet the standards will vary depending on the quality of the water in the catchment. This is a fundamental concept in the current legislative framework, which allows an integrated approach to decision-making.

> **"Cumulative effects have been fought in the courts. You know how hard it has been to try get that right. And I still don't think we've got that right, but we are getting improvements with it and now it's all going back to zero again like nothings ever happened in that stretch. Like the water doesn't move." [E4]**

The Standards assume the concentration of contaminants in the upstream water body is zero. This isn't realistic and doesn't consider cumulative effects. It means the impacts of the Standards in waterbodies that are not pristine are underestimated, and in places where the water is pristine, it will move towards being degraded.

Not accounting for cumulative effects will also impact other discharges within the catchment. If the wastewater discharge allowed by the Standard is not consistent with the requirement of Regional Councils to maintain and enhance water quality, other dischargers in the catchment will have to do more to offset the impacts. Commercial and Industrial discharges and diffuse discharges from farming will have to be reduced to ensure contaminants in the catchment are kept within sustainable limits. The impact of this needs to be investigated.

> **"Even if there was a world where those parameters could be zero, each of these discharges would take up all the nutrient, *E. coli* and cBOD allowances. Even if you accepted the concept of an allowance of pollution, which I don't think we do as iwi Māori, these discharges would take up all the capacity of the**

> **assimilative capacity of this water. So, you wouldn't be able to have any farming, houses, anything else, basically, other than these discharges." [KE15]**

The Standards may allow discharge into pristine waterbodies. Pristine waterbodies are highly valued by iwi and the community, and even small impacts in these areas have large impacts on those values.

> **"The way in which dilution appears to be used is that the more pristine the water, the better able it is to dilute contaminants. The standards don't appear to protect the very few water ways that we have that are pristine." [ME12]**

Because of this approach, the Standards do not appear to protect Aotearoa's most vulnerable ecosystems and water bodies well.

There must be a mechanism to consider the local context and reflect the unique place-based ecological and cultural situation if dilution ratios and treatment limits are applied.

> **"I recognise the approach is intended to generate national absolute guidance but feel that evaluation of discharges to water must be placed-based in nature as they are less desirable than discharge to land and can cause considerable impact on receiving environments." [E9]**

Survey results show that over 80 per cent of respondents think that the Standards do not reflect a precautionary approach, and half of those think it reflects it very badly (Figure 5).

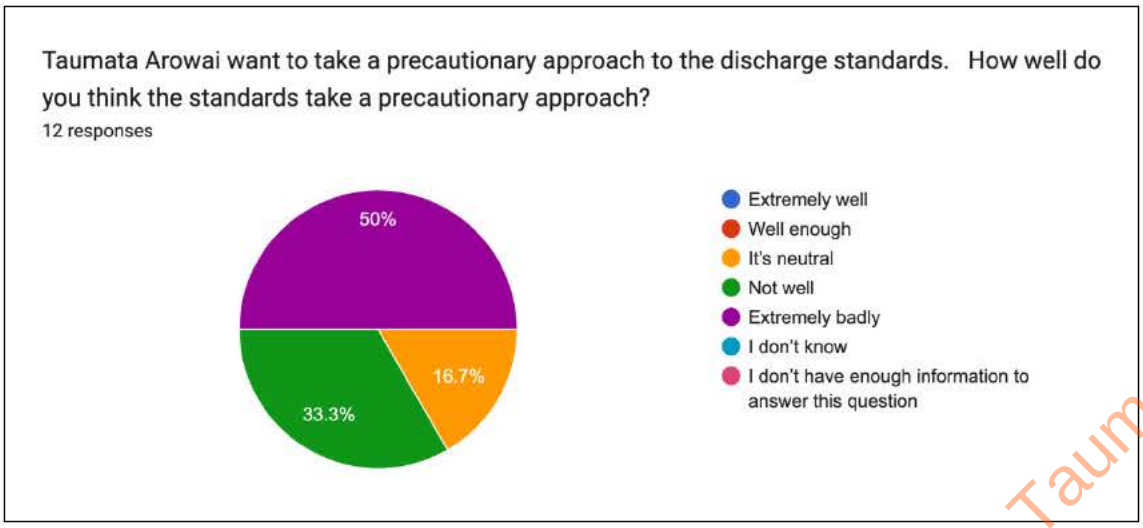

Figure 5 Survey responses to the question of a precautionary approach

2.5.4 The discharge to water Standards should be based on achieving outcomes for the wai, not using dilution with wai as part of the treatment process

The Standards are applied 'end-of-pipe' and are based on a dilution ratio which varies depending on the size and type of the waterbody. This assumes that as wastewater is discharged, it assimilates into that water body, diluting the contaminant and thus reducing the risk of effects on aquatic life and human health.

Dilution as a treatment concept has long been rejected by most iwi Māori, who continue to hold the line that '*dilution is not the solution*'.

> **"The receiving water body is expected to provide the final "treatment" through mixing, to the potential detriment of life within that mixing zone. This is not appropriate, even if only a small length comparative to the total length of the awa." [E9]**

> **"The whanau here have expressed the need to phase out discharge to waterways and have included it in the policy. The idea of dilution is abhorrent." [E1]**

> **"Dilution isn't the solution. Discharge to water isn't acceptable." [E6]**

> **"In the first instance, I cannot see dilution factors being acceptable to iwi. As this implies water is used as the treatment.... dilution is not the solution." [E3]**

> **"Dilution isn't the solution. From a practical point it makes sense to factor in dilution but the whole system is designed in a way that is in conflict with te ao Māori." [E10]**

The dilution ratio approach for ocean discharges is problematic, as it does not account for the dynamic nature of the ocean.

> **"'He tai timu, he tai pari - the incoming and outgoing tide.' This speaks directly to the knowledge that a dilution ratio will not be suitable as the tide always comes in and always goes out". [E13]**

> **"The assumption that a buoyant mixing, momentum mixing and far-field dispersion will occur similarly at every site and won't interact with the coastline will only apply to very few sites and only at certain times. If you have an incoming tide with a prevailing onshore wind after a storm system out at sea the result will be all that waste immediately coming back to shore. The difference between < 500 m and > 500 m becomes irrelevant with tidal processes." [P13].**

Rather than relying on dilution ratios, the Standards framework should be based on the outcomes achieved in the wai, reflecting the values of iwi and hapū.

> **"Our iwi would ask the following questions, rather than know if the dilution ratios are 'acceptable'. Can we drink the water from there? Can we swim in it? Can we do mahinga kai in there without getting sick? Can we do our karakia and pure[6] in there for our tamariki and mokopuna? If those fundamental questions cannot be answered with a YES, then there is a problem." [E11]**

[6] Pure is a ceremony used to remove tapu

> **"Many of the WWTP consent replacement applications I have worked on were for consents which had conditions focused on "end of pipe" limits. Despite these consents being "compliant", they were visibly having detrimental effects on receiving waters with algal films stretching for up to 50 m downstream of the pipe outlets and reports of eel deaths within 10 m of the outlets." [E10]**

A framework based on values and outcomes in waterbodies is set out in the NPS-FM. That framework ensures appropriate standards are set for activities that will result in the values of iwi and the community being met over time. The Standards are written outside the NPS-FM framework, and, because of that, they are unlikely to contribute to achieving the outcomes sought in that policy. Wastewater discharges enabled by the Standards may work to undermine the achievement of iwi and community goals.

> **"It has actually been heartening preparing applications under the framework of the NPS-FM because of its focus on attribute states of the freshwater management units. This has resulted in clear reasoning for Councils to invest in improving their WWTPs." [E10]**

Survey results show that every respondent thought using dilution as a method to treat wastewater in waterbodies was unacceptable, and 75 per cent of those thought it was extremely unacceptable (Figure 6).

The full survey question: 'The discharge to water standards would apply an 'end of pipe' standard subject to a set amount of in-water dilution in the 'receiving environment'. How acceptable do you think utilising water as part of the treatment process through dilution would be to iwi and hapū?'

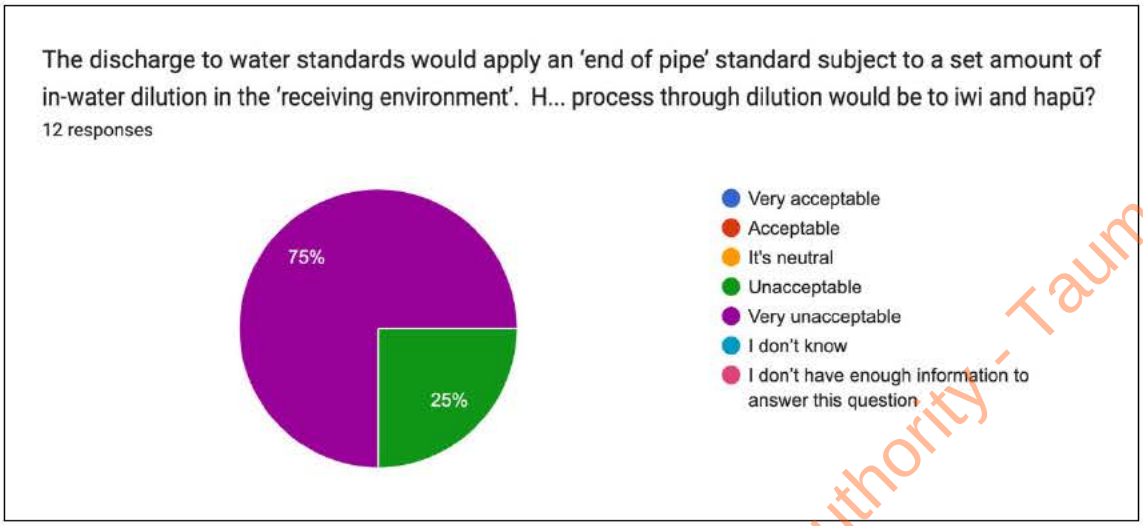

Figure 6 Survey responses to the question of dilution

2.5.5 If dilution ratios are used, these must be very high dilution ratios

Dilution is not an acceptable framework for Māori. However, if dilution is used despite advice to the contrary, they must be very high to ensure a precautionary approach.

There are also other factors that make it complex to apply a dilution ratio. They would need to be addressed before it might be somewhat acceptable to iwi and hapū. These include:

- how the dilution ratio would protect sensitive downstream environments
- how the dilution ratios would address wet weather peak flows
- how the impact of contributing contaminants will be managed at the most significant periods of low flow
- understanding a system's capacity to absorb contaminants before introducing them, to ensure they don't harm ecosystem health or the values that depend on it
- a better understanding of how dilution and dispersal work in highly dynamic marine environments (this is discussed in more detail in section 2.6).

2.5.6 Lakes, wetlands, estuaries and very small rivers should be excluded from the Standards

Some particularly sensitive waterbodies should be excluded from receiving wastewater discharges, including lakes, wetlands, estuaries.

Contaminants can stay in one location for longer periods of time or become trapped and accumulate in lakes, estuaries and harbours.

> **"Some estuaries and harbours will recycle the effluent for many days before it finally leaves i.e. trapped in incoming and outgoing tides, so floats around." [E3]**

> **"Lake Horowhenua is a great example of that. Even if you stop every single contaminant now, it would take 100 years to flood itself out because it is so contaminated by wastewater." [KE16]**

> **"Like it looks like 50 times the dilution because it's a big lake out there, but the nutrients don't go anywhere, they settle in there and the nutrient limits might be completely inappropriate for a lake downstream or a wetland." [KE15]**

For these reasons low-energy waterbodies (lakes, estuaries and harbours) should be excluded from the Standards.

> **"Lakes should not be an option and need to be removed." [E7]**

> **"Wastewater discharge into lakes and estuaries should not occur. But if they do, standards should not be based on dilution because these are ultimate receiving environments, and excess nutrients can significantly impair ecosystem health permanently or have long-lasting impacts." [E2]**

Using natural wetlands to manage the dilution of wastewater discharge is inappropriate for the same reasons as lakes and estuaries; they are low-energy environments, accumulate contaminants and can be permanently altered by discharges of nutrients. If included in the standards, they should be placed in their own category, separate from lakes, and different types of wetlands should be distinguished.

> **"Wetlands should not be grouped with lakes… Wetlands cannot be managed based on a dilution ratio, especially in systems with high surface water-ground water interaction." [E2]**

> **"Wetlands should be split out and given their own mana … Estuaries and harbour should be split out and given their own mana". [E3]**

> **"Wetlands are also highly variable and the draft wastewater discharge to water standards do not distinguish between natural, modified or constructed wetlands ... [E2]**

Intermittent and very small streams should not be included in the Standard. These types of streams are particularly vulnerable because they often have no or very low flow. In these circumstances the entire flow of the stream becomes sewage, which can have catastrophic impacts on any aquatic life sheltering in remaining pools.

2.5.7 The categories of waterbodies need to be refined to reflect the nuances of water body types accurately

The Standard sorts waterbodies into five broad environmental domain categories:

- lakes and wetlands
- rivers and streams
- estuaries and harbours
- low energy coastal/inshore water
- open ocean.

The category classifications are overly simplistic and fail to uphold the mana of different waterbodies. They lack the detail needed to account for the variability within the identified waterbody domains.

> **"The categories are such broad groupings they do not seem to accurately reflect the character of our many waterways. There can be such variation in environments..." [E9]**

> **"Further the broad categories do not acknowledge variability in assimilation capacity." [E2]**

> **"If they do this without classifying what type of wetland it is and what function and mixing regime it has, then wetlands are such vulnerable systems, the smallest increase in one nutrient could tip the whole functioning of that wetland and therefore every function downstream, all the plants that thrive off the nutrient levels that wetland maintains, the carbon it stores, everything. So, without classifying all wetlands, they really risk the few wetlands we have left." [KE18]**

Classifying water bodies into categories for management is not an easy task. This is because environments are complex, varied and interconnected, but accounting for natural environmental variability is crucial for setting standards.

Open oceans cannot have dilution ratios based solely on distance from the shoreline, as tides can bring contaminants back to land. Factors such as water depth, current direction, and wave action must also be considered.

> **"Ocean environments aren't based of distance from shore. To assume that the dilution factor will be a 1000 at 501 m and at 499 m it will be 100 sets a dangerous precedent." [E13]**

> **"So that context is really important because once you say the receiving environment is open ocean, it's not really because the discharge is all coming back into the harbour." [E6]**

> **"Ocean environments are not defined by distance from shore, as the way the ocean moves are dependent on depth, currents, tides, wave action, wind. The difference of having a pipe out to sea with only a depth of 5 m compared to a depth of 20 m would have a dramatic change on how diluted the discharge would be." [E13]**

> **"Simplification of the ocean environments will lead to areas that will receive the full brunt of the waste disposal. The dispersal and the amount of dispersal will also not only affect one area as it will spread down. Our fish will also swim in and out of the dispersal area so there will be no way to fully know what is affected and what is not." [E13]**

2.5.8 The Standards need amendment to reflect an integrated / ki uta ki tai approach to protecting our wai and whenua.

The Standards do not reflect the concept of ki uta ki tai, instead taking a fragmented approach to each parameter and each contaminant. The Standards appear to be framed in a way that treats discharges as isolated from other discharges in the catchment (as discussed). The standards do not consider how these discharges interact with one another or how water bodies connect – such as rivers flowing into lakes or estuaries. They also do not acknowledge the existing state and pressures within a catchment, which is further discussed in section 2.6.

> **"It's not integrated systems thinking, it's not ki uta ki te tai, it's not Te Mana o te Wai." [EK15]**

> **"Kāhore he aha e hangaitia, e ahu noa mai rā nei kia noho wehe i tēnei ao, ahakoa he mata ngaro, ka mohiotia te mauri. Nothing was ever created in this world to live in isolation, that even a hidden face can be detected by its impact on something." [P13]**

> **"I've found that a lot of this read very similar to building standards. Very isolated, very restricted to a small pocket and it's a huge risk because we are not dealing with 100 square metres of land, we are looking at an entire system that impacts everyone, doesn't just impact who's your next-door neighbour, so it's very worrying how it's all been written." [P12]**

The standards should apply the most stringent standard necessary to protect the most sensitive downstream waterbody affected by the discharge. For example, if a discharge is to a stream that flows into a lake, a treatment standard that protects for lakes should apply.

2.5.9 Treatment standards for wastewater discharges servicing < 1,000 need to be as stringent as the standards for larger systems

The Standards for small wastewater treatment plants (servicing fewer than 1,000 people) will follow lower and different standards to larger wastewater discharges. These discharges account for more than 50% of wastewater systems in Aotearoa.

This does not reflect the purpose of the Standard, to maintain or improve water quality, as it will not protect or improve *all* water bodies.

> **"All water-receiving bodies require the same attention to their health." [E3]**

> **"This is counter to the purpose of the standards, which is to maintain or improve water quality. If meeting the standards is required to improve or maintain water quality, then the fact that there are a large number of plants that would require better treatment is not a reason to not do better treatment. That approach undermines the whole goal of the standards." [KE15]**

Often, it is the smaller wastewater treatment plants that have the greatest effects on the environment as there is less expertise or resources to manage them. Smaller plants may also be discharging into smaller water bodies, and so the discharge will have a comparatively bigger effect than discharges into larger waterbodies. Iwi and hapū collect kai and swim in small streams, in local areas, often under the radar of local authorities.

> **"If the limits were truly effects-based, then the case for change from a cost-benefit position would be to better regulate or at least better manage compliance of the quality of effluent coming from the smaller WWTPs. Oftentimes these smaller WWTPs are the ones discharging into more sensitive, 'lower dilution' environments as well so the risk they carry is greater." [E10]**

> **"Iwi and hapū swim and get kai from local streams by local marae. These are overlooked in formal 'rec' sampling. The assumption that small streams might not be places of human contact does not hold true for Māori." [KE15]**

Some survey respondents thought there wasn't enough information to provide effective feedback. However, over half of them thought that this approach would not be acceptable to iwi and hapū. This is shown in Figure 7.

The full survey question: 'The standards may not apply to WWTPs that service fewer than 1,000 people. This is half the WWTPs in Aotearoa. How acceptable do you think excluding WWTPs that service less than 1,000 people would be to iwi and hapū?'

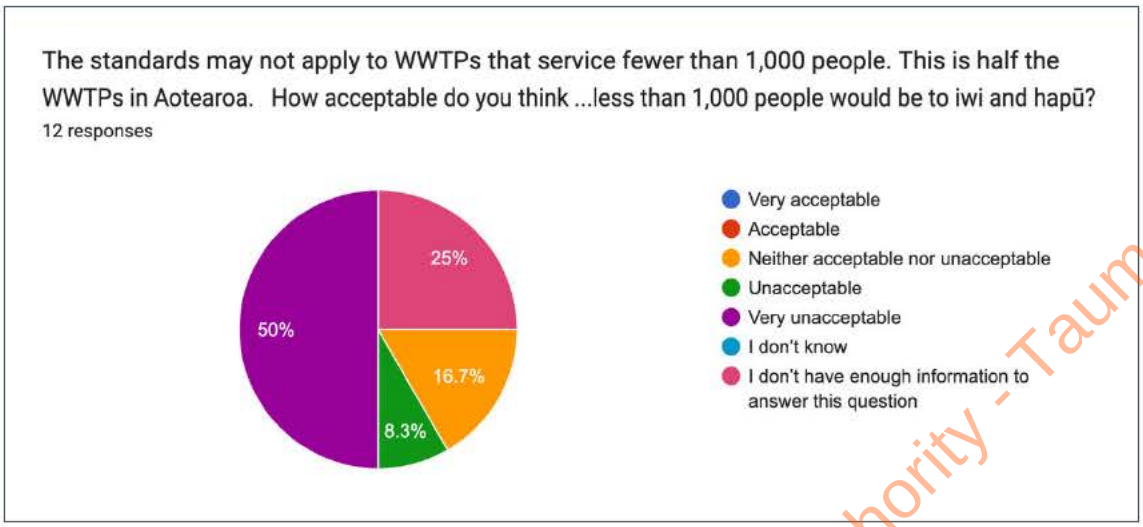

Figure 7 Survey responses to the question of standards for small WWTPs

2.5.10 More information is needed to understand how parts of discharges covered by the Standards interact with parts of discharges not covered by the Standards and with other legislation

Everything has a whakapapa and is connected to everything else. This includes the way that the Standards are integrated into existing practices and the legislative context.

It's not clear how the Standards connect with other important processes and legalisation. A wastewater discharge is normally granted consent for all aspects of the wastewater system at the same time. Discharges to air, land and water are considered together, discharges of all contaminants are considered at the same time, and an integrated approach to considering effects and resource consent conditions is taken. This approach is embedded in RMA law and practice and allows for 'the sum of the parts' to be considered rather than individual aspects treated in isolation. Contaminants not listed in the Standards and other discharges, such as discharges to air or odour or aerosols, will go through a normal consenting process, with the full suite of policy considerations and public notification considerations, with discretion about whether consent is granted and for how long. It is unclear how different parts of the same activity will be dealt with in the system proposed by the Standards and how any directions about notification in the standards and 35-year consent terms will influence the other aspects of the resource consent decision-making.

> **"Are you also looking at legislative crossovers with current Acts that may exacerbate the potential for these standards as they are proposed right now? If these are the perfect standards, what other legislation is out there that could potentially cause these standards to then become not so great." [P4]**

> **"It's unclear in the writing how other effects will be dealt with. It assumes that plants that meet the standards won't need to go through normal RMA processes. But they still will for all the other effects." [KE15]**

Issues with interaction with other legislation and instruments.

More clarity is needed to understand how the Standards will interact with other legislative instruments:

> **"Are you also looking at legislative crossovers with current Acts that may exacerbate the potential for these standards as they are proposed right now. If these are the perfect standards, what other legislation is out there that could potentially cause these standards to then become not so great? The first one that comes to me immediately … is the Special Housing Act. And then now we have got the Local Government proposed bill on the water services." [E4]**

Iwi Management Plans should feed into consents under the Standards.

There does not appear to be any mechanism to enable consideration of Iwi Environmental Management Plans (IEMPs) when the standards are applied at a local level. This is currently a statutory requirement under the Resource Management Act 1991 (RMA) for regional and district plans and resource consents.

> **"This is a gap in that there is no effectiveness that is applied and not even considered through our IEMPs. These are legislative tools that hold weight with our Regional and District Councils. However, these will now be over-ridden by these National Standards. More work and thinking will need to be done here to include and uphold the mana of the IEMPs, which should also include legislative strategies derived from Iwi**

Treaty settlements such as [redacted] [E11]

2.6 How well do the numerical standards protect Māori values for wai?

2.6.1 Recommendations

Regarding **cBOD$_5$**:

- Māori Practitioners suggest that the treatment limits for cBOD$_5$ need to be lowered to be considered a precautionary approach and acceptable to iwi and hapū. This should include a limit for open ocean. The effect of ammonia on oxygen demand should be explicitly accounted for in the Standard.
- Investigate whether Total Organic Carbon would be a more effective indicator of water quality than cBOD.

Regarding **Total Suspended Solids**:

- Amend the TSS Standard to be less than 5 mg/L for harbours and low-energy coastal/inshore waters.
- TSS standards should be lower than 20 mg/L in high dilution rivers, and less than that in other river environments, and in lakes and wetlands.
- TSS numbers should be maximums, not annual averages. You should include a TSS Standard for the open ocean environment.
- Consider whether Suspended Solids Concentration would be a more suitable Standard than TSS.

Regarding **Ammoniacal Nitrogen**:

- Because of the high risk of ammoniacal nitrogen impacting sensitive environments and species, you should include upper percentile and absolute maxima standards to protect aquatic life.
- The Standard should consider upstream or background levels of ammoniacal nitrogen and engagement with iwi and hapū to consider the impacts of the Standard in its local context.

Regarding **Total Nitrogen**:

- The Total Nitrogen (TN) limits appear to be too high to provide for ecosystem health.
- You should consider using a Standard for Dissolved Inorganic Nitrogen instead of TN for rivers and streams.
- You should develop Standards that would result in a median of 0.001 mg/L TN in the river or stream being discharged into, including natural background levels and discharges from other sources.
- The Standards should consider existing levels of nitrogen and ensure water quality does not degrade.
- Lakes and wetlands should not be included in the nitrogen standards, and if they are, the Standards should account for different lake and wetland types, their current state and their sensitivity to nutrients. Any standard for nitrogen in lakes and wetlands should ensure water quality is maintained or improved.
- Loads, rather than concentrations, should be used for nutrients.
- You should include a Nitrogen Standard for the open ocean category.

Regarding **Total Phosphorus**:

- Include a more stringent Total Phosphorus Standard to ensure that the phosphorus levels in the waterbody receiving the waste are suitable for maintaining a healthy ecosystem.
- Consider using Dissolved Reactive Phosphorus instead of TP.
- If you want to protect rivers from phosphorus effects on periphyton to an A-band level, with a 5% risk of underprotection, you would need to set the standard at a level that results in a median of 0 TP mg/L in the river. We recommend this as the precautionary approach.

- If you want to protect rivers from phosphorus effects on periphyton to an C-band level, with a 5% risk of underprotection, you would need to set the standard at a level that results in a median of 0.006 mg/L TP in the river. This would not be considered a precautionary approach.
- If you want to protect macroinvertebrates to an 80% protection level, you would need a mean DRP in river of 0.019 mg/L, and a 95th percentile of 0.054 mg/L. We do not consider a protection level of 80% to be precautionary.
- Loads, rather than concentrations, should be used for nutrients.
- Consider including a limit for the open ocean category.

Regarding ***E.coli***:

- The Standards should ensure that pathogens are reduced to very low numbers prior to discharge to meet the expectations of iwi and hapū.
- The bacterial contamination Standard should ensure all waters are safe for mahinga kai (whether the area is identified for mahinga kai or not).
- It is not suitable to use the recreational water quality guidelines to inform the *E. coli* limits for water bodies used for mahinga kai, which could be any water body, whether it is freshwater or saltwater.

Regarding **enterococci**:

- The Standards need to establish a way to protect marine mahinga kai from viral contamination from wastewater discharge.
- A much more stringent Standard for enterococci is required to protect Māori values, mahinga kai and shellfish gathering. Enterococci standards for marine environments will not protect against human viruses. People eating shellfish from affected areas might get sick.
- The Standards could be more prescriptive and robust in their monitoring and, importantly, their direct reporting to tangata whenua and communities when a discharge exceeds limits that are safe for kai to be gathered and consumed.

Regarding **compliance statistics**:

- The standards should include 95th-percentile compliance statistics.

- More contaminants should be included in the Standards, particularly for wetlands, lakes and estuaries, if they are covered by the Standards.
- Seasonal variations should be considered when setting the standards.
- The Standards need a mechanism to adapt to improving technology.

2.6.2 The cBOD5 Standard needs to be lower and provide for open ocean

Carbonaceous biochemical oxygen demand over five days ($cBOD_5$) indicates the amount of dissolved oxygen needed to break down organic matter in wastewater. The oxygen remaining in the water after the $cBOD_5$ breakdown will determine water quality and ability to support aquatic life. Measuring $cBOD_5$ helps to estimate the potential impact of wastewater discharge on aquatic life.

> **"CBOD5 is particularly relevant for non-nitrogen removing effluent plants, as it focuses on the oxygen demand from carbon sources, excluding ammonia, which can significantly increase total BOD readings." [P3]**

From a te ao Māori perspective:

> **"…the presence of microorganisms in discharge signifies the presence of mauri or life force. This introduces organisms from one water body to another, mixing their mauri, which has cultural implications for the interconnectedness and balance of ecosystems. Therefore, maintaining low cBOD levels aligns with both environmental and cultural considerations, supporting the health and integrity of water bodies." [P3]**

To protect iwi and hapū values for wai the $cBOD_5$ limit needs to be as low as possible.

The $cBOD_5$ limits are lower than some wastewater discharge limits that have been granted for recent consents. However, that does not mean they are considered acceptable. There are examples in Aotearoa where the consent standard is a 2 g/m^3 maximum limit, not an annual median and considers background contaminant levels in the receiving river environment, which is more stringent than the Standards. This is achieved with available technology.

Tikanga plays an important role in how waters are cared for. Tikanga requires a holistic approach that does not appear to be reflected in these limits.

> **"The standards are much more conservative than most wastewater discharge standards I have seen for cBOD in historic and recently granted consents ... However, just because the value is comparatively conservative doesn't instantly mean that the limit protects iwi and hapū values. It is not as simple as that." [P10]**

> **"...while the limits are comparatively conservative, they leave no discretion for the tikanga of the affected hapū to be applied contextually." [P10]**

Ammonia creates its own oxygen demand and does not appear to have been factored into an overall oxygen demand standard.

There has been a move internationally from measuring cBOD to Total Organic Carbon (TOC). Processing of cBOD is time-consuming and resource-hungry. This makes it difficult to have enough data available at the right time.

Figure 8 shows that 75 per cent of survey respondents think the cBOD treatment limits did not protect iwi and hapū values.

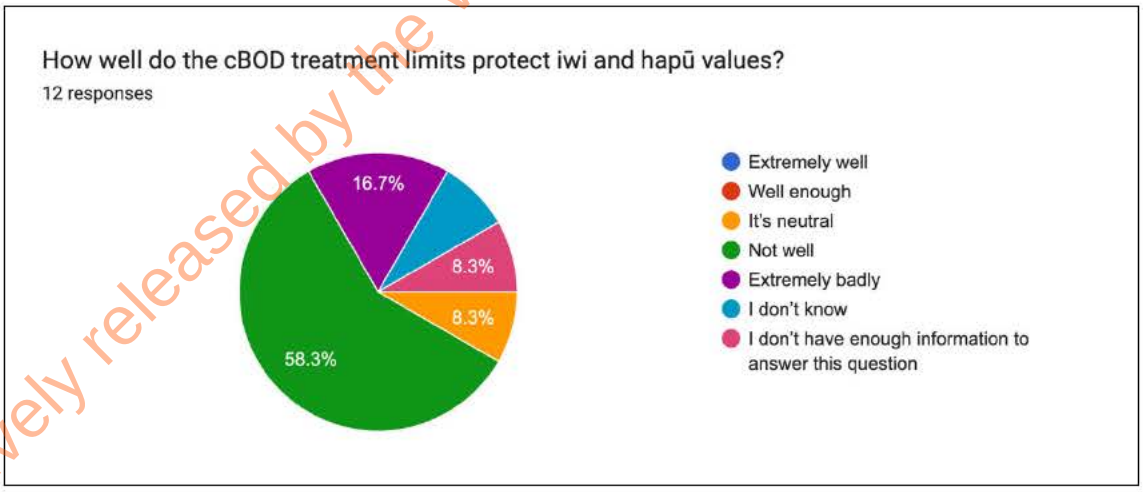

Figure 8 Survey responses to the question of cBOD treatment limits

2.6.3 The Total Suspended Solids Standard should be more stringent and provide for open ocean

The Total Suspended Solids (TSS) Standards should be more stringent, have a maximum value and apply to the open ocean.

TSS determines how clear the water is, which is particularly important for wastewater treatment plants that use UV as part of the treatment process. The TSS Standards are somewhat conservative compared to some limits for consent in Aotearoa. However, if wastewater were to be treated to the proposed TSS Standard, UV treatment may be difficult or impossible at times because the waste would not be clear enough for UV to penetrate.

As currently proposed, the Standards allow a TSS up to 50 mg/L for some environments. A standard of less than 20 mg/L may be more suitable, as levels above this threshold are unlikely to be appropriate. For smaller waterways and lakes and wetlands, it would need to be lower than this (as currently proposed in the Standards). We note that the current TSS Standard is for an annual median, not a maximum. Stormwater discharges to water generally have TSS standards of 20 mg/L or less (P3). There are examples in Aotearoa of TSS consent standards of 1.2 mg/L with easily accessible technology, such as the Palmerston North wastewater treatment plant. We suggest 5 mg/L is an appropriate Standard for harbours and low-energy coastal/ inshore waters.

The standard should be lower where the discharge affects mahinga kai.

There is no TSS limit for open ocean, which is a large gap:

> **"Quite simply clarity of ocean water is what allows all things in the ocean to thrive. All phytoplankton and seaweed (primary producers) require clearer waters. This provides the basis of all life in the ocean and the nursery grounds in which every other ocean animal needs to grow. To not even have a standard for this in the open ocean is ridiculous." [P13]**

Suspended solids concentration (SSC) should be considered as a parameter instead of TSS.

> **"Suspended Solids Concentration (SSC) is a method being more commonly used in labs than TSS because the SSC is the entire sample, while TSS only uses a pipette sample." [P3]**

Figure 9 shows that 75 per cent of survey respondents think the TSS treatment limits did not adequately protect iwi and hapū values.

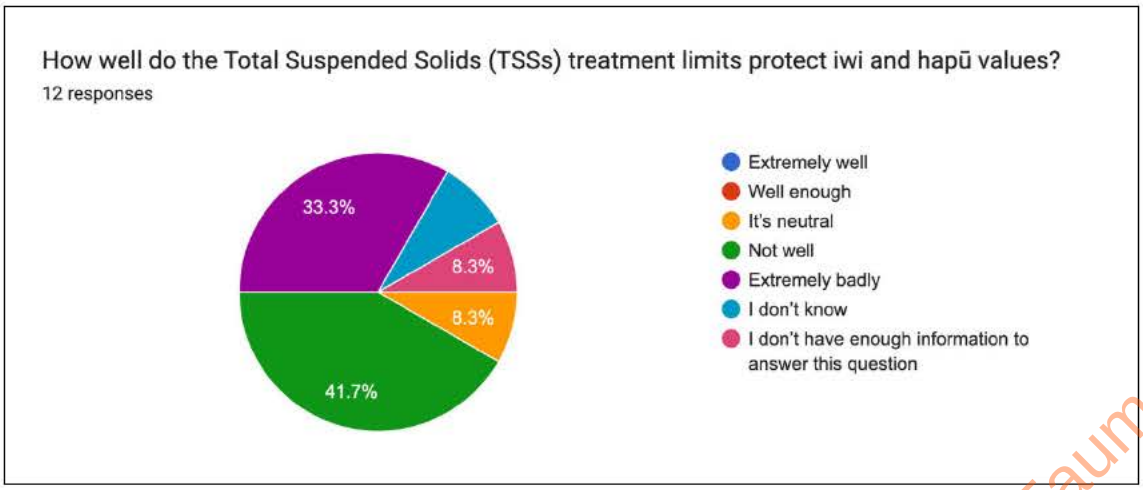

Figure 9 Survey responses to the question of TSS treatment limits

2.6.4 The Ammoniacal Nitrogen Standard needs to be lower

The higher the limit for ammoniacal nitrogen, the greater the risk of toxicity to aquatic life and the potential for negative impacts on aquatic ecosystems:

> **"It is known that increased concentrations of ammoniacal nitrogen are not healthy for ocean species. With assumed dilution rates and unknown dispersal this could damage many mahinga kai sites." [P13]**

Both juvenile kākahi and fingernail clams are highly sensitive to ammoniacal nitrogen. There is worry that the Standards for ammoniacal nitrogen would not protect these species. This is particularly concerning when the discharge is combined with unknown background levels of ammoniacal nitrogen from other discharges. The treatment limit is based on the 90th percentile, meaning ammonia levels could exceed this threshold 10% of the time. Since ammonia can be toxic to aquatic life, potentially causing death, the Standard would allow these harmful effects to occur up to 10% of the time. The ammoniacal nitrogen limit should have a threshold that must not be exceeded, and so an upper percentile and absolute maxima standards need to be applied to protect aquatic life (P1).

Many factors interact and influence whether the Standard is suitable for a specific location. This includes the pH, dissolved oxygen (DO), water temperature, exposure time, overallocation of flows and overallocation with other nutrients or pollutants that can influence the toxicity of ammoniacal nitrogen. None of these factors appear to have been considered when setting these Standards.

> **"Toxicity in isolation is not enough to obtain the place-based context required to meet iwi and hapuu concerns and values." [P7]**

> **"It depends on the environment and cultural context of that area. Ammonia's impacts on ecology are connected to temperature and DO values. They will also rely on exposure time." [P1]**

There is concern that the Standards would lower water quality. We have done some basic calculations to compare the Standard with the Target Attribute States set out in the National Policy Statement for Freshwater Management (NPS-FM). The work is preliminary and conservative, and the results are presented in Appendix 1. This work indicates that implementation of the Standard could cause some water to approach the National Bottom Line set in the NPS-FM. Certainly, it would be below the A band for some rivers. The Standards may provide for degradation of existing water quality, which is contrary to the Policy direction in the NPS-FM and the functions of Regional Councils in the RMA (s30(1)).

This outcome is unacceptable for iwi and hapū. Iwi and hapū put considerable effort into helping develop and submit on the NPS-FM, and iwi and hapū expect the A Band target to be maintained by the Standards:

> **"The standards have essentially been designed to allow lower water quality than the highly informed and democratically-prepared NPSFM to possibly maintain or improve water quality to achieve Band A." [P10]**

> **"…limits against the existing NPS-FM A band level protection show a reduced stringency in the proposed treatment standards in rivers and lakes. This inherently allows for a degradation beyond desired water body states and therefore does not protect iwi and hapū values." [P9]**

Figure 10 shows that all survey respondents think the ammoniacal nitrogen treatment limits did not adequately protect iwi and hapū values.

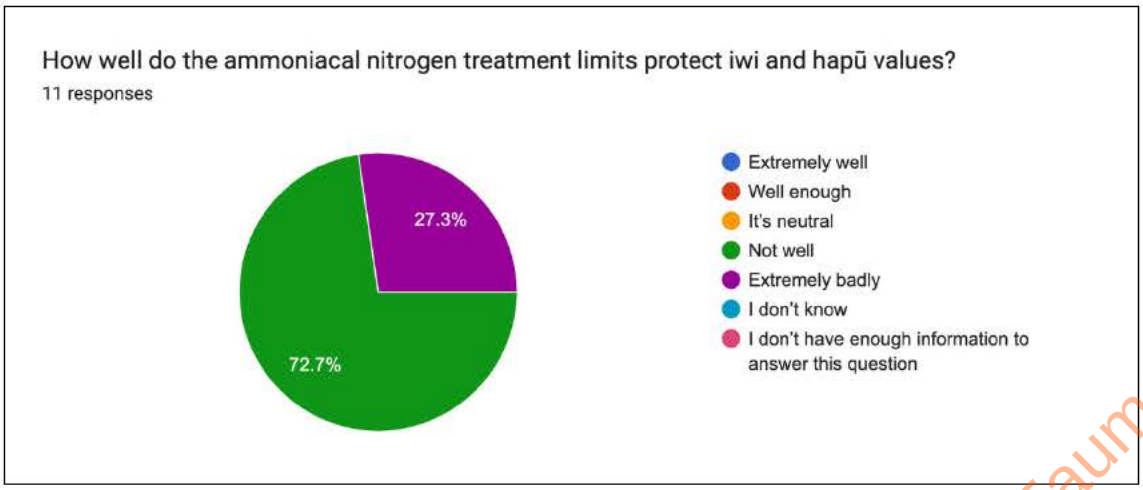

Figure 10 Survey responses to the question of nitrogen treatment limits

2.6.5 The Total Nitrogen Standard needs to be lower, provide for open ocean, and not apply to sensitive lakes and wetlands

Total Nitrogen (TN) can have harmful effects on aquatic life, as increased nitrogen from wastewater discharge can lead to an overabundance of nutrients in water bodies. Increased nutrients can lead to increased algal growth and a change in the makeup of algal communities and the invertebrates that feed on them. Increased nutrients contribute to algae blooms. When those algae blooms decompose, they consume oxygen, putting fish, shellfish, and other aquatic organisms at risk of suffocation. This may also result in visual, aesthetic and cultural effects in waterways.

The TN limits are high when compared to the NPS-FM Bands.[7]

> **"On face value, the Standards are much less stringent than the expectations for receiving waters in the NPSFM (NPSFM C Band is still less than the proposed standards)." [P10]**

> **"… the proposed standards inadequately protect iwi and hapū values through the lessening of standards… as compared with existing thresholds." [P9]**

[7] The NPS-FM sets TN for lakes but does not set target attribute states for Total Nitrogen (TN) or Total Phosphorus (TP) in rivers, only for Dissolved Reactive Phosphorus (DRP).

Dissolved Inorganic Nitrogen (DIN) is a more relevant measure of nitrogen for rivers than TN (TN is appropriate for lakes):

> **"If making minimum standards for the river, using DIN rather than TN would be better." [P2]**

Even for the low dilution for river and stream environments, the Standard appears high when compared to studies looking into appropriate nitrogen levels for rivers to support healthy ecosystems. Canning and Death (2023) found that a median Dissolved Inorganic Nitrogen (DIN) less than or equal to 0.24 mg/L was required to protect 80% of the macroinvertebrate taxa, and that DIN should not exceed 1 mg/L.[8] An 80% protection level is not high on a values basis and may not be considered precautionary.

For periphyton effects, the requirements are more stringent again. To achieve protection from periphyton effects to an A band level, with a 5% risk of underprotection, the median amount of total nitrogen in-river would need to be 0.001 mg/L. For the same for C band, it's 0.182 mg/L.

Ten mg/L TN is a very high standard for discharges to lakes and wetlands. Because of their sensitivity, lakes and wetlands should not be included in the Standard but dealt with on a case-by-case basis.

Even a small change in nutrient levels in a wetland can permanently alter the underlying type, affecting the diversity and abundance of indigenous species and making the wetland more vulnerable to pests and weeds. Different wetland types are very vulnerable and sensitive to these small changes in their chemical composition, and the Standard does not appear to account for such differences. Natural wetlands are not engineered treatment-wetlands. The Standard groups all wetland types together with lakes without identifying specific limits for each wetland or lake type. Lakes have up to 20 different defined classifications and should also not be considered under one category.

> **"Some of these receiving environments (lakes/wetlands) are more sensitive than our low dilution streams because they're static so grow algae better than anything else. Thus, I think that lakes and wetlands should not be in the Standards." [P7]**

We have done some basic calculations to compare the Standard with the Target Attribute States for TN set out in the National Policy Statement for Freshwater Management (NPS-FM). The work is preliminary and conservative, and the results are presented in Appendix 1. This work indicates that implementation of the Standard could reduce the water quality of

[8] Canning, A and Death, R. 2023. Establishing riverine nutrient criteria using individual taxa thresholds. Water Research Volume 246. Available at: https://www.sciencedirect.com/science/article/pii/S0043135423011715?via%3Dihub

seasonally stratified and brackish lakes and cause a pristine lake to fall below the A band, even without considering other nutrient inputs or natural background levels.

Not including a nitrogen limit for open ocean is inappropriate:

> **"Nitrogen is limiting in the moana but again to place no restriction on open ocean will lead to harmful consequences- this goes against many values like manaaki to enhance the mana of an area, kaitiakitanga to care for an area." [P13]**

The standard doesn't account for seasonal sensitivities or existing upstream concentrations of nitrogen. This is problematic. The taiao differs in response across seasons, and not addressing this variation in the Standard could lead to either cost inefficiency or significant adverse effects. Location-specific solutions have always been essential.

Figure 11 shows that over 80 per cent of survey respondents think the limits for Total Nitrogen are unacceptable.

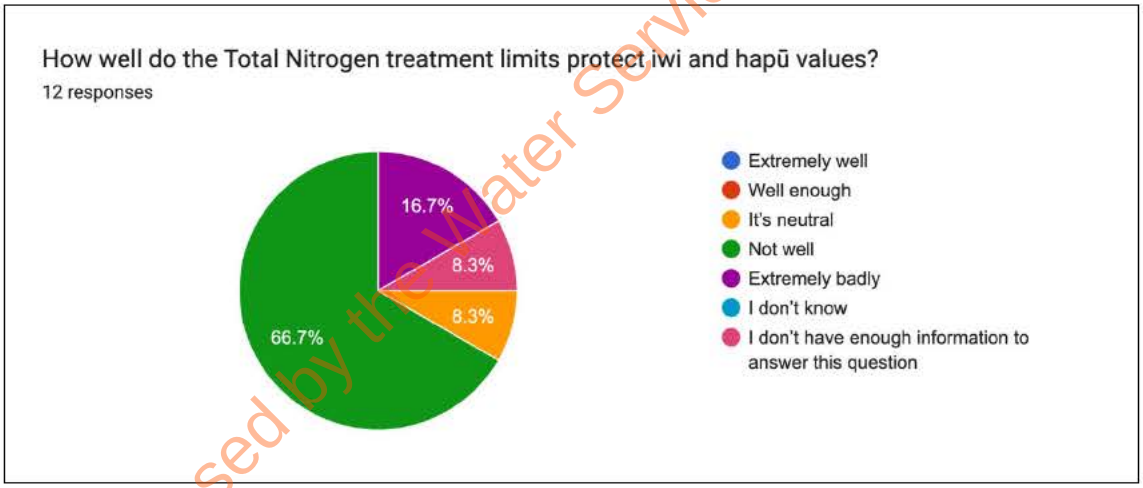

Figure 11 Survey responses to the question of total nitrogen treatment limits

2.6.6 The Total Phosphorus Standard needs to be lower and provide for open ocean

Like nitrogen, excessive phosphorus in water bodies can harm aquatic life and ecosystems by fueling rapid algal blooms. These blooms can alter macroinvertebrate communities, reduce water clarity, and deplete oxygen, threatening the survival of animals that depend on it.

The points raised in the previous section in relation to the Total Nitrogen Standard are also relevant for Total Phosphorous (TP). The Standards are too high for lakes and rivers, and it may be inappropriate to apply them to lakes due to their highly sensitive nature. Likewise, not including a limit for open oceans:

> **"…is calling for harm to be placed on vulnerable areas." [P13]**

We have done some basic calculations to compare the Standard with the Target Attribute States for TP set out in the National Policy Statement for Freshwater Management (NPS-FM). The work is preliminary and conservative, and the results are presented in Appendix 1. This work indicates that the Standards could cause lakes to fall into the D band for Total Phosphorus. This is below the national bottom line, an action that is not allowable under the NPS-FM. This also goes against the goals of the Standards, which are to maintain and improve water quality. This analysis doesn't consider any background contaminants that may already be present in the water, which could exacerbate the overall impact. This fails to protect iwi and hapū values.

> **"For phosphorus in lakes, the proposed standard is 3 mg/L compared to a receiving environment concentration of < 0.01 mg/L required to obtain an A state. Even when diluted by 50, this standard at 0.06 mg/L is beyond the bottom-line of 0.05 mg/L and equivalent to a D state in the NPS-FM." [P2]**

> **"DRP is used more commonly in rivers than TP when matching to ecosystem health." [P1]**

Recent scientific research on optimal Dissolved Reactive Phosphorus (DRP) found that a median of 0.019 DRP was required to protect 80% of the macroinvertebrate taxa (Canning and Death 2023).[9] An 80% protection level is not high on a values basis and may not be considered precautionary.

[9] Canning, A and Death, R. 2023. Establishing riverine nutrient criteria using individual taxa thresholds. Water Research Volume 246. Available at: https://www.sciencedirect.com/science/article/pii/S0043135423011715?via%3Dihub

For periphyton effects, the requirements are more stringent again. To achieve protection from periphyton effects to an A band level, with a 5% risk of underprotection, the median amount of total phosphorus in-river would need to be 0 mg/L. For the same for C band, it's 0.006 mg/L.

Figure 12 shows that over 80 per cent of survey respondents think the limits for Total Phosphorous are unacceptable.

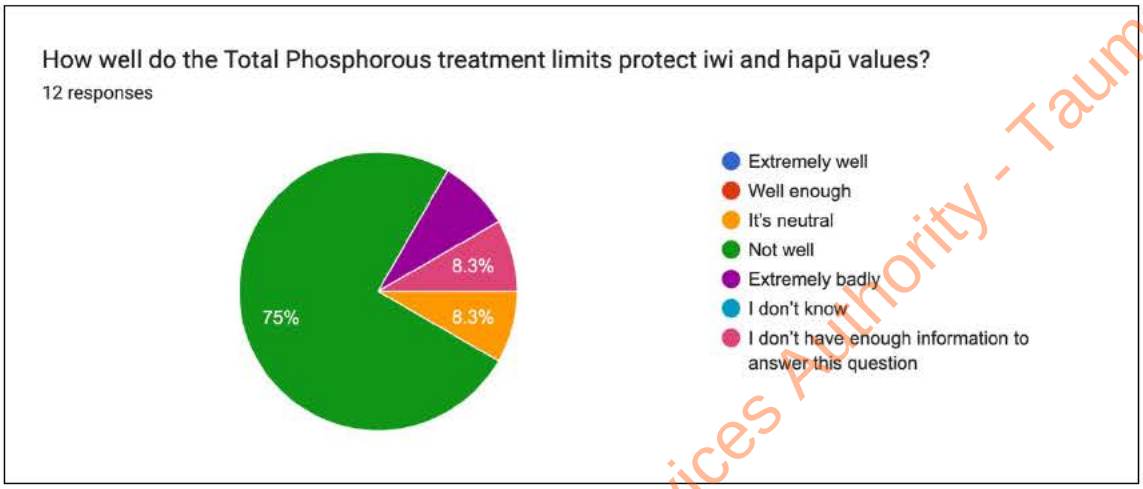

Figure 12 Survey responses to the question of total phosphorus limits

2.6.7 The Standard for bacterial contamination needs to provide for mahinga kai

The Standard for bacterial contamination misapplies current guidelines and does not provide for mahinga kai. It does not ensure that it is safe to collect shellfish.

E. coli is a common indicator of faecal contamination in water bodies, serving as a marker for the presence of pathogens such as viruses, bacteria like Salmonella, and parasites like Giardia, all of which can cause waterborne diseases. In freshwater environments, *E. coli* standards are primarily used to indicate the risk of Campylobacter. However, there is no established link between *E. coli* and other pathogens, and many other harmful pathogens remain a significant concern.

Human health and the ability to undertake cultural practices are affected by the presence of faecal matter and disease-causing organisms in water:

> **"These standards directly conflict with mana whenua values of kaitiakitanga (guardianship) of our Taiao (environment) and wai (water), as well as waiora principles for human health." [P7]**

Regardless of which standard is applied to bacterial risk, discharging human waste to water is culturally abhorrent:

> **"Mixing of tainted water through *E. coli* discharged to waterways… is culturally abhorrent!" [P11].**

> **"Human waste is human waste." [P1]**

The Standards are considered too high by Māori:

> **"The specified limits are particularly alarming, especially the 6,500 cfu/100mL for lakes and wetlands… Other limits are also concerning. From an engineering perspective, any count above 1000 cfu/100mL indicates an issue in the treatment process (sanitation engineering). Regardless of dilution, these limits are excessively high." [P7]**

> **"I personally consider the limits to be insufficient to provide for Māori and their traditional associations with wai." [P10]**

The Standards are based on recreational water quality guidelines, which directly state that they are unsuitable to use as wastewater standards.[10]

"These guidelines cannot be applied to water uses other than recreational use."

"These guidelines cannot be directly used to determine water quality criteria for wastewater discharges…"[11]

It's important to use guidelines for the purpose they were specifically developed for, as clearly stated in the guidelines themselves. It's not clear why the guidelines have been

[10] Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas Published. June 2002. Updated in June 2003

[11] Page 3, Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas Published in June 2002 by the Ministry for the Environment Manatu Mo Te Taiao PO Box 10-362, Wellington, New Zealand. Updated in June 2003

adopted as end of pipe standards for discharge despite these clear instructions in the guidelines that this not be done.

Recreational guidelines do not provide for mahinga kai, which requires a higher standard for harvesting and eating:

> **"So, for me, it's mahinga kai and the broader sense of access to it. The science that that looks like is the Shellfish Gathering standards for food safety. It's the things that make it safe to eat (which is a higher standard than safe to swim) and interact with. Including if it's nice to eat! That then flows on to the state of the environment and how wastewater impacts it." [E14]**

In addition to adopting these recreation standards, assuming that wastewater discharge will occur far from shellfish beds is risky:

Redaction applied under s9(2)(a) of the OIA

> **"I have found this not to be the case in [redacted]). We would not have known about shellfish gathering in these places had we not entered into Hapū Rōpū Working Groups specific to those WWTPs and public notification." [P10]**

It would be difficult to create standards that apply directly to areas for mahinga kai, because not all mahinga kai areas are publicly known, or councils do not hold that information.

We note that iwi Māori will likely seek transmittance requirements to protect mahinga kai, wāhi whakarite, and other culturally significant areas, ensuring sufficient removal of pathogens before any discharges into wai. Particularly where the discharge would affect mahinga kai and shellfish gathering in freshwaters. There are examples in Aotearoa, such as in Palmerston North, where *E. coli* numbers of less than 1 cfu/100mL have been achieved through effective and affordable filtration methods.

There should be an *E. coli* Standard for open ocean:

> **"*E. coli* can last in the ocean for 60 days up to 3 years - with dispersal and movement of species this has the potential to spread to many species." [P13]**

Figure 13 shows that all survey respondents think the Standards for *E. coli* are unacceptable.

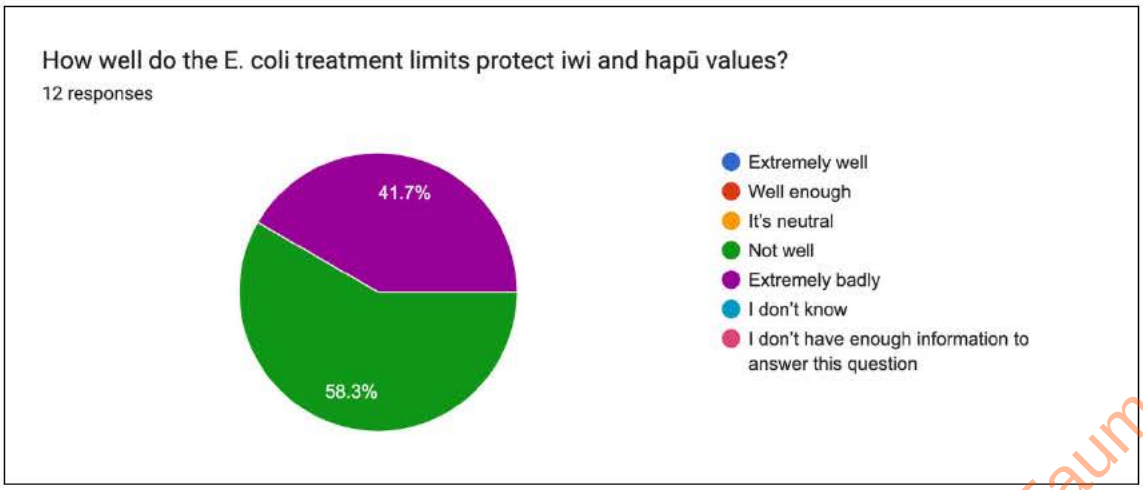

Figure 13 Survey responses to the question of E.coli treatment limits

2.6.8 The Standard for faecal contamination needs to protect shellfish gathering

Enterococci are indicator organisms for faecal contamination in water bodies and can be useful to understand contaminants in marine environments, because they survive longer in saltwater than other bacteria like *E. coli*. However, enterococci are not indicative of viral risk in the open ocean or inshore waters. Shellfish reconcentrate viruses. For example, if 40,000 enterococci are allowed to discharge into the open ocean, which is proposed under this Standard, there could still be 10^{x7} viruses in that discharge. In the right conditions, those viruses could drift across a shellfish bed and contaminate them.

Current discharges of wastewater are already having an impact on mahinga kai and shellfish gathering:

> **"It has become common practice not to collect shellfish after rain due to the added risk of enterococci and *E. coli* entering the ocean from rivers and land runoff... Subsequently, again we will be taken away from our traditional feeding grounds and traditional harvest methods." [P13]**

This could have economic, recreational, and cultural impacts. Contamination of marine farms, even at low levels, can result in a ban on commercial harvest of farmed shellfish:

> **"I know a lot of our people are getting into the blue/green carbon space, and... increasingly aquaculture and it could potentially go boom... we can talk about what we do locally and**

> **our cultural practice, but what would the situation then be if you put the commercial spin on it and say this could impact you economically." [P4]**

The Standard could also be improved by including more frequent monitoring of faecal contamination discharges, along with a reporting requirement for elevated discharge levels. Reporting of discharge breaches has historically been very poor, and this needs to be addressed to ensure whānau and communities are protected from the risk of gathering food during a wastewater discharge breach:

> **"Reporting on this stuff is really bad to mana whenua. We find out about stuff way after the discharge happens... It's not in enough time to actually notify our whānau, you can't kohi kai, you can't go for a kauhoe... there has to be minimum requirements around reporting to mana whenua and the monitoring… but it's never around the alerts and actions we have to take as whānau, hapū, iwi in the moment to actually protect our whānau from collecting kai that has been impacted by raw sewage discharging." [P6]**

Without suitable standards to protect mahinga kai and food gathering, or robust mechanisms to report directly to whānau, the Standard does not protect cultural values and practices that are essential to iwi Māori.

An enterococci standard for estuaries and ocean categories is unlikely to effectively protect shellfish gathering areas from human virus contamination. Enterococci are a proxy for contamination but are unrelated to viral risk. The proposed standard is likely to fail mahinga kai values. (We understand a QMRA assessment is being considered in an updated version of the standards, which was not available at the time we produced this report.)

Figure 14 shows that over 90 per cent of survey respondents think the limits for enterococci are unacceptable.

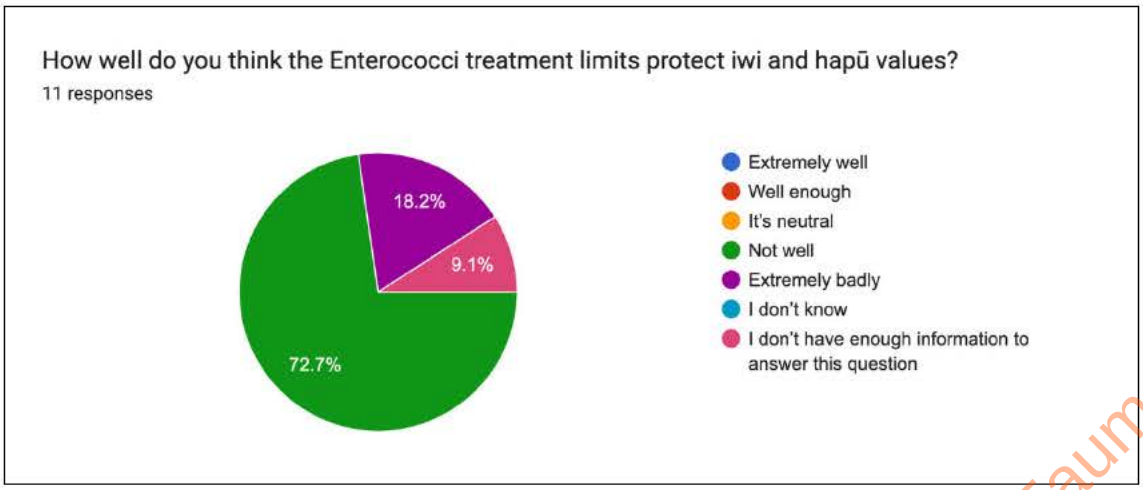

Figure 14 Survey responses to the question of enterococci treatment limits

2.6.9 The Standards need to consider loads, maximums and seasonal variation

Relying on annual median concentrations is not appropriate. Loads, maximums and seasonal variation need to be considered.

Using annual median statistics (for cBOD, TSS, TN, and TP) means contamination levels could exceed the treatment limit for half of the samples. It's unacceptable for the Standard to be exceeded 50% of the time:

> **"[It is] inappropriate as to suggest 50% of [the] time discharges are higher. Culturally unacceptable to Māori to discharge contaminants to water or land. Especially where it is a waahi tapu or mahinga kai (including taiapure and mataitai)." [P3]**

> **"This approach allows for half of the discharge values on an annual basis to exceed the standard, with no set upper limit." [P9]**

The 95%ile is more appropriate than the annual median to determine treatment limit compliance:

> **"This would be a better statistic to use to safeguard te taiao." [P1]**

For 90th, 95th, or 99th percentile statistics (for ammonia, *E. coli*, and enterococci), contamination levels will be higher than the Standard 10%, 5%, or 1% of the time, respectively. A 95%ile would be a more acceptable number to protect Māori values:

> **"It is likely that a 90/95 percentile will be more indicative of adverse effects." [P2]**

> **"This is more acceptable than [annual] median... but 10% above this is still quite a lot, but info is need on the 'load' of wastewater effluent it applies to. 95%tile in my eyes is more acceptable." [P3]**

> **"This measure allows for 10% of all discharges to exceed the threshold. This is still a considerable quantity in excess of standards that appear to be below target environmental conditions." [P9]**

A maximum threshold should accompany the 95th-percentile statistics to ensure there is an upper limit that cannot be exceeded:

> **"This is a very lenient statistic. For some more toxic variables, there should also be thresholds that must not be exceeded." [P1]**

> **"At a minimum it should be coupled with an absolute maximum…" [P9]**

A 95th-percentile statistic may only be acceptable if it was built around a robust monitoring and reporting system:

> **"[I] suggest the metric is highly dependent on the proposed monitoring regime." [P2]**

> **"I would expect a regular monitoring frequency to accurately identify this value at each plant and ensure compliance. Given some standards already appear to be less stringent than those required for A band level protection in the NPS-FM, this method appears very inappropriate. It does not protect the water quality conditions expected to preserve our waterbodies." [P9]**

Load is sometimes more relevant than concentration

The effects of some contaminants in some locations are more likely to depend on contaminant load than concentration.

> **"It is unclear to me why standards are in concentrations and not loads for TSS and nutrients. As noted in the 'Technical Advice on Discharge to Water Standards' document, consenting via concentrations means there is the potential for mass loads to increase over time, with the only lever for regulatory control being the volume of the discharge. Using loads instead of absolute concentrations would be beneficial because it would require local knowledge and consideration of other catchment activities." [P2]**

The Standards should consider contaminant loading, in addition to concentrations for the relevant contaminants and low-energy environments that are sensitive to loading (lakes, wetlands and estuaries).

Seasonal variations should be considered when setting the standards

> **"Consider seasonal variations in flow and the potential for toxic effects during different times of the year." [P7]**

The standards need to adapt to improving technology

These metrics need to be tested against the technology available to achieve them. However, the Standards don't allow flexibility for the role that future technology may potentially play in improving wastewater discharge:

> **"… they [the standards] do not allow the ability to flex and move and do the improvements that are required to make sure these systems work." [P4]**

There needs to be a mechanism in the Standards to reflect current and future technology so that future generations can implement improvements that may become available over time.

Figures 15 and 16 show that more than half of survey respondents consider the annual median an inappropriate statistic to protect Māori values, and there is some concern about the 90%.

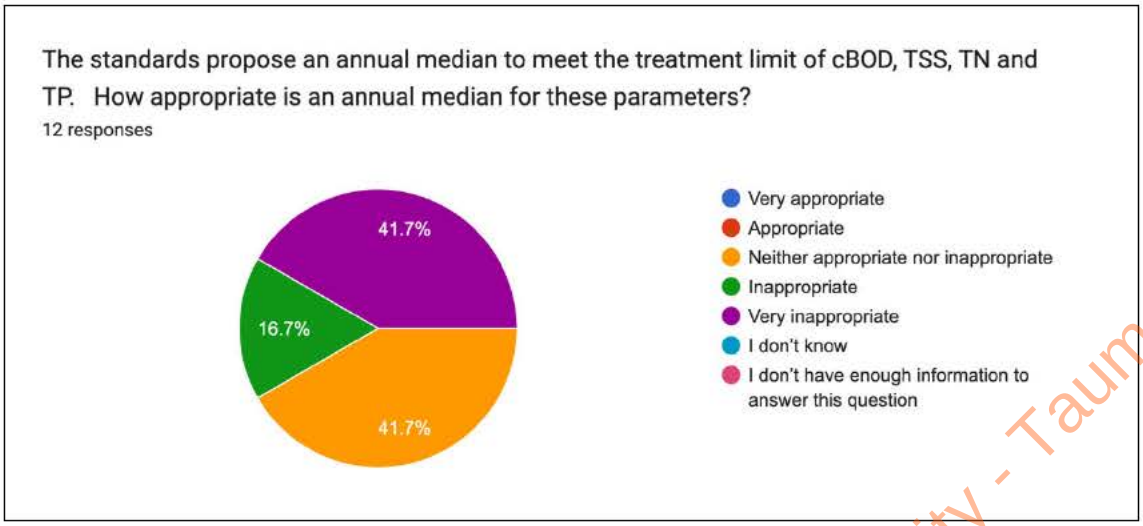

Figure 15 Survey responses to the question of an annual median

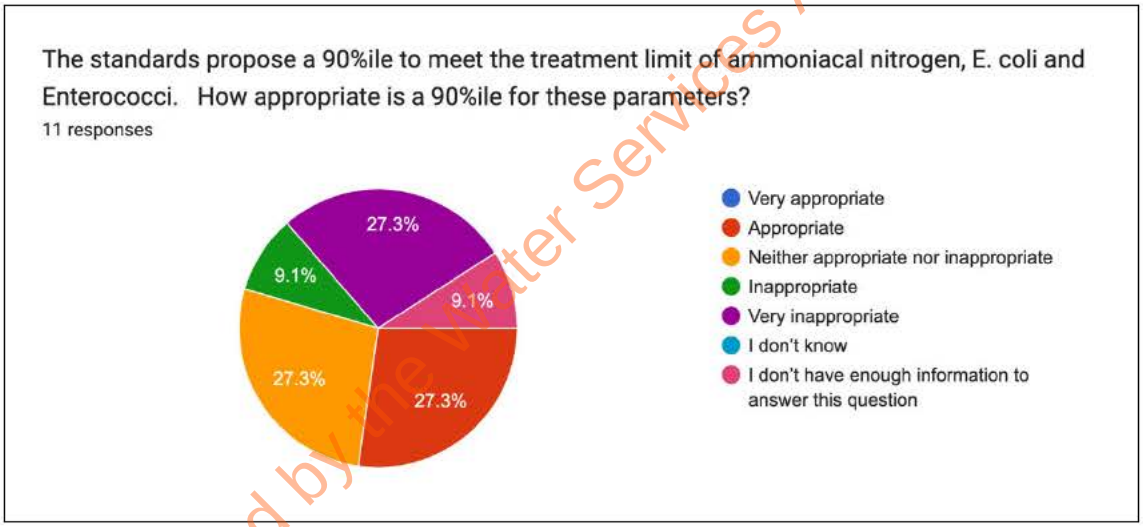

Figure 16 Survey responses to the question of a 90th-percentile

2.7 How well do the numerical standards protect Māori values for whenua?

Note: As the Discharge to Land Standard was not available at the time external experts were reviewing documents, the views in this section relating to the numerical standards

represent our internal views only. The internal team had very limited time to assess the discharge to land standards, so the feedback in this section should be considered preliminary only.

2.7.1 Recommendations

- Incentivise the Discharge to Land Standard, and enable Councils to prioritise discharge to land options.
- Integrate mātauranga into the risk-based framework through discussions with iwi.
- The Standard needs to treat wastewater to a high enough standard to provide for economic reuse.
- The Standard should promote wastewater discharge to land during the summer.
- The Standard should use Dissolved Reactive Phosphorus as a parameter rather than Total Phosphorus.
- The proposed Nitrogen Standard should consider N pathways.
- The Standard needs to include minimum setbacks from waterbodies.

2.7.2 Māori support incentivising discharge to land over discharge to water but the standards could do more to ensure this

The discharge to land Standard consists of a risk-based approach to determine whether the Standard would apply to municipal wastewater treatment plants (WWTP). The three parameters the discharge to land Standard controls are Total Nitrogen (TN), Total Phosphorus (TP) and *E. coli*.

Councils should be enabled to prioritise discharge to land options

> **"Priority should be placed on supporting councils to develop discharge to land options, in order of preference, to forestry, pasture, wildlife reserves, then recreational areas. Not just economic costs, but social, cultural and environmental considerations are required." [E2]**

> **"I strongly support a framework for discharge to land, in preference to discharge to water." [E9]**

Iwi and hapū generally think that wastewater should be discharged to land before it enters a water body (after being appropriately treated). However, the Standard does not encourage this approach enough.

> **"There is a slight narrative in there saying going to land is a good thing, but it doesn't really give an open-door pathway for people to avoid discharges to water." [KE19]**

Although discharging to land is ideal for iwi and hapū, it may not be feasible in some places

In some cases, there isn't enough land available to manage the volume of discharge, the land is unsuitable, or the cost of land is too high to acquire enough to handle the volume of wastewater for the population.

> **"Quite a few times we want to discharge to land, but we don't have the ground, we have clay soils, we have slopes steeper than 25% so we actually can't infiltrate water into the ground in alliance with what mātauranga tells us to do. So that's why we do have to be kind of a little flexible and explore other areas." [E3]**
>
> **"We don't have very many options for discharge to land." [E4]**
>
> **"It may be theoretically possible but impossible to fund." [KE19].**

2.7.3 The risk-based approach needs to reflect a mātauranga lens and allow for innovation

Where there are limitations on land discharge (due to cost, soil type or funding) the Standard should provide for innovative solutions that enable on-land treatment, or Councils may default to discharge into water.

This approach will create better outcomes for future generations, who depend on the decisions we make today to ensure they have options for their future. Innovation could involve exploring water reuse and purification, high hybrid land discharge ratios, or decentralised systems.

> **"So, these standards tell us it's ok to discharge, you meet these [standards], and you are going to get a consent. No one will ever look at water reuse. That's what this tells me. No one wants to do it the hard way, they want to take the easy way." [E3]**

> **"Overall, I think a risk based approach is a good way to explore land-based disposal ... [but] this risk-based approach doesn't take into account water use or purification (noting tikanga around this has yet to be explored fully in NZ) in its matrix as alternatives – or a hybrid discharge (i.e. to land for 90% and water 10%? Or with a reuse proportion?)..." [E3]**

The risk-based framework should better integrate mātauranga.

- It would be good to have discussions with iwi who are currently working on developing risk matrices.

Redaction applied under s9(2)(a) of the OIA

> **"It might be good to include in upcoming work where risk matrix and working with iwi have already occurred. [redacted] wastewater disposal and I know [redacted] has done a lot of thinking about what wastewater land disposal should look like in [redacted] [E1]**

- Ensure cultural factors have their own weight and standing, separate from social impacts and from archaeological sites.

> **"[The proposed framework] references places registered under Heritage New Zealand Pouhere Taonga Act, but this isn't a**

cultural response. To get an archaeological authority, you need an archaeologist, not a cultural values expert." [KE16]

"Putting cultural, e.g. assumed this is iwi/hapū under social ... is not a true consideration, as tikanga Māori branches across all realms not just the presented social impact." [E12]

"[The] perspective needs to be across all risk categories ... not just in social risk..." [E3]

- Frame the assessment around a cycle to transition: 'waste' to 'oranga' (wellness)

"... my thought process would be on waste transition and what is the cycle to transition 'waste' to 'oranga'. Essentially, it is through the processes of Whiro that we can continue having production, so understanding the type of waste, what period it requires and what environment is required to transition out of its 'waste stage' would be what is missing from the risk assessment." [12] **[E13]**

- Include kaupapa Māori-based assessments in the framework.

"Mauri and mana as an assessment value – noting this may need a standardised approach across the country, which I cannot see hapū doing as they hold mātauranga ā-hapū. Receptors should also cater for wāhi tapu, and mahinga kai - taiāpure, mātaitai etc. What about our taha wairua? What about cultural health?" [E3]

"There are no cultural indicators within the risk assessment that integrate cultural perspectives and the mana of the area the waste is supposed to go." [E13]

[12] Whiro is an atua associated with death, darkness and evil. The concept here is that we need death and decay in order for life to continue its cycle.

- Centre the risk around te ao Māori concepts.

> **"The framing appears to centre risk in the context of human interaction, highlighting the divergence of our conventional colonial practices as opposed to framing through te ao Māori. We are teina to our taiao, and so need to frame risk more broadly. I agree that we need to assess risk in relation to human health but would anticipate a cultural framework as a foundation to the risk-based assessment in protecting taiao, whenua, and tangata." [E9]**

- Ensure mahinga kai, taonga, sites of significance, and wāhi tapu are included in the assessment along with Treaty settlement, district plan information and statutory acknowledgement areas.

> **"It doesn't take into account food gathering/growing, shellfish gathering etc." [E3]**

> **"So, if there are settlements that have statutory acknowledgements, any hapū or iwi that have placed their sites of significance in the district plan is another [assessment criteria to consider]." [KE17]**

> **"Treaty settlements, district plans, but that still leaves such a gaping hole of iwi who haven't got those things." [KE16]**

The Standards need to provide flexibility that encourages research into innovative discharge-to-land treatment and contact solutions. A risk-based framework should take a mātauranga-based approach to consider the entire treatment network as it exists within te taiao.

2.7.4 The Standards should provide opportunities for greater reuse and discharge rates

There are benefits to encouraging higher treatment levels, including economic reuse.

However, the Standard does not treat wastewater to a high enough standard to allow for economic reuse. (We understand reuse of treated water is being considered in an updated version of the standards, which was not available at the time we produced this report.)

Higher levels of treatment could allow it to be repurposed for various benefits, fostering new business opportunities while also protecting human health and the environment.

> **"Because the water quality is so clean and all the contaminants and the heavy contaminants and bugs have been removed, [it's] readily available as a beneficial reuse. That was the primary principle there ...**
>
> **... and that group was responsible for adaptively managing to meet all the parameters but also finding businesses that could beneficially reuse this resource. So, [it] was going to start with stock standard, cut and carry, and forestry but [with the] intent to evolve and look for opportunities over time and reuse, like crops." [KE16]**

Higher treatment levels can enable the discharge of greater volumes of wastewater to land at a higher hydraulic rate.

This is because highly treated wastewater is likely to have fewer contaminants for the land to process.

> **"So better quality effluents are more easily applied to land at greater rates." [KE19]**

The Standard should promote wastewater discharge to land rather than water during the summer months.

Land can absorb more treated effluent during drier months when soil moisture is lower. In summer, there's also a reduced risk of surface runoff, which could carry nutrients and pathogens into waterways. Additionally, the greater absorption capacity of the land helps reduce the need to discharge wastewater into waterbodies in the first place.

Dissolved Reactive Phosphorus (DRP) would be a better parameter to include than Total Phosphorus (TP).

Total Phosphorus has limited negative effects on land as it attaches to sediment and does not move once it is applied. Provided TP remains on land and is not lost to overland flows or preferential flows through soil, it will have limited potential for negative impacts on the environment.

DRP can easily travel to water bodies because it is dissolved in wastewater and may bypass soil and plant uptake. It has the potential to lead to algae blooms and harm to aquatic life if it travels to waterbodies, and should be a parameter in the Standard.

The nitrogen Standard needs to consider nitrogen pathways and may not protect shallow groundwater.

Nitrogen dissolves easily in water and is then carried into nearby water bodies, both overland and via groundwater. Without considering nitrogen transport pathways, the Standard risks conveying nitrogen to nutrient-sensitive waterways.

The Standard needs to set minimum setbacks from waterbodies.

All waterbodies need protection from wastewater that is discharged to land. The Standard needs to include minimum criteria between where a discharge is placed and its proximity to water bodies, including groundwater or springs. Any setback criteria would need to be minimums, and allow for greater setbacks for more sensitive waterbodies or where subsoil or groundwater flow is faster or where overland flow is a higher risk.

2.8 The overflows framework

2.8.1 Recommendations

- Robust monitoring and reporting of overflows should be a requirement of the resource consent process.
- The risk assessment framework for monitoring must be required to be developed in collaboration with mana whenua input.
- Overflow Management Plans should be required to be explicit about exactly how they will communicate with iwi and hapū when overflow events occur.
- Immediate alerts to iwi and hapū need to be put in place to protect public health.
- The Standard should include a framework for bypass flows.
- A flexible activity status is needed to allow site-specific assessments of whether overflows are appropriate, with the discretion to impose conditions that ensure continuous improvement to protect Māori values.
- The Standards or Wastewater Risk Management Plan framework should include penalties for councils in the event of an overflow breach and require them to reduce overflows progressively over time.

2.8.2 Controlled activity status

The Standard for managing overflows would create a risk-based monitoring and reporting framework to be managed by council network operators. If the framework is followed, all overflows everywhere would be a controlled activity, meaning resource consent must be granted.

2.8.3 Overflows are currently having a real impact on Māori values

In many areas, the existing overflow framework is widely regarded as overly lenient. There is frustration that there are currently wastewater overflow breaches by councils and territorial authorities and that they incur no consequences for it.

> **"Speaking from experience, we have overflows at least 2-3 times a year and have been dealing with it for over 50 years, and the process is still [bad]." [E6]**

> **"Wastewater overflows significantly affect the health of waterways and impose unacceptable risks to human health. "Wastewater overflows are also, unfortunately, common events. More than 4,200 overflows were reported nationally in the year ending 30 June 2021, with the under-reporting of overflows likely (MFE 2023). From 2018-2023, there were 7034 wastewater overflows in Wellington, Porirua, Lower Hutt and Upper Hutt alone (James 2023)." [E7]**

There are very real consequences for the iwi and hapū communities that live downstream from overflows.

> **"There was a kōrero that kept coming out during the river settlement, and it kept being referred to as the toilet end. In a way it was being done as a way to highlight all the things that weren't being considered and all the places like the [additional water bodies] and other things going in, they all end out up in this toilet end. And the impact that had on our people, they just didn't even want to talk to or spend time with their river anymore." [E4]**

> **"…where it breaches the current Regional Council consent conditions by overflowing into the [water body], …it impacts all of the iwi that reside along the awa." [E11]**

2.8.4 There is some support for a robust monitoring and reporting framework for overflows, with some amendments

Robust monitoring and reporting of overflows is a critical issue that requires attention, and there is strong support for incorporating these requirements into the resource consent process.

Greater transparency is welcomed, especially about information that could become publicly available.

> **"I think standardisation of management plans and monitoring will also assist with more transparency… I have seen it time and time again where we go to prepare resource consent applications for the activity (overflow) only to discover through public consultation that the pump station up the road has been overflowing or something has broken on it and its highly odorous." [ME10]**

However, the Standards don't do anything to prevent overflows as they largely focus on monitoring and reporting requirements, but they do:

> **"…provide more information and evidence to change the status quo and prevent overflows in future." [EM3]**

The risk assessment framework for monitoring must be required to be developed in collaboration with mana whenua input.

> **"There should be a requirement that iwi and hapū at place decide, with councils and TLAs, what the levels of impacts are in the risk framework. For example, it should not be up to councils alone to decide between the threshold of 'minor' and 'moderate'." [KE15]**

2.8.5 The overflows reporting requirements need to require swifter reporting and reporting directly to mana whenua

The requirement for telemetered monitoring of high-risk, new and uncontrolled overflows lends well to real-time and automated reporting. Delays in reporting, as allowed by the framework, can impact people downstream. For example, overflows could make swimming unsafe or make kai unsafe to eat. People need to know about that immediately so that they can stay safe.

Overflow Management Plans should be required to be explicit about exactly how they will communicate with iwi and hapū when overflow events occur and not rely on publishing it on a website.

> **"We find out about stuff way after the discharge happens, way after the event happens. Not in enough time to actually notify our whānau, you can't kohi kai, you can't go for a kauhoe… there has to be minimum requirements around reporting to mana whenua … but it's never around the alerts and actions we have to take as whānau, hapū, iwi in the moment to actually protect our whānau from collecting kai that has been impacted by raw sewage discharging." [E6]**

Reporting a breach within one week is not acceptable. For medium and low-risk overflows, the reporting timeframe means a first response would not cover the highest-risk period.

> **"Medium risk overflow timeframes of 'first response' at 24 hours seem lengthy." [E1]**

Immediate alerts to iwi and hapū need to be put in place to protect public health.

> **"Signs should be required at all overflow points, outlining cultural and public health risks and issues at that site." [KE17]**

> **"…overflows and bypass events should be made public, and live monitoring to assist community in water outcomes for the future, and advice on water activities – when to go swimming, or food gathering etc." [E3]**

2.8.6 The risk management framework needs to be developed in partnership with iwi and hapū

The risk assessment must include mana whenua input.

> **"There should be a requirement that iwi and hapū at place decide, with councils and TLAs, what the levels of impacts are in the risk framework. For example, it should not be up to councils alone to decide between the threshold of 'minor' and 'moderate'." [KE15]**

2.8.7 The framework needs to include bypass flows

Bypass flows appear to be excluded from the Standard but can have the same effects as the regulated overflows. The Standard should include a framework for bypass flows.

> **"I appreciate that [overflows are] being looked at as an important issue that needs to be addressed. The bypass exclusion is where I am most concerned." [E1]**

> **"We note that this Standard does not include bypass flows, which would be dealt with through the existing consenting process." [KE15].**

> **"This is a massive issue and needs to be included." [E7]**

2.8.8 Guaranteeing resource consent for overflows will not drive the change required to protect Māori values

The Standards would make all overflows that meet the risk management, monitoring and reporting framework a controlled activity. Resource consent for controlled activities must be granted, and the ability of the consent authority to impose conditions on the consent is limited. Resource consent conditions must not frustrate the purpose for which the consent is granted (this is part of a body of case law based on the Newbury Principles (Newbury District Council v Secretary of State for the Environment [1981] AC 578)). So, there is real concern that a controlled activity consent could not include conditions that sought to reduce the number or location of overflows below the number sought by the network operator, even if those overflows were having significant adverse effects. This is an area that requires more research and detailed legal analysis.

Controlled activities are generally only considered appropriate for activities where the decision maker is satisfied that the effects of an activity covered by a controlled activity would be appropriate in all locations covered by the controlled activity (Friends of Nelson Haven and Tasman Bay Incorporated v Tasman District Council, Decision number [2018] NZEnvC 046). In this case, the controlled activity in the Standards would cover the entire country. It seems unlikely that it can be known in advance that every current or future overflow in the country could be considered appropriate based on the information currently available. A more stringent activity status is needed to allow site-specific assessments of whether overflows are appropriate, with the discretion to impose conditions that ensure continuous improvement to protect Māori values.

Neither the Standards themselves nor the proposed Wastewater Risk Management Plan framework include any consequences for councils for any overflow breach that occurs or a requirement to reduce overflows over time. These gaps need to be addressed.

> **"No, I do not think the proposed framework for overflows is acceptable. We need action rather than just reporting." [E2]**

> **"While the monitoring and reporting of overflows is needed to manage environmental effects and mitigate the risks to human health, priority should be given to developing an adaptive management framework that responds to and not simply reports overflows. The risks need to be managed by those in charge of wastewater, not communities affected by a lack of wastewater management." [E7]**

> **"Not enough is being done to address the cultural concerns posed by the iwi back to [Regional Council] re: the continual breaches." [E11]**

> **"Need responses not just reporting. Places onus on iwi and hapū to mitigate risk rather than the treatment agency." [E2]**

3 Part 2: The Standards through a Te Tiriti lens

Taumata Arowai is the water services regulator for Aotearoa. They are a Crown entity with a ministerially appointed board, alongside the independent board, is a Māori Advisory Group, Te Puna.

A Crown entity is legally separate to the Crown. However, their role has been assigned by the Crown to undertake their responsibilities. Therefore, in addition to the requirements specifically set out in the Water Services Act and Treaty Settlement legislation Taumata Arowai should have consideration to ensuring its actions (including setting Standards) are consistent with the Crown's obligations under Te Tiriti, deeds of settlement and treaty settlement legislation.

This section sets out some relevant considerations for Taumata Arowai relating to Te Tiriti to consider when making decisions about the Standards.

Recommendations

- More stringent standards would better meet the principle of protection.
- Greater iwi and hapū participation in the development and form of the Standards is needed to better meet the principle of partnership.
- The Standards framework needs to better protect iwi and hapū decision-making at place. Ways to do this would be to use minimum instead of absolute standards and ensure consents affected by the Standards are notified.
- Taumata Arowai has obligations beyond those where Taumata Arowai is specifically named in legislation. We recommend that Taumata Arowai conduct a full review of all Treaty Settlements and Taumata Arowai's obligations under those settlements.
- Conduct open and frank discussions with iwi about the proposed Standards, particularly for the Waikato, Whanganui, Whangaehu and Taupō catchments.

3.1 More input into the Standards is needed from iwi and hapū in order to meet obligations to Te Tiriti o Waitangi

The Standards and the principles of Te Tiriti

The principles of Te Tiriti are not explicitly set out in the text of Te Tiriti itself, but key principles are frequently discussed and emerge in court proceedings, government policies and broader dialogue. These shape the interpretation of the Treaty/Te Tiriti. Key principles that are relevant to the development and implementation of the Standards include:

Partnership

The principle of partnership requires the Crown and Māori to work together with mutual respect and cooperation. This should be based in good faith and include joint decision-making.

Protection

Protection refers to the Crown's responsibility to actively protect Māori interests. The Crown must take steps to ensure the wellbeing of Māori rights, resources and practices.

Participation

The principle of participation ensures that Māori have a right to be involved in decisions that affect their lives, land and resources.

Principles may also vary between iwi and hapū, and various settlements.

A stronger partnership approach is required to meet Treaty obligations.

Substantial iwi and hapū involvement in the development of the Standards, including a collaborative approach, is needed to meet the Treaty principle of partnership. That is currently not reflected in the Standards.

> **"This is not a partnership document, there is no way for any of the articles of Te Tiriti to exist in this document." [P12]**

Decision-making surrounding the Standards will influence and have direct impacts on iwi and hapū.

> **"Absolute Standards set at a national level, without input (as far as I am aware) from iwi and hapū, do not reflect the principle of partnership nor do they enable rangatiratanga. Councils, as representatives of the Crown, would not meet their obligations under Te Tiriti in setting these standards without input from relevant iwi and hapū at each WWTP location." [P9]**

> **"I don't know the context of the development of these standards - but it has no iwi hapū voice, nor does it consider how abhorrent the disposal of human waste into water is." [P1]**

More stringent standards would better meet the principle of protection.

The principle of protection requires that Māori rights and interests will be protected by the Crown. The proposed Standards could result in some waterbodies moving out of the A-band of the NPS-FM for certain parameters, some waterbodies moving into the D-band for certain parameters (which is below the National Bottom Line), some areas being unsafe to gather shellfish from, periphyton, macroalgae and phytoplankton being problematic in some waterbodies and that cultural values being compromised at many sites. By not sufficiently protecting Aotearoa's lakes, wetlands, rivers, streams, estuaries and oceans, the species that live there, the mauri of those places, and the ability of iwi and hapū to safely collect and eat kai from those places, the Standards in their current form risk substantially failing to protect Māori rights and interests in water.

> **"It does not protect the taiao and mana whenua's connections to whenua and wai." [P1]**

To meet Treaty obligations, greater iwi and hapū participation in the development and form of the Standards is needed.

The principle of participation requires that iwi and hapū are involved in decisions that affect them. Clearly, wastewater discharges affect iwi and hapū. However, the proposed structure of the Standards framework does not allow iwi and hapū to participate in the decisions around the quality of the effluent discharged in their rohe, for the parameters covered by the Standards. There is a large risk that this approach will fall short of meeting the Treaty principle of participation.

> **"The standards do not provide any avenue for iwi and hapū to influence decision-making on the discharges to their tūpuna waterways. They do not connect with place, the whakapapa obligations iwi and hapū have to waterways in their rohe, nor do they enable application of the place-based knowledge based on**

> **generations of lived experience to influence decision-making." [E9]**

Excluding iwi and hapū from making decisions in their rohe:

> **"Removes rangatiratanga and sovereign rights of tangata whenua." [P3]**

This is seen by some as a failure on the part of the Crown to meet obligations under Te Tiriti o Waitangi/the Treaty of Waitangi:

> **"This level of standardisation is a breach of Te Tiriti in my opinion." [P10]**

> **"These standards really remove tino rangatiratanga, mana motukake from iwi hapū." [P12]**

To meet Treaty obligations around participation, a much greater level of involvement is needed for iwi and hapū in both the development of the Standards and in the final form that the standards take. This may be difficult given the timeframes Taumata Arowai is working within. An alternative approach that could work within the timeframes is to 1) move away from absolute standards to minimum standards, and 2) ensure there is public notification of consents affected by the Standards. These actions would retain the voice of iwi and hapū at place, allow local decisions about discharges to be determined at or above a set national standard, and remove much of the risk around failure to meet Treaty obligations. See below for more on this.

Figure 17 illustrates that all survey respondents agree absolute standards are not acceptable within the context of Crown obligations under Te Tiriti.

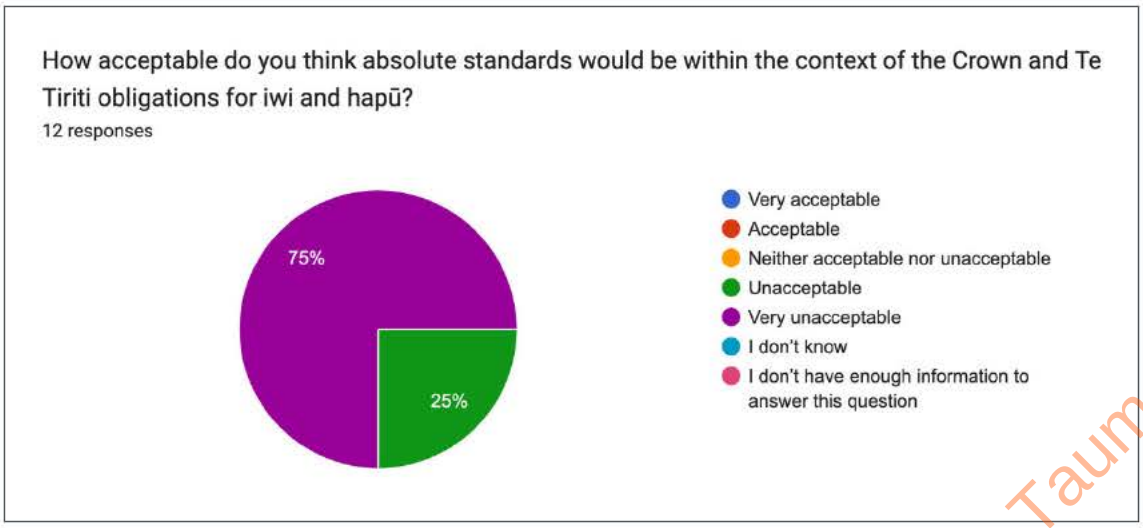

Figure 17 Survey responses to the question of Crown obligations under Te Tiriti

3.2 The standards framework needs to better protect iwi and hapū decision-making at place

As well as a need for more iwi and hapū involvement in the development and final form of the Standards, the Standards framework itself needs to better retain the decision-making voice of iwi and hapū at place. Retaining the decision-making powers of iwi and hapū at place upholds Treaty obligations. It also ensures key local knowledge underpins local decisions, providing for better ecological and cultural outcomes for the water, its health, and the health of local communities.

Many emphasised that mana whenua need to be involved in the decision-making process:

> **"Iwi and hapū are excluded from the process, and unable to fulfil their obligations to protect, preserve, and care for environments long term." [E9]**

> **"This does not meet Tiriti obligations and the ability to tiaki our taonga." [E13]**

> **"This strips away accountability and the ability to care for taiao." [E13]**

> **"I've been kind of noticing about what is missing in all the documents is the role of tangata whenua in all this."[13] [E4]**

There are three ways this can be addressed. The first is by addressing the notification status. Under the current proposal, the Standards could provide that a resource consent application would not be publicly notified. This possibility was not supported by the experts we spoke to, who believe Māori should continue to be notified of resource consent applications for wastewater discharges. For example,

> **"I think all WWTP plant consents should be publicly notified. This is just good and enduring relationship-building with iwi/council." [E3]**

As well as the Treaty obligations, it's been explained that, often, councils do not willingly upgrade WWPTs, take account of breaches or push for higher water quality outcomes without iwi and hapū engaging in legal processes to ensure te taiao is better protected.

> **"And every time we have had to take them to Environment Court too, through our own resourcing, through our time. It's not through the Council's good will that they have improved things. We have had to go through a process, that has always ultimately ended up in Environment Court." [ME6]**

Retaining notification of sewage discharges that meet the Standards retains iwi and hapū participation in decisions about wastewater that affect their waterbodies and provides a pathway to ensure continued improvement of wastewater treatment and discharge quality.

Every survey respondent thought that if the Standards included a provision that required not notifying iwi and hapū of discharge consents that would be unacceptable in terms of the Crown's Treaty obligations, and 83 per cent thought it was extremely unacceptable (Figure 18).

[13] 'Documents' in this quote refers to the set of documents we sent to Māori experts as set out in the 'Our method' section.

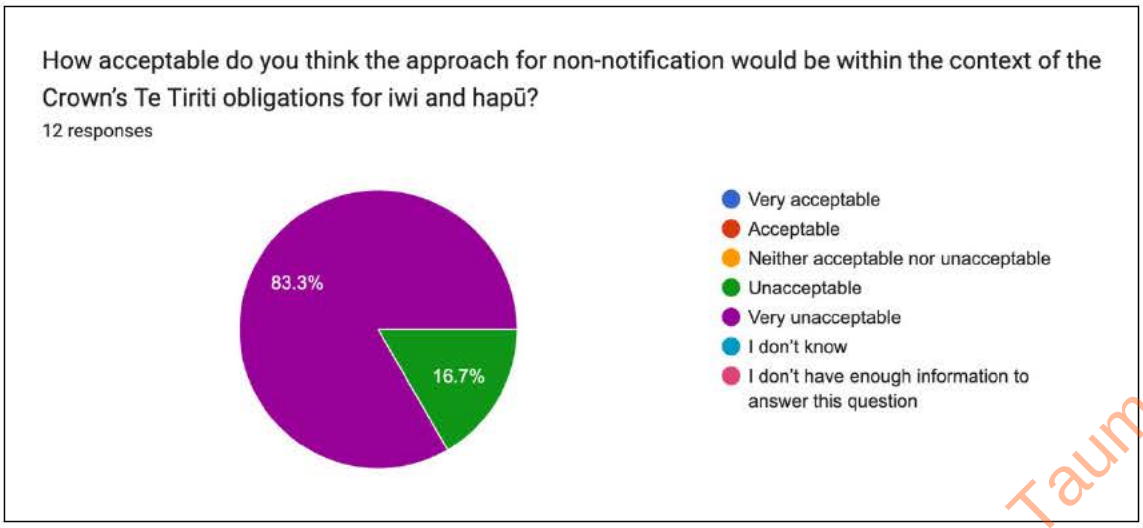

Figure 18 Survey responses to the question of Crown obligations.

The second way that iwi and hapū decision-making can be upheld, and Treaty obligations met, is to move from the proposed absolute standards to minimum standards. As currently proposed, the Standards would be absolute, in that Councils, community and, importantly, tangata whenua cannot require a higher level of treatment than what the standard prescribes. It was strongly felt that this was unacceptable, with 75 percent of survey respondents stating it was very unacceptable in the context of Crown and Te Tiriti o Waitangi obligations (Figure 17).

Minimum standards, on the other hand, would meet Taumata Arowai's goal of lifting the burden on iwi and hapū of engaging with numerous discharge consents on a case-by-case basis, while still retaining iwi and hapū voice at place. Minimum standards would support a national approach, while still maintaining local voice. They would ensure no water body is allowed to fall below certain levels – an approach in line with the NPS-FM – while enabling local communities to apply higher standards where that is needed and agreed upon.

3.3 Treaty Settlement Obligations and the setting of wastewater standards

3.3.1 Recommendations

- Engage in open and frank discussions with the relevant iwi regarding how the proposed standards align – or fail to align – with Treaty obligations and with Settlement requirements.
- Conduct a full review of other relevant treaty settlements.

3.3.2 Taumata Arowai should ensure the Standards are consistent with the intent and aims of all Treaty Settlements

Many Treaty settlements explicitly provide for a meaningful voice in governance and prioritise the protection of the health and wellbeing of waterbodies.

The Standards have the potential to impact on iwi and hapū decision-making at place, and on the health and well-being of Aotearoa's rivers, lakes, wetlands, estuaries and marine environments.

Taumata Arowai should engage in open and frank discussions with the each iwi regarding how the proposed standards align with Treaty obligations and with Settlement requirements.

For settlements where Taumata Arowai is specifically referenced, including the Waikato and Te Awa Tupua settlements, our analysis suggests the Standards may not fulfil the requirements of the Settlements without significant iwi input and agreement.

Each settlement provides for unique rights, governance structures, and perspectives on the management of natural resources, particularly water bodies. For settlements where Taumata Arowai is not specifically referenced, Taumata Arowai should still act within the Treaty principles of good faith, protection, participation and partnership to ensure the intent of the Settlements is upheld. The Standards need to be discussed in detail with iwi to ensure these requirements are met.

Iwi at place are best placed to interpret their Settlements, however, from our reading of the settlement documents, and the documents that are prepared under them, such as Te Ture Whaimana and Te Heke Ngahuru, iwi may view the proposed standards as incompatible with their settlement rights and responsibilities.

Ultimately, the Standards must reflect these complex Treaty relationships and prioritise genuine partnership in order to ensure compliance with legal and cultural expectations.

To ensure that the Standards are aligned with Treaty obligations nationwide, it is recommended that a full review of all other relevant treaty settlements be conducted. This would allow Taumata Arowai to:

- Identify settlement-specific requirements, such as co-governance frameworks, related to water quality.
- Understand the potential legal implications of applying Standards in different catchments where settlements have legislated requirements.
- Engage meaningfully with each affected iwi and hapū, ensuring compliance with the principles of partnership, protection, and participation under Te Tiriti o Waitangi.

By taking a comprehensive approach, Taumata Arowai can identify areas where the proposed standards might conflict with or undermine the commitments made through Treaty settlements and make changes to uphold both the letter and spirit of these agreements.

3.3.3 Waikato and Waipā

The specific Settlements and obligations relating to the Waikato and Waipa Rivers are set out in the following sections.

A note on spelling: We recognise that different iwi have different spelling for the Waipa River, we have used Waipa in this report as it is the spelling used in the Settlement legislation.

To meet obligations of the Settlements, any wastewater standards that Taumata Arowai might seek to apply to the Waikato and Waipa rivers would need to uphold Te Ture Whaimana and reflect the unique needs of the rivers and the iwi. This requires a holistic and integrated approach that combines mātauranga with western science and includes partnership and active involvement with iwi and local communities.

The provisions of the Vision and Strategy are outlined below. The overall vision is a future where the Waikato River (including the Waipā) sustains abundant life and prosperous communities who are responsible for restoring and protecting the awa intergenerationally.

Iwi and hapū at place hold the authority to provide kōrero about their Settlements. However, it is our understanding that Taumata Arowai should incorporate the principles of the Vision and Strategy into the Standards, including ensuring that wastewater treatment does not degrade the health of the Waikato River. The key requirements that must be considered to ensure that Taumata Arowai are recognising and providing for the Vision and Strategy are:

- **Restoration and Protection.** The primary theme throughout the Vision and Strategy is the urgent need to restore and protect the health and wellbeing of the Waikato River. Wastewater discharges may contribute to the degradation of water quality and ecosystems and undermine iwi ability to undertake traditional practices. Standards must, therefore, prioritise the restoration of water and address root causes of degradation, ensuring the river is safe for cultural, spiritual and recreational practices.
- **Cultural and Spiritual Connection.** The relationship between **Waikato River Iwi** with the river is fundamental to the vision. The river is not just a physical entity but also a sacred entity with deep cultural, spiritual, and economic significance. This relationship must be acknowledged and provided for.
- **Integrated Approach.** Wastewater standards must ensure an integrated approach to managing the river, including combing mātauranga and western science and partnering with iwi and local communities. Standards must consider the broader

environment and other river management strategies, as well as integrating with land-use policies to prevent harm and actively restore the river's ecological and cultural integrity. Standards should consider the cumulative effects of broader land-use changes and other human interventions that have affected the river's natural flow and health. As currently drafted, the Standards do not take an integrated approach or reflect ki uta ki tai.

- **Long Term Commitment and Generational Responsibility.** Te Ture Waimana acknowledges that restoration is a long-term process that requires consistent and sustained effort. Wastewater standards must not only halt degradation but actively reverse trends to ensure improvement and to achieve the Vision and Strategy.

- **Partnership.** The Vision and Strategy requires joint decision-making and partnership with iwi. The strategy also acknowledges the diversity of iwi relationships with the river. Standards should include partnership with iwi and hapū, in both the development and implementation of the Standards, as well as collaboration with the broader community. Iwi must be allowed the space and power to make decisions regarding their river, respecting cultural practices (including mātauranga Māori) and spiritual connection. For example, requiring non-notification of resource consents that meet the Standards would probably not be considered in line with the principle of partnership and collaboration and not consistent with the arrangement for joint decision-making.

Relevant Settlements

- Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010
- Ngāti Tūwharetoa, Raukawa, and Te Arawa River Iwi Waikato River Act 2010
- Nga Wai o Maniapoto (Waipa River) Act 2012
- Ngāti Tūwharetoa Claims Settlement Act 2018

Area

The Vision and Strategy applies to the Waikato River from Huka Falls to Te Puuaha o Waikato, and the Waipa River up to where it joins the Waikato River, as shown in Figure 19.

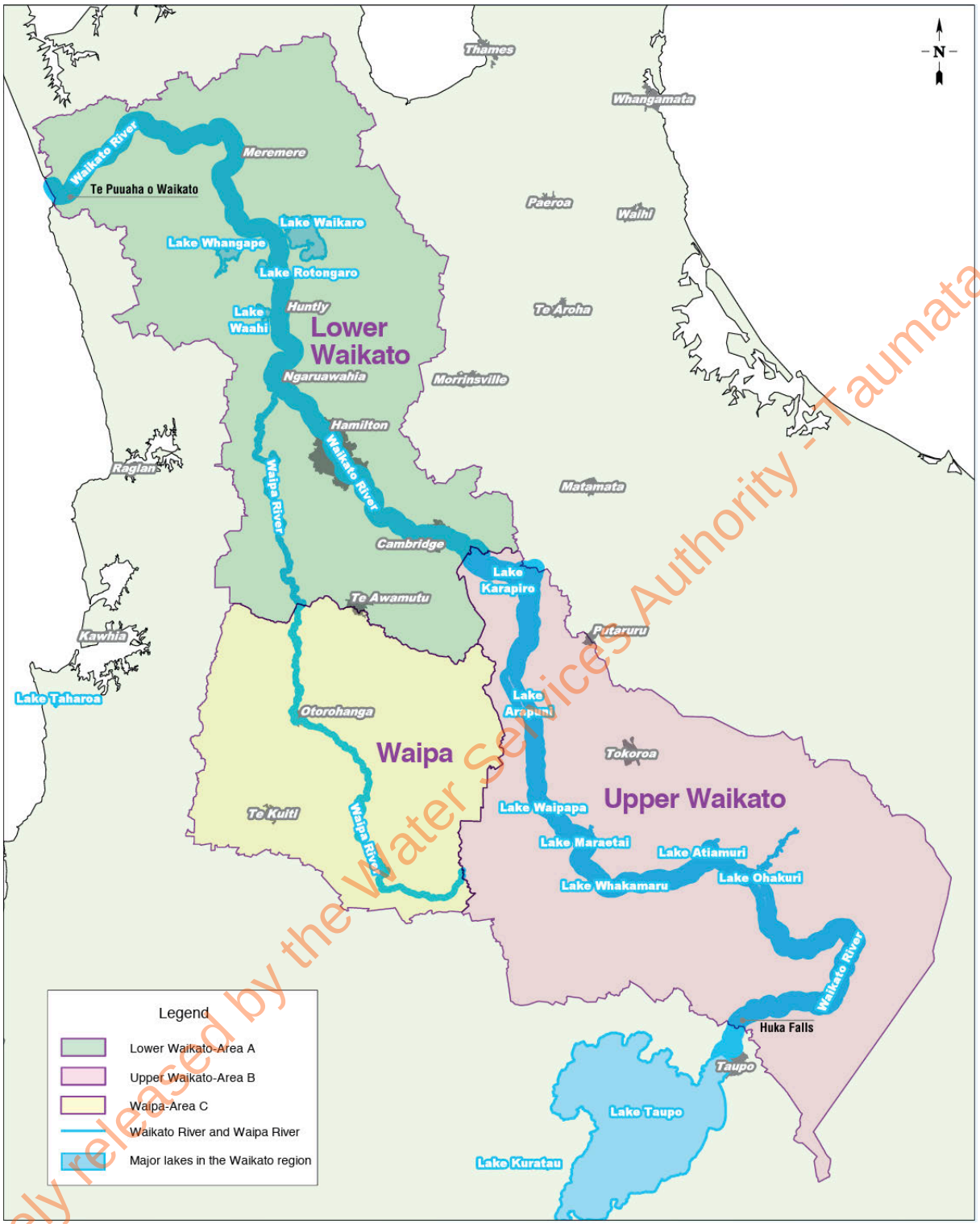

Figure 19 Map of the area subject to the Vision and Strategy

Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010

The Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010 settles historical claims by Waikato-Tainui relating to the Crown's actions in the Waikato region, particularly surrounding raupatu, or the confiscation of land. The settlement includes recognition of historical grievances and a commitment to the future health and wellbeing of the Waikato River, which is integral to Waikato-Tainui.

The settlement includes an overarching purpose of settlement, being to restore and protect the health and wellbeing of the Waikato River for future generations. Additionally, section 4 expands on the purpose of the act, including:

a) *give effect to the settlement of raupatu claims under the 2009 deed*
b) *recognise the significance of the Waikato River to Waikato-Tainui*
c) *recognise the vision and strategy for the Waikato River:*
d) *establish and grant functions and powers to the Waikato River Authority:*
e) *establish the Waikato River Clean-up Trust*
f) *recognise certain customary activities of Waikato-Tainui:*
g) *provide co-management arrangements for the Waikato River:*
h) *provide redress to Waikato-Tainui relating to certain assets:*
i) *recognise redress to Waikato-Tainui of the Kiingitanga Accord and other accords provided for in the schedule of the Kiingitanga Accord.*

Relevant Obligations

1. Establishment of the Waikato River Authority and Co-Governance

The settlement act establishes a statutory body called the Waikato River Authority (WRA; Clause 22). The WRA's purpose is to set the primary direction through the vision and strategy, promote an integrated, holistic and co-ordinated approach to the implementation of the vision and strategy and fund rehabilitation initiatives for the Waikato River. This body is made up of both Crown and Waikato-Tainui representatives and is tasked with ensuring that both the river's environmental and cultural needs are met.

2. Te Ture Whaimana - Vision and Strategy for the Waikato River

The act initiated the development of Te Ture Whaimana o Te Awa o Waikato (Vision and Strategy). Te Ture Whaimana outlines the shared vision for the river's restoration and future management. The Vision and Strategy is the primary direction-setting document for the Waikato River and activities within its catchment affecting the river (Clause 5). The Vision and Strategy prevails over any inconsistent provisions in a national policy statement, the NZCPS and national planning standard (clause 12).

Taumata Arowai has specific obligations in relation to the Vision and Strategy and ensuring the health and wellbeing of the Waikato River. When undertaking its functions, Taumata Arowai must have particular regard to the Vision and Strategy, especially in relation to the management of water quality (Clause 17, subclause 9 and 10).

Ngāti Tūwharetoa, Raukawa, and Te Arawa River Iwi Waikato River Act 2010

The Ngāti Tūwharetoa, Raukawa, and Te Arawa River Iwi Waikato River Act 2010 legislates the rights and interests of Ngati Tūwharetoa, Raukawa and Te Arawa in relation to the Waikato River. It forms part of the broader settlement framework related to the Waikato River, with provisions provided for in both this Act and the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010.

The settlement recognises the cultural and historical significance of the Waikato River to these iwi and includes requirements for the management and governance of the Waikato River by iwi. The Act provides for the rights of iwi to have a voice in decision-making regarding the river's health and sustainability.

Relevant Obligations

1. Co-Governance Framework

Similar to the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010, the act establishes a co-governance framework for the Waikato River, including the establishment of the Waikato River Authority.

2. Vision and Strategy for the Waikato River

The Act emphasises the development of the Vision and Strategy for the Waikato River. Taumata Arowai has specific obligations in relation to the Vision and Strategy and ensuring the health and wellbeing of the Waikato River. When undertaking its functions, Taumata Arowai must have particular regard to the Vision and Strategy, especially in relation to the management of water quality.

The Vision and Strategy prevails over any inconsistent provisions in a national policy statement, the NZCPS and national planning standard (clause 12).

Nga Wai o Maniapoto (Waipa River) Act 2012

The overarching purpose of the Nga Wai o Maniapoto (Waipa River Act) is to restore and maintain the quality and integrity of the waters that flow into and form part of the Waipa River for present and future generations and the care and protection of the mana tuku iho o Waiwaia (Clause 3).

Relevant Obligations

1. Vision and Strategy

The Act outlines the development of the Vision and Strategy for the Waipa River. This is intended to be the primary direction-setting document for the Waipa River and activities within the catchment. The Act strengthened current provisions in the Waikato-Tainui and upper Waikato River Iwi legislation, extending the reach of the Vision and strategy (Te Ture Whaimana) into the upper Waipa River.

2. Co-governance

The Act establishes a co-governance framework between the Crown and Maniapoto iwi, which includes joint decision-making powers over the future management of the Waipa River. This ensures that both parties have an equal say in the governance and management of the river and surrounding environment.

Iwi and hapū hold the authority to evaluate whether the standards align with their settlement obligations. However, Taumata Arowai must apply the principles of the Vision and Strategy in its regulatory responsibilities, ensuring that wastewater treatment safeguards the health and integrity of the Waikato River.

Te Ture Whaimana - The Vision and Strategy for the Waikato River

Issues

- The degradation of the Waikato River and its catchment has severely compromised Waikato River iwi in their ability to exercise mana whakahaere or conduct their tikanga and kawa;
- Over time, human activities along the Waikato River and land uses through its catchments have degraded the Waikato River and reduced the relationships and aspirations of communities with the Waikato River;
- The natural processes of the Waikato River have been altered over time by physical intervention, land use and subsurface hydrological changes. The cumulative effects of these uses have degraded the Waikato River; and
- It will take commitment and time to restore and protect the health and wellbeing of the Waikato River.

Vision

Our Vision is for a future where a healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come.

Objectives

a) The restoration and protection of the health and wellbeing of the Waikato River.

b) The restoration and protection of the relationship of Waikato-Tainui with the Waikato River, including their economic, social, cultural, and spiritual relationships.

c) The restoration and protection of the relationship of Waikato River iwi according to their tikanga and kawa, with the Waikato River, including their economic, social, cultural and spiritual relationships.

d) The restoration and protection of the relationship of the Waikato region's communities with the Waikato River including their economic, social, cultural and spiritual relationships.

e) The integrated, holistic and coordinated approach to management of the natural, physical, cultural and historic resources of the Waikato River.

f) The adoption of a precautionary approach towards decisions that may result in significant adverse effects on the Waikato River, and in particular those effects that threaten serious or irreversible damage to the Waikato River.

g) The recognition and avoidance of adverse cumulative effects, and potential cumulative effects, of activities undertaken both on the Waikato River and within its catchments on the health and wellbeing of the Waikato River.

h) The recognition that the Waikato River is degraded and should not be required to absorb further degradation as a result of human activities.

i) The protection and enhancement of significant sites, fisheries, flora and fauna.

j) The recognition that the strategic importance of the Waikato River to New Zealand's social, cultural, environmental and economic wellbeing is subject to the restoration and protection of the health and wellbeing of the Waikato River.

k) The restoration of water quality within the Waikato River so that it is safe for people to swim in and take food from over its entire length.

l) The promotion of improved access to the Waikato River to better enable sporting, recreational, and cultural opportunities.

m) The application to the above of both maatauranga Maaori and latest available scientific methods.

Strategies

1. Ensure that the highest level of recognition is given to the restoration and protection of the Waikato River.

2. Establish what the current health status of the Waikato River is by utilising maatauranga Maaori and latest available scientific methods.

3. Develop targets for improving the health and wellbeing of the Waikato River by utilising maatauranga Maaori and latest available scientific methods.

4. Develop and implement a programme of action to achieve the targets for improving the health and wellbeing of the Waikato River.

5. Develop and share local, national and international expertise, including indigenous expertise, on rivers and activities within their catchments that may be applied to the restoration and protection of the health and wellbeing of the Waikato River.

6. Recognise and protect waahi tapu and sites of significance to Waikato-Tainui and other Waikato River iwi (where they so decide) to promote their cultural, spiritual and historic relationship with the Waikato River.

7. Recognise and protect appropriate sites associated with the Waikato River that are of significance to the Waikato regional community.

8. Actively promote and foster public knowledge and understanding of the health and wellbeing of the Waikato River among all sectors of the Waikato regional community.

9. Encourage and foster a ‘whole of river’ approach to the restoration and protection of the Waikato River, including the development, recognition and promotion of best practice methods for restoring and protecting the health and wellbeing of the Waikato River.

10. Establish new, and enhance existing, relationships between Waikato-Tainui, other Waikato River iwi (where they so decide), and stakeholders with an interest in advancing, restoring and protecting the health and wellbeing of the Waikato River.

11. Ensure that cumulative adverse effects on the Waikato River of activities are appropriately managed in statutory planning documents at the time of their review.

12. Ensure appropriate public access to the Waikato River while protecting and enhancing the health and wellbeing of the Waikato River.

3.3.4 Whanganui

Relevant Settlement

Te Awa Tupua (Whanganui River Claims Settlement) Act 2017

Area

Figure 20 shows a map of the Whanganui River catchment.

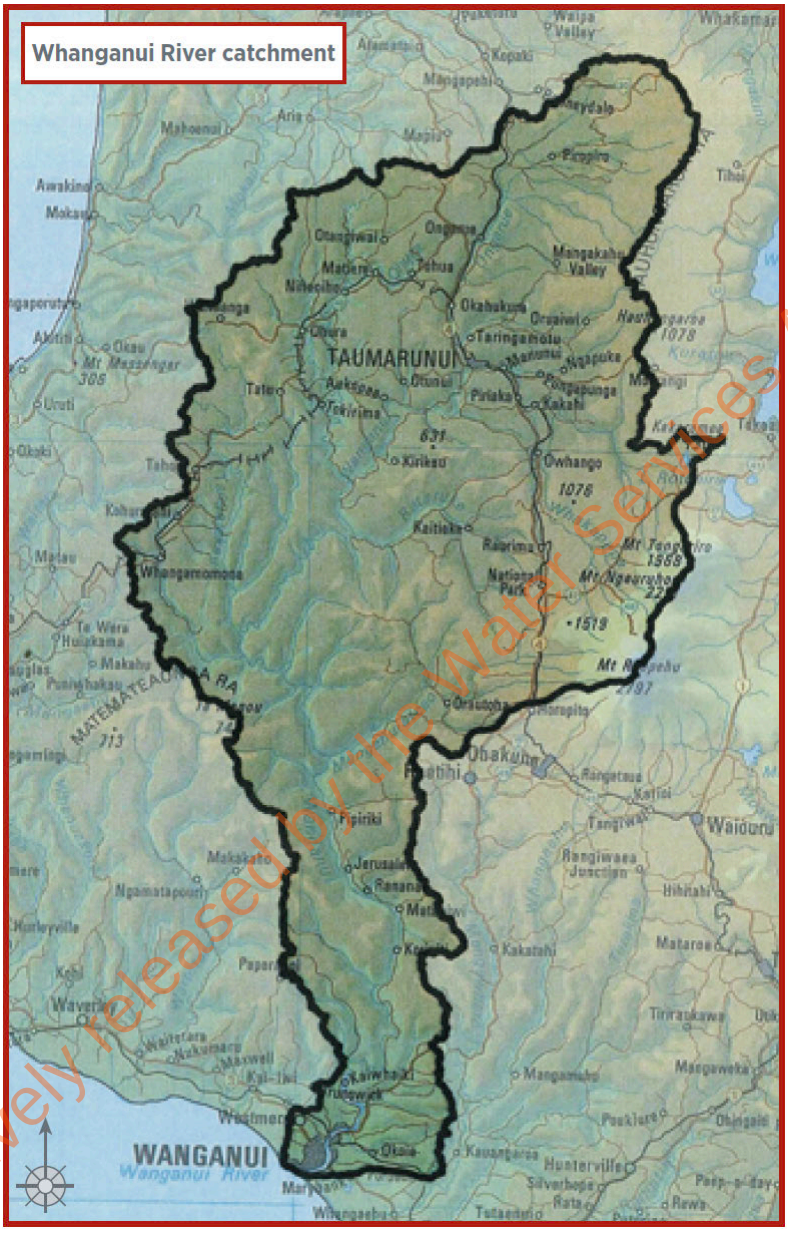

Figure 20 The Whanganui River catchment

Summary

The Te Awa Tupua Settlement Act is a landmark piece of legislation that recognises the importance of the Whanganui River and the iwi of the river. It shifts the thinking of the 'management' of the river out of the resource management system and places Tupua te Kawa, a set of intrinsic values for the awa, at the heart of how all people interact with and care for the awa. Furthermore, it recognises the awa as a legal entity and grants personhood to the awa. The Act recognises Whanganui iwi rights and interests in the river, and has implications for water management, water quality and governance of the river.

The Act establishes mechanisms for co-governance and co-management between iwi, the Crown, river communities and stakeholders to ensure the river is managed in a way that upholds Tupua te Kawa and reflects its status.

Tupua te kawa

Tupua te Kawa are the intrinsic values for Te Awa Tupua. The kawa are:

Ko Te Kawa Tuatahi

Ko te Awa te mātāpuna o te ora: The river is the source of spiritual and physical sustenance.

Te Awa Tupua is a spiritual and physical entity that supports and sustains both the life and natural resources within the Whanganui River and the health and well-being of the iwi, hapū, and other communities of the River.

Ko Te Kawa Tuarua

E rere kau mai i te Awa nui mai i te Kahui Maunga ki Tangaroa: The great River flows from the mountains to the sea.

Te Awa Tupua is an indivisible and living whole from the mountains to the sea, incorporating the Whanganui River and all of its physical and metaphysical elements.

Ko Te Kawa Tuatoru

Ko au te Awa, ko te Awa ko au: I am the River and the River is me.

The iwi and hapū of the Whanganui River have an inalienable connection with, and responsibility to, Te Awa Tupua and its health and well-being.

Ko Te Kawa Tuawhā

NGĀ MANGA ITI, NGĀ MANGA NUI E HONOHONO KAU ANA, KA TUPU HEI AWA TUPUA: the small and large streams that flow into one another form one River.

Te Awa Tupua is a singular entity comprised of many elements and communities, working collaboratively for the common purpose of the health and well-being of Te Awa Tupua.

Taumata Arowai obligations for Tupua te Kawa and the Te Awa Tupua Status

Under the Te Awa Tupua (Whanganui River Claims Settlement) Act 2017, Taumata Arowai must **recognise and provide for** Tupua te Kawa and the Te Awa Tupua status.

Implications for wastewater standards

Hapū and iwi will need to speak to how the proposed wastewater Standards align with Te Awa Tupua and Tupua te Kawa, or not. However, our understanding is there are several key matters you should consider when preparing Standards and as you prepare to meet with hapū and and iwi of the awa:

- Wastewater standards must be designed in a way that recognises the unique and inseparable relationship of the iwi of the river with the river. This includes how any standards that apply in the awa catchment are developed and how the voice of iwi is recognised in that process, as well as the actual standards themselves.
- Standards must take a holistic approach, considering not just the main river but tributaries and smaller streams as well as lakes and wetlands in the catchment.
- The standards should be set with the understanding of the spiritual and cultural importance of the river as not just a watercourse, but a spiritual and physical entity.
- Any wastewater discharges that risk contaminating the river or affect spiritual, cultural and ecological values should be rigorously controlled to ensure the river or her people are not harmed.
- Wastewater standards must take a catchment-wide approach, ensuring that wastewater at any one point does not impact the river system, physically or metaphysically. This includes considering cumulative effects, upstream tributaries and other activities that may affect the river.
- Activities that affect the river, including wastewater discharges, must be discussed with iwi and hapū to determine how the standards might impact on Te Awa Tupua and the settlement, including effects on river's health and wellbeing.

Te Pou Tupua and Legal Personhood

Te Awa Tupua is formally recognised as a legal entity.

The Act established Te Pou Tupua, the human face of Te Awa Tupua. Te Pou Tupua has full capacity and all powers reasonably necessary to achieve its purpose and perform functions, powers and duties. However, while Te Pou Tupua is the human face of Te Awa Tupua, this does not usurp or override the mana and voice of iwi and hapū at place. If wastewater standards are violated or insufficient, legal action could be taken on behalf of the river.

Te Kōpuka

The Act establishes Te Kōpuka, a collaborative governance body between the iwi of the river, the Crown (including departments of the State and local authorities), river communities and stakeholders. The purpose of Te Kōpuka is to is to "act collaboratively to advance the health and well-being of Te Awa Tupua". The emphasis is on the need for collaboration and upholding Tupua te Kawa in caring for the river. This collaborative approach is essential in ensuring that any wastewater standards that Taumata Arowai may seek apply to the Whanganui catchment reflect a shared commitment to protecting the health and wellbeing of the river. Iwi and hapū at place will be able to speak to how well, or not, the standards and their development reflect the requirements for collaboration for the health and well-being of the awa.

Te Heke Ngahuru

Te Heke Ngahuru is the strategy for Te Awa Tupua, and was developed by Te Kōpuka. It has now been through a consultation process. The purpose of Te Heke Ngahuru is to "provide for the collaboration of persons with interests in the Whanganui River, in order to address and advance the health and well-being of Te Awa Tupua."

Taumata Arowai must **have particular regard to** Te Heke Ngahuru. A copy of Te Heke Ngahuru is available at: https://www.tekopuka.co.nz. As with other obligations Taumata Arowai has under this settlement, iwi and hapū at place will be able to speak to whether the proposed standards align with Te Heke Ngahuru.

3.4 Obligations under other settlements

In addition to the summaries and advice on specific Treaty settlements above, you have asked us to provide initial advice on other Treaty settlement arrangements that may need to be considered in relation to wastewater standards, so that a decision can be made about whether further advice is required.

Taumata Arowai is the water services regulator for Aotearoa. They are a Crown entity with a ministerial appointed board, alongside the independent board is a Māori Advisory Group, Te Puna.

A Crown entity is legally separate to the Crown. However, their role has been assigned by the Crown to undertake these responsibilities. Therefore, in addition to the requirements specifically set out in the Water Services Act and Treaty Settlement legislation Taumata Arowai should have consideration to ensuring its actions are consistent with other deeds of settlement and treaty settlement legislation.

Where Taumata Arowai and/or the Taumata Arowai Services Act are not specifically referenced in settlement legislation, there are still general expectations on the Crown to act in good faith and recognise the integrity, intent and effect of Treaty Settlements. This is especially applicable where those settlements were designed to protect waterbodies and the relationship of iwi with those waterbodies, and to provide for iwi decision-making for their waterbodies.

3.4.1 To fully understand your obligations, a full review of Settlement legislation is needed

There are over 70 treaty settlements in New Zealand, all with unique requirements, histories, and legislative requirements that must be considered in relation to wastewater standards. Many of these settlements include specific requirements for specific waterbodies. Given these unique requirements, we recommended that Taumata Arowai commissions a full review of Treaty settlement legislation to ensure Taumata Arowai is acting consistently with legislative obligations.

For example, Ngāti Kahungunu ki Wairarapa Tāmaki nui-a-Rua Claims Settlement Act 2022 includes requirements for the establishment of a Wairarapa Moana Statutory Board (the Board) whose functions include providing leadership on the sustainable management of the Wairarapa Moana and the Ruamahanga River catchment and promoting the restoration, protection and enhancement of the social, economic, cultural, environmental and spiritual health and wellbeing of Wairarapa Moana and the Ruamahanga River catchment as they relate to natural resources.

Also for the Ruamahanga River, the Rangitāne o Wairarapa and Rangitāne Tamaki nui-a-rua Deed of Settlement includes the requirement to prepare a Natural Resources Document to identify issues, values, vision, objectives, and desired outcomes for sustainable management of the natural resources in the Ruamāhanga River catchment, including Wairarapa Moana. Once the Natural Resources Document is prepared, relevant local authorities must recognise and provide for the content of the natural resources document in their plans. Those plans then direct the outcomes of wastewater treatment discharge resource consents.

The intent of these settlements is for the iwi to set direction on restoration, protection and management of activities affecting their tupuna awa, and councils are then required to operationalise that direction. There is a high risk that Standards that are set without considering the direction and intent of the Settlement will undermine the intent of that Settlement.

Aquaculture settlements and agreements under the Maori Commercial Aquaculture Claims Settlement Act 2004 include specific provisions to ensure iwi benefit from aquaculture. These agreements provide iwi with specific areas of space in the marine environment where they can develop aquaculture projects, such as farming shellfish, seaweed, or other marine species. Wastewater discharges have the potential to impact marine farms, including by raising levels of bacteria and viruses to levels that mean shell fish cannot be harvested. If the Standards have the potential to affect marine farms in this way, they could undermine the intent of the Settlements and agreements. The implications of this should be fully understood.

In addition to the potential issues highlighted above, we would like to highlight two particular settlements that Taumata Arowai ought to consider. These are the settlements for the Whangaehu River under Rukutia te Mana, the Ngāti Rangi Claims Settlement Act 2019 and Lake Taupō under the Ngāti Tūwharetoa Claims Settlement Act 2018.

3.4.2 Whangaehu – Te Waiū-o-Te-Ika

The Ngāti Rangi Claims Settlement Act 2019 provides redress for the historical grievances of Ngāti Rangi. The Act includes the Te Waiu-o-Te-Ika Framework for the Whangaehu River. Under this Act, the Whangaehu River has statutory recognition, comprised of Te Mana Tupua and Ngā Toka Tupua. This statutory recognition recognises the unique nature of the river, its life-giving properties, and the relationship of the iwi of the river to the river. This includes all six iwi who belong to the Whangaehu catchment.

Figure 21 shows a map of the Whangaehu River catchment.

Figure 21 The Te Waiū-o-Te-Ika catchment

Te Mana Tupua o Te Waiū-o-Te-Ika is:

Nō te kawa ora te ara o Te Waiū-o-Te-Ika me ōna tāngata ki te mana o Tawhito-rangi i heke iho i Te Punga-o-ngā-rangi, inā:

- Te Kawa Ora:
- Te Mouri Ora:
- Te Manawa Ora:
- Te Wai Ora:
- Te Waiū-o-Te-Ika.

Te Waiū-o-Te-Ika is a living and indivisible whole from Te Wai ā-moe to the sea, comprising physical (including mineral) and metaphysical elements, giving life and healing to its surroundings and communities.

Ngā Toka Tupua o Te Waiū-o-Te-Ika is:

Ko te Kāhui Maunga te mātāpuna o te ora

The sacred mountain clan, the source of Te Waiū-o-Te-Ika, the source of life:

Hapū, iwi, and all communities draw sustenance and inspiration from the river's source on Ruapehu and extending to all reaches of the catchment.

He wai-ariki-rangi, he wai-ariki-nuku, tuku iho, tuku iho

An interconnected whole; a river revered and valued from generation down to generation:

Hapū, iwi, and all communities are united in the best interests of the indivisible river as a gift to the future prosperity of our mokopuna.

Ko ngā wai tiehu ki ngā wai riki, tuku iho ki tai hei waiū, hei wai tōtā e

Living, nurturing waters, providing potency to the land and its people from source to tributary to the ocean:

Hapū, iwi, and all communities benefit physically, spiritually, culturally, and economically where water and its inherent life-supporting capacity is valued and enhanced.

Kia hua mai ngā kōrero o ngā wai, kia hua mai te wai ora e

The latent potential of Te Waiū-o-Te-Ika, the latent potential of its hapū and iwi:

Uplifting the mana of Te Waiū-o-Te-Ika in turn uplifts the mana of its hapū and iwi, leading to prosperity and growth for hapū and iwi.

Te Mana Tupua and Ngā Toka Tupua are relevant to the Standards

Clause 109 describes the legal effect of Te Mana Tupua and Nga Toka Tupua. This includes that preparing, varying, changing or approving regional and district plans and regional policy statements under the RMA must recognise and provide for Te Mana Tupua and Ngā Toka Tupua, and all other RMA functions must have particular regard to Te Mana Tupua and Ngā Toka Tupua.

There are requirements throughout the Settlement Act that refer to the Resource Management Act 1991 (RMA), and it is clear that the intention of the Settlement was for Te Mana Tupua and Nga Toka Tupua to have standing in all decisions relating to management of Te Waiū-o-Te-Ika. Where the Standards would replace or alter RMA instruments, general Treaty principles of partnership and protection requires acting in good faith, recognising the integrity, intent and effect of the Settlement.

Clause 110 includes a statement of general relevance of Te Mana Tupua and Nga Toka Tupua. This clause states that:

1) *Persons exercising or performing statutory functions, powers, or duties that relate to the Whangaehu River, or to activities in the Te Waiū-o-Te-Ika catchment that affect the Whangaehu River, may consider Te Mana Tupua and Ngā Toka Tupua as a relevant consideration.*

2) *However, those statutory functions, powers, and duties must be exercised or performed in a manner that is consistent with the purpose of the legislation under which those functions, powers, and duties are exercised or performed.*

A meaningful partnership with Ngāti Rangi and all iwi of the river is integral to ensuring that the iwi's interests are respected in the management of water resources and the health of the river, and that the settlement is honoured.

Te Tāhoratanga

Ngāti Rangi Settlement Act requires the preparation of Te Tāhoratanga, a strategy document for the Te Waiū-o-Te-Ika catchment. The purpose of Te Tāhoratanga is to provide strategic leadership to promote Te Mana Tupua and Ngā Toka Tupua, to advance the health and wellbeing and integrated management of the catchment and to provide guidance on how to give expression to the relationship of the iwi or groups of iwi of Ngā Iwi o Te Waiū-o-Te-Ika (clause 123).

The Strategy is still being developed, until then, the purpose and scope of that document should still be considered. It is clear that Te Tāhoratanga will prioritise the health and wellbeing of Te Waiū-o-Te-Ika and integrated management. These should be key considerations when developing or implementing the Standards.

We recommend that Taumata Arowai has open discussions with iwi and hapū of the Whangaehu to determine how well the Standards fit with the purpose of Te Tāhoratanga.

Clause 124 of the Settlement Act details the legal effect of Te Tāhoratanga which includes that policy statements and plans must recognise and provide for Te Tāhoratanga. Resource consents must have particular regard to Te Tāhoratanga. The Standards could circumvent these RMA requirements and so in order to honour the intention of the Settlement, the Standards should give Te Tāhoratanga the same level of recognition as required for actions under the RMA. This would fulfil the Crowns obligation to within the principles of partnership, participation and protection.

3.4.3 Taupō Moana – Ngāti Tūwharetoa Claims Settlement Act 2018

Summary

The Ngāti Tūwharetoa Claims Settlement Act 2018 recognises historical grievances of Ngāti Tūwharetoa in relation to the degradation of Taupō Moana and its surrounding tributaries. It establishes Te Kōpua Kānananapa, a co-governance framework for Taupō Moana (see Figure 22 for a map of the catchment). Te Kōpua Kānapanapa is considered a joint committee of Waikato Regional Council and Taupō District Council, and is made up of iwi and council representatives.

We recommend Taumata Arowai review the Ngāti Tūwharetoa settlement in depth to understand how the Standards relate to the settlement, and discuss the Settlement and its implications with iwi, who hold the mana to interpret their settlement. Such a review is beyond the scope of this report. However key text from the Settlement is provided below, as an indication of how important this settlement is for the care of Taupō Moana and for the recognition of Ngāti Tūwharetoa.

The purpose of Te Kōpua Kānapanapa is:

a) to restore, protect, and enhance the environmental, cultural, and spiritual health and well-being of the Taupo Catchment for the benefit of Ngāti Tūwharetoa and all people in the Taupo Catchment (including future generations); and

b) to provide strategic leadership on the sustainable and integrated management of the Taupo Catchment for the benefit of Ngāti Tūwharetoa and all people in the Taupo Catchment (including future generations); and

c) to enable Ngāti Tūwharetoa to exercise mana and kaitiakitanga over the Taupo Catchment, in partnership with the local authorities; and

d) to give effect to the vision in Te Kaupapa Kaitiaki.

In achieving its purpose, Te Kōpua Kānapanapa must—

a) respect Ngāti Tūwharetoa tikanga; and

b) provide for the relationship of Ngāti Tūwharetoa and their culture and traditions with their ancestral lands, water, geothermal resources, sites, wāhi tapu, and other taonga.

Ngāti Tūwharetoa's vision is for a healthy Taupo Catchment that is capable of sustaining the whole community and that is managed in a manner that reflects Ngāti Tūwharetoa tikanga.

Ngāti Tūwharetoa's vision is founded on the following principles derived from tikanga:

a) the principle of mauri: the health and well-being of the Taupo Catchment reflects and nourishes the health and well-being of Ngāti Tūwharetoa:

b) the principle of mana: the active protection and restoration of the relationship of Ngāti Tūwharetoa with the Taupo Catchment (including Ngāti Tūwharetoa's mana whakahaere and kaitiaki role):

c) the principle of te whanake: the sustainable development of Ngāti Tūwharetoa's taonga, Ngāti Tūwharetoa, and the whole community:

d) the principle of integrated management: the natural resources within the Taupo Catchment are interdependent and should be managed in an integrated manner.

Obligations

There is no specific requirement in the Act referencing the legal effect of the Taumata Arowai Water Services Act or the Water Services Act 2021. Iwi at placed are best placed to provide advice on how the Standards will affect them and to interpret settlement requirements. However, Taumata Arowai must work within the framework established by this settlement to uphold the health and well-being of the wai and of Ngāti Tūwharetoa, to recognise Ngāti Tūwharetoa and enable Ngāti Tūwharetoa to exercise mana and kaitiakatanga over the Taupō catchment, to assist in the management of wastewater and other discharges affecting Lake Taupō, the tributaries, and the Waikato River and to manage the wai in an integrated manner. Wastewater standards should reflect this, and include co-management and joint decision making with Ngāti Tūwharetoa.

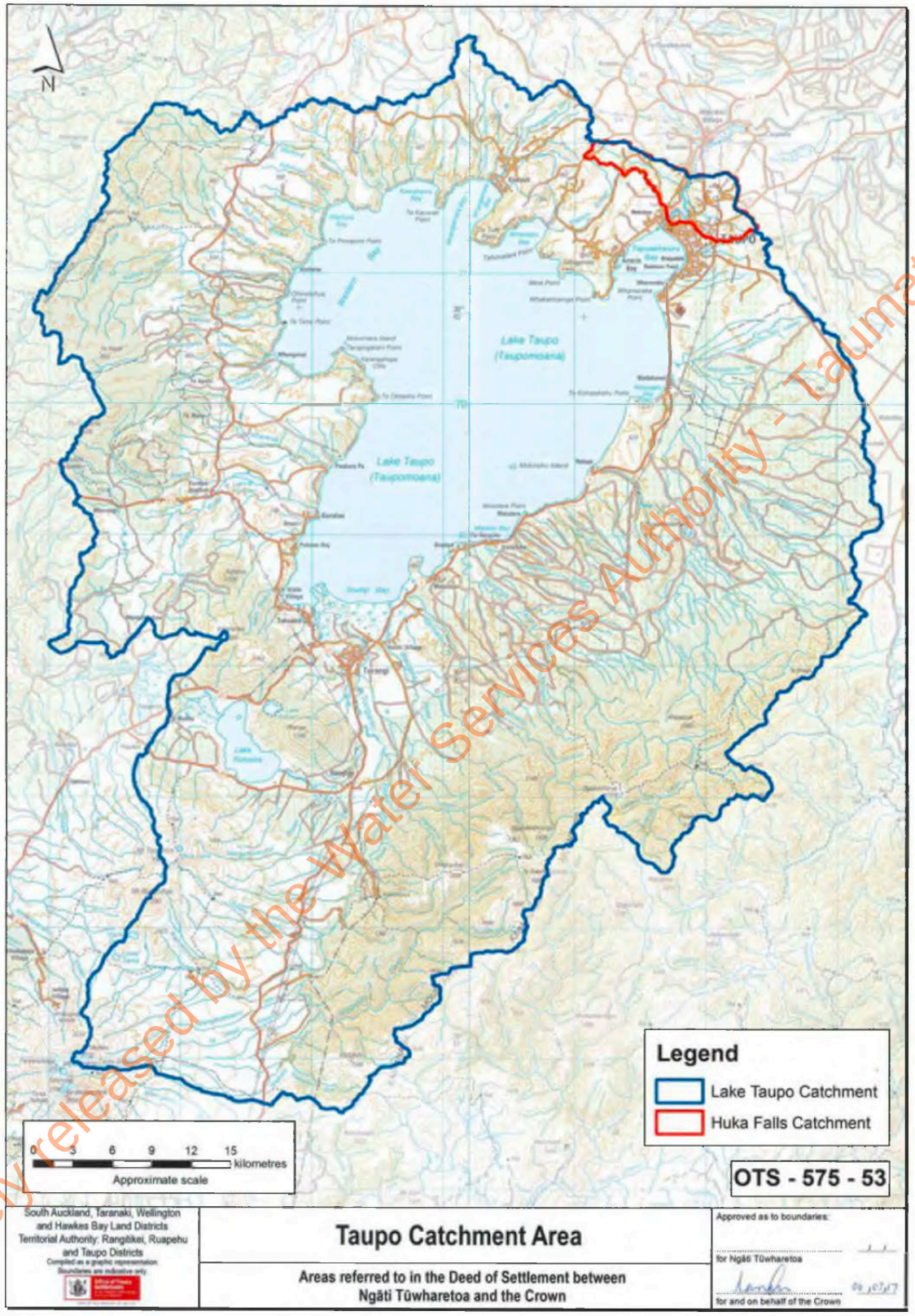

Figure 22: The Taupō Moana catchment

3.4.4 Obligations to unsettled iwi

Taumata Arowai should partner and engage early and meaningfully with all iwi, not just those that are settled. A settlement or lack of settlement does not indicate the level of significance a waterbody has for iwi or hapu. For example, the Horowhenua: The Muaūpoko Priority Report on Lake Horowhenua has clearly identified the relationship and obligation Muaūpoko have to the Lake as being similar to that provided for by Te Awa Tupua.[14] However, because there is not yet a settlement agreed for Lake Horowhenua, this relationship and need for protection is not yet recognised in law. The Standards may impact the relationship, rights and responsibilities of Muaūpoko if this relationship is not carefully considered. There is a high risk of creating new breaches of Te Tiriti if unsettled iwi are left out of conversations regarding wastewater standards and potential effects on waterbodies.

[14] Horowhenua: The Muaūpoko Priority Report. Wai 2200 Waitangi Tribunal Report 2017: 2017 Retrieved from: https://muaupoko.iwi.nz/wp/wp-content/uploads/2021/10/Horowhenua-Pre-pub-W.pdf

4 Conclusions

Part 1: The Standards through a Te Ao Māori lens

In their current form, the Standards are not consistent with Māori values

To be acceptable to iwi and hapū, the Standards should aim to eliminate direct wastewater discharges into the water in the future. They should take an integrated approach, considering how different factors interact in each environment, should manage discharges to the highest standard in each rohe, and should allow for both physical and metaphysical treatment of wastewater.

The Standards should be amended to be minimum Standards, not absolute Standards

An absolute standard excludes iwi and hapū from having a say in decisions about wastewater discharges and the impact on their rohe. Treating the Standards as fixed, without room for change through rules or resource consent, ignores the unique context of each wastewater discharge site.

The Standards should provide for iwi and hapū to be notified and make submissions

The consenting process gives iwi and hapū opportunities to improve and change the environmental and cultural outcomes for te taiao, whānau now and future generations. Absolute standards remove an avenue for Māori to exercise tino rangatiratanga and do not reflect a partnership approach under Te Tiriti.

The Standards should allow for the expression of the tikanga of iwi and hapū

Tikanga are the way Māori do things, based on te ao Māori perspectives and knowledge. Tikanga provides guidance on how to conduct ourselves, collectively and individually. This includes how to protect the environment, how to manaaki others and how to stay culturally, spiritually and physically safe. The Standards need to allow greater iwi and hapū input, so that tikanga can be upheld.

The Standards should provide for wastewater to be appropriately treated, both physically and metaphysically

To align with iwi and hapū values, discharges must meet high physical standards and also allow iwi and hapū to decide how to protect and uphold the spiritual aspects of their rohe.

The Standards need to provide for iwi and hapū to have input into the appropriate place to discharge wastewater

Iwi and hapū need the opportunity to provide input into decisions about the appropriate discharge environment as well as the appropriate treatment standards. This will vary across the motu and will need to weigh up specific values.

The Standards need to ensure that waste from one iwi rohe should not be transferred to another

Iwi strongly believe that wastewater should not be discharged from one iwi rohe to another. There is a duty of care to ensure that water sent downstream to neighbouring iwi should be of as high a standard as possible. The standards should reflect this in the level of treatment they set.

The Standards should ensure it is safe to undertake mahinga kai practices, at all times and in all places, so that no one gets sick from gathering or eating kai

Iwi and hapū gather kai across the motu, but these sites may not be known to councils or decision-makers, and iwi and hapū may choose not to share this information. The Standards are not strict enough to protect the healthy ecosystems needed for mahinga kai, or the people eating kai from those areas.

The Standards should not allow for biosolids to be discharged on land that is used for food growing, or where contaminants may enter water

From a Māori perspective, New Zealand's biosolid standards fail to protect the environment or people. Contaminants with unknown risks are not adequately managed, posing potential concerns for people, the environment and long-term land use.

The Standards need to be more precautionary

The Standards are not stringent enough to protect Māori values in all locations. The numerical Standards need to be more stringent, and better protect sensitive waterbodies.

Low energy waterbodies like lakes, wetlands and estuaries should be excluded from the Standards. Additional numerical standards need to be added to protect mahinga kai and the open ocean.

The Standards need to protect our tupuna awa, roto and moana

The Standards don't consider the relationship Māori have with the wai, as well as kawa, tikanga and ritenga, kōrero tuku iho and mātauranga Māori. Because the Standards don't account for local context or safeguard downstream waterbodies, they cannot be considered to protect Māori values. The Standards need to have the ability for local context to be explored, expressed and protected.

The Standards need to consider the current health of the wai and cumulative impacts within the catchment

The Standards overlook the condition of receiving waters. Discharges have cumulative effects, and more impacted environments are less able to handle further discharges. As a result, the Standards won't protect Aotearoa's most vulnerable ecosystems and water bodies.

The Discharge to Water Standards should be based on achieving outcomes for the wai, not using dilution with wai as part of the treatment process

Dilution as a treatment concept has long been rejected by iwi Māori, who continue to hold the line that '*dilution is not the solution*'. Rather than relying on dilution ratios, the Standards framework should be based on the outcomes achieved in the wai, reflecting the values of iwi and hapū.

If dilution ratios are used, these must be very high

If dilution is used despite Māori concerns, it must be at very high levels to ensure a precautionary approach. There are also other factors that make applying a dilution ratio complex, and these would also need to be addressed.

Lakes, wetlands, estuaries and very small rivers should be excluded from the Standards

Sensitive, low-energy waterbodies (lakes, estuaries, harbours, wetlands, intermittent and very small streams) should be excluded from the Standards. They accumulate contaminants and can be permanently altered by discharges of nutrients.

The categories for waterbodies need to be refined to reflect the nuances of water body types accurately

The category classifications are overly simplistic and fail to uphold the mana of different waterbodies. They lack the detail needed to account for the variability within the identified waterbody domains.

The Standards need amendment to reflect an integrated / ki utu ki tai approach to protecting our tupuna awa, roto and moana

The Standards do not reflect the concept of *ki uta ki tai*, instead taking a fragmented approach. The Standards should apply the strictest standard needed to protect the most sensitive downstream waterbody impacted by the discharge.

Treatment Standards for wastewater discharges servicing <1,000 need to be as stringent as the Standards for larger systems

Less stringent rules for small wastewater treatment plants undermine the purpose of the Standards, which is to maintain or improve water quality, as they do not protect or improve all water bodies.

More information is needed to understand how parts of discharges covered by the Standards interact with parts of discharges not covered by the Standards

The numerical Standards for wai

The cBOD5 Standard needs to be lower and provide for open ocean

A $cBOD_5$ Standard of less than 5 mg/L may be acceptable to iwi and hapū if applied across all rivers and streams and if discharges to low and very low dilution environments are not allowed. There should be a $cBOD_5$ Standard for open ocean discharges, as well as

a lower limit for inshore waters. The effect of ammonia on oxygen demand should be explicitly accounted for in the Standard.

The Total Suspended Solids Standard should be more stringent and provide for open ocean

TSS standards should be lower than 20 mg/L in high dilution rivers, and less than that in other river environments, and in lakes and wetlands. 5 mg/L is suggested as an appropriate Standard for harbours and low-energy coastal/ inshore waters. TSS numbers should be maximums, not annual averages. You should include a TSS Standard for the open ocean environment.

The Ammoniacal Nitrogen Standard needs to be lower

Given the high risk to sensitive environments and species, consider upper percentile and absolute maxima standards to protect aquatic life. Account for upstream ammoniacal nitrogen levels and engage with iwi and hapū to assess the Standard's local impacts.

The Total Nitrogen Standard needs to be lower, provide for open ocean, and not apply to sensitive lakes and wetlands

Develop standards to limit nitrogen to a median of 0.001 mg/L in the river or stream being discharged into, including natural background levels and discharges from other sources. Consider existing nitrogen levels to prevent water quality degradation, and ensure standards for lakes and wetlands maintain or improve water quality. Lakes and wetlands should not be included in the nitrogen standards. Loads, rather than concentrations, should be used for nutrients. You should include a Nitrogen Standard for the open ocean category. You should consider using a Standard for Dissolved Inorganic Nitrogen instead of TN for rivers and streams.

The Total Phosphorus Standard needs to be lower and provide for open ocean

Ensure phosphorus levels in discharged water support a healthy, balanced ecosystem. Consider using Dissolved Reactive Phosphorus as a more accurate measure. To protect rivers from phosphorus effects on periphyton to an A-band level, with a 5% risk of under protection, you would need to set the standard at a level that results in a median of 0 TP mg/l in the river. We recommend this as the precautionary approach. Loads, as well as concentrations, should be used for nutrients. Consider including a limit for the open ocean category.

The Standard for bacterial contamination needs to provide for mahinga kai

Ensure all waters are safe for mahinga kai, regardless of whether the area is officially designated for it. Using recreational water quality guidelines to determine pathogen limits for wastewater discharges is not appropriate.

The Standard for faecal contamination needs to protect shellfish gathering

A much more stringent enterococci standard is needed to protect Māori values, mahinga kai, and shellfish gathering. Enterococci standards for marine environments will not protect against human viruses. People eating shellfish from affected areas might get sick. The standards should be more prescriptive in monitoring and require direct reporting to tangata whenua and communities when discharges exceed safe limits for kai collection.

The Standards need to consider loads, maximums and seasonal variation

The Standards should include 95th-percentile compliance, maximums, cover more contaminants (especially for wetlands, lakes, and estuaries), account for seasonal variations, and include a mechanism for adapting to new technology.

The numerical Standards for whenua

The Discharge to Land Standard needs to be incentivised

Iwi and hapū think that wastewater should be discharged to land before it enters a water body (after being appropriately treated). The Standard could do more to encourage this approach.

The risk-based approach needs to reflect a mātauranga lens and allow for innovation

This will create better outcomes for future generations, who depend on the decisions we make today to ensure they have options for their future. Innovation could involve exploring water reuse and purification, high hybrid land discharge ratios, or decentralised systems.

The Standards need to provide opportunities for greater reuse and discharge rates

Higher levels of treatment could allow wastewater to be repurposed for various benefits, fostering new business opportunities while also protecting human health and the environment. (We understand reuse of treated water is being considered in an updated version of the standards, which was not available at the time we produced this report.)

The overflows framework

More robust monitoring and reporting of overflows is supported

Robust monitoring and reporting of overflows is a critical issue that requires attention, and there is strong support for incorporating these requirements into the resource consent process.

The overflows reporting requirements need to require swifter reporting and reporting directly to mana whenua

Overflow Management Plans should be required to be explicit about how they will communicate with iwi and hapū when overflow events occur. Immediate alerts need to be put in place to protect public health.

The risk management framework needs to be developed in partnership with iwi and hapū

The risk assessment should include mana whenua input.

The framework needs to include bypass flows

The Standard should include a framework for bypass flows.

Guaranteeing resource consent for overflows will not drive the change required to protect Māori values

A more flexible activity status is needed to allow site-specific assessments of whether overflows are appropriate, with the discretion to impose conditions that ensure continuous improvement to protect Māori values.

Part 2: The Standards through a Te Tiriti lens

More input into the Standards is needed from iwi and hapū to meet obligations to Te Tiriti o Waitangi.

Genuine iwi and hapū involvement is crucial to uphold the Treaty principle of partnership. More stringent standards would better reflect the principle of protection. However, the current Standards framework excludes iwi and hapū from decisions about effluent quality in their rohe, which undermines the principle of participation.

The standards framework needs to better protect iwi and hapū decision-making at place.

Providing for wastewater consents to be notified ensures iwi and hapū can participate in wastewater decisions affecting their waterbodies and supports ongoing quality improvements. Shifting from absolute to minimum standards allows for a national approach while preserving local input.

Ensure the Standards are consistent with the intent and aims of all Treaty Settlements.

Taumata Arowai should engage directly with each iwi to discuss how the proposed Standards align with Treaty obligations and Settlement requirements. A full review of all relevant Treaty settlements is recommended to ensure nationwide alignment.

5 Next Steps

The recommendations are summarised in the Executive Summary and explored in detail throughout the report.

A thorough engagement process with iwi and hapū should be carried out regarding the revised technical figures and policy framework.

We also suggest reviewing how the Standards would interact with the resource consent system. Case studies involving real wastewater discharges that will be up for re-consent in the next three years could help assess how the Standards would impact design, decision-making, and both environmental and cultural outcomes.

An economic analysis of how the standards interact with long-term plans and asset management timelines and decisions would be invaluable.

As currently proposed, commercial and Industrial discharges, and diffuse discharges from farming will have to reduce to ensure contaminants in the catchment are kept within sustainable limits. The impact of this needs to be investigated.

More work is needed on the oceans framework. It's seen as too lenient and not nuanced enough to respond to the variability of the moana.

List of Appendices

kāhu
ENVIRONMENTAL

Appendix 1: Technical feedback on the treatment limits for wai

We've done some basic calculations to compare the Standard with the Target Attribute States set out in the National Policy Statement for Freshwater Management (NPS-FM). This work is preliminary and conservative. The results are presented over the next five pages.

kāhu ENVIRONMENTAL

AMMONIA IN RIVERS AND LAKES

NPS-FM		TAUMATA AROWAI					
The ammonia toxicity value in the NPS-FM for A band level protection (mg/L, annual median).	The ammonia toxicity value in the NPS-FM for A band level protection (mg/L, annual 95%ile).	Ammonia Standard in the proposed standards for a **low** dilution river (dilution ratio = 10; mg/L, annual 90%ile).	Ammonia Standard in the proposed standards for a **low** dilution river, when **diluted** by 10 (mg/L, annual 90%ile). This figure represents the projected in-stream value.	Ammonia Standard in the proposed standards for a **very low** dilution river (dilution ratio < 10; mg/L, annual 90%ile).	Ammonia Standard in the proposed standards for a **very** low dilution river, when **diluted** by 5 (the mid-point of **very low** dilution ratio; mg/L annual 90%ile). This figure represents the projected in-stream value.	Ammonia Standard in the proposed standards for **lakes** and **wetlands** (mg/L annual 90%ile).	Ammonia Standard in the proposed standards for **lakes** and **wetlands** (mg/L annual 90%ile) wetlands. When **diluted** by a dilution ratio of 50. This figure represents the projected in-stream value.
≤ 0.03	**≤ 0.05**	**1**	**0.1**	**1**	**0.2**	**3**	**0.06**

info@kahuenviro.co.nz
021 289 0789
kahuenvironmental.co.nz

kāhu ENVIRONMENTAL

NITROGEN IN RIVERS

CANNING AND DEATH (2023)	MfE GUIDANCE ON PERIPHYTON				TAUMATA AROWAI	
Canning and Death (2023) recommended level of **dissolved inorganic nitrogen** to protect 80% of macroinvertebrate taxa at a site (mg/L; mean, most stringent number used).	Periphyton look-up value, maximum protection (A band, unshaded, 5% risk of under-protection). **Total nitrogen** (mg/L; median).	Periphyton look-up value, moderate protection (B band, unshaded, 5% risk of under-protection). **Total nitrogen** (mg/L; median).	Periphyton look-up value, minimum protection (C band, unshaded, 5% risk of under-protection). **Total nitrogen** (mg/L; median).	Periphyton look-up value, maximum protection (A band, unshaded, 5% risk of under-protection). **Dissolved inorganic nitrogen** (mg/L; median).	**Total Nitrogen** Standard in the proposed standards for a **low** dilution river (dilution ratio = 10; mg/L, annual median).	**Total Nitrogen** Standard in the proposed standards for a **low** dilution river, when **diluted** by 10 (mg/L, annual median). This figure represents the projected in-stream value.
0.57	**0.001**	**0.007**	**0.182**	**0.001 mg/L**	**5**	**0.5**

Note 1: We selected the lowest number in all the REC classes for the look-up tables. This aligns with the precautionary principle and the assumption that the standards will apply everywhere, including these higher needs places. Similarly, we have selected the lowest value as the most precautionary approach for Canning and Death macroinvertebrate values.

Note 2: The Canning and Death (2023) recommendation is for a mean value, not a median.

info@kahuenviro.co.nz

021 289 0789

kahuenvironmental.co.nz

kāhu ENVIRONMENTAL

NITROGEN IN LAKES

NPS-FM				TAUMATA AROWAI	
NPS-FM **Total Nitrogen** value for seasonally stratified and brackish lakes, A band, (mg/L, annual median).	NPS-FM **Total Nitrogen** value for polymictic lakes, A band, (mg/L annual median).	NPS-FM **Total Nitrogen** value for **seasonally stratified** and **brackish lakes**, **C band**, (mg/L annual median).	NPS-FM **Total Nitrogen** value for **polymictic lakes**, **C band**, (mg/L, annual median).	**Total Nitrogen** standard Lakes and wetlands (dilution ratio = 50; mg/L, annual median).	**Total Nitrogen** standard Lakes and wetlands when **diluted** by 50 (mg/L, annual median). This figure represents the projected value in the lake.
≤ 0.16	**≤ 0.3**	**> 0.35 and ≤ 0.75**	**> 0.5 and ≤ 0.8**	**10**	**0.2**

Note: The units in the NPS-FM are mg/m3, but this is converted to the same units as the standards for easy comparison.

info@kahuenviro.co.nz

021 289 0789

kahuenvironmental.co.nz

kāhu ENVIRONMENTAL

PHOSPHORUS IN RIVERS

CANNING AND DEATH (2023)	MfE GUIDANCE ON PERIPHYTON				TAUMATA AROWAI	
Canning and Death (2023) recommended level of **dissolved reactive phosphorus** to protect 80% of macroinvertebrate taxa at a site (mg/L; **mean**, most stringent number used).	Periphyton look-up value, maximum protection (A band, unshaded, 5% risk of under-protection). **Total phosphorus** (mg/L; median).	Periphyton look-up value, moderate protection (B band, unshaded, 5% risk of under-protection). **Total phosphorus** (mg/L; median).	Periphyton look-up value, minimum protection (C band, unshaded, 5% risk of under-protection). **Total phosphorus** (mg/L; median).	Periphyton look-up value, maximum protection (A band, unshaded, 5% risk of under-protection). **Dissolved reactive phosphorus** (mg/L; median).	**Total phosphorus** Standard in the proposed standards for a **low** dilution river (dilution ratio = 10; mg/L, annual median).	**Total phosphorus** Standard in the proposed standards for a **low** dilution river, when **diluted** by 10 (mg/L, annual median. This figure represents the projected in-stream value.
0.019	**0**	**0**	**0.006**	**0**	**1**	**0.1**

Note 1: We selected the lowest number in all the REC classes for the look-up tables. This aligns with the precautionary principle and the assumption that the standards will apply everywhere, including these higher needs places. Similarly, we have selected the lowest value as the most precautionary approach for Canning and Death macroinvertebrate values.

Note 2: The Canning and Death (2023) recommendation is for a mean value, not a median.

info@kahuenviro.co.nz 021 289 0789 kahuenvironmental.co.nz

kāhu ENVIRONMENTAL

PHOSPHORUS IN LAKES

NPS-FM			TAUMATA AROWAI	
NPS-FM **Total phosphorus** value for lakes, **A band**, (mg/L, annual median).	NPS-FM **Total phosphorus** value for lakes, **B band**, (mg/L annual median).	NPS-FM **Total phosphorus** value for lakes, **C band**, (mg/L annual median).	**Total phosphorus** standard Lakes and wetlands (dilution ratio = 50; mg/L, annual median).	**Total phosphorus** standard Lakes and wetlands when **diluted** by 50 (mg/L, annual median). This figure represents the projected value in the lake.
≤ 0.01	**> 0.01 and ≤ 0.02**	**> 0.02 and ≤ 0.05**	**3**	**0.06**

Note: The units in the NPS-FM are mg/m3, but this is converted to the same units as the standards for easy comparison.

Appendix 2: References

We referenced these documents to compile this report.

Analysis Paper: Treaty settlement obligations in the Waikato and Waipā River catchment. (3 December 2024).

*Bennett, J. (9_12_24). Discharge to Water Standards – Proposed Discharge Standards (preliminary recommendation). Prepared by: GHD, BECA and Stantec.

*Bennett, J. (20 December 2024). Technical Advice on Discharge to Water Standards. (Advice on Proposed Standards). Prepared by: GHD, BECA and Stantec.

*Bennett, J. (20 December 2024). Discharge to Land Standards. (Preliminary Approach). Prepared by: GHD, BECA and Stantec.

Bennett, J. (17 January 2025). Technical Advice on Wastewater Performance Standards: Discharge to Land. (Advice on Proposed Standards). Prepared by: GHD.

Bright, R. (September 2024). Memorandum: Summary of advice on obligations – wastewater standards.

Department of Conservation. New Zealand Threat Classification System (NZTCS). Online: https://www.doc.govt.nz/about-us/science-publications/conservation-publications/nz-threat-classification-system/. (Retrieved: 31 January 2025).

Horizons One Plan. (2014). Online: https://www.horizons.govt.nz/HRC/media/Media/One%20Plan/17-Part-3-RP-LF-Land-andfreshwater.pdf?ext=.pdf

Liddell, A. (23 November 2023). Memo: Obligations of Taumata Arowai under Treaty settlement legislation.

Ministry for the Environment Manatu Mo Te Taiao. (2002). Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas: Wellington, New Zealand. Updated in June 2003.

Ngāti Rangi Taiao Management Plan (2014) Section 2.7 Waste. Online: https://assets.prod.ngatirangi.com/taiao_management_plan_53_889467cc60.pdf

Taumata Arowai. Water Services Authority Taumata Arowai Wastewater Standards: Information pack.

Wastewater Environmental Performance Standards.

Taumata Arowai. Wastewater environmental performance standards: Update on work programme.

*Taumata Arowai. Wastewater Standards Technical Review Group: proposals for discussion.

Te Tari Taiwhenua/ Internal Affairs. (December 2024). Local Water Done Well. Factsheet: Wastewater and stormwater environmental performance standards.

Waitangi Tribunal (2017). Horowhenua: The Muaūpoko Priority Report. Wai 2200 Waitangi Tribunal Report 2017. Online: https://muaupoko.iwi.nz/wp/wp-content/uploads/2021/10/Horowhenua-Pre-pub-W.pdf

Appendix 3: Biosolids Case Study

NGĀTI RANGI

BIOSOLIDS CASE STUDY

Our experience with biosolid land application

Our position

Applying biosolids to productive land goes against our intergenerational values and breaches the Treaty Settlement commitments between the government and Ngāti Rangi.

It also contradicts the principles outlined in our Ngāti Rangi Taiao Management Plan 2014.

> *'Using Papa-tū-ā-nuku as a dumping ground for waste is an issue for Ngāti Rangi, and contrary to our values around caring for Papa."*[1]

Pristine soils, primary production areas, and food-growing soils are vulnerable to contaminants of growing concern, including persistent chemicals, hormones, and microplastics. When biosolids are spread on land used for growing food, contaminants can make their way into our food supply. Currently, we're unaware of any regulations addressing these specific pollutants.

What we know about biosolids

Not all contaminants are subject to regulation

While we recognise that biosolids contain nutrients like nitrogen and phosphorus, and that some contaminants – such as heavy metals – are well-regulated under the 2017 Guidelines, we remain concerned about the unregulated pollutants. These are the contaminants that pose an unknown risk.

We understand the issues of landfilling of biosolids, and the large carbon footprint of biosolids processing, transport and disposal. We also understand there are more biosolids to dispose of than ever before.

1 Section 2.7 Waste. Ngāti Rangi Taiao Management Plan 2014. https://assets.prod.ngatirangi.com/taiao_management_plan_53_889467cc60.pdf

A recent consent application in our rohe

We've responded to a resource consent application seeking approval to spread organic waste on several properties. The discharge includes municipal biosolids from wastewater treatment plants, as well as industrial by-products like tallow and fats. The application was to apply this waste to land used for forestry, livestock farming, and vegetable growing.

Within our rohe, Horizons Regional Council permits the application of biosolids to primary productive land via the rule below.[2]

> ***Horizons One Plan (2014) Rule:*** *LF-LW-R11 Discharges* of grade Aa biosolids* and compost* to production land* is a Permitted Activity.*

We view the rule's seven conditions as general good practice rather than targeted control of contaminants. Since the rule's introduction in 2004, no additional conditions have been added. The rule fails to address concerns about safe ongoing land use. A similar framework is in place across most regions. Because the rule is permissive, very few biosolids consents are required or publicly notified.

We know that chemical contaminants and microplastics have been introduced to land used for food production. The situation is unchanged, even with more recent biosolids guidelines. We have raised these concerns during the particular resource consent process, but most biosolids applications occur as permitted activities anyway.

We believe that over the past decades, a precedent has been set for contaminating land under the guise of 'nutrient reuse.' This approach risks contaminating relatively pristine soils with

2 Horizons One Plan – 2014. https://www.horizons.govt.nz/HRC/media/Media/One%20Plan/17-Part-3-RP-LF-Land-and-freshwater.pdf?ext=.pdf

microplastics and other emerging pollutants. Soil health is essential to te taiao (the natural world) and should be protected.

Our rohe is a nationally significant food production region, yet we currently have no means to prevent or mitigate its contamination by imported biosolids. This critical issue undermines our ability to exercise mana whakahaere – our right to make decisions over our traditional resources, taonga, and people. We believe that only the biosolids producers and purchasers stand to benefit from this situation.

Te Waiū-o-Te-Ika

In our rohe, our ancestral river, the Whangaehu, is protected by statutory recognition under the Te Waiū-o-Te-Ika Framework, as part of the Ngāti Rangi Claims Settlement Act 2019. This framework covers the whole catchment, including all wetlands, lakes, and tributaries of the awa. The Act requires that the kawa and intrinsic values for the awa, Te Mana Tupua and Ngā Toka Tupua are recognised and provided for. We are concerned that the application of biosolids in our region could result in microplastics and other emerging pollutants entering the waters of Te Waiū-o-Te-Ika, affecting the health and well-being of the wai, the iwi, and the communities of the awa.

This action would fail to recognise and provide for Te Mana Tupua and Ngā Toka Tupua.

Our conclusion

We understand the appeal of using biosolid nutrients and reducing landfill volumes, but not at the expense of polluting our food systems and our rohe. It seems that the interests of biosolid producers and the economics of cropping have been given priority. Primary industries have alternative sources of both nutrients and carbon – though they may be less economically attractive.

In summary, pollution of food systems and land is being allowed with substances humanity does not yet understand.

Relying on offshore approaches does not necessarily align with societal or Treaty obligations. What is considered 'international best practice' often reflects personal or commercial interests, not the values of Ngāti Rangi. We adopt an intergenerational and holistic perspective on te taiao (the natural world).

It appears that mātauranga Māori (Māori knowledge) hasn't been considered within the biosolid guidelines. Any proposed Standard using current biosolids guidelines fails to resolve the contamination issue and may fail treaty settlements.