Greater Wellington
Te Pane Matua Taiao

By email

23 April 2025

Water Services Authority - Taumata Arowai
kōrero@taumataarowai.govt.nz

Tēnā koutou katoa

Proposed national wastewater environmental performance standard – Submission

Greater Wellington Regional Council (Greater Wellington) makes the following submission on the proposed national wastewater environmental performance standards (the standards).

The standards introduce unnecessary costs for the community with very little benefit

The regional context for wastewater management and its impacts on fresh and coastal water quality is extremely challenging. Some waterbodies, including those deeply significant to mana whenua and highly valued by the community, are in a state of severe degradation due to the impacts of wastewater discharges and network overflows from ageing and degraded infrastructure.

Greater Wellington currently has responsibility for the consenting and compliance monitoring and enforcement functions in relation to wastewater discharges in the Wellington region, including 15 wastewater treatment plants (WWTPs) of which four may meet the definition of a 'Small Plant'. Initial analysis suggests that at least half of these WWTPs may not be able to meet the standards as currently proposed. The upgrades required to meet these standards will incur additional costs for ratepayers and water users going forward without clear benefits for public health, the environment, or communities.

The intent of the standards is supported, but the proposed approach is flawed

Greater Wellington understands what the standards are trying to achieve and is supportive of improved consistency and efficiency across the country and reducing the costs of consenting and wastewater infrastructure. However, we consider that the standards as proposed are simultaneously too stringent (e.g., for small plants) and not stringent enough (e.g., discharges to water). For a small set of national standards to be effective, it is critical that these are pitched at the right level to achieve the desired outcome.

We acknowledge the wastewater infrastructure challenges facing Aotearoa as a whole are significant and that there is a need for change. We are pleased to see that the standards are intended to achieve both public health and environmental outcomes and note that the latter is particularly important, as healthy environments are essential for healthy communities and economies.

Greater Wellington generally supports the proposed approach to manage and reduce wastewater overflows within the network. We also support the proposed approach to the standard for beneficial reuse of biosolids, and relying on the draft Beneficial Use of Biosolids and other Organic Materials on Land (Good Practice Guide) 2024 is both sensible and fully supported.

Noted concerns with 'one size fits all' approach

We consider that a 'one size fits all' approach is inappropriate due to the site-specific nature of WWTPs, networks, and the receiving environments that they discharge to. Many of the WWTPs in the Wellington region discharge to water. The lack of consideration for existing water quality in the proposed standard for discharges to water does not allow for improvements in water quality to be considered. This approach directly impedes our ability to fulfil our responsibilities as a regional council to improve water quality in our region. Greater Wellington has carried out over a decade of policy design with our mana whenua partners and communities through the Whaitua processes[1] to determine their needs and aspirations with regard to freshwater management. They have clearly expressed the need for improved water quality in the region; if these standards come into effect, Greater Wellington's ability to meet those needs will be significantly diminished.

Greater Wellington has concerns in relation to the following key areas:

- Mana whenua participation and interests in water, and cultural effects
- Receiving environments and dilution approach to managing water quality
- Integrated management and alignment with existing direction and regional plans
- Mixed modes of discharge
- Contaminants not covered by the standards and implications for the consenting process
- Overflows and Bypasses

[1] Greater Wellington — Whaitua: protecting the waters of your area

We expand on these points below. Greater Wellington's responses to Taumata Arowai's questions and comments on the technical details of the standards are provided in the table following.

Mana whenua participation and interests in water

Greater Wellington's partnership with our six mana whenua partners spans over a quarter of a century and over this time we have worked together in unique ways. These partnerships are important to us to ensure that our partners can be recognised and supported in maintaining their role as kaitiaki (guardians) of their ancestral lands and waterways. Māori have recognised roles and responsibilities as kaitiaki (guardians) of our natural resources. They work together with Greater Wellington to sustainably manage and protect natural resources for the benefit of current and future generations.

Additionally, we support the submissions of mana whenua of the region, including Te Rūnanga o Toa Rangatira, on the standards.

Greater Wellington is concerned that there appears to be a lack of consideration of cultural effects in both the formulation of these standards and the consenting framework and processes to implement the standards. It is unclear how cultural effects are able to be addressed by either an applicant or the consent authority where cultural effects are intrinsically linked to the discharge quality, such as pathogens in rivers or coastal water.

Māori have always asserted an interest in freshwater akin to ownership, which has been affirmed by the courts, and the proposed standards and consenting framework for wastewater discharges are not Treaty compliant. The proposed standards and consenting framework will diminish the ability for the Crown (through Councils) to provide for Māori rights and interests in water. The standards and processes around them should also ensure that all relevant Māori groups have a voice through these wastewater consenting processes, not just settled iwi. Obligations to Māori go beyond Treaty settlements and only providing for iwi in the Waikato, Waipā, and Whanganui catchments, where Treaty settlements impose obligations on decision-makers, is not Treaty compliant as it impairs iwi who haven't settled.

Furthermore, defining engagement with other iwi as being able to submit on the proposed standards is also not Treaty compliant nor true engagement, and if the standards are not amended, they will deny iwi, hapū, and whānau the opportunity for cultural concerns to be heard through consenting processes.

To protect and uphold Māori rights and interests, pre-existing and guaranteed in Te Tiriti o Waitangi, the standards should be amended to allow Māori participation in the wastewater consenting processes in accordance with the Treaty of Waitangi.

At a minimum, Greater Wellington is specifically seeking consistency of approach in considering cultural values. The standards for discharge to land and reuse of biosolids include consideration of effects on Māori values, including assessment of wāhi tapu or sites of cultural significance (biosolids), and cultural health, traditional land use practices, and sites of cultural significance (discharges to land). These same considerations should be applied to the discharge to water standard.

Receiving environments and dilution approach to setting contaminant limits

The standards as written do not require improvement of existing water quality, nor do they account for where existing water quality is degraded due to wastewater discharges. The public and the people of the Wellington region want to see improvement in our waterways where they are degraded[2], and these standards do not allow wastewater to be managed in a way that allows improvements in water quality to be made.

Similarly, the proposed treatment limits for contaminants consider receiving water dilution, but not the quality of the existing receiving environment. A receiving environment may be already approaching or above guidelines for specific values (e.g., ecosystem health, recreation). The proposed limits have been back-calculated from meeting swimming and other water quality guidelines in the receiving waters, but this seems to assume no prior contamination of the receiving environment. Where there is existing contamination, simply meeting the standards could result in these guidelines for water quality being exceeded more frequently. Greater Wellington suggests that any such calculation needs to take current water quality of the receiving environment into account. This again illustrates the issues inherent to a one-size-fits-all approach.

The dilution approach does not sufficiently take account of different discharge mechanisms at the point of discharge and how this affects the receiving environment. Nor does it take into account any site-specific situations, including proximity to recreational areas or mahinga kai. For example, some estuary discharges are timed with a tide to optimise mixing. Likewise, two rivers may have the same rate of flow, but the effects of a discharge can be different depending on the method of discharge and mixing. Using dilution as the solution to water contamination is an overly simplistic and outdated method that should not be relied on. It is also unclear how the effects of climate change will be managed over a 35-year term of consent. Climate change is set to both reduce baseflow in some rivers as temperatures rise and increase peak flows in some rivers, which may impact contaminant loads and treatment plant and network capacity due to high-intensity flush effects of untreated wastewater.

[2] Greater Wellington — Whaitua: protecting the waters of your area

Integrated management and alignment with existing direction and regional plans

The standards do not provide any catchment context for the discharge. Integrated Catchment Management, also expressed as ki uta ki tai (mountains to the sea), is based on a holistic natural resource management philosophy that acknowledges the intrinsic interconnectedness of all ecosystem elements.

Similarly, the proposed end-of-pipe standards are not consistent with the requirements of the National Policy Statement for Freshwater Management 2020 (NPS-FM) and in particular the target attribute states (TAS), which are set to achieve specific values in the receiving environment. Unlike the NPS-FM, the standards do not allow for any consideration of cumulative effects.

The proposed end-of-pipe standards are based on broad categories of receiving environment sensitivity and incorporate no other values (e.g., recreation and mahinga kai are not captured). There appears to be limited ability in the proposed standards for regional councils to consider nutrient loads and manage cumulative effects at the scale of catchments and freshwater management units. This means that TAS set for contaminants managed by the standards would have to be met by any other dischargers to that waterbody, and load reduction will disproportionately fall on others (e.g., the farming sector and private wastewater systems). For some receiving environments, this is likely to make meeting TAS unachievable, especially in catchments with existing poor water quality that is below the national bottom line (bands D or E) or where the proportion of the municipal wastewater discharge is greater than any other discharge.

The NPS-FM currently in force requires water quality to be maintained or improved where degraded. Greater Wellington understands that there are set to be changes to the NPS-FM; however, we note that the requirement to maintain or improve water quality has been a tenet of multiple iterations of this document. As such, a requirement should be included in the standards stating that no replacement consent for discharges to water or land categories be granted at a concentration less restrictive than a previous consent for that activity for any contaminant in the standards. This would ensure that water quality gains already made around the country via wastewater discharge improvements are, at a minimum, not lost. It would also prevent existing consent holders from replacing their consents years early, in order to obtain more lenient requirements for an existing wastewater treatment plant set up.

If enacted as proposed, the standards would be a significant change in direction for freshwater management in the Wellington region. Proposed Plan Change 1 (PC1) to the Natural Resources Plan, which gives effect to the NPS-FM in two whaitua in the Wellington region, is currently undergoing hearings. PC1 includes TAS set to maintain good water quality and improve degraded water quality in 7 coastal water management units and 22 part-freshwater management units across the two whaitua. Many of these TAS are significantly influenced by wastewater discharges and may therefore become impossible to achieve under the standards. Communities, mana whenua, and ratepayers have invested significantly in this plan change through the whaitua and plan change processes.

The proposed standards are concentration-based and cannot be set to be more stringent by the regional council, leaving discharge volume as the only management lever for managing contaminant loads. While the consultation document (pg21) infers that regional councils have discharge volume as a primary control mechanism on loads, this is contradicted (pg20) with the statement that the median design flow is proposed to be the discharge volume that is consented. Setting restrictive volume or load conditions as a way to address cumulative effects or sensitive receiving environment effects potentially frustrates a consent when applied in conjunction with the standards. In addition, if the full volume cannot be discharged, this could create storage issues or lead to increased overflows or bypasses (for which there is no specific standard of discharge quality to meet) resulting in more untreated discharges and decreases in water quality. This is not considered to be an efficient or transparent way to manage effects from WWTPs.

The consultation document states that the standards will "not require" receiving environment monitoring. We understand that data from monitoring will not be able to be used to review discharge standards in conditions to make them more restrictive than the standard even if an adverse effect is occurring. Monitoring for contaminants outside the standards will be needed to identify any environmental effects. Monitoring for contaminants within the standards will also be necessary to understand the environmental effects of those standards. This monitoring should be carried out by the Water Service Organisation (WSO) discharging wastewater, rather than being left to regional councils or other dischargers.

Greater Wellington is supportive of discharges to low dilution receiving environments going through normal consenting processes. Exceptions to the proposed standard should also include discharges to lakes, as a bespoke approach should be taken for these sensitive environments. A proposed exception to the standard is "discharges to a waterbody that has naturally high levels of a particular parameter" (pg22). This exception requires clear definition of relevant parameters (contaminants) and what "naturally high levels" means. Greater Wellington considers that these exceptions mean that the time and cost efficiencies sought by Taumata Arowai are unlikely to be achieved.

Mixed modes of discharge

As proposed, the standards for discharges to water appear generally more lenient (including, but not limited to, discharge quality and monitoring requirements) than discharges to land, and 'mix and match' discharges are not dealt with via a separate standard. This could act as a disincentive for local authorities to transition from water to land-based discharges. This will compromise Greater Wellington's ability to implement the direction set in its Natural Resource Plan to promote discharges to land over discharges to freshwater and coastal water (NRP Objective O39), an objective that reflects the desires of both mana whenua and the community in order to see improvements in fresh and coastal water health and quality.

There is a misalignment of treatment limits and monitoring requirements between the two types of discharge. As proposed, discharges to land must meet more stringent limits for *E. coli* and considerable monitoring of the receiving environment is required, regardless of the type and uses of the receiving environment. This seems at odds with the generally lower risk of environmental effects of discharges to land relative to discharges to water and may act as a disincentive to WSOs from discharging to land, despite most regional councils having clear policy direction that promotes this.

Other practical questions arise, including how annual-based effluent quality limits would apply to mix and match discharges. There are numerous mix and match WWTP discharges across the country. Many of these are high-rate discharges (e.g., Masterton WWTP) and so would be covered by the "Discharges to water" standard but not the "Discharges to land" standard. It is not clear how the standards would apply to consenting for this WWTP or similar WWTPS.

In addition, the proposed monitoring assumes that any discharge occurs for a full year, which may be impossible to apply to some wastewater systems. For example, those which discharge to land when soil capacity is good and only discharge to water as needed.
Greater Wellington considers that an additional standard that specifically targets mix and match discharges should be considered and include high-rate discharges, if a national wastewater standard is to be progressed.

Contaminants and consents not covered by the consenting standards

It is unclear how time and cost efficiencies will be achieved for treatment plant discharges to land and water if other contaminants such as heavy metals and phenols will still be required to go through the normal consenting process. There is a lack of clarity as to how the consent process for discharges to water or land will work where some contaminants are listed in the standards, and other contaminants or aspects that are intrinsic to that discharge are to "continue to be addressed by regional councils during the consent process," and that "where contaminants are not covered by the standard … the usual resource consenting process would apply." This also indicates that the time and cost efficiencies sought may not be as great as stated in the consultation documents.

Related to this issue are additional consents that will likely be required for WWTPs, such as odour emissions. This could lead to a complex hybrid consenting approach which is unlikely to provide any benefits over the current RMA consenting processes. There is also no presumption for non-notification nor restriction on appeals.

There is also a lack of clarity with the changes that the Water Services Bill makes to RMA s105 and s107. The WSA states that these sections "do not apply if an application is for an activity that is regulated by a wastewater environmental performance standard... and the application complies with the relevant environmental performance standard."
This means that if a discharge can comply with the relevant standard, s105 and s107 do not apply to the whole activity for which an application is made. This includes consideration of other contaminants or effects not covered by the standard, such as metals and possibly cultural effects.

Overflows and Bypasses

Overflows and bypasses are usually untreated or minimally treated and so are likely to have greater adverse effects than treated discharges from WWTPs. In addition, these are two different discharge mechanisms and so should have different standard requirements, especially given the more lenient standards applying to bypasses and overflows.

Clarity is also required in relation to the definition of a wastewater network and whether it includes a WWTP and its associated discharges. To avoid confusion with the discharges to land and water standards, it is preferable that the network definition does not include WWTPs, associated discharges, and bypasses so that overflows (which occur from the network) can be clearly defined and managed.

The standards propose to manage bypasses and overflows as controlled activities. Greater Wellington notes that under the proposed RMA reform, controlled activities will no longer exist. This may mean a more complex consenting regime. If the aim is to improve efficiency of consenting, then precluding public notification may be useful. However, Greater Wellington considers that relevant iwi authorities should be determined to be affected parties in respect of these consent applications.

Bypass discharges

Bypass discharges are usually from WWTPs. They need to be carefully defined and considered so as not to result in a situation where they occur more frequently (and not just in emergency situations). This situation, called flow trimming, is known to occur in the UK[3], where minimally treated or untreated wastewater is bypassed in order for the main discharge standards to be met. In the UK, there are many incentives for water companies to do this, including reduced cost of pumping and treatment, and making achieving compliance easier for wastewater plants, and environmental degradation has increased as a result. Bypasses of wastewater from WWTPs should be dealt with under the proposed standards applying to WWTPs. The management framework must not allow the use of bypasses to avoid meeting WWTP discharge treatment standards.

[3] 'Dirty secret': insiders say UK water firms knowingly break sewage laws | Water | The Guardian

In the Wellington region, the Seaview WWTP discharges treated wastewater via an outfall to the sea. This WWTP also regularly discharges partially treated wastewater via a bypass into the nearby Waiwhetū Stream. This stream has deep significance for mana whenua[4] and is scheduled in the regional plan[5]. Frequent bypass discharges from the WWTP have had adverse effects on both ecological and cultural values of the Waiwhetū Stream. The baseline state for the stream is in the E band (the lowest band) for *E. coli* under the NPS-FM National Objectives Framework. Throughout the whaitua process for Te Whanganui-a-Tara[6], community and mana whenua representatives were clear that discharges of wastewater into the Waiwhetū and the level of existing contamination are unacceptable.

PC1 (currently in hearings) includes provisions to manage and reduce these and similar discharges to improve water quality in line with mana whenua and community values and ambitions. Under the proposed standards, that management regime could not be enacted. Bypass discharges of wastewater such as that into the Waiwhetū Stream would most likely be allowed to continue. This not only frustrates action to improve water quality but also undermines the aspirations of mana whenua and communities.

Overflows

Overflows differ from bypasses as they usually occur in the network prior to reaching a treatment plant, and often as a result of pipe breakages or combined stormwater and wastewater systems (cross-connections). These are typically discharges of untreated wastewater.

In the Wellington region, overflows of untreated wastewater are a major issue for communities and mana whenua, particularly in Porirua harbour. These discharges enter the inner harbour Te Awarua-o-Porirua, a taonga of great significance for mana whenua and of high value to the wider community. The frequency and volume of these discharges over time has led to severe environmental degradation of the harbour. Mana whenua and community representatives participating in the whaitua process for Te Awarua-o-Porirua were clear that this degradation must be halted and reversed, and that discharges of untreated or minimally treated wastewater into the marine environment are unacceptable.

On February 6, 2025, Te Wai Ora o Parirua – Porirua Harbour Accord[7], a commitment to restoring the ecological, cultural, and environmental integrity of the harbour, was signed by Te Rūnanga o Toa Rangatira, Porirua City Council, Greater Wellington, Wellington City Council, and Wellington Water Ltd alongside other stakeholders. Network overflows are a substantial and ongoing threat to the health of the harbour. We note that the proposed standards may not preclude more stringent management of overflows, and may therefore allow improvements to be made in water quality.

[4] See Te Mahere Wai: te_mahere_wai_20211028_v32_DIGI_FINAL.pdf
[5] `Natural Resources Plan 2023: CORRECT-Natural-Resource-Plan-Operative-Version-2023-incl-maps-compressed.pdf
[6] Greater Wellington — Whaitua te Whanganui-a-Tara
[7] Signing of Te Wai Ora o Parirua – Porirua Harbour Accord - Porirua City

However, Greater Wellington considers that any standard to manage overflows should also require a reduction in overflows.

In some situations, it is not appropriate to completely eliminate the potential for wastewater overflows, such as pump stations where public safety is at risk without a controlled method of flow release in emergencies. In addition, it may be cost prohibitive to eliminate an overflow, whereas a significant reduction in occurrences may achieve environmental and public health objectives.

Conclusion

We are very keen to continue to engage with Taumata Arowai in relation to the standards.

Nāku noa, nā

Daran Ponter
Heamana | Chair
daran.ponter@gw.govt.nz

Council responses to Taumata Arowai questions

General

Question/topic	Comments
• How should factors such as climate change, population growth, or consumer complaints be addressed when considering a 35-year consent term?	As noted above, the dilution ratio approach does not take into account the effects of climate change over the 35-year term of consent which will likely reduce baseflow in rivers as temperatures rise. The proposed standards do not leave room for amendment to occur in response to population growth, climate change, or any changes in the receiving environment. A 35-year term under fixed standards would therefore embed and consent the possibility of backwards steps in water quality across the region (and country) and means any improvements would need to be made and funded by the next generation. A 35-year term also doesn't provide for technological developments to be integrated as they occur. For WWTPs subject to a high risk of natural hazards from flooding or coastal inundation, a shorter term of consent should be required.

Discharges to water

Question/topic	Comments
EXCEPTIONS • Are the areas for exceptions appropriate to manage the impacts of discharges and do you anticipate implementation challenges? • How should the exceptions be further defined to ensure there are no unintended consequences?	Most of the six exceptions set out on p22 of the consultation document can be justified on environmental and/or public health grounds. However, some need more thought, and we anticipate implementation challenges, as outlined below. 1) <u>Pristine water bodies</u> It is unclear why this exception has been provided for freshwater but not estuarine or coastal water bodies. Further, use of Attribute Band A is not a robust or appropriate approach for rivers and lakes because: • Extensive evidence exists that many "pristine" freshwater bodies (i.e. unimpacted by human activities such as land use or point source discharges) do not meet NPS-FM Band A for all attributes due to natural influences. Examples include rivers with volcanic or, in some cases, mudstone or limestone geology, that naturally have elevated dissolved reactive phosphorus concentrations. Other examples include pristine streams where macroinvertebrate community health indices naturally fall in bands B-D, as evidenced by recent sampling in conservation areas undertaken by DoC. There are some existing WWTP discharges to water in these areas. • Many of the 'pristine' freshwater bodies will lack sufficient data to establish their current attribute state as the consent monitoring that has been undertaken will not have included all NPS-FM attributes or monitoring at the required frequency. Most approaches to protection of 'pristine' freshwater bodies recognise that landcover in the upstream catchment is the major driver of the condition of the waterbody. Therefore, a more robust and pragmatic approach to defining 'pristine', in terms of freshwater, would be to base it on waterbodies with c. 95% of their upstream catchment in natural landcover. 2) <u>Discharges to rivers or streams with a dilution ratio of <10</u> Clarity is needed if the specific consenting approach to be followed under this exemption will require the treatment limits to be at least as good as, or better than, those for the closest dilution ratio category (i.e. 'low dilution') or if the treatment limits can be ignored altogether. If the latter, it appears that there may be a risk of

	WWTP discharges being consented with more lenient effluent quality than anticipated under the Standard. 3) Discharges to a waterbody that has naturally high levels of a parameter The rationale for this exception needs to be clarified as it may in part overlap with the 'pristine' exception. It is also unclear if a WWTP discharge is only eligible for a 'relaxed' treatment limit for the relevant parameter(s). Based on our experience, only Total Phosphorus (TP) and Total Suspended Solids (TSS) would potentially be "naturally elevated", but the current wording indicates that the standard as a whole doesn't apply. If this exception is maintained, clarification would be required regarding its implementation. In particular, how to assess whether a parameter is "naturally high" and what constitutes "high". What happens in situations where only a proportion of the high parameter concentration / load in the waterbody is natural also needs to be clarified. With the exception of "pristine" waterbodies with no or minimal anthropogenic influence, concentrations / loads of contaminants in any water body will be a combination of natural and anthropogenic origin, and it is unclear how the "naturally high" criteria will be assessed in this context.
TREATMENT LIMITS AND MONITORING • Are the treatment limits, and monitoring and reporting requirements proportionate to the potential impacts of the different discharge scenarios?	Treatment limits As noted above, the proposed treatment limits consider receiving water dilution but not the quality of the existing receiving environment which may be already approaching or above guidelines for specific values (e.g., ecosystem health, recreation). The limits were back calculated from meeting swimming and other water quality guidelines in the receiving waters assuming no prior contamination of the receiving environment. The derivation of the *E. coli* and enterococci limits is not scientifically robust and may not protect human health. These standards appear lenient and do not reflect best practice for wastewater discharges. It is well established that these indicator bacteria are not perfectly correlated with the pathogens that harm human health, so relying on back calculations of dilutions calculations to meet the national microbiological water quality guidelines alone is inherently risky. The guidelines were also not intended to be used in this way. A Quantitative Microbial Risk Assessment (QMRA) is the most robust methodology to apply to assess the risks of pathogens to human health in both fresh and coastal waters. It is unclear why the discussion document only proposes requiring a QMRA for coastal waters where shellfish gathering occurs. This requirement should be extended to any receiving water body that has a recognised primary contact recreation site (e.g. designated in a regional plan) within close (e.g. 1 km) downstream proximity. Statistics The standards for $cBOD_5$, TSS, TN and TP are established as annual medians. Median limits are generally not environmentally protective, as significant fluctuations in effluent quality can occur and lead to environmental impact whilst remaining compliant with the standards. While the technical document considers medians are appropriate due to use of the MALF and the lowest possible dilution ratio for each receiving water type, this is negated by the additional assumption that the background receiving water concentration is zero. Only having a median statistic for TSS poses a particular risk of adverse environmental effects for oxidation pond discharges to rivers and streams. These ponds are associated with high concentrations of Particulate Organic Matter (POM) arising from their high algae content. It is well established that in oxidation pond systems, POM tends to peak in summer and, when discharged under stable/low stream flows, results in settling and decomposition on the streambed with the potential for significant adverse effects on benthic macroinvertebrates. This mechanism of adverse effects on aquatic life is (in our experience) frequently observed, well documented in the scientific literature and is the reason why many regional plans contain in-stream limits related to POM (or volatile suspended solids). These effects would breach s107(g) of the RMA (although it is proposed that the standards will be exempt from meeting s107, the rationale for the exemption

	was because there would be no significant adverse effects if the standards are met). To circumvent this risk, 'summertime' limits or high percentile limits (e.g. 90th percentile) should be considered for TSS and nutrients. Generally, the standards should be specified as *rolling* annual median and 90th percentile limits, to allow ongoing assessment of WWTP performance and compliance. Consideration also needs to be given to "mix and match" discharges (i.e. systems where part of the effluent is discharged to land, and part to water) where presumably monitoring would be limited to the period of discharge to water. This might be seasonal and would impact assessment against annual standards. <u>Effluent monitoring</u> Continuous monitoring is proposed for WWTPs servicing populations >10,000 but it is unclear if this means continuous (near real-time) instrument monitoring or daily grab sampling (or whether it is restricted to specific parameters). TSS, cBOD5, and pathogens are not able to be continuously monitored, and labs are not available on weekends to receive and analyse grab samples. As such adjustments to the sampling regime are required. We also suggest that monitoring frequency should primarily be determined on the basis of expected effluent quality variability, and population size should not determine the frequency of monitoring because variation in effluent quality is more strongly linked with WWTP type. Many towns across the country, including those with populations over 10,000 (e.g. Masterton in our region) and those with populations between 1,000 and 10,000 (e.g. most other towns in the Wairarapa) have oxidation pond-based treatment systems. These systems do not tend to exhibit fluctuations in effluent quality that warrant continuous or daily monitoring in the way that more mechanical-based (e.g. activated sludge) WWTPs do. Monitoring frequency needs to also be considered in light of the standards which are proposed to be medians or 90th percentiles. <u>Receiving environment monitoring</u> The discussion document (p24) states the standards will not require receiving environment monitoring for discharges to water, but is silent on whether this can be required by a regional council. Whilst the standards were developed to avoid adverse environmental effects in the receiving environment, the methods used to develop the standards rely on several very broad assumptions which are unlikely to hold true in all situations. In particular, discharges in the low and medium dilution ranges and discharges to lakes and low energy coastal environments. For clarity, we are not challenging the value of having clear, consistent national standards and recognise that those can only be based on broad simplifying assumptions. However, we do suggest receiving environment monitoring requirements need to be provided for, either in the standard or at the discretion of the regional council, to assess the extent to which the implementation of the standards leads to environmental improvements. There is inconsistency compared with the Discharges to Land Standard which sets out detailed and extensive receiving environment (soil and groundwater) monitoring requirements. Further, the monitoring appears to be mandatory with no regard for the uses of the groundwater, and there is no consideration that groundwater often has a strong hydraulic connection with nearby surface water. Many discharges to land occur adjacent to rivers and environmental impacts are picked up in river monitoring.
Small WWTPs • How should we define small plants and what changes to the default standards should apply to them?	The proposed definition of Small WWTPs (p25) appears somewhat arbitrary, equating to a population equivalent of 1,000 (albeit based on influent $cBOD_5$ load). Not all WWTPs servicing populations of this size are oxidation ponds, and this needs to be considered if less stringent standards are proposed. We disagree that oxidation ponds serving populations of <1,000 *"generally have a low impact on receiving environment, particularly in relation to nutrients", compared to other sources..." (pg25)*. Whilst the statement may generally be

	correct when considering sources of nutrients at the scale of a large catchment, point source discharges from 'small' communities to smaller streams and rivers can represent the greatest nutrient load at the point of discharge during low or stable flows in the summer months (particularly phosphorus) when periphyton is most likely to proliferate. Removing the need for these small plants to meet the total N and total P standards and (as we understood from attending a Taumata Arowai webinar) allowing them to be exempt from a site-specific risk assessment where they discharge into hard-bottomed streams, is likely to result in significant adverse effects on ecosystem health in at least some situations. Relaxation of *E. coli* or enterococci effluent limits has potential negative consequences for public health that may extend some distance downstream. As noted above, it is well established that indicator bacteria are not perfectly correlated with the pathogens that harm human health, and this is why QMRA is the most robust methodology to apply. Relying on dilution calculations to meet microbiological water quality guidelines is already inherently risky, as explained above. Further relaxation of the effluent limits increases the potential for greater numbers of pathogens to be discharged. We do not support less stringent treatment limits for TSS, particularly where the WWTP is an oxidation pond that discharges into a small stream. As noted above, oxidation pond discharges are associated with high concentrations of algal biomass (Particulate Organic Matter -POM), which have well documented and frequently observed adverse effects (potentially in excess of s107(1) (g)) on benthic macroinvertebrates. Given the cost of WWTP upgrades, it will be very challenging to achieve these standards. There needs to be careful consideration that the costs are achieving the environmental outcomes that sought by communities. Additional costs to meet *E. coli* standards for what are largely land-based discharges need to be considered, along with discharges that occur to land and water-based systems. The time required to achieve any upgrades should also be considered to avoid costly non-compliance or enforcement action. Similarly, where population growth requires small plants to upgrade and transition to large plants, the time required needs to be considered.
Periphyton • What feedback do you have for managing periphyton in hard bottomed or rocky streams or rivers? • What detail should be covered in guidance to support implementing this approach	The discussion document (p24) proposes that the standards for nitrogen and phosphorus would not apply to discharges to hard-bottomed rivers. It needs to be clarified if this is only the Total Nitrogen (TN) and Total Phosphorus (TP) standards or if also includes the ammoniacal N standards. In municipal wastewater discharges, ammoniacal N typically represents an important component of soluble inorganic nitrogen (SIN) that, together with Dissolved Reactive Phosphorus (DRP), can fuel nuisance periphyton growth. Therefore, managing periphyton growth would render the ammoniacal N standard redundant as it is set at a higher level for consideration of only toxicity. Reference is made in the technical report (p26) to the MfE 'Guidance on look-up tables for setting nutrient targets for periphyton'. This guidance is based on the use of a periphyton model which was <u>not</u> designed for use at a scale finer than catchment or freshwater management units. In other words, the periphyton model in the MfE guidance should <u>not</u> be used for site-scale assessments as it possibly appears to be suggested in the technical report. Managing nuisance periphyton growth downstream of a point-source discharge requires site-specific information on existing nutrient concentrations (including the relative abundance of SIN to DRP and how these change over the course of a year), substrate type, frequency of 'flushing flows' (which are specific to each stream) and shade cover. Further, if the standards are to be set at TN and TP, as it appears to be the intent, there needs to be a good understanding of what proportion of TN and TP comprise Dissolved Inorganic Nitrogen (DIN) and DRP as this will vary between WWTP systems. Clarity is needed around the site-specific assessment, in particular what threshold of periphyton biomass/cover the Standard considers 'excessive' (e.g. is this Band

	C/D of the NPS-FM or a regional plan target attribute state if one exists?). This is critical because it directly affects the setting of nutrient standards for the WWTP discharge. Finally, it also needs to be recognised that, in the current state of scientific knowledge, any nutrient/periphyton modelling or assessment remains very uncertain and should only be relied on as a risk assessment tool. The actual periphyton outcomes should in all cases be verified via receiving environment monitoring, and regional councils need to have the ability to establish adaptive monitoring and management processes.
Other matters	Receiving environment definitions Clearer definition is required around 'estuarine', 'low energy coastal' and 'open coast' receiving environments. The technical guidance appears to assume that WWTP discharges into the latter two categories always have diffusers. Several coastal discharges servicing large populations in the Wellington Region have short outfalls and lack a diffuser. In addition, although the discharges are often exposed to high energy waves, periods of calm conditions can occur where the buoyant 'freshwater' effluent plume is conspicuous on the surface and can travel considerable distance.

Discharges to Land

Question/topic	Comments
Are the proposed parameters appropriate to manage the impact of wastewater discharges to land?	Overall The selection of parameters and the rationale for setting limits is inconsistent with how the parameters for discharges to water were selected. Different approaches and frameworks are applied for water vs land discharges. The target criteria and overarching methodology should be applied in the same way. Nutrients Using Total Nitrogen (TN) and Total Phosphorus (TP) loads as the primary parameters to manage the impacts are appropriate. However, the standards proposed for Class 1 locations are high, possibly too high, and unsustainable. The hydraulic loads (annual water application depths) will also be unsustainably high for nitrogen loads above 300 kg N/ha/y. Nitrogen losses and groundwater mounding are also more likely to be unacceptable. Pathogens Using *E. coli* concentrations is not as relevant as nutrients for managing impacts in many cases. The proposed standards are very low and in many agricultural settings not needed. Soils can tolerate higher pathogen concentrations. Driplines placing the water either on the ground or subsurface readily manage pathogens and protect public health. Soils will usually filter out pathogens, and most pathogens will die in soil. Sunlight and drying will kill pathogens. Exclusion periods for stock and people accessing the discharge area can readily manage health risks. Limiting *E. coli* more restrictively than for discharging to waterways is inconsistent and might discourage land discharges and, perversely, will encourage water discharges. The proposed standards require that WWTPs discharging to land and water will need to achieve the more restrictive standards all the time. In many cases, this will incur additional costs by requiring additional treatment technology.

	<u>Hydraulic Rates</u> Limits to discharge rates and application events are appropriate parameters for managing most discharges to land. However, limiting discharges to 5 mm/h and 15 mm/event is not necessary in some instances. The proposed standards provide no linkage with the soil properties nor with limiting soil moisture and drainage to groundwater. Sandy sites are able to cope with higher applications (and year-round) than heavier clay soils which potentially should have a lesser application rate. There is also the potential that applying such volumes to heavier clay soils during autumn to spring will generate drainage to groundwater and create saturated conditions that will impact on system performance. To successfully comply with the proposed standards, storage or water discharges will be necessary for most sites in order to prioritise discharge during the summer months and reduce contamination risk. Hydraulic limitations should be variable (albeit prescribed) and reflect soil properties.
What benefits and challenges do you anticipate in implementing the proposed approach? Are there other particular matters that could be addressed through guidance material?	<u>Benefits</u> Standardised discharge parameters and consent conditions with 35-year terms are highly beneficial. This avoids debate about site suitability and land discharge limits, which is a beneficial outcome of national standards. Existing publicly accessible online GIS systems support the initial desktop site selection and assessment processes proposed. This could be incorporated into the information made available, and/or used to refine the category criteria that has been used. <u>Challenges</u> *Site Selection and Discharge Design* The standards have an incomplete process for selecting sites, developing designs, incorporating mitigation measures, and minimising adverse effects. The land suitability assessments and risk management process are not consistent with best practice or LTC Guidelines (which are referenced in the standards). It is unclear how mitigations (especially design mitigations) reduce the risks and enable systems. The land selection and discharge management proposal is very unclear. Also, guidelines need to be developed and robustly reviewed before confirming they are suitable for standards. There is insufficient time to do this before August 2025. Natural hazards are not fatal to land discharges. Flooding can be accommodated. Volcanic eruptions are rare. Faults rarely rupture the land surface, although shaking can be destructive across very large areas and long distances from the earthquake's epicentre. Therefore, care is needed to not overstate the risks of natural hazards. Good practice with developing land discharge systems involves an iterative process of adjusting design and mitigation measures to reduce adverse effects until an integrated system and acceptable effects are achieved. Storage and discharge management, including to surface water, can be adjusted to reduce effects. *Efficiency of Funding Environmental Improvements*

	Land discharges are often expensive ways to improve waterway health. Work has been undertaken that shows investment into rural catchments to reduce nutrient loads will be much more financially efficient than WWTP upgrades to reduce discharge effects – when adopting a holistic approach to managing water quality. Discharging to land can achieve direct benefits for waterways as it removes a source of contamination from the waterway. However, there are no incentives to develop land discharge systems when it is cheaper to upgrade WWTPs and obtain consents for discharges to water. Consideration also needs to be given to tangata whenua/awa values and consistency with Regional Plan obligations – which in many cases are directive to adopting land application systems. *Combined Land and Water Discharge Systems* The standards do not integrate water and land systems at all, yet combined systems are commonplace. A standard for combined land and water discharge systems with storage would be very helpful, or at least linkage between water and land discharges. *Exclusions* There are other land discharge systems and a much broader mix and match options for beneficial reuse that could be included. The identified exclusions are too broad. Rapid infiltration could have a standard. Beneficial reuse definition is too broad. This standard needs to be clearly defined as a discharge to land by irrigation standard, and there should be acknowledgment that other standards, such as high-rate systems, need to be defined over time.
Are the monitoring and reporting requirements proportionate to the potential impacts of the different discharge scenarios?	Groundwater monitoring can be onerous for large sites and terrain or groundwater with diverse downstream directions. The prescriptive approach is good but questionable if appropriate for varying land-use and site conditions.
Other feedback	<u>Implementation</u> It is unclear how these standards will be implemented. Will they be Regulations, NES/NPS, and/or Guidelines? How will these interact with Regional Plan Policies and Rules? Will the Regional Plan provisions be replaced, or only overridden in specific circumstances? Regional Plans commonly require land discharges, but these standards encourage water discharges through less onerous standards. This conflicts with stated views of iwi and communities – and also with Objectives and Policies in Regional Plans, which in many cases are very prescriptive for land-based discharges. A number of WWTPs have been successfully consented in the last 10 years based on good or best practice that meet Regional Council Policies and RMA principles, yet they do not comply with the proposed standard (e.g. Carterton WWTP). In particular, the hydraulic, pathogen, and nitrogen standards may not be met. It is unclear how these new or recently upgraded systems will be incorporated into this standards approach. In some cases, enacting the standards brings the need for further upgrades to enable WWTPs to meet the standards, particularly given considerable investment has already been made.

Overflows and Bypasses

Question/topic	Comments

Wastewater risk management plans • Do you support establishing a framework that determines how overflows are managed based on risk? • How should Wastewater Risk Management Plans relate to existing risk management planning tools, and if the Local Government (Water Services) Bill proceeds, stormwater risk management plans? • What should be covered in guidance to support developing wastewater risk management plans? • We understand wastewater risk management plans are already required in some regions – what approaches have worked well and where is there room for improvement? • How should Wastewater Risk Management Plans interact with the proposed consenting pathways for overflows and bypasses? • Are there examples of existing approaches to managing overflows that would work well as matters of control? • What matters should be covered in guidance material to support monitoring and reporting requirements?	As noted above, bypasses need to be managed separately, and in a different manner to overflows. Bypasses should be managed as a discharge to water or land in a similar manner to WWTPs, to avoid a situation where wastewater is bypassed rather than treated in order for the WWTP to meet standards or conditions. <u>Overflows</u> Clarity is needed about whether new wastewater overflows will automatically be allowed as controlled activities under the Standard, as well as provision for the proposed deletion of the controlled activity class under forthcoming reforms. This is important given the ageing state of infrastructure and current demands for more housing. A risk-based framework is appropriate to manage the public and environmental health effects associated with wastewater overflows. Careful consideration is required around the definition of "high frequency" and "high risk" discharges. For example, a discharge of low frequency can pose a high risk if the discharge occurs for a prolonged period or in proximity to sensitive receiving environments. Greater Wellington uses a risk management framework to manage wastewater overflows, which takes into account factors such as the number, frequency and volume of overflows and receiving environment sensitivity (e.g. dilution, mixing, potential for downstream cumulative effects) and values (e.g. ecological, primary and secondary contact recreation, food harvest, cultural) Telemetry with automated warnings is an essential provision for overflow discharges that occur frequently into receiving waters that are used regularly for contact recreation or food gathering. It is essential that a Wastewater Risk Management Plan is considered alongside interactions between the sewerage and stormwater networks. Requiring an integrated approach to monitoring wastewater and stormwater discharges should also be considered. Measures to monitor and plan reduction Inflow and Infiltration (I&I) should be a feature of the Standard.

Biosolids

Question/topic	Comments
General comments	Relying on the draft Beneficial Use of Biosolids and other Organic Materials on Land (Good Practice Guide) 2024 is sensible and fully supported.
What matters of control or restricted discretion should sit with consenting authorities to manage the reuse of biosolids?	These should be based on the Guidelines.
What should the permitted activity standards include?	Aa graded biosolids applied to land in accordance with the Guidelines.

How should contaminants of emerging concern in biosolids be addressed in the short-term?	Contaminants to be considered should match the approach suggested in the Guidelines. As evidence for effects of emerging contaminants is generated, the Guidelines and Standards can be amended.

S124

Question/topic	Comments
• How long should wastewater treatment plants be able to operate under section 124 of the RMA once wastewater standards have been set?	It might not be practical to get required upgrades accomplished in a specific timeframe particularly where appeals to Courts are involved. Also, it is not possible to simply turn off a WWTP that is connected to a town. This makes upgrading or managing existing WWTPs more problematic than a new plant. It will take time for Water Services Organisations (WSOs) to prepare applications and then work through the relevant consent process. Our recommendation is that the standards do not specify a timeframe and leave it to the usual operation of s124. This is that s124 protection ends once all appeals are determined. In addition, these consents should be excluded from the RMA discounting provisions as regional councils should not be at risk of having to discount processing charges while this new process for consenting wastewater discharges is navigated.