

### Submission on the discussion document: Consultation on proposed wastewater environmental performance standards

To the Water Services Authority - Taumata Arowai

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#### Submitter details

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#### Parliamentary Commissioner for the Environment

The Parliamentary Commissioner for the Environment was established under the Environment Act 1986. As an independent Officer of Parliament, the Commissioner has broad powers to investigate environmental concerns and is wholly independent of the government of the day. The current Parliamentary Commissioner for the Environment is Simon Upton.

#### Introduction

Thank you for the opportunity to provide feedback on the proposed wastewater environmental performance standards.

Importantly, the proposed wastewater standards are part of a broader framework created by the Local Government (Water Services) Bill (the Bill), which is currently before a Parliamentary select committee. I have several concerns with the Bill, as outlined in my submission.<sup>1</sup>

Many of these concerns remain in the context of the wastewater standards consultation. These include the proposal that the standards made under the Water Services Act become the top of the hierarchy under the Resource Management Act 1991; the inability to take account of sometimes significant regional and local variations around New Zealand; and the prohibition on the regional councils to impose more restrictive limits and conditions than the national standards. Further, in my submission on the Bill, I have also suggested that 'environmental performance standards' should be redefined and limited to 'operational performance standards' or 'infrastructure performance standards'.

I am conscious that the exact requirements that the Bill will impose on the setting of wastewater standards depend on what changes, if any, the select committee recommends and what might get passed into law. I also understand that the standards need to fit within the policy parameters set by the Government. Saying that I think it is important that the standards work hard to minimise the potential negative environmental risks that the proposed policy position raises.

I recognise that one of the objectives of the standards is to reduce costs and bring some standardisation to the delivery of infrastructure. In my submission on the Water Services Bill, I noted that this could lead to one of two undesirable situations. The result will either be overengineered solutions that cost councils and ratepayers more than necessary, or lower standards that will mean greater environmental degradation with no ability for local communities to manage it.

I think that the proposed wastewater standards, as drafted, do not strike the right balance. It should be possible to achieve the benefits of a measure of standardisation while taking account of the specific receiving environments that must be managed around the country.

Given this tight link and remaining concerns, this submission on the wastewater standards needs to be read in conjunction with my submission on the Bill.

My submission is structured around six key themes.

<sup>&</sup>lt;sup>1</sup> PCE, 2025. PCE submission on the Local Government (Water Services) Bill. <u>https://pce.parliament.nz/publications/submission-on-local-government-water-services-bill/</u>

# The proposed wastewater standards risk introducing additional complexity and fragmentation

The proposed wastewater environmental performance standards will only apply to public wastewater treatment plants and networks. The standards will apply to discharges to water and land and will cover biosolids and network overflows. It is proposed that the standards will cover only a narrow set of contaminants. Arrangements for private networks, onsite wastewater treatment systems (such as septic tanks) and community-owned and operated schemes are out-of-scope, as are discharges to air from wastewater treatment plants and other contaminants, such as heavy metals and emerging contaminants. These are said to be considered as part of the traditional consenting process.

Further, the discussion document proposes additional exceptions to the standards, such as when characteristics of the receiving environments fall outside of simplified categorisations of the receiving environments (more on this below).

At a technical level, these carve-outs risk introducing complexity by fragmenting the resource consenting process and creating inefficiencies. Currently, councils assess the effects of wastewater treatment plants on a case-by-case basis through the resource consenting processes and require an assessment of the sensitivity of the receiving environment to properly consider the effects. It is not clear how the process will work if, for the same wastewater plant, some aspects and parameters will be prescribed by the standards under the water services legislation, while other parameters will still require community engagement and assessment of the receiving environment, as part of the resource consenting process under the resource management legislation.

This risk of increased complexity with the consenting process has been identified by officials in the Regulatory Impact Statement (RIS). The RIS notes:

"There may also be a risk of increased complexity with the consenting process being managed under two different pieces of legislation. Normally all consenting matters associated with a plant are dealt with at the same time (and have the same expiry dates). Having additional legislative processes in place may decrease efficiencies, for example if not all consents are renewed with the same duration or have conflicting conditions with the primary discharge consents. As other consents will still be considered under the RMA and include notification with key stakeholders or the public, it's possible that these additional processes could drive a different outcome."<sup>2</sup>

However, instead of finding ways to address and decrease this risk, this option was considered the preferred option in the RIS, which noted:

"Overall, [this] option ... finds a balance between achieving the greatest amount of standardisation within the timeframes available, by prioritising the standards and changes that

<sup>&</sup>lt;sup>2</sup> Water Services Authority - Taumata Arowai, 2025. Regulatory Impact Statement: Wastewater standards, p.32. <u>https://www.taumataarowai.govt.nz/assets/Uploads/Wastewater-consultation/Wastewater-standards-interim-regulatory-impact-statement.pdf?vid=6</u>

most effectively manage the risk to public health and the environment – discharges to land, water, biosolids, as well as risk management plans for overflows."<sup>3</sup>

The standards need to give much greater guidance to councils on how to manage the interaction between the standards and the other parameters that councils may need to set limits for (e.g. heavy metals, PFAS and other contaminants not covered by the standards) through both the consenting process and how compliance monitoring and enforcement will work in this dual regulatory environment. I detail some particular concerns with the lack of clarity around monitoring later in this submission.

## The proposed wastewater standards appear to have been developed in the absence of adequate information

Neither the discussion document, nor the RIS provide an analysis of how the proposed standards compare with the current limits for discharges, set for wastewater treatment plants in the current resource consents across the country. Further, the documents remain silent on how the proposed standards will affect the discharges to receiving environments, and whether the existing state of those receiving environments will likely get better or worse under the proposed standards.

The RIS makes it clear that the discussion document has been developed "at pace", and the analysis in the RIS "has relied on the information available at the time of writing". The RIS explicitly states that:

"It is not yet possible to anticipate the impacts associated with the conditions of new standards without further detail on the wastewater standards themselves and how they compare to the conditions currently imposed, or that are likely to be imposed in future on new and renewed consents under the effects-based regime."<sup>4</sup>

The only broad-brush analysis available is contained in technical reports prepared by GHD, Beca and Stantec consultants for the Water Services Authority – Taumata Arowai (the Authority).<sup>5</sup> Among other things, the technical report on discharges to land notes:

<sup>&</sup>lt;sup>3</sup> Water Services Authority - Taumata Arowai, 2025. Regulatory Impact Statement: Wastewater standards, p.38. <u>https://www.taumataarowai.govt.nz/assets/Uploads/Wastewater-consultation/Wastewater-standards-interim-regulatory-impact-statement.pdf?vid=6</u>

<sup>&</sup>lt;sup>4</sup> Water Services Authority - Taumata Arowai, 2025. Regulatory Impact Statement: Wastewater standards, p.4. <u>https://www.taumataarowai.govt.nz/assets/Uploads/Wastewater-consultation/Wastewater-standards-interim-regulatory-impact-statement.pdf?vid=6</u>

<sup>&</sup>lt;sup>5</sup> GHD, 2025. Technical Advice on Discharge to Water Standards, p.28–29. https://www.taumataarowai.govt.nz/assets/Uploads/Wastewater-consultation/Final-draft-REP-Technical-Advice-on-Discharge-to-Water-Standards-REVC\_Final-Draft.pdf

GHD, 2025. Technical Advice on Wastewater Performance Standards: Discharge to Land, p.42–43. <u>https://www.taumataarowai.govt.nz/assets/Uploads/Wastewater-consultation/Technical-Advice-on-Discharge-to-Land-Standards\_FINAL-DRAFT\_14-2-25.pdf</u>

"At this stage, it is not appropriate to directly compare existing consented load limits with the proposed Standards, as a detailed assessment of each site would need to be undertaken... It is proposed that further verification should be undertaken following submission of this report."<sup>6</sup>

This is worrying, as a robust comparison of the proposed standards with the currently imposed conditions and importantly "a detailed assessment of each site", should be a key part of the standards development process. It is essential that the proposed standards are grounded in rigorous scientific evidence if they are to be both effective and credible. Far-reaching decisions risk being taken in the absence of important information.

Given the paucity of this information, it is important that great care is taken in setting the standards. Especially if those standards might be inserted into consents that last 35 years, with little flexibility to rachet them up if the standards are later found to be lacking and lead to significant negative environmental impacts. This is especially true since one of the policy objectives of the move to standardisation is to get economies of scale from greater standardisation of treatment technology around New Zealand. We risk locking in inadequate infrastructure and technology. Haste in setting the standards could easily lead to very expensive mistakes that are difficult to correct in the future.

The Authority needs to work much more closely with each regional council and their constituent district councils to identify the particular issues they face, to ensure the proposed standards do actually reflect a ratcheting up of existing practice. In setting these standards it should consider ways to avoid lock-in and enable amendments as more information comes to hand.

Finally, while the Water Services Bill provides for periodic reviews of the standards, the frequency of these reviews remains unclear. Will the standards need to be reviewed if impacts from discharges are higher than anticipated or our understanding of the impacts on the receiving environment evolves? I note that the proposed standards do not incorporate any considerations of climate change and its impacts, especially in the context of adaption of the wastewater treatment plants to the changing climate. Yet, this is likely to become an issue if the 35-year long resource consents proposed under the Water Services Bill do not have sufficient flexibility to be updated, to account for adaptation or any other changes that occur within that period.

The Authority should provide explicit guidance as to how, and when, the standards will be updated so that all councils can plan ahead.

<sup>&</sup>lt;sup>6</sup> GHD, 2025. Technical Advice on Wastewater Performance Standards: Discharge to Land, p.42. <u>https://www.taumataarowai.govt.nz/assets/Uploads/Wastewater-consultation/Technical-Advice-on-Discharge-to-Land-Standards\_FINAL-DRAFT\_14-2-25.pdf</u>

### The proposed environmental performance standards could lead to negative environmental impacts on some receiving environments

I acknowledge the importance of bringing the environmental performance of wastewater treatment up to scratch. It appears that the proposed standards will help do that for the plants that currently operate below the proposed standards.<sup>7</sup>

However, I understand that many councils operate wastewater treatment plants that currently exceed the standards. They do that either because some current limits and conditions for wastewater treatment plants are more stringent than the proposed standards or, where a consent is not clear on limits, they do so because communities decided that they wanted a higher standard.

For example, the Waikato Regional Council notes in its submission that:

"Many existing municipal wastewater discharges have contaminant standards in their existing consents or current applications which are of higher quality than what the Standards would require. The Standards would undo significant work and investment already undertaken by territorial authorities and encouraged by the Council, in upgrading wastewater treatment plant discharges."<sup>8</sup>

Similarly, the Auckland Council's submission points out that:

"Meeting these standards [particularly the low limits on *Enterococci* for discharges to open ocean] would potentially mean a reduction in the level of treatment provided by plants with ocean outfalls."<sup>9</sup>

The Waikato Regional Council has nicely summed up the expected effects of the standards:

"...the Council's internal data shows that for regionally monitored rivers 40–60% of the Waikato sites already have significant adverse effects on aquatic ecosystems from nitrogen and phosphorous. If the Standards do not, at the least, hold discharge quality at the levels of stringency they are now, then water quality across the region will deteriorate and the

https://www.waikatoregion.govt.nz/assets/WRC/WRCSubmissionProposedWastewaterStandards.pdf

<sup>&</sup>lt;sup>7</sup> From the broad analysis in the technical report on discharges to water, it appears that some wastewater plants currently operate on consents that are lower than the proposed standards. Further, many medium and small wastewater plants do not appear to have limits on the four contaminants (total phosphorus, total nitrogen, *E coli* and *Enterococci*). See GHD, 2025. Technical Advice on Discharge to Water Standards, p. 29. <u>https://www.taumataarowai.govt.nz/assets/Uploads/Wastewater-consultation/Final-draft-REP-Technical-Advice-on-Discharge-to-Water-Standards-REVC\_Final-Draft.pdf</u>

<sup>&</sup>lt;sup>8</sup> Waikato Regional Council's submission on the proposed wastewater environmental performance standards, p4.

<sup>&</sup>lt;sup>9</sup> Auckland Council's submission on proposed wastewater environmental performance standards, p.20.

percentage of waterways across the region experiencing significant adverse effects, and the degree of those effects, will only worsen."<sup>10</sup>

My concern is that the wastewater treatment plants that currently operate above the proposed standards might lower their standards, given that the proposed national standards are more lenient. This could lead to negative environmental impacts in some receiving environments in those locations. While this might be unlikely in the short-term, especially in cases where plant infrastructure has been set up to undertake higher levels of treatment, different considerations may come into play at the expiry date of the current consents. One council told me that it could just turn off some parts of their existing treatment system and still meet the standards (but added they did not plan on doing so due to community concerns about wastewater discharges).

A way to prevent backsliding is to specify in the standards that no new consents should include lower limits or conditions than the limits or conditions in the current consents. I recommend that the Authority investigate how this might work from a legal perspective.

A separate point is that the proposed standards are not linked with the management of other types of 'waters' – in particular freshwater and drinking water – even though all these 'waters' are interconnected, and contaminants easily move from one 'type' of water to another. In other words, there are no linkages with the National Environmental Standards for Sources of Human Drinking Water 2007, Water Services (Drinking Water Standards for New Zealand) Regulations 2022, the National Environmental Standards for Freshwater 2020, the National Policy Statement for Freshwater Management 2020, and any other relevant national direction. That is an oversight, as discharges from wastewater treatment plants can be large contributors to total loads of contaminants affecting both the quality of freshwater and drinking water.

For example, as noted in the submission on the Water Services Bill by the Horizons Regional Council, when considering land use contributions in the Manawatu catchment, the total nitrogen load contribution from point sources to the Manawatu River increases from approximately 1.77% upstream of the Palmerston North wastewater treatment plant to approximately 12.81% downstream.<sup>11</sup>

Less stringent wastewater standards coupled with the inability of councils to set more stringent requirements and prohibition on considering, among other things, the sensitivity of the receiving environment or any significant adverse effects on aquatic life (as proposed under the Water Services Bill), will mean that a disproportionate burden will be placed on the discharges of those who are not water service operators (e.g. farmers). This also risks undermining the investment and the work that has gone on over the years into setting up a targeted catchment-scale approach, to enhance the water quality of such iconic lakes as Taupō and Rotorua.

To put it simply, if wastewater treatment plants discharge more polluted water, other users in the catchment will need to do more to maintain the overall level of water quality in the

<sup>&</sup>lt;sup>10</sup> Waikato Regional Council's submission on the proposed wastewater environmental performance standards, p7.

 $<sup>\</sup>underline{https://www.waikatoregion.govt.nz/assets/WRC/WRCSubmissionProposedWastewaterStandards.pdf$ 

<sup>&</sup>lt;sup>11</sup> Horizons Regional Council's submission on the Local Government (Water Services) Bill. <u>https://bills.parliament.nz/v/6/fb7b9127-28f5-42b3-5e06-08dd18a12bfb?Tab=hansard</u>

catchment. Such an approach potentially shifts the burden of improving environmental performance from the public to the private sector (acknowledging that **all** users should improve environmental performance).

Finally, the discussion document proposes a separate discharge to water standard for small wastewater treatment plants.<sup>12</sup> The discussion document notes that these are often oxidation ponds that rely on passive treatment processes. While not proposing any specific numerical limits or standards, the discussion document proposes less stringent treatment requirements – for example, the removal of limits on total nitrogen and total phosphorous, and less stringent treatment requirements *for E. coli/Enterococci*, total suspended solids and dissolved oxygen.

I have no issues with varying the stringency of treatment requirements based on a place-based approach that takes into account the characteristics of the plant, the local environment and community engagement. What I have an issue with is the one-size-fits-all approach – a standard that does not take into account local variations of the natural environment or the different sensitivities of the receiving environment into which discharges are made.

I am also concerned about the assumption in the discussion document that small wastewater treatment plants have a low impact on the receiving environment:

"These plants generally have a low impact on the receiving environment, particularly in relation to nutrients, compared to other sources in the surrounding catchment."<sup>13</sup>

I question this assumption and note that these small wastewater treatment plants:

- often have limited treatment ability (i.e. passive treatment processes in oxidation ponds) compared with larger plants with more sophisticated technology, as acknowledged in the discussion document
- often discharge to smaller waterways with lower flows, which means that although the quantum of pollution discharged might be smaller it can have an outsized impact on the receiving environment.

The standards need to be much more specific on what the numerical requirements will be for small wastewater treatment plants and how any exceptions would work. Leaving that ambiguous might seem sensible given their small size and likely the limited resources of their ratepayer base. However, a lack of specificity poses risks to more sensitive receiving environments that these plants might discharge to.

All-in-all, I am concerned that the proposed wastewater **environmental** performance standards (for discharges to water in particular) could lead to negative **environmental** impacts in some receiving environments.

<sup>&</sup>lt;sup>12</sup> Small wastewater plants are understood to be plants serving less than 1,000 people.

<sup>&</sup>lt;sup>13</sup> Water Services Authority – Taumata Arowai, 2025. Consultation on proposed wastewater environmental performance standards, p.25.

https://www.taumataarowai.govt.nz/assets/Uploads/Wastewater-consultation/Discussion-document-National-wastewater-environmental-performance-standards-FINAL.pdf?vid=3

# Diverse receiving environments are not served well by basic categorisations

The discussion document proposes setting out standards for discharge to water and discharge to land according to a very broad and basic classification. I am concerned that the proposed standards, as consulted on, are too rigid and do not go far enough in terms of recognising different sensitivities of the diverse receiving environments across the country. The highly variable nature of the natural environment means that an overly simplified classification scheme is likely to be detrimental.

For example, in the context of **discharges to water**, the discussion document proposes to specify seven categories of receiving environment, based on dilution and type of receiving environment:<sup>14</sup>

- Lakes and natural ponds with dilution ratio >50
- River or stream with dilution ratio >10 and <50 (low)
- River or stream with dilution ratio >50 and <250 (moderate)
- River or stream with dilution ratio >250 (high)
- Estuaries with dilution ratio >50
- Low energy coastal with dilution ratio >100
- Open ocean with dilution ratio >1,000.

This means that all **lakes** will be covered by the same standard and yet many of our lakes are very different. Their baseline state and sensitivity to contaminants is also very different.

Lake Wanaka, for example, is a lake of glacial origins in a mountainous region. Its water quality is generally considered good, and the lake is considered microtrophic (has low levels of nutrients and algae). Likewise, water quality in Lake Taupō – a lake formed in a volcanic caldera – is also generally good. This is, in part due to significant investment that has been made in its catchment, including targeted rules to reduce the impacts from nitrogen and phosphorus on water quality. By comparison, the water quality in lakes Horowhenua and Wairarapa is considered very poor, with the lakes being classified as supertrophic.

Shallow lakes, such as Lake Waikare (riverine) or Lake Rotomanuka (a peat lake) in the Waikato, function very differently hydrologically to deep lakes, such as Lake Wanaka. Among other things, they stratify differently. Such properties influence how impactful any discharges will be.

It is simply not clear how a single metric for all lakes will benefit the wide variety of lakes present in New Zealand. I understand that many in the scientific community propose that any discharges to a lake should be subject to a bespoke resource consent assessment, not standardisation. That is also my view. If there is a determination to press ahead with a standard

<sup>&</sup>lt;sup>14</sup> Note that in situations when characteristics of the receiving environments fall outside of these categories, it is envisaged that the proposed wastewater standards would not apply, and any treatment requirements would be set in resource consent conditions by the relevant regional councils, as part of the exceptions to the standards.

for discharge to lakes, it needs to be much more sophisticated and graduated than what is currently proposed.

Likewise, not all **estuaries**, creeks, firths, inlets, gulfs, coves, river mouths, bays, lagoons, harbours, streams, fjords, sounds, havens and basins are the same. Yet they are lumped together in the discussion document under the heading of 'estuaries'.

As the Auckland Council notes in its submission, the inadequacy of the definition of an estuary could embrace the Hauraki Gulf, because it is named as a gulf on the NZMS 1:50,000 topographic map.<sup>15</sup> However, it is one of many areas that the general public might not consider to be an estuary. Much the same could be said for Waituna lagoon.

It is strange that higher numerical limits have been proposed for estuaries than for low and moderate dilution rivers.<sup>16</sup> This goes against research findings that estuaries, which are located at the bottom of catchments, are more sensitive receiving environments than the rivers that flow into them.

On the other hand, given the very low proposed limit of *Enterococci* for discharges to **open ocean**, it looks as though (almost) untreated sewage will be allowed to be discharged into the ocean. This approach relies entirely on dilution to take care of any pollution.

Yet, these ocean discharges are often made in urban areas (e.g. Auckland) where significant investment has been made in wastewater treatment infrastructure to treat wastewater to a higher standard. According to the Bay of Plenty Regional Council, the proposed *Enterococci* limit represents an 11-times increase on the current consented limit for Tauranga City Council's wastewater treatment plant discharging to the open ocean.<sup>17</sup> Moving to lower treatment standards could have significant implications in terms of the social license afforded to wastewater plant operators in these urban settings.

The Auckland Council's submission raises a similar point:

"Watercare observes that while it supports the concept of standardisation, it questions whether some of the limits may not achieve the environmental outcomes sought for the receiving environments, particularly the low limits for ocean discharge. Meeting these

<sup>&</sup>lt;sup>15</sup> Auckland Council's submission on proposed wastewater environmental performance standards, p.20.

<sup>&</sup>lt;sup>16</sup> It is also surprising, given that on the sensitivity of water bodies estuaries are ranked sixth of the seven categories of receiving environments on the Water Services Authority – Taumata Arowai diagram titled, *National Wastewater Standards: Striking an optimum balance.* 

https://www.taumataarowai.govt.nz/assets/Uploads/Wastewater-consultation/National-wastewaterstandards-Striking-a-balance-final.pdf?vid=3

However, the proposed limits for estuaries on p.23 of the discussion document place estuaries between the third and fourth category. Water Services Authority – Taumata Arowai, 2025. *Consultation on* proposed wastewater environmental performance standards, p.23.

https://www.taumataarowai.govt.nz/assets/Uploads/Wastewater-consultation/Discussion-document-National-wastewater-environmental-performance-standards-FINAL.pdf?vid=3

<sup>&</sup>lt;sup>17</sup> Bay of Plenty Regional Council's submission on proposed wastewater environmental performance standards, p.11.

standards would potentially mean a reduction in the level of treatment provided by plants with ocean outfalls."<sup>18</sup>

Likewise, categorising **all rivers and streams** into three categories is too simplistic. By comparison, the River Environment Classification (REC) – a well-known classification among freshwater scientists and modellers – groups rivers into many more classes, based on six hierarchical levels with additional sub-categories for each.<sup>19</sup>

Another point to mention across all the proposed categories for discharge to water is that the calculation of the dilution ratios lacks clarity. Simplified categorisations encourage guessing as opposed to robust assessments about what dilution ratios should apply for specific receiving environments. The standards need to be more specific about the methodologies they employ for dilution ratios and determining numerical limits. Those methodologies should be developed by freshwater scientists who are experts in hydrodynamic modelling and freshwater and coastal ecology and environments, not engineers. These are after all, **environmental** performance standards.

In the context of **discharges to land**, I have similar concerns about basic categorisations. The table presented on page 29 of the discussion document is additionally confusing as class 4 is missing. Further, there is no explanation of how the numeric limits suggested in the table have been arrived at. It is also mystifying that an unlimited amount of E. coli can be discharged on class 1 sites. Surely, there should be an upper limit for any such discharge.

According to the discussion document, discharge to wetlands is a form of discharge to land.<sup>20</sup> However, wetlands hold a significant amount of water and under the RMA 1991 are often considered waterbodies.<sup>21</sup> The water in wetlands often discharges to other waterbodies, such as streams. Given that, the Authority should reconsider how discharges to wetlands are treated to ensure all discharge situations are covered. This may require differential treatment for different types of wetlands.

To summarise this section, the standards should:

- be set for a much wider range of receiving environments by including greater 'subtypes', especially for particularly sensitive environments, such lakes, wetlands, estuaries, smaller rivers and different river types
- be significantly strengthened for estuaries

<sup>&</sup>lt;sup>18</sup> Auckland Council's submission on proposed wastewater environmental performance standards, p.20.

<sup>&</sup>lt;sup>19</sup> For details, see Snelder, T., Biggs, B., Weatherhead, M., 2004 (updated 2010). New Zealand River Environment Classification User Guide. <u>https://environment.govt.nz/assets/publications/acts-regs-and-policy-statements/rec-user-guide-2010.pdf</u>

<sup>&</sup>lt;sup>20</sup> Water Services Authority – Taumata Arowai, 2025. Consultation on proposed wastewater environmental performance standards, p.26.

https://www.taumataarowai.govt.nz/assets/Uploads/Wastewater-consultation/Discussion-document-National-wastewater-environmental-performance-standards-FINAL.pdf?vid=3

<sup>&</sup>lt;sup>21</sup> The RMA defines a wetland as permanently or intermittently wet areas, shallow water and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions. See RMA 1991, s2.

- reconsider how discharges to wetlands are treated, given that wetlands hold a significant amount of water that often discharges to other waterbodies
- be more specific about the methodologies they employ for dilution ratios and determining numerical limits.

#### Questionable statistics may miss their mark

In the context of discharges to water, the table on page 23 of the discussion document outlines proposed numeric limits for several parameters, to be covered by the standard. All of the proposed limits are proposed to be set on an **annual basis**: annual medians for (Carbonaceous Biochemical Oxygen Demand (cBOD5), total suspended solids (TSS), total nitrogen, and total phosphorus), and annual 90<sup>th</sup> percentiles for ammoniacal-nitrogen (ammonia), *E. coli* and *Enterococci*.

A key concern with setting limits in this way is that an annual statistic is unlikely to be an appropriate metric to assess environmental harm, as it would mask finer scale temporal variation which could be critical. A brief but extreme exceedance could eliminate an aquatic species, reduce ecosystem function or even harm human health (such as through a disease outbreak). But an annual metric could mask this cause entirely. For example, a lake or a river does not have to have low oxygen all year round – just a short amount of time (from a few hours to a few days) will lead to fish mortality.

To ensure that the environmental effects of discharges are more appropriately managed, an appropriate maximum limit on contaminants over a more appropriate (shorter) timeframe should be included alongside the annual statistic. The setting of any annual standard should explicitly allow for seasonal fluctuations or timing considerations. There are often large fluctuations in water levels and biological activity on a seasonal basis in many aquatic environments and these can be expected to have a major bearing on the impact of any discharges.

Having said that, the standard should include (1) limits on contaminant concentrations over more appropriate (shorter) timeframes, as these reflect immediate impacts on human health and sensitive environments; as well as (2) maximum contaminant loads, as these consider cumulative effects. Neglecting contaminant loads fails to recognise long-term environmental impacts.

More broadly, it is unclear how the numeric limits (those found on page 23 of the discussion document) have been derived. I will leave it to others to comment on the adequacy of the proposed numeric limits.

All-in-all, the Authority should ensure that the proposed standards are fully reviewed by a sufficiently broad range of specialist environmental scientists, especially freshwater ecologists, soil ecologists and eco-toxicologists.

### The proposed environmental performance standards do not include much monitoring of the receiving environments

As noted earlier, the standards will help improve the performance of those plants that are operating at lower standards. However, in our various discussions with officials, the inadequacy of standards does not seem to be the main issue that needs to be addressed. A key issue cited is the failure of councils to enforce standards. If that is indeed the key problem, simply setting a new tranche of standards will not address it because monitoring and enforcement of any new standards will still rest with councils.

I am concerned that the proposed wastewater environmental performance standards will not include much monitoring of the receiving environments. Yet, these standards are supposed to be about **environmental** performance.

In the case of discharges to water, the proposed standard only includes 'end of pipe' monitoring. Importantly, it does not include any monitoring of the receiving environments downstream of the discharge.

This is a critical oversight, as receiving environments vary across the country. Further, relying on 'end of pipe' monitoring is not enough especially when multiple discharges end up in the same receiving environment. In these cases, monitoring the receiving environment and assessing the cumulative impacts of multiple discharges becomes even more important. Yet, the proposed standard is silent about cumulative impacts on the receiving environments.

While the proposed standard for discharges to land includes monitoring of soil and groundwater, it does not include any surface water monitoring. Contaminants not only percolate into soil and then to groundwater. They also travel with overland flow and often end up in surface waterbodies first (i.e. lakes, rivers and streams), especially if discharge to land is undertaken in close proximity to a river. The proposed standard for discharge to land should include surface water monitoring.

When it comes to monitoring biosolids, the discussion document proposes monitoring of the grade of biosolids only. No monitoring of the receiving environment is proposed. However, biosolids accumulate and over time impact on the health of the soil and any receiving environments. As a result, in addition to the proposed system for grading biosolids, the standard should include requirements to set a long-term maximum on the amount of biosolids that a site can cope with (to account for the site's long-term suitability) and monitor the receiving environments.

Finally, when it comes to the monitoring and reporting of overflows and bypasses from wastewater networks, the discussion document proposes requirements for telemetric monitoring. The requirement to install telemetry at all overflow points is proposed to be staggered.

I support the requirement for telemetric monitoring, as it will improve the status quo and ensure that network operators (and the public) are promptly notified of any failures and overflows. To further facilitate increased monitoring and reporting of overflows, the standard for overflows and bypasses needs to differentiate between engineered bypasses (which have been purposefully designed) and uncontrolled overflows (which often happen because of faults within the network).

A related point is that the proposed standards lack clarity about who monitors what. For example, in the context of discharges to water, the discussion document states that operators will be required to monitor compliance with each of the parameters covered by the standards. But what about the parameters not covered by the standards but set in consents?

The discussion document lacks clarity about what happens if a breach is found, or impacts are higher than anticipated. While any breach of a parameter is required to be reported by an operator to the relevant regional council as soon as reasonably possible after the breach is detected, it is not clear what happens then.

Further, the standards should be amended to require that wastewater treatment plant operators supply the monitoring results (as soon as practicable) to the relevant regional council. Providing compliance reports to the relevant regional council on a monthly basis is not good enough.

For the standards to be effective, they need to be properly monitored both at the end of the pipe and in the receiving environment – and compliance needs to be enforced. The proposed standards need to be accompanied by much more detailed guidance on monitoring and enforcement. The Authority should also consider how implementation of that guidance can be resourced for all councils, especially for small councils with small ratepayer bases. Some degree of centralised support and funding may be needed.

#### **Concluding remarks**

As I mentioned in my submission on the Water Services Bill earlier this year, I don't argue with the value of standardising pipes, treatment systems and other physical infrastructure – they can be the same or similar everywhere. Environmental performance is another matter altogether. The environment is dynamic, highly variable and different from place to place. The Water Services Bill explicitly removes flexibility to manage that variability from the very people who have a fine-grained understanding of local environmental conditions and understand their communities' expectations. And the proposed wastewater environmental performance standards double-down in this respect.

While I can see the case for some degree of standardisation, what is proposed will fall far short from an environmental perspective. The proposed standards are based on inadequate information. Yet it is unclear how they can be adapted if, and when, the quality of environmental information and performance monitoring improves.

I remain concerned that the proposed standards are too rigid and do not go far enough in terms of recognising different sensitivities of the diverse receiving environments across the country. The highly variable nature of the natural environment means that an overly simplified classification scheme is likely to be detrimental. Further, while I acknowledge the importance of bringing the environmental performance of wastewater treatment up to scratch, I am concerned that the proposed environmental performance standards could lead to negative environmental impacts on some receiving environments. This is particularly the case, where the current limits and conditions for wastewater treatment plants are more stringent than the proposed standards.

The standards need to cover a wider range of receiving environments with more granularity within each of the current broad categories of receiving environment. The standards also need to be accompanied by much more detailed guidance on how exceptions should be determined, how the standards should be implemented, and how they fit alongside other consenting requirements for wastewater systems not covered by the standards. Perhaps most importantly, detailed guidance on how the standards and their environmental impacts are to be monitored and enforced is needed.

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