National Wastewater Standards

Striking an optimum balance

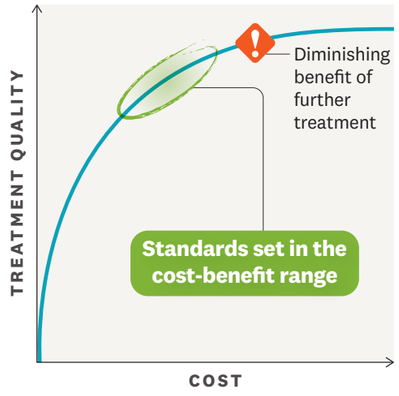
Treating wastewater is essential but expensive. The proposed standards enable councils to implement wastewater arrangements that optimise the balance between treatment quality, cost, and public/environmental health.

A How will the standards ensure the right quality is achieved at the right cost?

Concept 1:

Treatment Quality vs Cost

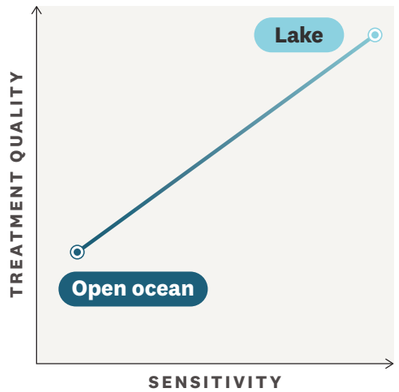
There is an 'optimum range' where maximum treatment quality is achieved at minimum cost. **These proposed standards ensure that treatment quality and cost remain within this optimum range:**



Concept 2:

Treatment Quality vs Sensitivity of Receiving Environment

Treatment quality increases as receiving environments become smaller, less dynamic, and more sensitive.



SENSITIVITY LEVELS RANGE BETWEEN:

Lake — Slow-moving, enclosed. This class has the highest sensitivity rating and requires the highest treatment quality.

Open ocean — Large, well-mixed, saline. This class has the lowest sensitivity rating and requires minimal treatment.

Small plant standard (SPS)

The SPS proposes to remove the costly requirement to treat nutrients as part of a separate standard that recognises the practical differences between large urban and smaller rural treatment plants. The SPS applies to plants serving fewer than 1,000 people. General standards apply once population served exceeds 1,000 people.

Discharge to water standard

Proposed pathogen treatment limits are set to protect public health at recreational bathing levels. Higher treatment levels may apply in areas where shellfish are gathered, through a **quantitative microbial risk assessment (QMRA)**, ensuring higher treatment quality and cost only apply when evidenced.

Discharge to land standard

Councils intending to discharge treated wastewater onto land must undertake a **site-specific risk assessment** to determine the land's suitability and risk category. The land's risk category determines treatment quality and cost—the lower the risk category, the lower the required treatment quality and cost.

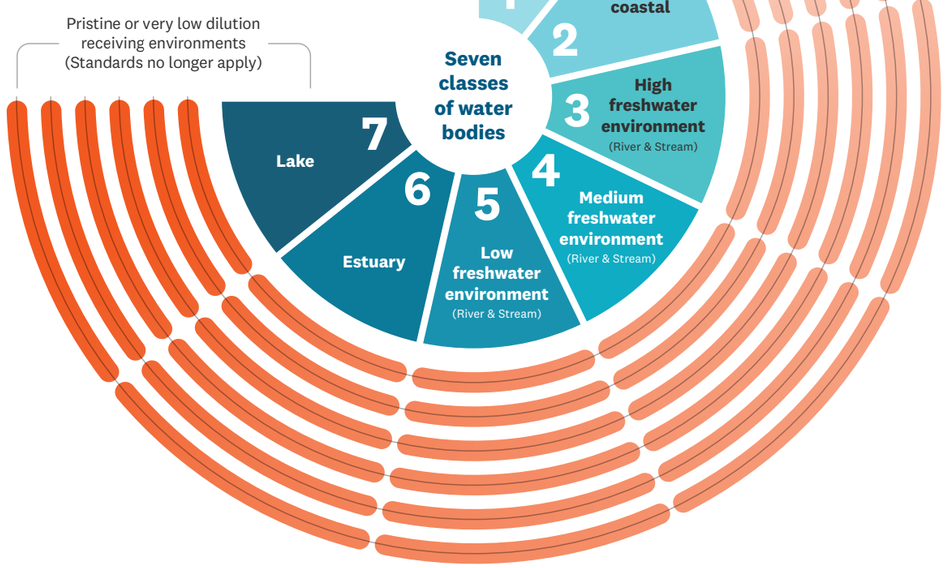
Biosolids standard

The majority of councils send biosolids to landfills, which is becoming increasingly expensive. Storing sludge at treatment plants can cause land contamination. The biosolids standard will provide a consistent process for treating and using biosolids.

For the proposed discharge to water standard, treatment quality is calibrated across seven classes of water bodies to ensure that treatment quality, cost, and public/environmental health outcomes are balanced.

Discharge to water standards involves three main treatment types:

1. **Organic contaminants** $ — Biological Oxygen Demand (cBOD); Total Suspended Solids (TSS)
2. **Indicator pathogens** $$$ — E.coli or Enterococci
3. **Nutrients** $$$$$ — Nitrogen; Phosphorus; Ammonia



COLOUR KEY:

COST KEY:

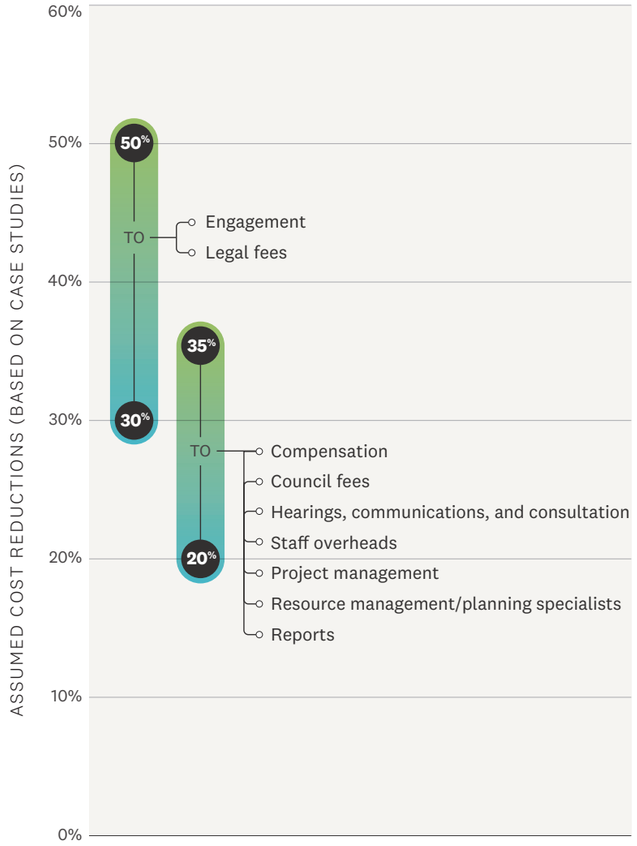
Low — $

High — $$$$$

B The proposed standards will cut costs

Consenting cost and time savings

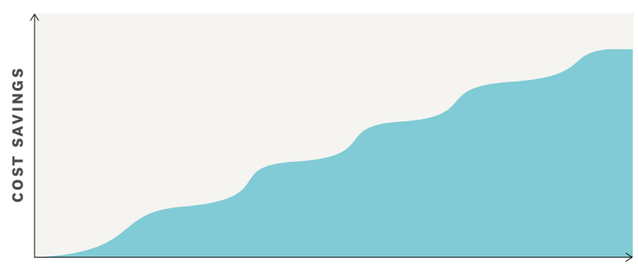
Based on case studies, proposed wastewater standards will deliver significant cost and time savings (of up to 40%) in obtaining a resource consent:



Infrastructure cost savings

There will be infrastructure cost savings as a result of proposed standards, due to:

- Bringing certainty for planning, funding and consenting of treatment plants
- Standardisation of infrastructure, which replaces costly bespoke design of each plant
- Significant reduction in design and expert engineering advice
- Standardisation of plant operations
- Benchmarking performance
- Developing infrastructure pipeline.



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