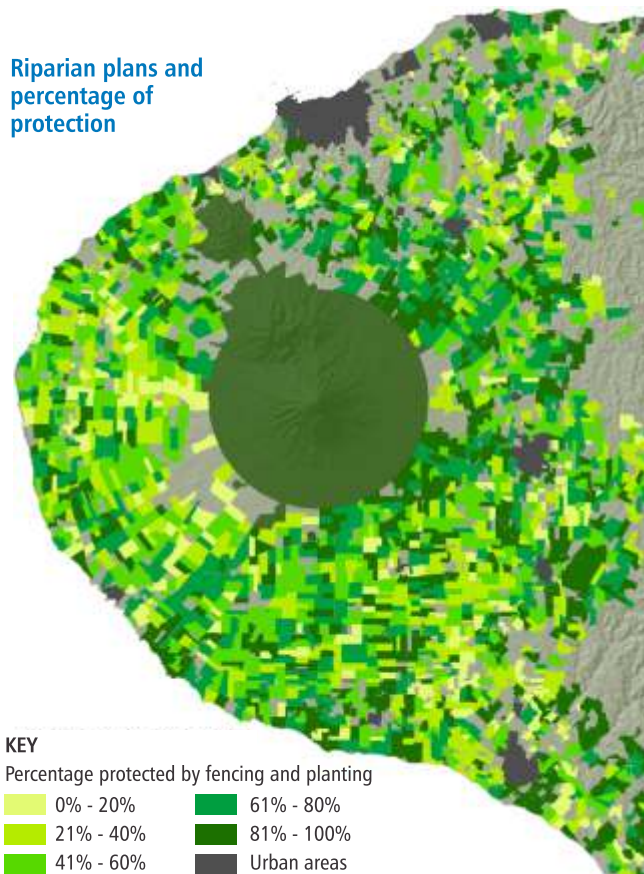


How improvements happen

- The region's communities, industries and farmers continue to invest significantly in measures that protect and enhance the environment - principally rivers and streams. A report by Business and Economic Research Ltd in 2008 conservatively estimated this investment at \$85 million a year.
- Most recently, completion of a \$10.4 million project by the South Taranaki District Council to divert Eltham wastewater to the Hawera treatment station has removed the last point-source discharge causing substantial freshwater pollution in Taranaki. Monitoring is already showing a positive impact on the health of the Waingongoro River.
- Farmers are voluntarily investing an enormous amount of money and time to ensure streambanks on the Taranaki ring plain are protected with fences and vegetation. The Riparian Management Programme will be completed within the decade, with an estimated \$78 million spent on plants, fencing and contractors since the project began. This programme has no equal in New Zealand and is transforming the region's landscape as well as protecting and enhancing waterway quality.
- The Taranaki Regional Council has a comprehensive programme to monitor all resource consent holders, which consistently reveals a generally high rate of compliance with consent conditions across all sectors.

Riparian plans and percentage of protection



KEY
Percentage protected by fencing and planting

0% - 20%	61% - 80%
21% - 40%	81% - 100%
41% - 60%	Urban areas

What the Auditor-General said

- Taranaki was one of four regional councils whose freshwater management was thoroughly investigated by the Office of the Auditor-General (OAG) in 2011, with scientific input from NIWA.
- The OAG's report raised concerns over the adequacy of freshwater management in other regions. But in Taranaki, it found freshwater quality is being maintained and in some places enhanced. It said many of the Taranaki Regional Council's processes for managing freshwater quality are effective and notable - in particular the Riparian Management Programme.
- It said the Taranaki Regional Council is well-placed to continue this good work and achieve desired results into the future for its region, and has a "good knowledge and understanding of freshwater resources and management issues in the region".
- The OAG suggested that dairy effluent pond inspections should be accompanied by analysis of samples. This is now happening, and so far compliance remains in the 94-95% range.
- In its overview of all councils, the OAG raised a general concern that there may be political influence in decision-making on whether to prosecute for pollution, though it offered no evidence that this has actually happened. The Taranaki Regional Council Chief Executive makes decisions on prosecutions, and these decisions are based on the evidence and legal advice.
- Read the full Office of the Auditor-General's report here: bit.ly.com/T03Qvx

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How healthy are our rivers and streams?



There's a lot of public discussion about the quality of the region's rivers and streams - and rightly so, given how important they are to the lives and livelihoods of everyone in Taranaki.

As the manager of the region's freshwater resource, the Taranaki Regional Council believes it's vital for such discussion to be based on fact and science.

This report card sets out the findings of the Taranaki Regional Council's extensive monitoring and is based on recently published, detailed scientific reports that can be found on the Council website, www.trc.govt.nz

David MacLeod
 Chairman, Taranaki Regional Council



Taranaki waterways - a report card

- Scientific monitoring by the Taranaki Regional Council shows that in overview, the region's rivers and streams are doing relatively well, with water quality either stable or improving.
- Taranaki waterways are as good as or better than comparable waterways nationally, with a few isolated exceptions. Their quality also has a good ranking by international standards.
- The Taranaki community is spending millions of dollars on measures to protect and enhance the region's waterways.
- There is still room for improvement, though, and the Taranaki Regional Council has programmes aimed at achieving this. The effectiveness of these programmes is now being assessed as part of a review of the region's freshwater management rulebook.
- The Taranaki Regional Council's environmental monitoring programmes are long-standing, thorough, robust and peer-reviewed. They produce data that is reliable.



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Riparian fencing and planting

Where to from here

- Taranaki rivers and streams are in relatively good shape. Improvements have been occurring but there is room for more.
- The Government, too, is promoting action. It issued a National Policy Statement on Freshwater Management last year, requiring a 'best practicable option' approach to wastewater treatment rather than 'bottom-line' treatment requirements.
- This is likely to have significant impact on dairy farmers in particular as the Taranaki Regional Council reviews its Regional Fresh Water Plan.
- The Taranaki Regional Council has signalled that in future, land disposal of treated dairy effluent may be the required option, rather than discharge into waterways. The cost-benefit implications are currently being discussed with interested parties.
- Also up for discussion will be the pace of completion of the Riparian Management Programme.
- The review of the Regional Fresh Water Plan will continue into 2013, with formal public consultation towards the end of the year.

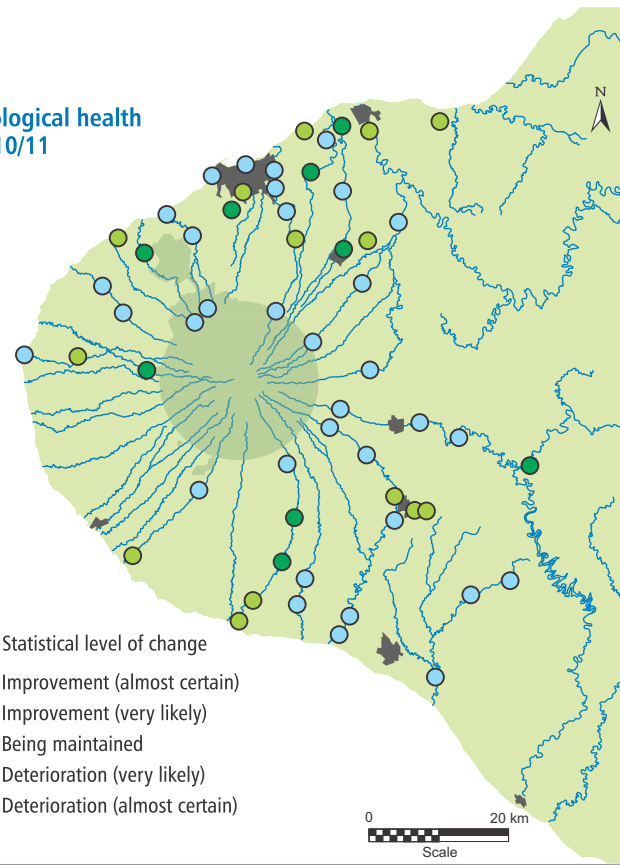
River ecology

- Ecological health is regarded as the primary measure of freshwater quality. The Taranaki Regional Council was a pioneer in developing an index based on macroinvertebrate communities (tiny animals including insects, crustaceans, molluscs, worms and leeches) found in waterways. This index is now widely used in New Zealand, and similar systems are used internationally.
- The Council has analysed thousands of samples from hundreds of sites dating back to 1995, so it has a clear picture of trends across the whole region.
- Latest figures are from the 2010-2011 year, when surveys of 57 sites on 25 rivers and streams found improvements at 40 sites - an increase from 38 two years earlier. There were declines at 12 sites - two fewer than two years ago.
- A 16-year statistical analysis reveals an almost certain positive trend at nine sites, very likely positive trend at 14 sites, and a negative trend is very unlikely at any site.
- See the full 2010-2011 report here: bit.ly/NVgKnb

The evidence is clear that in general, the ecological health of the region's waterways is stable or improving.

Ecological health 2010/11

- KEY Statistical level of change
- Improvement (almost certain)
 - Improvement (very likely)
 - Being maintained
 - Deterioration (very likely)
 - Deterioration (almost certain)

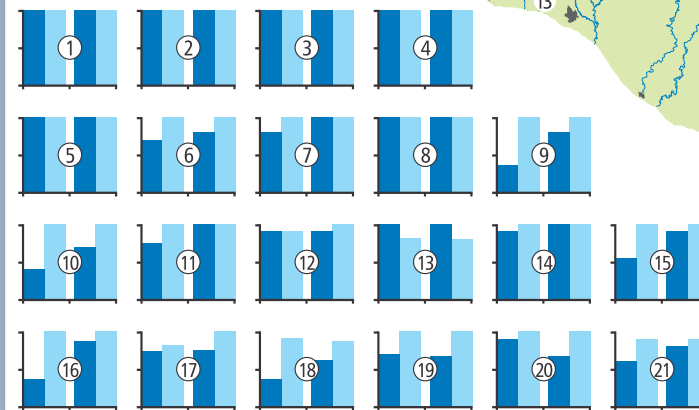
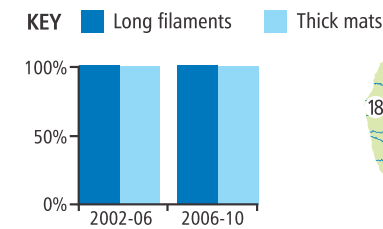


Algae

- Algae (scientists call it periphyton) gives an indication of what direct impact, if any, nutrients are having on waterways.
- Rivers need algae to live. But too much of it degrades the stream habitat and forms ugly long filaments or thick mats on river beds. Ministry for the Environment guidelines say long algae filaments should not exceed 30% of the river bed, and thick algae mats should not exceed 60%.
- The Taranaki Regional Council's latest monitoring report is for the period from 2006 to 2010, when 21 sites in 10 catchments were surveyed three times a year, at times when algae levels are expected to be at their highest.
- Ten sites met the long filament guideline in all surveys throughout the entire period; 18 sites met the thick mat guideline in all surveys. At sites where extensive algae was found, the guidelines were met between 62% and 91% of the time.
- Read the full 2006-2010 report here: bit.ly/XjWYEt

Eight out of 10 catchments met the guidelines more frequently than in the previous monitoring period (2002-2006).

Percentage of time MFE guidelines for algae were met 2002-06 and 2006-10

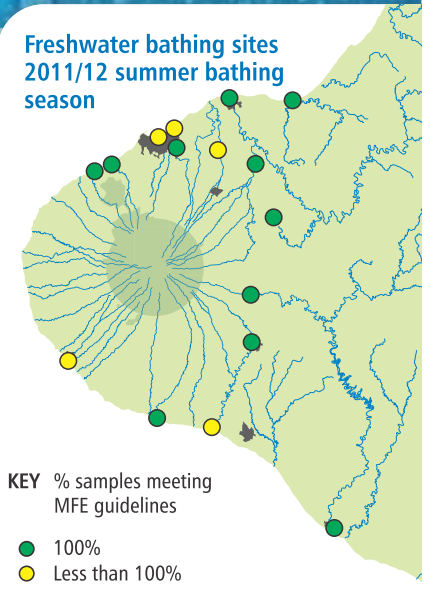


Popular swimming spots

- The Council monitors freshwater quality at popular recreational spots every summer, with slight variations in locations over a three-year cycle. Bacteria levels are measured at most sites, and cyanobacteria (blue-green algae) levels at a small number of sites. Results in the past two summers were the best in a decade.
- In summer 2011-2012, only 22 of the 207 samples taken from 16 sites exceeded the Ministry for the Environment "action" guideline for bathing water - the lowest level of non-compliance for 11 years.
- Of the 22 samples that exceeded this guideline, 19 were from just three sites - Lake Rotomanu, Waiwhakaiho River near Lake Rotomanu, and Te Henui Stream mouth - where wildfowl and gulls are the major source of contamination.
- Eleven of the 16 sites remained within all guidelines for all samples.

Freshwater bathing sites 2011/12 summer bathing season

- KEY % samples meeting MFE guidelines
- 100%
 - Less than 100%



The monitoring data shows that water quality at popular river bathing spots is better than a decade ago. Undeniably, it is far better than in the 1960s and 1970s, when waterways were routinely contaminated with partially treated municipal sewage and/or raw, untreated dairy effluent.

The Taranaki Regional Council also monitors the quality of seawater at popular coastal beaches every summer. Results are consistently better than the national average. In 2011-2012, more than 94% of samples were within Ministry for the Environment guidelines.

- For the past two summers, two-thirds or more of Taranaki sites (65% in 2010-2011 and 69% in 2011-2012) were in the Ministry for the Environment's top category for compliance. The national average was 44% in 2010-2011 (latest figure available).
- Read the full 2011-2012 Taranaki freshwater bathing report here: bit.ly/RaMK7Z
- Read the 2011-2012 coastal bathing report here: bit.ly/PzD6tO

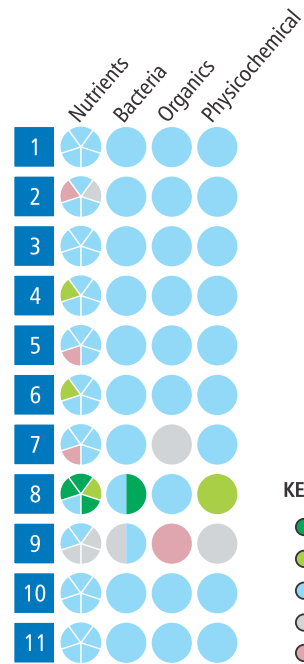


- The design of the Taranaki Regional Council's environmental monitoring programmes conforms with accepted protocols and is subject to external peer review, to check that the right things are being measured in the right places and in the right ways.
- The freshwater chapter in the Taranaki Regional Council's five-yearly State of the Environment report is peer-reviewed by the National Institute of Water and Atmospheric Research (NIWA).

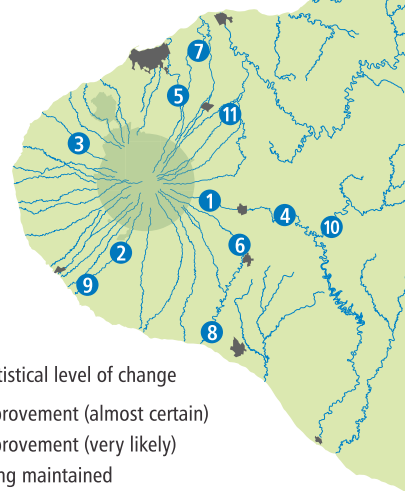
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Physical and chemical measures 2010/11 (seven-year trend)



- KEY Statistical level of change
- Improvement (almost certain)
 - Improvement (very likely)
 - Being maintained
 - Deterioration (very likely)
 - Deterioration (almost certain)



Physical and chemical state

- Physical and chemical measurements are used to assess pressures on the health of rivers. These parameters include the amount of nutrients, bacteria, organic contamination, appearance, conductivity and acidity.
- Latest figures are from the 2010-2011 year, when 11 sites were sampled monthly for up to 22 parameters. Trends have been analysed over 16 years and over seven years (the shorter period to assess the impact of the Regional Fresh Water Plan for Taranaki, the freshwater "rulebook" that was adopted in 2001).
- For bacterial levels, organic contamination, appearance, conductivity and acidity, between 90% and 95% of measures show no trend of deterioration over 16 years, and between 82% and 98% show no trend of deterioration over the most recent seven years.
- For nutrient levels, 64% of measures show a trend of stability or improvement over 16 years but this increases to 89% over the most recent seven years.
- Read the full 2010-2011 report here: bit.ly/TOqNhh

The evidence shows that in general, pressures on water quality are stable, though improvement is still needed.



Why you can trust the data

- The Taranaki Regional Council's environmental monitoring programmes are carried out and overseen by well-qualified, experienced scientific and technical staff.
- The Taranaki Regional Council has its own laboratory with International Accreditation New Zealand (IANZ) accreditation. It is subject to internal and external Quality Assurance measures that involve, for example, duplication of some samples for separate analysis and comparison.
- Identification and analysis of stream life to gauge the ecological health of rivers is also subject to both internal and external Quality Assurance checks.
- The Taranaki Regional Council assesses water quality by analyzing ongoing monitoring results. It also contributes data to a Ministry for the Environment national grading system for recreational quality. But the Ministry's gradings are based mostly on the hypothetical risk from surrounding land use, rather than reflecting the actual monitoring results.