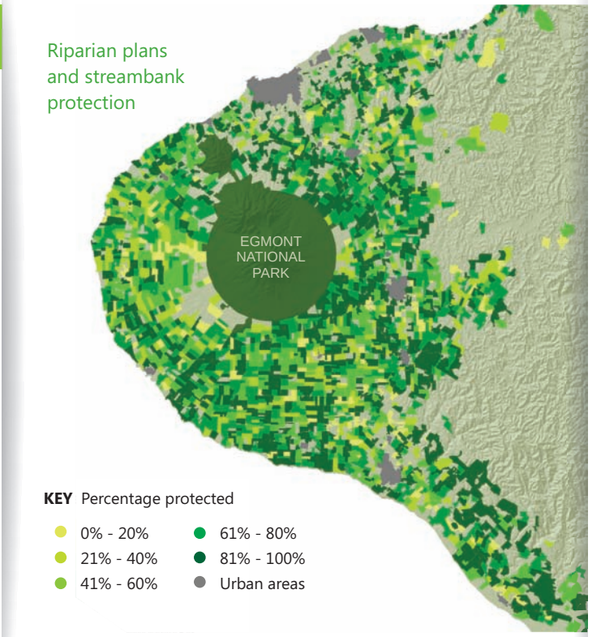
Huge investment in improvements

- The region's communities, industries and farmers make major investment in measures that protect and enhance the environment – principally our rivers and streams.
- Farmers are voluntarily investing an enormous amount of money and time to ensure waterways on the Taranaki ring plain are protected with fences and vegetation. The Riparian Management Programme will be completed within the decade, with an estimated $80 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 rate of implementation of riparian work is accelerating and to date, farmers have completed 3,558km of new fencing and 1,766km of new riparian planting. In total, 80% of stream banks are fenced and 65% of streambanks are vegetated.
- 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.

Planting a riparian margin

How does Taranaki compare?

- For almost all measures, Taranaki's waterways are as good as or better than comparable waterways in other regions. But the Council is committed to continued improvement in the region.
- As noted by the Ministry for the Environment and others, freshwater in New Zealand is both abundant and clean by international standards.
- In general, the poorest water quality in New Zealand is found in lowland urban catchments. Quality is better in lowland rural catchments, and the best quality is found in upland forested catchments. Taranaki waterways are consistent with the national pattern.



Where to from here?

- The Taranaki Regional Council is currently reviewing the Regional Fresh Water Plan for Taranaki – the region's freshwater management rulebook. Much time and effort has already been invested in informal collaboration, expert advice and discussion documents, with formal public consultation likely to occur later this year.
- The Council has signalled that in future, re-using treated dairy effluent on pastures may be the default option, rather than discharge into waterways, as is allowed now.
- A proposal to ensure the timely completion of the Riparian Management Programme through rules in the new Fresh Water Plan will also be up for discussion.
- Preparation of the next major five-yearly state of environment report is underway. The report will be released early in 2015.

Quality systems and more information

- Well-qualified, experienced scientific and technical staff deliver the Council's environmental monitoring programmes.
- The Council carries out water quality analysis in its own laboratory with International Accreditation New Zealand (IANZ) accreditation.
- The Council's ecological health monitoring of rivers is subject to both internal and external Quality Assurance checks.
- The Council's environmental monitoring programmes are designed to accepted protocols and are subjected to external peer review and audit, to check that the right things are being measured in the right places and in the right ways.

The full reports are available on the Council's website www.trc.govt.nz or can be requested from:

Taranaki Regional Council
47 Cloten Rd, Private Bag 713, Stratford 4352
Ph: 06 765 7127 Email: info@trc.govt.nz

Taranaki Regional Council

Healthy report for region's rivers

Taranaki Regional Council

The health of our rivers and streams is highly valued and is vital to the well-being, livelihood and lifestyle of everyone in the Taranaki region.

There is plenty of interest and public discussion around the water quality in our rivers and streams. And so, as the manager of the freshwater resource, the Taranaki Regional Council closely monitors waterway quality to ensure that the discussion, as well as the Council's own decision making, is well informed by fact and science.

Understanding long-term trends in water quality is also an important part of our process of reviewing the Regional Fresh Water Plan for Taranaki.

This is our third annual report card setting out the latest findings of the Council's extensive freshwater monitoring programmes.

I'm pleased to report that it is increasingly clear that freshwater quality is improving or remaining steady across Taranaki.

The information in this update is based on detailed scientific reports available on the Council website, www.trc.govt.nz.

David MacLeod
Chairman, Taranaki Regional Council

Taranaki waterways - update 2014

- The Taranaki Regional Council's scientific monitoring shows that in overview, the region's rivers and streams are continuing to do well. Water quality measures are either stable or improving, and an ever-increasing number are improving.
- The trends reported this year, on the ecological health and physical and chemical state of our rivers and streams, are the best yet in 18 years of monitoring.
- Comparison with guideline limits provided by NIWA for various water uses in Taranaki shows water quality is suitable for most purposes almost all of the time.
- This is no accident. The Taranaki community continues to invest heavily in measures that protect and enhance the region's waterways. The benefits are now becoming more apparent.
- There is still room for improvement, though, and the review of the region's freshwater management rulebook is firmly focused on finding the best ways to achieve this.

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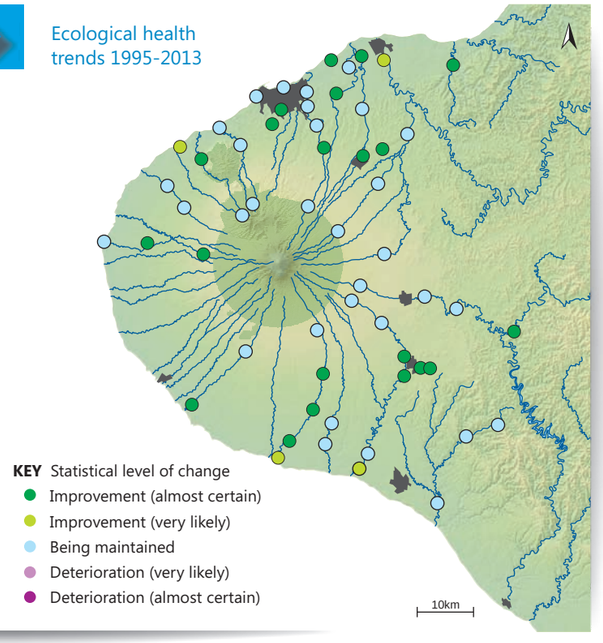
August 2014

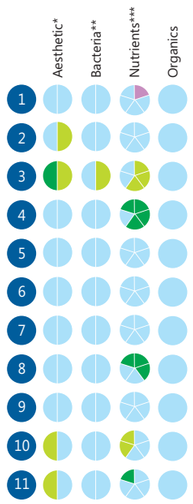
River ecology

Across the region as a whole, ecological health of waterways is improving or stable, and is the best ever recorded in more and more rivers.

- Ecological health is regarded as the primary measure of freshwater quality, using an index based on macroinvertebrate communities (tiny animals including insects, crustaceans, molluscs, worms and leeches) found in waterways.
- The Council has a clear picture of ecological health across the whole region. Since 1995 it has analysed thousands of samples from 57 key sites on 25 rivers and streams.
- For 2012-2013, 20 sites recorded their best-ever macroinvertebrate score.
- A rigorous statistical analysis reveals an 'almost certain' positive trend at 21 sites (up from 15 last year), and a 'very likely' positive trend at four sites (five last year). No sites showed a statistically significant decline for this year.

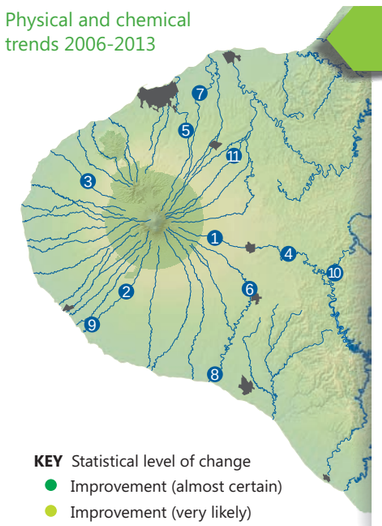
Ecological health trends 1995-2013





* Black disc, suspended solids
** Faecal coliform, enterococci
*** Clockwise: dissolved reactive phosphate, total phosphate, nitrate, ammonia, total nitrogen

Physical and chemical trends 2006-2013



Physical and chemical state

Monitoring shows that, in general, water quality across the region is stable or improving. And a comparison with guideline limits indicates that the water is suitable for a wide range of uses, almost all of the time. Recent improvement is strengthening, with scope for further improvement.

- Physical and chemical measurements are used to assess pressures on the health of rivers. Latest results are for the 2012-2013 year, when 11 sites were sampled monthly for up to 22 parameters.
- Measurements of organic contamination, bacteria and aesthetic quality show stability or improvement.
- For the first time, no site is showing deterioration in nitrate, ammonia or total nitrogen levels.
- Phosphate levels are stable or improving across the region (apart from one site near Egmont National Park), reversing a previous trend of deterioration.

Does our water meet the guidelines?

The table shows water quality data from each site over the past seven years compared with guideline limits for particular uses of water.

Based on careful research, the National Institute of Water and Atmospheric Research (NIWA) has provided guideline limits used in this analysis.

Details of the actual guidelines, how they are applied, and the reference documents, are available from the Council upon request.

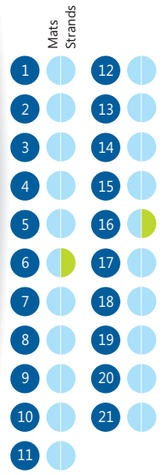
Usage	Aesthetics		Avoiding excessive algae	Stock water	Aquatic ecosystems			Irrigation		Drinking water
Site	Clarity	Organics	DRP*	Bacteria	Oxygen saturation	Nitrate	Ammonium	Total nitrogen	Total phosphate	Nitrate
1	●	●	●	●	●	●	●	●	●	●
2	●	●	●	●	●	●	●	●	●	●
3	●	●	●	●	●	●	●	●	●	●
4	◐	●	●	●	●	●	●	●	●	●
5	●	●	●	●	●	●	●	●	●	●
6	●	●	●	●	●	●	●	●	●	●
7	◐	●	●	◐	●	●	●	●	●	●
8	●	●	○	●	●	●	●	●	●	●
9	●	●	○	●	●	●	●	●	●	●
10	●	●	●	●	●	●	●	●	●	●
11	●	●	●	●	●	●	●	●	●	●

KEY Results meeting usage guidelines ● All ◐ Majority ○ Minority ● None *Dissolved reactive phosphate

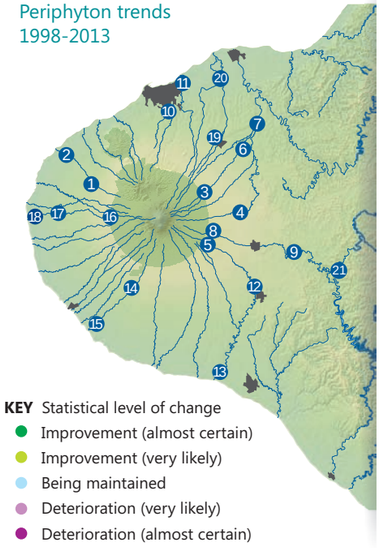
Algae

The Council's monitoring over 15 years shows no obvious connection between nutrient levels and the extent of algae growth.

- Algae (periphyton) provide much of the food/energy for aquatic ecosystems. But excessive algae has adverse effects on aquatic habitats and aesthetics. Council monitors long strands (filaments) and mats of periphyton at 21 sites.
- The latest trend results (for 1998-2013) show the extent of algae mats was stable at all sites and for filaments was stable at 19 sites and improving at two sites.
- 99.6% of the surveys for all sites over the last three years met national periphyton guidelines. These surveys were conducted when environmental conditions favoured excessive algal growth. At other times algal growth would have been less.



Periphyton trends 1998-2013

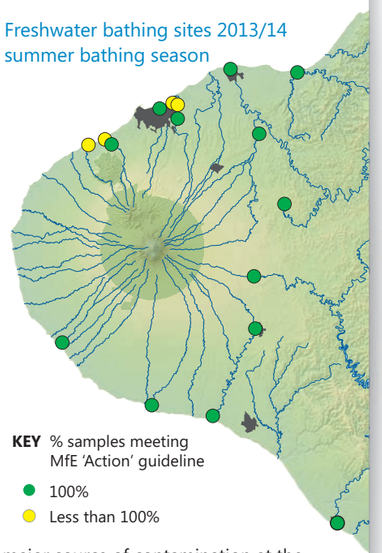


Popular swimming spots

The monitoring data continues to show 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. Today, wildfowl and gulls are the major source of contamination at sites that exceed water quality guidelines.

- 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 17 sites, and cyanobacteria (blue-green algae) levels at 9 sites.
- In summer 2013-2014, 13 of the 17 sites monitored were better than the Ministry for the Environment 'Action' guideline for bathing water in all samples.
- Wildfowl and gulls are the major source of contamination at the three sites that often exceeded the guideline – near the mouths of the Waiwhakaiho River and Te Henui and Waimoku streams. Excluding these three sites, more than 99% of all samples met the MfE bathing 'Action' guideline.

Freshwater bathing sites 2013/14 summer bathing season



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 2013-2014, 95% of samples were within Ministry for the Environment guidelines and no site reached the 'Action' level.

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Taranaki Regional Council


Oakura River


Measuring water quality