

Executive summary

This is the fourth state of the environment report for Taranaki—earlier reports were prepared in 1996, 2003 and 2009. The Resource Management Act 1991 requires regional councils to monitor the overall state of the regional environment and reports like this can help us to answer important questions about the quality of our environment and the effectiveness of our programmes and our future directions in promoting sustainable management.

The Taranaki environment is managed by a number of organisations, not just the Taranaki Regional Council. For this reason, the report includes relevant monitoring information from other agencies such as the New Plymouth, Stratford and South Taranaki district councils, the Department of Conservation, trusts and other community groups.

The report is organised around the core resources of land, fresh water, coast, and air as well as biodiversity, heritage, landscape and amenity values, waste, and natural hazards.

The **Introduction** describes the purpose and content of the report and how information is organised and presented. It explains how to go about finding more information on topics covered in the report.

Chapter 1 describes the physical, economic and social characteristics of the region. This is important because managing the environment and its natural and physical resources takes place within and is influenced by these wider physical, economic and social considerations.

Chapters 2 to 9 then cover each section of the environment in turn: land, fresh water, coast, air, biodiversity, heritage and place, waste, and natural hazards.

Much of the information contained in the report is based on comprehensive, purpose-built state of the environment monitoring programmes established by the Council in the mid-1990s. In most cases, the duration of these programmes is long enough to enable statistical analysis of trends in the data.

The report generally presents Taranaki as having a high-quality environment that is valued and well-managed by the community.

Important considerations in our management responses are the economic and social drivers for change. The report clearly identifies that our well-established dairy industry has remained stable for at least the last 15 years. In 1998/1999, the number of milking cows in Taranaki totalled 481,034, accounting for close to 15% of the national total. By 2013/2014, dairy cow numbers had reached 493,361—an increase of only 2.5% over this period. In the same period, the region's proportion of the total herd decreased to 10%, mainly because of the rapid dairy conversions in Southland, Canterbury and Otago in particular.

The oil and gas industry has seen the greatest increase in employment growth in the region in the past decade and is a significant contributor to the regional economy. The industry has been present in the region for around 150 years.

The region's overall population has continued to increase since 2001 but the rates of growth are nowhere near what are being experienced in other faster growing regions. So the environment is not under population-induced pressure.

Like any report card there are positives and negatives. The main conclusions of the report are summarised on the following pages.

Land

Soil is one of Taranaki's most important resources. Taranaki's rural-based wealth is dependent on good pasture production which, in turn, depends on sustainable management of our land and soil resources. The main findings of the report are:

- ▷ About 92% of land within the Taranaki region is sustainably managed. Even within the more erosion-prone eastern hill country, rates of sustainable land use are high at 87%. Despite some sporadic scrub clearance since 2007, there has been little change in overall sustainable land use since this time.
- ▷ Because much of the area is protected by woody vegetation, Taranaki has only a very small proportion of the total North Island land area susceptible to mass movement erosion.
- ▷ Of the most at-risk land, 65% of privately owned land has a Council-prepared farm plan containing recommendations for sustainable land use on a whole-farm basis.
- ▷ Results of soil monitoring since 1995 show Taranaki has very few long-term issues with soil health.
- ▷ The latest monitoring completed in 2012 showed that 81% of samples met target ranges for soil productivity and health.
- ▷ There has been a decrease in macroporosity since 1995 indicating an increase in soil compaction, but this can generally be reversed with appropriate management.
- ▷ The vast majority of sites investigated show no evidence of contamination. There was a substantial effort in the 1990s to identify and, where necessary, undertake further site investigations and remediation.
- ▷ There has been a small increase in the number of verified HAIL sites (Hazardous Activities and Industries List) awaiting further assessment but the number is still low. The increase in verified HAIL sites since 2009 is the result of an increase in clandestine drug laboratories (P-labs) discovered by the New Zealand Police, and subsequently entered on to the Council's Register of Selected Land Use database.

Fresh water

Fresh water is vital to the well-being, livelihood and lifestyle of everyone in the region. Rivers and streams in the region are of great significance to the tangata whenua of Taranaki. The main pressures on water quality stem from agricultural land use but Taranaki has not seen the large-scale conversions to dairying that other regions have experienced in recent years. Management of the region's waterways has improved considerably in the last 40 years and today, data indicates the best-ever trends in the health of monitored waterways. Key findings from the report include:

- ▷ Over the past 18 years, ecological health has improved at a number of sites, especially in the middle and lower reaches of rivers and streams, with no significant deterioration at any site.
- ▷ Improving ecological trends at 14 sites have become highly significant since 2007.
- ▷ Water quality is 'Good' to 'Very good' in the upper reaches of catchments and 'Fair' in lower reaches.
- ▷ Periphyton (or algae) levels rarely exceed Ministry for the Environment guidelines.
- ▷ Overall physicochemical water quality is good. There has been improvement or no significant change in nitrogen levels in the past 19 years.
- ▷ The majority of sites meet NIWA guidelines for most uses, most of the time.

- ▷ Water quality at popular swimming spots is significantly better than a decade ago. In the 2013/2014 summer, 91% of samples were within Ministry for the Environment guidelines for swimming, with water fowl responsible for almost all of the few exceedances.
- ▷ The *Riparian Management Programme* is the largest environmental enhancement planting scheme on privately-owned land in New Zealand. Some 99.5% of dairy farms have riparian plans: 14,000 kilometres of streambank is covered by fencing and planting plans, 80% of streambanks covered by riparian plans are fenced, and 65% of streambanks recommended for vegetation are protected by both established and more recent plantings.
- ▷ There is a high level of environmental compliance with farm dairy resource consents but the future focus will require dairy discharges to land wherever practicable and all riparian fencing and planting to be completed by mid-2020.
- ▷ Water allocated for use in the region accounts for only 4% of the total allocation, and the majority of this is from several larger river catchments.
- ▷ There is good quality groundwater across all sites monitored and overall nitrate concentrations in groundwater have remained stable between 2002 and 2012. In the latest monitoring 96% of samples were within the Ministry of Health Drinking-water Standards for New Zealand. No pesticides have been detected in groundwater samples since 1998.

Coast

The report notes that coastal management has progressed enormously since the 1970s. Where once there were around 25 major dairy factory, industrial and municipal discharges to the coast, today there are only three. In addition there have been significant improvements in waste treatment. The main influence on coastal water quality is now from rivers and streams discharging to the coast. The coastline of Taranaki is of special significance to tangata whenua. The main findings from the report are:

- ▷ In the past six years, 95% of sites sampled at popular swimming spots were within Ministry for the Environment guidelines for swimming.
- ▷ Sand accumulation through natural processes has a major effect on intertidal rocky shore ecology.
- ▷ Survey results from 2008 to 2014 showed concentrations of metals and faecal coliform in shellfish to be well within the Australia and New Zealand Food Standard guidelines.
- ▷ All faecal coliform monitoring results between 2009 and 2014 were within national guidelines.

Air

The overall quality of air in the Taranaki region is excellent. With air discharges from industry and agriculture well regulated there are no significant pressures on air quality in the region. Increased levels of poultry farming and hydrocarbon exploration and production have resulted in increased numbers of resource consents for air discharges in the region. However, effective regulation and monitoring means there has been a negligible impact on air quality in the region. The main findings of the report are:

- ▷ Air quality in Taranaki is excellent thanks to lots of wind, relatively light traffic and scattered industry.
- ▷ Discharges to air are well regulated and monitored.
- ▷ National air quality standards have never been exceeded in Taranaki.
- ▷ 97% of air particulate matter (PM₁₀) monitoring results are in the 'Good' or 'Excellent' category. The Council also monitors PM_{2.5} (which are finer particles) with similar results. PM_{2.5} levels are well within World Health Organisation guidelines.

- ▷ 80% of nitrogen oxide results are in the 'Excellent' category on the Ministry for the Environment performance indicator table.
- ▷ There are low levels of carbon monoxide, even in 'worst-case scenario' areas.

Biodiversity

Biodiversity, or biological diversity, describes the variety of all biological life and the ecosystems of which they are a part. The arrival of humans radically changed New Zealand's indigenous biodiversity when introduced plant and animal species and human activity changed the landscape. As a result, Taranaki is now a highly modified landscape with approximately 52% of its land area classified as acutely or chronically threatened in that there is less than 20% of indigenous vegetation remaining in the area. A number of agencies, local community groups and organisations play an important part in protecting and enhancing Taranaki's remaining biodiversity. The Council works alongside these groups and the region's district councils to protect and restore remnant bush, wetland and dune systems and control pests on private land. A key element in the Council's strategy is working with landowners to make a difference in those areas that have important biodiversity values in our Key Native Ecosystems. Taranaki's biological diversity and unique species are important taonga to tangata whenua. The main findings of the report include:

- ▷ 40% of the region is covered by native vegetation.
- ▷ Taranaki has 151,054 hectares formally protected by the Department of Conservation (DOC) or under a QEII or DOC covenant—up from 145,000 hectares in 2008. The number of QEII covenants has increased from 249 in 2008 to 344 in 2013.
- ▷ The Council works with landowners and others and has increased its resourcing from a small budget in 2008 to a \$1.2 million spend on dedicated biodiversity programmes (2013/2014).
- ▷ The focus of the Council's work is on Key Native Ecosystems and regionally significant wetlands. There are 178 defined Key Native Ecosystems covering 119,103 hectares of public and private land. To date the Council has prepared and facilitated the implementation of 64 biodiversity plans for private landowners.
- ▷ Taranaki community groups and agencies collaborate closely to protect and enhance the region's indigenous biodiversity. The recently established Taranaki Biodiversity Trust has 19 groups or agencies as founding members.
- ▷ There has been a small (1.3%) loss of wetland area between 2007 and 2012—but the annual rate of wetland loss has reduced by 60%.
- ▷ The condition of remaining wetlands is generally improving under the Council's programmes. 72% of wetlands covered by Council-developed biodiversity plans showed improvement in overall condition between 2010 and 2015, compared with 31% of wetlands without a plan.
- ▷ With 4,374 properties involved covering 235,464 hectares, the *Self-help Possum Control Programme* has the largest participation in a programme of this kind in New Zealand.
- ▷ There were 31 new QEII covenants registered in the Taranaki region in 2014—the highest of any region in New Zealand for that year.

Heritage and place

Heritage features refer to the wide range of archaeological, architectural, cultural or scientific resources that contribute to an understanding or appreciation of Taranaki's history and culture. There are also a number of significant landscapes in the region that form an integral part of the region's identity, natural character and appeal. Features defined as amenity values also contribute to people's enjoyment of the environment. Taranaki's heritage, landscape and other qualities make this a special place to live. The main findings of the report are:

- ▷ There are 1,140 heritage buildings and items identified by Taranaki's district councils.
- ▷ District councils are addressing earthquake strengthening of historic buildings.
- ▷ There is a wide range of streetscapes and community facilities provided and these promote economic and social well-being.
- ▷ District councils continue to invest in developing community facilities, for example the Brougham Street shared space and the Len Lye Centre in New Plymouth, the Hāwera Town Centre Revitalisation Strategy and development of the King Edward sporting area in Stratford.
- ▷ The Taranaki Regional Council has made significant investments in the internationally recognised Pukeiti Gardens since taking over ownership in 2010 and has similarly increased its investment in the nationally recognised Hollard Gardens and Tūpare.
- ▷ In 2013, the Taranaki Regional Council and the New Plymouth District Council formed a joint venture arrangement over Yarrow Stadium with the Taranaki Regional Council assuming effective ownership of the asset and the New Plymouth District Council retaining operational management to ensure Yarrow Stadium is retained as a first-class regional facility.
- ▷ The latest community satisfaction surveys show a more than 90% approval rating for living environment, parks and reserves and access to natural environment within the New Plymouth District Council area and high ratings on similar measures within the Stratford and South Taranaki districts.
- ▷ There is good public access to major recreational beaches in the region.
- ▷ There is a 90% satisfaction with formal and informal public access to rivers, lakes and coast in the region.

Waste

In the past, waste management has been about managing the environmental effects of solid waste disposal in dumps—things such as managing odour, seagulls and pollution leaching to groundwater. Now that these issues have largely been addressed, the region has focused on minimising waste by recovering, reusing and recycling material. District councils in the region follow current best practice in waste management by adopting the principles of minimisation, recovery and recycling and the trend is for this to continue in future. The main findings from the report include:

- ▷ Environmental issues associated with solid waste disposal have largely been addressed.
- ▷ Waste disposal in Taranaki is not increasing as rapidly as it is nationally, despite the region leading New Zealand in economic growth.
- ▷ The entire Taranaki region is served by one well-regulated landfill.
- ▷ More is being recycled through district council kerbside collections and facilities.
- ▷ More than half of the waste going to landfill could be recycled or composted.

- ▷ There are dedicated centres for e-waste collection in three district council areas.
- ▷ Two farm plastics recycling programmes are operating in Taranaki.
- ▷ None of the 21 cleanfills operating in Taranaki have environmental performance issues.
- ▷ A campaign exists to increase public awareness and encourage reporting of illegal dumping.



Natural hazards

In Taranaki, potential natural hazards include volcanic activity, earthquakes, flooding, high winds, drought, and erosion and landslips although as the report notes, to some extent, vulnerability to natural hazards depends on where in the region residents live. Taranaki is readying itself for future challenges from extreme climatic and geological events. The main findings from the report are:

- ▷ There is a 50:50 chance of Mount Taranaki erupting in the next 23 years.
- ▷ Most earthquakes are shallow and centred west of Mount Taranaki.
- ▷ There is no link between earthquakes and fracking or deep well injection.
- ▷ One tornado occurs somewhere in the region every year, on average.
- ▷ Taranaki Civil Defence Emergency Management Group plans and prepares for emergencies.
- ▷ Flood control schemes for Lower Waitara and Waiwhakaiho, Waitōtara and Stony Rivers are in place.
- ▷ A \$1.5 million upgrade of the Waiwhakaiho flood protection scheme was completed between 2012 and 2014. A \$3 million upgrade to flood protection in Waitara is currently underway to future-proof the town.



Working together

The *State of the Environment Report 2015* finds that Taranaki has made a substantial investment in protecting and enhancing the environment. Capital investment by the Taranaki community has been conservatively estimated to be in excess of \$260 million between 2008 and 2014. Annual operating costs are of the order of \$73.5 million compared with \$41.8 million in the preceding five-year period. Total spending on the environment by the Taranaki community has been conservatively estimated at \$117 million per year. This is an increase of \$32 million per year from the \$85.1 million per year reported in the *State of the Environment Report 2009*. The high-quality environment enjoyed by residents and visitors alike has therefore not come about by accident, but by the cooperative and proactive actions of the community.

The effects of all the policies, programmes and actions described in this report, representing the collective effort of not just the Taranaki Regional Council, but also the New Plymouth, Stratford and South Taranaki district councils, the Department of Conservation, community trusts and groups, iwi, and landowners, are significant steps along the path to sustainable management in Taranaki. The Council's slogan of '*Working with people, caring for Taranaki*' summarises the approach we believe to be critical to successful environmental programmes both now and in the future.