



# TARANAKI

## WHERE WE STAND

STATE OF THE ENVIRONMENT REPORT 2009



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David MacLeod (Chairman) and Basil Chamberlain (Chief Executive), Taranaki Regional Council.

## MESSAGE FROM THE CHAIRMAN AND CHIEF EXECUTIVE

We have great pleasure in presenting to you, the third state of the environment report for Taranaki. It reports on current environmental conditions and trends since monitoring programmes began.

It is not that many years ago, at the time of the creation of the Taranaki Catchment Commission in 1970 in fact, that most wastes from dairy farms discharged directly into the nearest watercourse. That meant that the untreated waste generated by tens of thousands of cows was washed into the region's rivers and streams every day. Not only that, there were no fewer than 43 dairy factories around the region, almost all of them built alongside rivers which they both drew water from, and discharged wastes into.

Today, every dairy farm in Taranaki operates under a regularly monitored discharge permit that does not allow discharge of untreated waste directly into any stream, and the rationalisation of the dairy industry means that there is now just one (large) dairy factory that discharges a strictly-controlled discharge of treated waste into the Tasman Sea through a long outfall.

Equally, it's not that many years ago, that possum numbers in Taranaki were high – competing with cattle for grass and posing a risk of Bovine TB, and severely impacting on biodiversity. Today, possum numbers, particularly on the ring plain, are very low, thanks to the joint efforts of all the landowners in the Council's self-help possum programme and the Department of Conservation.

The information contained in this report draws on comprehensive state of the environment monitoring programmes put in place by the Taranaki Regional Council mainly in the mid 1990s. It also draws on information from other agencies involved in environmental management in Taranaki: the three district councils, the Department of Conservation, the Ministry for Fisheries and many other agencies and community-based groups. This highlights that managing the environment takes a collective response from a whole range of agencies and individuals.

Many state of environment monitoring programmes have now been in place for a sufficiently long period of time that the data

can be analysed for statistically significant trends. This is important because it provides us with scientifically robust measures of how the environment is changing.

Overall, the report shows that the health of our rivers and streams – an important issue for Taranaki – does decrease down catchments, as would be expected in an intensively farmed region, but significantly, over time, it is either not changing or has measurably improved. This is despite expansion and intensification of our agricultural sector over the past five to 10 years. Positive movements towards sustainability continue in our erosion-prone inland hill country. Improvements in air emissions from our major industries have continued over the last five years and, by all measures, we in Taranaki enjoy excellent air quality. The report shows similar results for coastal waters and bathing beaches.

Biodiversity, on land, in fresh water and on the coast, is an emerging issue, and much good work is being undertaken by many people from all corners of the region to combat the pressures on our biodiversity from land development and invasive pest plants and pest animals. Residents and visitors to Taranaki enjoy marvellous landscapes and natural and physical amenities. Our historic heritage is well preserved in many fine buildings and other historic places. Taranaki is working hard to manage the waste it generates, although there is always scope for innovative solutions. Energy production and efficiency are key features of Taranaki, the energy province of New Zealand.

The science is one thing, and basing decisions on sound, robust scientific monitoring is crucial, but equally important is the perception of people out and about in the environment, living their lives, every day. Almost nine in 10 residents (87%) of Taranaki recently surveyed are satisfied with the management of the natural environment. This is an overwhelming endorsement indeed.

The positive outcomes in this report towards achieving sustainable management have

not come about by mere good fortune or by accident. The Taranaki community can feel justifiably proud of the efforts it has made in recent years to ensure that Taranaki's natural resources – vital to our economic and social well-being – are managed for the benefit of present and future generations. These efforts have come at some considerable effort, hard work and serious money. It has been conservatively estimated that over the past five years environmental capital investments on water resources, air and noise, land management, energy efficiency and environmental services totalled \$216.7 million – almost two and a half times the expenditure identified in 2002 for the previous five-year period. Local actions by the community, both proactive and reactive, are perhaps the single most important change towards sustainable development in Taranaki. These are illustrated in this report through dozens of stories highlighting individuals doing their bit for the environment. We know they are just the tip of the iceberg.

However, Taranaki's clean, green image must never be taken for granted. This report does raise concerns regarding the effects of continued intensification of our dairying industry on soil compaction, modification of stream and wetland habitats for land development, and nutrient run-off from pasture with effects on water quality in the lower reaches of our rivers and streams. These pressures will intensify with continued growth in our agricultural sector. They will require ongoing attention and responses. Restoring the riparian vegetation along the length of our rivers and streams is our biggest challenge – to fence and plant along waterways that cumulatively could stretch from Auckland to Sydney and back again.

The Taranaki Regional Council is greatly heartened by the extent to which the Taranaki community has moved to embrace environmental stewardship and the concept of sustainability. This bodes well for meeting future issues that will almost certainly challenge us.

The Council believes that sustainable development – a balanced, integrated approach to development that ensures we look after people and the environment in the long term – is the key to prosperity. This will involve working alongside other environmental agencies, farmers, landowners, industries and businesses to bring about practical, positive and permanent results over the next five years and in the decades beyond.

## ACKNOWLEDGEMENTS

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Pukearuhe and Whitecliffs, North Taranaki.

Under the Resource Management Act 1991, regional councils are required to monitor the overall state of the environment of the region. Monitoring the state of the environment is important because it tells the Council and the wider community how successful we have been as a community in promoting the sole purpose of the Resource Management Act – the sustainable management of our natural and physical resources.

This is the third state of the environment report for Taranaki – the earlier reports were prepared in 1996 and 2003. Such reports help us answer questions such as: ‘Is the quality of our environment improving or deteriorating?’ ‘Have our policies and programmes been effective in promoting sustainable management?’ ‘What standard of environmental quality do we want in Taranaki and what changes, if any, are required?’

The Taranaki environment is managed by a number of organisations, not just the Taranaki Regional Council. For that reason this report has attempted to incorporate monitoring from other agencies, such as the Department of Conservation (DOC), the New Plymouth, Stratford and South Taranaki district councils, the Ministry for Fisheries and the Ministry of Agriculture and Forestry, and from community groups.

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

Chapter 1 introduces the report. It describes the purpose and content of the report and how information is organised and presented.

Chapter 2 describes the physical, economic and social characteristics of the region. This is important because managing natural and physical resources and the environment takes place within, and is influenced by, these wider physical, economic and social circumstances.

Each of the chapters that follow covers each section of the environment such as land, fresh water, coast and air. Biodiversity is considered under each of these environment types. Additional chapters consider landscape, historic heritage and amenity values, natural hazards, waste and energy. Each chapter:

- begins with an opening scene-setting introduction which explains why this part of the environment is significant for Taranaki people and what the major pressures on the environment are;
- describes the current state of each aspect of the environment – core information is presented on the state of the environment and key trends or changes over time;
- outlines the management responses to environmental conditions now and in the future. Information is presented on what is being done now to address issues raised in the preceding text and what might be done in the future;
- provides a summary of progress in implementing regional objectives and policies in relation to the chapter topic; and
- provides regional comparisons where relevant information is available. This information enables comparisons to be made between environmental conditions and trends in Taranaki and other parts of New Zealand.

Much of the information contained in the report is based on comprehensive state of the environment monitoring programmes established by the Council in the mid-1990s. These programmes have been purpose-built for state of the environment monitoring and have now been running for sufficient lengths of time to enable statistical testing of trends in the data.

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

Like any report card there are positives and negatives. In summary, the report concludes that:

- 87.4% of the hill country is being used sustainably with no significant soil erosion problems. Sustainability in the hill country has increased by 2.4% over the past 5 years, with less land in sheep and beef farming, and 30.8% of hillcountry land now reverting to scrub.
- 58% of privately-owned hillcountry land, and 41% of privately-owned sand country, is now included in the Council's sustainable land management programme;
- 97% of Taranaki soils have only low to moderate vulnerability to soil compaction and while there is evidence of soil compaction on some Taranaki farms this is usually only under wet winter conditions and is generally reversible with appropriate pasture and stock management. There do not appear to be any significant problems with soil carbon content, phosphate, nitrogen, cadmium or residual or cumulative agrichemicals in the soils of the region;
- 757 potentially contaminated sites have been investigated with no contamination found to be present, 16 sites have been remediated and 480 sites contain hazardous substances, but not at levels that would pose an unacceptable environmental risk, or are currently being managed so that there is no unacceptable risk;
- in terms of biodiversity protection, 20% of the region is in public conservation land and managed by the Department of Conservation to safeguard biodiversity values. Furthermore, predator control programmes, aimed at protecting threatened birds, are undertaken by a range of agencies and community groups. Possum numbers are maintained at low levels through both the Taranaki Regional Council's self-help possum control programme on the ring plain, and the Department of Conservation programmes in priority conservation areas;
- restoration of riparian vegetation has been shown to result in increased plant and bird biodiversity;
- measures of freshwater ecological health, such as the communities of invertebrates living in streams, are good to excellent in the upper catchments where there is more stream bank vegetation cover, but only fair further down catchments where land use is more intense. However, over the past 12 years, ecological health has demonstrably improved at a number of sites, including in the middle and lower reaches of catchments, and has not demonstrably deteriorated at any sites.
- the region's fresh water usually meets the bacteriological guidelines for swimming, except after floods or in some intensively farmed catchments. Taranaki rivers are naturally high in phosphorus and so do not meet national guidelines, and furthermore, phosphorus levels are generally increasing. Nitrogen levels meet guidelines in the upper reaches of catchments, but not further down, where impacts of agriculture are more intense.
- the Council's riparian management programme is designed to address these issues with the preparation of 2,009 riparian plans covering 10,818 km of stream bank. Landowners have fenced 504 km of stream bank and planted 426 km, which, added to existing fencing and planting means 60% of stream bank on the ring plain is fenced, and 43% is vegetated. Council will continue to work with landowners to fence and plant streams to meet the 2015 target of 90% of riparian plans implemented.
- measures of levels of organic pollution (BOD), bacteriological pollution (faecal coliforms and enterococci) and toxicity (ammonia) are now stable regionally, after past improvements.
- most of Taranaki's 530 streams and rivers are not under any allocation pressure although interest in water abstraction for irrigation has increased in recent years. More than 20% of the average low flow is allocated for use in the nine most highly allocated catchments, but flows at which abstraction must cease are set to safeguard ecological values;
- although there has been an increase in the amount of groundwater abstracted, there is not a significant pressure on groundwater levels;
- groundwater quality in Taranaki is generally high with no problems associated with pesticide residues, microbial contamination or saltwater intrusion, and groundwater quality, in terms of nitrate levels, is generally improving;
- in terms of freshwater biodiversity, regionally significant wetlands have on the whole been adequately protected through formal mechanisms and proactive protection works such as fencing and planting, but small wetlands and streams are under pressure from land improvement. Of 108 structures that have the potential to impede fish passage, 49 provide adequate fish passage, two have been removed and the others need remedial work;
- coastal water quality for swimming is excellent, the product of an exposed coastal environment and few direct point source discharges;
- with the reduction in the number of point source discharges and better treatment of wastewater, the greater influence on coastal water quality is from rivers and streams discharging the cumulative effects of land use within their catchments to the sea;
- rocky shore ecological health is reasonably stable at most sites monitored;
- the rugged high-energy nature of the Taranaki coastal environment means that much of the coastal area has retained its distinct natural character and so far levels of development are not impacting on that character;
- biodiversity protection on the coast has been enhanced over the past five years with the establishment of two new marine reserves;
- ecological conditions in both the Tongaporutu and Waitōtara estuaries, where long term monitoring is carried out, are generally stable although they can be affected by severe floods;
- the legally protected subtidal habitats around the Sugar Loaf (Ngā Motu) Islands provide shelter for a greater diversity and higher numbers of fish and other organisms than neighbouring areas of reef;
- there is a range of disparate views on trends in local fish stocks;
- public access to both freshwater and coastal environments is generally good, as illustrated by the popular New Plymouth coastal walkway;

- overall air quality in the region is excellent enabling the Taranaki community to enjoy one of the healthiest regions in New Zealand. Significant improvements have been made in the quality of point source discharges;
- natural features and landscapes, and amenity and heritage values are of a high quality;
- over the past five years there has been continued provision, development or upgrading of a number of community recreational and cultural facilities;
- over the past five years there have been four significant flood events, a number of minor events and one period of significant drought over the summer of 2007-08;
- the swarm of tornadoes that hit Taranaki in July 2007 triggered a state of emergency. The emergency response systems functioned well;
- while the whole region is now serviced by just one well managed landfill, at Colson Road in New Plymouth, the quantity of waste discharged has increased by 20%; and
- Taranaki produces all of the oil and gas produced in New Zealand and uses 3.2% of the total energy used, with industry using 38% of all energy consumed in Taranaki, and households using the next greatest proportion (28%).

The report finds that the Taranaki community has made a substantial investment in protecting and enhancing the environment. Capital investment by the Taranaki community has been estimated in excess of \$216 million in the period 2002-2007 compared with \$91 million in the preceding five-year period. Annual operating costs are of the order of \$41.8 million (\$28.8 million in the preceding four year period). Total spending on the environment by the Taranaki community has been conservatively estimated at \$85.1 million per annum. This is an increase of \$28 million per annum from the \$57.1 million per annum reported in our 2003 report. The high quality environment enjoyed by residents and visitors alike has therefore not come about by accident but by the co-operative and increasingly proactive actions of the community.

The combined effort of all of the policies, programmes and actions described in this report, representing the combined effort of the Taranaki Regional Council, district councils, the Department of Conservation, the Ministry of Fisheries, community groups, iwi and landowners, is a significant step along the path to sustainable management in Taranaki. The Council's slogan of 'working with people, caring for our environment' summarises the approach believed to be critical to successful environmental programmes in the future.