



Environmental Indicators Quarterly



Welcome to *Environmental Indicators Quarterly*, the Ministry for the Environment's e-newsletter linking you to information on what's happening in the realm of environmental reporting. We hope you find this newsletter useful and informative. We welcome your ideas, feedback and suggestions – please contact us at environmental.reporting@mfe.govt.nz.

Proposed Environmental Reporting Bill

Discussion document and submissions

In August the Environment Minister, Hon Dr Nick Smith, released a [discussion document](#) seeking public feedback on a proposal for a new Environmental Reporting Bill. The proposed Bill aims to provide regular and independent national-level state of the environment reporting and to build on existing efforts to improve the quality of environmental statistics that underpin this reporting.

The Ministry for the Environment (MfE) has summarised the 76 submissions received to identify the key themes. The summary of submissions and a copy of all submissions received (with personal details removed) [are available](#) on MfE's website. The submissions generally supported the government doing something in the environmental reporting space, but they did not always support the proposed options.

Next steps

In March 2012, we will report back to Cabinet on the outcome of the consultation and with recommendations for any proposed Environmental Reporting Bill. We expect any legislation to be considered by a Select Committee, where there would be a further opportunity for submissions.

If Cabinet agrees to proceed with the policy proposal to expand the regulation-making powers of the Resource Management Act 1991,

MfE would undertake a work programme to develop detail of the specific regulations.

Further information is available on the Ministry's website at www.mfe.govt.nz/environmental-reporting/about/index.html.

Latest environmental report cards

The Ministry for the Environment regularly produces report cards that update data for the core set of national environmental indicators. Three report cards have been released in recent months.

Water quality at freshwater and coastal swimming spots

The annual report card for water quality at freshwater and coastal swimming spots in New Zealand was released in July. The snapshot gives a summary of our exposure to risk from microbiological contamination at the freshwater and coastal beaches we use for recreation. Both natural and human factors cause variations in microbiological contamination at recreational beaches. Dense bird and other wildlife populations, agricultural run-off, and stormwater or sewage discharges are all potential sources of contamination. Water contaminated by faecal micro-organisms may pose a health hazard, particularly if swallowed.

The report card is available at www.mfe.govt.nz/environmental-reporting/report-cards/water-quality/2011/recreational-water-quality-environmental-snapshot.pdf. For conditions at specific monitored sites, contact the relevant [regional council](#). The Ministry commends those councils that monitor swimming spots and report the information on their websites.

Air quality (PM₁₀) report card

In August, the Ministry for the Environment released its annual web-based report card updating PM₁₀ data for New Zealand for 2010. Poor outdoor air quality is a significant issue in some locations in New Zealand. Particulate matter (known as PM₁₀) is a pollutant of concern because it regularly occurs at high levels in some urban areas and is linked to harmful health effects. High winter levels of PM₁₀ are mainly caused by the use of wood and coal for home heating.

The PM₁₀ indicator compares daily PM₁₀ levels with the National Environmental Standard for Air Quality, and annual PM₁₀ levels with the national guideline for air quality.

This year's PM₁₀ report card also includes:

- a **national air quality index** that indicates the average number of exceedances experienced per New Zealander from 2000 to 2010
- a **dynamic graph** demonstrating the frequency of pollution, the intensity of pollution, and public exposure in non-compliant airsheds from 2005 to 2010.

The report card is available at www.mfe.govt.nz/environmental-reporting/air/air-quality/pm10/index.html.

Solid waste disposal report card

The Ministry for the Environment released a solid waste disposal report card in July. Waste can represent an inefficient use of resources, or a loss of resources. Many potentially reusable and recyclable materials such as paper, plastic, organic waste, glass and metal, are disposed of to landfills. Some forms of waste produce greenhouse gases and others can have significant health impacts on humans and animals. Waste can also pollute our waterways, air and land if it is not adequately managed.

In 2010, 2.531 million tonnes of waste were disposed of to municipal landfills in New Zealand. New data collection methodologies introduced as a result of the Waste Minimisation Act 2008, have significantly improved information on waste disposal to municipal landfills. Comparisons with previous estimates of waste disposal to municipal landfills are not recommended; however, the 2010 figure will provide a good baseline for future comparisons.

The report card is available at www.mfe.govt.nz/environmental-reporting/report-cards/waste-composition/2011/solid-waste-disposal.pdf.

Next environmental report cards

Environmental report cards scheduled for release by the Ministry for the Environment in the first half of 2012 include greenhouse gas emissions and removals, marine protected areas, fish stocks, seabed trawling, and household consumption expenditure.

SOLID WASTE DISPOSAL, 2010
Environmental Snapshot July 2011

RECREATIONAL WATER QUALITY 2010-2011 SUMMER
Environmental Snapshot July 2011

Key points

- In 2010, 2.531 million tonnes of waste were disposed of to municipal landfills in New Zealand.
- National information on waste disposed to municipal landfills has improved significantly since the last estimate in 2008.
- The zero figure provides a robust indicator of disposal of waste to municipal landfills in New Zealand and a good baseline for future comparisons.

Introduction

Waste comprises a mixture of many different materials, which are not necessarily hazardous, but are generated at different times during a product's life span.

- when raw material resources are extracted or harvested
- during manufacturing
- when goods are not used, transported, consumed

Waste can represent an inefficient use of resources, or a loss of resources. Many potentially reusable and recyclable materials such as paper, plastic, organic waste, glass and metal, are disposed of to landfills. Some forms of waste produce greenhouse gases and others can have significant health impacts on humans and animals. Waste can also pollute our waterways, air and land if it is not adequately managed.

The amount of waste being disposed of can be an indicator of our national resources. When combined with greenhouse gas emissions, it can help inform waste management.

This snapshot report

This snapshot report provides information on the amount of waste disposed to municipal landfills in 2010. The Waste Minimisation Act 2008 (see text box) has improved information on waste disposal to municipal landfills. Comparisons with previous estimates of waste disposal to municipal landfills are not recommended; however, the 2010 figure will provide a good baseline for future comparisons.

Results

In 2010, 2.531 million tonnes of waste were disposed of to municipal landfills in New Zealand. New data collection methodologies introduced as a result of the Waste Minimisation Act 2008, have significantly improved information on waste disposal to municipal landfills. Comparisons with previous estimates of waste disposal to municipal landfills are not recommended; however, the 2010 figure will provide a good baseline for future comparisons.

What this snapshot tells us

The snapshot gives a summary of our exposure to risk from microbiological contamination at the freshwater and coastal beaches we use for recreation.

This snapshot does not replace the site specific information available on www.mfe.govt.nz/health-risk, which can help beach users understand the likely health risk and consider the factors when making decisions about when and where to go to the beach.

Regional and district councils monitor recreational beaches during summer to identify and manage public health risks. The guidelines for coastal recreational councils promote measures to meet this aim. Councils use a number of program designs to do this, for example representative coverage or, highest risk beaches, or actively responding to changing public monitoring beaches.

Monitoring beaches are identified for their use for recreation and presence of risk factors in the catchment. This means samples are not representative of environmental conditions in all freshwater or coastal beaches of a region or New Zealand, or how these conditions are changing over time. This does not allow us to draw conclusions about national or regional environmental conditions from this snapshot. Rather, the snapshot tells us about our exposure to risk in the places we choose for recreation.

Factors that can contribute to the risks

Both natural and human factors cause variations in microbiological contamination at recreational beaches. Storms and other wildlife populations, agricultural runoff, and stormwater or sewage discharges are all potential sources of contamination. Some beaches are nearly always affected by contamination sources and are often high risk. Others are only contaminated under certain conditions, such as after heavy rainfall or following stormwater or sewage discharges, and are high risk on these occasions.

The health risks

Water contaminated by faecal micro-organisms may pose a health hazard, particularly if swallowed. It may cause the health effects are minor and short-lived, such as gastric irritation (diarrhoea with symptoms like diarrhoea or vomiting, and infection of the eye, ear, nose and throat). However, there are other potentially more harmful diseases such as dysentery, typhoid, hepatitis, leptospirosis and salmonellosis. Hepatitis A can be contracted from contaminants in the water and can lead to long-term health problems.

People can be affected from exposure to contaminated water, but small children, the elderly, and people already weakened by illness or fatigue are more vulnerable.

How risk is monitored

Water samples are typically taken once a week over the summer (usually November to March) at freshwater and coastal beaches used by the public for recreation. The guidelines for coastal recreation recommend 20 samples should be collected in a bathing season and 100 samples over five seasons. The samples are tested

Open data release – Marine Environment Classification

The New Zealand Marine Environment Classification (MEC) is now available online, as a free download with a Creative Commons Attribution licence. The new licence allows the public to freely use, share, and distribute this database as long as they acknowledge the Crown as the copyright holder. It also gives users permission in advance to use the data in various ways.

New Zealand's marine environment is highly variable, and can change greatly over relatively short distances. However, geographically remote areas can have similar environmental characteristics that support particular ecosystems (habitats and species). MEC is a GIS-based marine environmental classification of New Zealand's territorial sea and Exclusive Economic Zone to a spatial resolution of 1 kilometre. A second classification is also available, for the Hauraki Gulf region to a resolution of 200 metres. MEC was developed in 2005 by the National Institute of Water and Atmospheric Research (NIWA) with support from the Ministry for the Environment.

The MEC uses eight physical factors (eg, depth, sea-surface temperature, seabed slope, and tidal current) to classify and map marine areas with similar environmental character. The marine environments can be mapped to different levels of detail, ranging from two to more than 70 marine environment groups.

The Marine Environment Classification is available at www.koordinates.com. Environment classifications are also available at this link for land (the Land Cover Database and Land Environments New Zealand) and fresh water (the River Environment Classification).

Next generation ecosystem classification

Crown Research Institute, Landcare Research, has produced a next generation of ecosystem classifications for New Zealand designed to predict potential (or natural) ecosystem character. These new classifications provide substantial improvements and increased functionality to the existing and widely used Land Environments of New Zealand (LENZ). As with LENZ, these classifications can define the natural extent of ecosystems, even in areas that have been converted to agricultural or other modified landscapes.

These new classifications can be used in the same manner as LENZ for a wide range of conservation and land management issues such as analyses of the amount of natural vegetation remaining in different ecosystems or the priorities for further conservation protection. The classifications use new techniques resulting in improved representation of ecosystem patterns compared to LENZ. The classifications also provide additional uses not available from LENZ.

This research was done in collaboration with Australian researchers at CSIRO and the New South Wales Office of Environment and Heritage, and was funded by the Terrestrial and Freshwater Biodiversity Information System (TFBIS) programme.

The classifications and supporting information are freely available for download and use. Details on how to access map layers together with information about the classifications,

including the underlying biotic and environmental data, the models and results, and the use of these classifications is available at <http://lenz.landcareresearch.co.nz/NextGeneration>.

Our Environment, the new online mapping tool

Landcare Research has released a free online mapping tool, Our Environment, to provide easy access to information on New Zealand's land environments and land resources. The tool makes it easier for businesses, government, researchers and the public to better understand the natural environments that underpin New Zealand's economy and society.

Based on 'Google Maps'-style navigation the mapping tool makes it easy to search, view and query environmental information. Within Our Environment you can:

- use interactive maps to learn about local environments and regional differences
- select particular data themes such as vegetation, land suitability or surface rock type to view as maps
- view detailed information from a particular data theme
- create high quality, custom PDF maps for printing.

Our Environment has been designed to complement Landcare Research's [S-map Online](#), which provides easy access to information on the soils and is aimed at the more specialist user. To try the Our Environment mapping tool, go to <http://ourenvironment.scinfo.org.nz>.

The OECD's Better Life Initiative

The Organisation for Economic Co-operation and Development (OECD) launched its [Better Life Initiative](#) in May, as part of its 50th anniversary celebrations. The initiative examines the well-being and progress of societies by bringing together internationally comparable measures of well-being beyond gross domestic product, in line with recommendations in the 2009 [Stiglitz-Sen-Fitoussi report](#). Two new releases from the initiative are outlined below.

The Your Better Life Index

The OECD's new interactive tool – the Your Better Life Index – enables you to rate New Zealand on the things you feel make for a better life. The index allows you to visualise well-being across 34 countries, based on the importance you give to the 11 dimensions identified as essential for quality of life: housing, income, jobs, community, education, environment, governance, health, life satisfaction, safety, and work-life balance. To create your better life index go to www.oecdbetterlifeindex.org/.

How's Life?

The new OECD publication, [How's Life?](#), provides a comprehensive picture of people's well-being in 40 countries worldwide. The report assesses 11 aspects of life, from income, jobs and housing to health, education and the environment, and addresses questions like: Do you like your job? How's your health? Are you spending enough time each day with your children? When you need them, are your friends there for you? Can you trust your neighbours? And how satisfied are you, overall, with your life?

The report finds that 'people in New Zealand and Portugal are among the most social of all nationalities surveyed, with more than 75 per cent reporting at least one social contact with friends or family per week, while people in Poland, France and Hungary report the lowest levels of social interaction'. For more about the report go to www.oecd.org/document/10/0,3746,en_2649_201185_48791306_1_1_1_1,00.html.

In brief

Public perception of New Zealand's environment, 2010

Lincoln University's sixth biennial survey of people's perceptions of the state of the New Zealand environment was undertaken in 2010, and released earlier this year. Funded, in part, by the Ministry for the Environment, the survey assesses New Zealanders' perceptions around resources such as air, native plants and animals, native forest and bush, soils, beaches and coastal waters, marine fisheries, marine reserves, fresh waters, national parks, wetlands, and urban environments. This year's survey also had a special focus on the freshwater environment.

Water pollution and water-related issues were rated as the most important environmental issue facing New Zealand. On a global basis, climate change/global warming was seen as the most important issue for around a third of respondents.

All reports are available in [hard copy](#) and electronically ([2000](#), [2002](#), [2004](#), [2006](#), [2008](#) and [2010](#)).

New climate change adaptation guidance

Pathways to Change is a guidance document to help local authorities and coastal communities adapt to climate change. Adaptation to climate change is a complex and challenging journey, and *Pathways to Change* proposes four steps:

1. Awareness and acceptance
2. Assessment
3. Planning a way forward
4. Implementation, monitoring and review.

Developed by a NIWA-led partnership, *Pathways to Change* presents:

- a framework which describes the steps that need to be taken along the pathway to adaptation
- a discussion of key drivers and options available for undertaking each step on this journey
- case study examples from New Zealand and overseas relevant to each of the steps
- indicators for measuring and reviewing progress
- a range of reference material.

To access *Pathway to Change*, go to www.niwa.co.nz/our-science/coasts/research-projects/all/coastal-adaption-to-climate-change.

Ministry of Health's environmental health indicators website

The Ministry of Health's Environmental Health Indicators project has a new website. Environmental health indicators are measures that summarise the relationship between the environment and health.

The website provides resources, including [factsheets](#) across a wide range of topics, and annual reports. It is hosted and maintained by the Centre for Public Health Research, Massey University (Wellington campus) in partnership with the University of Canterbury's GeoHealth Laboratory under a contract with the Ministry of Health, and can be accessed at www.ehi.ac.nz.

Hauraki Gulf state of the environment report

The Hauraki Gulf Forum launched its third Hauraki Gulf state of the environment report in August. The Gulf has undergone a profound transformation over two human life-spans. Most environmental indicators show negative trends or remain at levels which are indicative of poor environmental condition. The report identifies a need for clear water quality targets, expanded green and blue protected areas, an ecosystem research focus, enhanced fisheries, and partnerships with tangata whenua.

To view the report, go to www.arc.govt.nz/albany/index.cfm?FD4FFAE9-14C2-3D2D-B936-BE0F209BFF76.

New water physical stock account

Statistics New Zealand released its third water physical stock account in October. The *Water Physical Stock Account 1995–2010* provides information on New Zealand's national and regional water balance, based on information from NIWA, GNS Science, Statistics New Zealand's Agricultural Production Survey, and agricultural sector organisations.

The report states that it was wetter than usual in New Zealand in 2009 and 2010, after four relatively dry years. In 2010, over 613,000 gegalitres (one gegalitre is one billion litres) of precipitation fell on New Zealand, enough to fill Lake Taupo 10 times over. The wettest year in the past 16 was 1996 when over 701,000 gegalitres of precipitation fell.

The report is part of a series of environmental accounts that is used to monitor the interaction between the economy and the environment. To view the report, go to www.stats.govt.nz/browse_for_stats/environment/natural_resources/water-physical-stock-account-1995-2010.aspx.