



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.

First national environmental report cards released

To ensure up-to-date, high-quality environmental information is available, the Ministry for the Environment is producing a series of national environmental report cards.

These web-based report cards are grouped according to 10 'domains', which correspond to chapters within *Environment New Zealand 2007* (ENZ07): air, atmosphere, land, fresh water, oceans, biodiversity, consumption, transport, energy and waste. The report cards update data for the core national environmental indicators reported in ENZ07. They are designed for a wide readership, and are published on a regular basis (in many cases, annually) as new data becomes available. While recognising the social and economic aspects of the core indicators, the report cards present information primarily from an environmental perspective.

The report cards use a set of symbols to illustrate whether the indicator shows improving or worsening trends in the aspect of the environment under consideration. It is common practice to use symbols to present this type of high-level information: other Organisation for Economic Co-operation and Development (OECD) countries and regional councils in New Zealand commonly use such symbols in their environmental reporting. Other national indicator reporting programmes also use symbols in a similar way (eg, the Ministry of Social Development uses them in its annual Social Report).

An independent review of ENZ07 showed that readers expect a clear signal as to how the New Zealand environment measures

up internationally. As a result, where possible, the report cards compare New Zealand's environmental performance against its OECD peers.

The report cards also have a 'future watch' section, which signals emerging issues likely to have an impact on the indicator in the future.

The first environmental report cards, *Marine Areas with Legal Protection* and *Air Quality (Particulate Matter – PM₁₀)*, are now available on the Ministry's website at www.mfe.govt.nz/environmental-reporting/report-cards/index.html (also see below). Work is well underway to report on the indicators for vehicle kilometres travelled (road transport), household consumption expenditure, energy supply and demand, and waste composition.

Report card profile: *Marine Areas with Legal Protection*

Around the world, marine reserves are important in achieving marine conservation goals. They do so by conserving habitats and biodiversity, maintaining marine communities, and fostering the recovery of some species.

The environmental report card *Marine Areas with Legal Protection* provides information on marine reserves using latest data from 2008. It reports on the percentage of New Zealand's territorial sea protected by marine reserves, and the degree to which different marine ecosystems are protected by marine reserves. Once a national network of marine protected areas has been established, future report cards will report on both marine reserves and other marine management tools.

This report card updates data presented in *Environment New Zealand 2007* and shows similar findings: an increasing proportion of our marine environment is protected by marine reserves.

Some key findings follow:

- There are 33 legally protected marine reserves in New Zealand, covering 7.06 per cent (12,792 square kilometres) of our territorial sea. This is higher than in most Organisation for Economic Co-operation and Development (OECD) countries.
- Two marine reserves have been established since the Ministry last reported on this indicator, adding a further 22.59 square kilometres to the marine reserve area.

The marine protection report card also provides an estimate of how New Zealand is tracking towards the New Zealand Biodiversity Strategy target of protecting 10 per cent of the marine environment by 2010.

Report card profile: Air Quality (Particulate Matter – PM₁₀)

Poor outdoor air quality is a significant issue in some locations in New Zealand. About two-thirds of New Zealanders live in areas that can experience air pollution. Particulate matter (known as PM₁₀) is a pollutant of concern because it regularly occurs at high levels in 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 environmental report card *Air Quality (Particulate Matter – PM₁₀)* discusses PM₁₀ levels in monitored airsheds in New Zealand using latest data from 2007. It compares daily PM₁₀ levels with the national environmental standard for air quality, and annual levels with the national guideline for air quality.

Both the standard (introduced in 2004) and the guideline (introduced in 2002) were established to provide a minimum level of protection for the health of New Zealanders. The national standard requires regional councils to bring PM₁₀ levels in their airsheds within the standard by September 2013.



Resource consent applications for discharges to air will not be granted in airsheds that fail to comply with the PM₁₀ standard by this date.

The report card has a number of key findings:

- In 2007, 42 per cent of the 40 monitored airsheds in New Zealand complied with the national standard for PM₁₀. While there has been some fluctuation, compliance with the national standard has increased from 31 per cent in 2005. However, 18 of the 20 airsheds non-complying in 2005 have continued to breach the PM₁₀ standard.
- In 2007, the Otago 1, Timaru and Rotorua airsheds breached the standard most often. The highest number of times the standard was exceeded in an airshed increased from 51 in 2005 to 55 in 2007.
- In 2007, 81 per cent of the 37 airsheds for which data was reported met the New Zealand annual guideline for PM₁₀. For the first time since reporting began, indicator sites in all five main centres met the guideline in 2007.
- In 2006, annual levels of PM₁₀ at indicator sites in New Zealand's five main centres were comparable to levels at similar sites in Sydney and Melbourne.

Latest waste composition survey results available

Over a decade ago, the Ministry for the Environment began a programme to periodically estimate the composition of waste in New Zealand landfills. Waste composition estimates help us to better understand what potentially valuable materials are being thrown away (eg, glass, plastics, metals) and then target waste policies to ensure that these materials are more effectively reused or reprocessed. This is important for both economic and environmental reasons.

Waste composition data is also used to support the Ministry's environmental reporting programme – the national environmental indicator for waste reports on both the quantity and composition of solid waste disposed of to landfill.

The 2007/08 waste composition survey of four 'indicator' sites across the country – Silverstream, Kaikoura, and Green Island landfills, and Matamata transfer station – is now complete, and

the results are posted on the Ministry's website at: www.mfe.govt.nz/publications/waste/solid-waste-audits-2007-2008/main-report/index.html. The last survey of these sites was in 2003/04. The latest survey results estimate that since then:

- the proportion of paper, metal, and construction and demolition waste sent to landfill has reduced
- the proportion of textiles, rubber and potentially hazardous waste has roughly stayed the same
- the proportion of plastic, organic, glass, and nappies and sanitary waste has increased.

Although the four sites are not necessarily representative of the approximately 60 landfills across the country, they do provide a more detailed picture of waste disposal patterns in New Zealand.

Updating the Land Cover Database – LCDB3

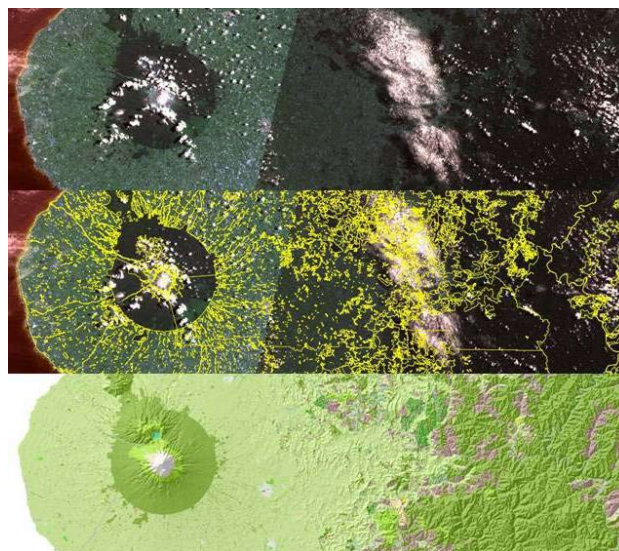
The Land Cover Database (LCDB) is a national database used to support environmental decision-making. The LCDB is a digital map that is created by grouping similar types of vegetation and other land cover identified from satellite images. The information in the database can be used to analyse land use and habitat distribution. At present, there are two versions of the LCDB, which map land cover in 1996/97 and 2001/02.

A new land cover database project is proposed to provide a digital map representing land cover for 2007/08. The project, known as LCDB3, is designed to capitalise on existing satellite imagery from the mapping component of the Land Use and Carbon Analysis System (LUCAS). This will significantly reduce the cost of the project.

The Ministry is now scoping the requirements for the new LCDB and will be assessing these requirements for technical feasibility. A design for LCDB3 will be proposed and a business case developed setting out costs and funding options, both from within the Ministry and from other parties, as required. A first LCDB3 workshop with users of land cover information was held in Wellington on 16 December 2008. Further workshops are scheduled for February 2009 in Christchurch

(19th), Dunedin (20th), Palmerston North (25th) and Hamilton (26th). If you would like to attend one of the workshops, please contact Karl Majorhazi at (04) 439 7455 or at karl.majorhazi@mfe.govt.nz.

LCDB MAPPING OF MT TARANAKI: SATELLITE IMAGE (TOP) TO LAND COVER BOUNDARIES (MIDDLE) TO LAND COVER DATABASE (BOTTOM)



Environmental reporting framework

The environmental reporting framework describes the Ministry's environmental reporting programme. *Reporting on New Zealand's Environment: How the National Environmental Reporting Programme Works* describes the Ministry's role in environmental reporting, sets out the work being done within the environmental reporting programme, and explains how it fits with the work of other agencies.

The framework sets down the strategic direction of the Ministry's environmental reporting programme and describes the principles that underpin it. These principles are to:

- adhere to international best practice in environmental reporting
- use an internationally recognised reporting model ('pressure-state-response')
- use indicators as a basis for environmental reporting
- use standard criteria for indicator selection
- focus on national-scale reporting.

The framework also details the requirements of the programme to:

- comply with Official Statistics System principles and protocols
- support work to report on progress towards sustainable development
- meet New Zealand's international reporting obligations.

For more information on the environmental reporting framework, please contact Justine Daw at (04) 439 7594 or at justine.daw@mfe.govt.nz.

The OECD's environmental indicator programme

The Organisation for Economic Co-operation and Development (OECD) pioneered the development of international environmental indicators in 1989/90. Since that time, the OECD has developed several sets of environmental indicators:

- core environmental indicators (of which there are about 55)
- key environmental indicators (a subset of the core set)
- sectoral environmental indicators (for example, transport, energy and agriculture indicators)
- indicators derived from environmental accounting (indicators which help integrate environmental concerns into economic and resource management policies)
- decoupling environmental indicators (indicators which compare environmental consumption or pressure to economic growth).

Between them, these indicator sets measure environmental progress and performance, monitor and promote sectoral policy integration, ensure integration of environmental concerns into economic policies, and show how economic growth can be accomplished without environmental damage.

As part of this work, the OECD established the 'pressure-state-response' framework. The framework is a well-known model used both in New Zealand and internationally to underpin environmental reporting. For more on the OECD's work in this area go to www.oecd.org/departement/0,3355,en_2649_34441_1_1_1_1_1,00.html.

In brief

Household Sustainability Survey 2008

Results of the 2008 Household Sustainability Survey are now available. The Ministry-commissioned survey covered a number of topics: using water efficiently, organic waste reduction, managing electrical waste, energy efficiency, transportation, building and renovating sustainably, and taking sustainability into account for purchasing decisions. The nationwide survey of 1000 people was conducted by Research New Zealand in September 2008. There were a number of key findings:

- Most surveyed believe that New Zealand households generate too much rubbish and waste (87 per cent), and that water supply is limited and should not be wasted (86 per cent).
- Just over one-half of respondents (52 per cent) report doing *quite a few* things that are environmentally friendly. Importantly, another 22 per cent responded that *most* things they do are environmentally friendly and 1 per cent say that this is the case with *everything* they do. In other words, 75 per cent of those surveyed believe they are currently acting in a sustainable manner.
- When asked who was responsible for protecting and caring for the environment, 83 per cent of respondents said all New Zealanders, while 32 per cent said the government. These results compare with a benchmark survey in 2007 where only 39 per cent agreed that environmental care was everyone's responsibility, and 41 per cent felt the government should take care of it.

The full research results can be seen at www.mfe.govt.nz/publications/sus-dev/household-sustainability-survey-11-2008/index.html.

Good Practice Guide for Air Quality Monitoring and Data Management 2009

Work is well under way on the Ministry for the Environment's 'Good Practice Guide for Air Quality Monitoring and Data Management 2009', which replaces an earlier guide published in 2000. The guide is a vital tool in promoting accuracy and consistency in the measurement of air pollutants and the management of air monitoring data. The new guide responds to a number of changes and developments in air quality monitoring in New Zealand, not least the five ambient air quality national environmental standards that came into effect in September 2004. These standards specify a number of mandatory monitoring requirements. The new guide also provides general good practice guidance on data formats and meteorological monitoring.

The Ministry held a workshop with stakeholders in December 2008 to review the new good practice guide, and it will be published on the Ministry's website in the next quarter. For more information contact Rapunzel Mulawin at (04) 439 7776 or rapunzel.mulawin@mfe.govt.nz.

National Environmental Reporting Forum

After the success of the first National Environmental Reporting Forum in August 2008, the Ministry will host a second forum in late March/early April 2009. The aim of the forums is to build a 'community of interest' in environmental reporting around the country. The first forum was attended by a variety of agencies involved in national, local and iwi-based environmental monitoring and reporting. For more information on the next forum, contact Rapunzel Mulawin at (04) 439 7776 or rapunzel.mulawin@mfe.govt.nz.

Department of Conservation's Natural Heritage Management System

The Department of Conservation (DoC) is developing a Natural Heritage Management System (NHMS) which will enable the most cost-effective use of resources for species and ecosystem management. The NHMS will use indicators to measure the ecological integrity of sites, monitor trends over time, optimise management interventions and show their effectiveness. Considerable research underpins the system.

A national monitoring system will enable coherent reporting on the state of biodiversity conservation in New Zealand. This initiative will also contribute to the Ministry for the Environment's environmental reporting on biodiversity. The NHMS programme is being implemented progressively in DoC and then the wider conservation community over the next five years. For more information contact Ana Cotter at acotter@doc.govt.nz.

New environmental reporting web pages

The Ministry for the Environment's environmental reporting web pages are currently being revamped, to reflect feedback from the independent review of *Environment New Zealand 2007*. The review found that readers expect easier access to environmental information, more up-to-date data, online access to that data, and summary-level, plain English information.

Improvements are being made to the web pages' structure, navigation, and design. The new pages will be more dynamic and interactive, and present information on a number of levels (eg, nationally and regionally). There will be more graphs, and the underlying data will be accessible online.

The Ministry's state of the environment publications web page has also been updated, bringing together in one place the full suite of environmental reporting publications produced by the Ministry in recent years. Until now, many of these publications were only accessible from other Ministry web pages (eg, waste, water). The publications, including indicator reports, technical reports and best practice guides, can be accessed at www.mfe.govt.nz/publications/ser.