Protecting ecological and human health

Strategic focus area

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<th>Outcomes</th>
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<td>A healthier and cleaner environment</td>
<td>Cleaner air, water and land</td>
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<td>Protection of ecological needs and sustainable use of the environment</td>
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<td>Understanding of the public health impacts of contamination, chemical use, waste and radiation</td>
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<td>Community wellbeing improved</td>
<td>Land use decisions provide more ‘liveable‘ and healthy communities by:</td>
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<td>• protecting Aboriginal cultural heritage sites and practices</td>
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<td>• minimising noise, dust, odour and vibration</td>
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<td>• promoting environmental health linkages</td>
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In this chapter

2. Protecting ecological and human health

<table>
<thead>
<tr>
<th>2.1 A healthier and cleaner environment</th>
<th>2.2 Improving community wellbeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.1 Corporate plan priorities 2004–06</td>
<td>2.2.1 Corporate plan priorities 2004–06</td>
</tr>
<tr>
<td>2.1.2 Regulating environmental impacts</td>
<td>2.2.2 Protecting liveability</td>
</tr>
<tr>
<td>2.1.3 Waste</td>
<td>2.2.3 Linking environmental and human health</td>
</tr>
<tr>
<td>2.1.4 Air quality</td>
<td>2.2.4 Improving Aboriginal community wellbeing</td>
</tr>
<tr>
<td>2.1.5 Waters and catchments</td>
<td></td>
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<tr>
<td>2.1.6 Contaminated sites</td>
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<tr>
<td>2.1.7 Pesticides and chemicals</td>
<td></td>
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<tr>
<td>2.1.8 Radiation and dangerous goods</td>
<td></td>
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<tr>
<td>2.1.9 Emergency preparedness</td>
<td></td>
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<tr>
<td>2.1.10 Science planning</td>
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<tr>
<td>2.1.11 Regulatory reform for improved</td>
<td></td>
</tr>
<tr>
<td>compliance</td>
<td></td>
</tr>
</tbody>
</table>

| 2.1.1 | 16 |
| 2.1.2 | 17 |
| 2.1.3 | 22 |
| 2.1.4 | 23 |
| 2.1.5 | 25 |
| 2.1.6 | 28 |
| 2.1.7 | 29 |
| 2.1.8 | 30 |
| 2.1.9 | 31 |
| 2.1.10| 32 |
| 2.1.11| 32 |
| 2.2.1 | 35 |
| 2.2.2 | 36 |
| 2.2.3 | 37 |
| 2.2.4 | 38 |
2.1 A healthier and cleaner environment

2.1.1 Corporate plan priorities 2004–06

Improve approaches to compliance

Improve approaches to compliance for regulatory activities for cultural heritage, environmental protection and threatened species to ensure the highest risks to the environment are effectively managed and controlled

During 2005–06, DEC continued its comprehensive improvement of regulatory activities, focusing on:

- improved operation and administration of Aboriginal heritage protection (page 55)
- a new approach to manage threatened species in forestry operations in the Eden Region (page 20)
- earlier declaration of contaminated sites where contamination poses a significant risk of harm (page 29)
- targeted waste compliance campaigns on priority issues including contaminated soil, liquid waste and roadside litter (page 23)
- innovative remote surveillance and increased collaboration with local councils to continue RID Squad work in investigation and enforcement of illegal dumping and illegal landfill (page 23)
- improved guidance material about DEC expectations and processes for licensed premises and NSW councils (page 23 for liquid waste generators and page 18 for the Compliance audit handbook)
- threatened species priorities (page 49).

Regulatory reform has also allowed improved approaches to compliance by simplifying and clarifying regulatory requirements and strengthening the integrity of the regulatory framework. Reforms during 2005–06 included:

- changes to the Protection of the Environment Operations Act 1997 (POEO Act), constituting the biggest overhaul of pollution laws in almost 10 years (page 32)
- significant amendments to the Protection of the Environment Operations (Clean Air) Regulation 2002 including replacing requirements in the now repealed Clean Air (Plant and Equipment) Regulation 1997 (page 33)
- repeal of the Clean Waters Regulation 1972 and the Classified Waters Scheme, which have been replaced by requirements for regulatory authorities to consider when exercising functions under the POEO Act (page 32)
- changes to threatened species regulation through the Threatened Species Legislation Amendment Act 2004 (chapter 3, pages 43-44)
- commencement of Protection of the Environment Operations (Waste) Regulation 2005 (page 33)

Emergency preparedness

Support the government’s incident and security emergency preparedness so that we are ready to deal with bushfires and biological, chemical and radiological threats and other incidents

During 2005–06, DEC participated in eight NSW and federal exercises to test emergency management arrangements – these exercises dealt with avian influenza, terrorism, hazardous materials and major bushfire incidents (page 32).

DEC provided technical and clean-up advice for 216 hazardous materials incidents, including on-site advice in 42 cases (page 31).
Sixty DEC staff were trained in hazardous materials and emergency response management, to improve DEC’s readiness to respond to incidents and security emergencies.

By June 2006, DEC had adopted fire management strategies for 464 reserves covering more than 4.5 million hectares. These strategies guide DEC work schedules and bushfire suppression maps, and are compatible with district bushfire management plans. DEC staff worked on 187 fires affecting DEC parks and reserves, and also assisted with 60 off-park fires, including interstate fires (page 66).

DEC used the NSW Government emergency response management framework to guide staff in the event of an emergency, and to allocate resources to respond to state emergencies requiring environmental clean-up.

Science investment plan

*Develop a science investment plan that recognises the importance of decisions made on a scientific basis and identifies priority areas for environmental science, research and information provision*

During 2005–06, DEC finalised its Science Investment Management Plan, encompassing all science carried out in DEC. The plan, to be implemented in 2006–07, aligns DEC investment in science with DEC strategic outcomes, including issues raised in NSW State of the environment 2006, and NSW Government priorities, including those of the Office of Science and Medical Research (page 32).

National Chemicals Working Group

*Lead the National Chemicals Working Group to achieve a risk management framework for chemicals, and improved criteria, information and education for adverse chemical impacts*

DEC undertook considerable consultation across government, industry and environmental groups to prepare a discussion paper about introducing a more streamlined, transparent and nationally consistent environmental risk management framework for chemicals. This paper is to be released in July 2006 by the Environment Protection and Heritage Council of state and federal environment ministers (page 30).

During 2005–06, DEC also continued to control the use of restricted chemical products, and reviewed the rules for use of sodium fluoroacetate (1080) and copper chrome arsenate (CCA) in NSW (page 29).

2.1.2 Regulating environmental impacts

DEC is responsible for regulating industrial impacts on the environment through a range of licensing schemes and regulatory actions under environment protection legislation, as well as for regulating activities under parks, threatened species, wildlife and Aboriginal heritage legislation. This year DEC built consistent regulatory principles across all these areas, augmenting regulatory skills and strengthening approaches to threatened species and Aboriginal heritage.

At the same time, DEC used a risk management approach to manage environment protection licensing and pollution reduction programs. At 30 June 2006, there were 3166 licences granted under the POEO Act, with 165 new licences issued in 2005–06. The focus on the environmental risk of a licensed industrial activity has allowed DEC to concentrate on the more significant industry sectors and premises regarding licence conditions, pollution reduction programs, compliance reviews and inspections, and follow-up of annual return information.

Although the number of pollution reduction programs (PRPs) has reduced this year, the value of the PRPs has increased substantially (see page 18), reflecting this risk-based approach.

Environmental compliance and performance reviews integrate compliance audits and licence review programs with ongoing regulatory activities. In addition to assessing compliance with existing requirements, DEC aims to improve environmental performance by referring industry to best environmental management practices. In 2005–06, DEC finalised and published the findings of the compliance audits and the review of best practice for chemical storage handling and spill management.
In March 2006, DEC published a revised *Compliance audit handbook*. The handbook is a guide for DEC officers undertaking environmental compliance audits and provides general procedures and protocols to ensure all audits are consistent, adequate, reliable and comparable. The handbook can also be used by other organisations and is available on [www.environment.nsw.gov.au/resources/cahandbook0613.pdf](http://www.environment.nsw.gov.au/resources/cahandbook0613.pdf).

During 2005–06, DEC completed 101 audits and 1439 inspections of licensed premises. Amendments to section 78(4A) of the POEO Act added a provision that DEC must audit, on an industry-wide or regional basis, compliance with licence requirements and whether such requirements reflect best practice. As a result, DEC also reviewed licences of audited premises.

The chemical storage, handling and spill management audit program was taken a step further with the development of an education package using the audit program findings. The package consists of a plain English guideline for all activities involving storing and handling chemicals, and a hands-on training course for councils which will be piloted in 2006–07. The next audit program will aim to prevent site contamination.

At DEC’s state-of-the-art Lidcombe scientific laboratories, DEC staff conducted more than 250 ecotoxicology and 50,000 chemical tests to support environmental compliance programs and investigations.

DEC has a program of regulatory reforms to simplify and clarify requirements and strengthen the integrity and long-term sustainability of the regulatory framework so it delivers better environment protection and resource recovery outcomes. This includes contributing to or making submissions to several Red Tape reviews that are underway in NSW and nationally. It also includes legislative changes, such as those made to threatened species legislation (see pages 43–44) and significant amendments, such as those made to the POEO Act which commenced on 1 May 2006 (see page 32).

The load-based licensing (LBL) scheme works to reduce pollution by linking industry licence fees to emissions. Pollutant load fees are paid by the state’s larger, most potentially polluting industries and are proportional to the quantity and type of pollutants discharged and the condition of the receiving environment. Significant reductions in pollutant loads continue to be achieved (see pollutant load indicator on page 19).

This year DEC instituted significant changes to its motor vehicle compliance program. This included developing and piloting new approaches which will make the program more sustainable in the future, and broadening the number of people and facilities that can participate in testing and inspections. Revamping the program and training staff has reduced time devoted to issuing penalty notices in the short term. In March–May 2006, DEC piloted a new Noise Testing and Anti-Tampering Inspection Scheme.

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### PERFORMANCE INDICATOR

#### Number and estimated value of new pollution reduction programs negotiated with licensees

**Definition:** This indicator measures the number and estimated value of new pollution reduction programs (PRPs) negotiated during the year. PRPs are legally enforceable programs DEC negotiates with licensees. They require changes to works or management practices to bring about environmental improvements in a specified timeframe. The conditions of a PRP are attached to an environment protection licence. PRPs may be implemented in stages over a number of years, with specific conditions attached to each stage. The dollar costs are approximate DEC estimates.

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**Interpretation:** The total cost of PRPs negotiated by DEC for 2005–06 was $195.9 million, an increase of $109 million since 2004–05 and $137 million compared with 2003–04. This increase was driven by the PRPs to upgrade Sydney Water’s sewage treatment systems to reduce overflows over five years. The number of PRPs decreased compared with 2004–05. The peak in 2003–04 was due to the large number of PRPs negotiated for rural sewage treatment systems, which are now being implemented.

Nearly half the PRPs (47% or 67) negotiated in 2005–06 addressed water quality issues. A further 36% addressed air, noise and odour. Significant PRPs included:

- $158 million by Sydney Water to upgrade its sewage treatment systems
- $8 million by Griffith City Council to upgrade its sewage treatment plant
- $4 million by Casella Wines to install and operate a wastewater treatment plant.

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Under the scheme, DEC will approve individuals and facilities that conduct motor vehicle noise tests and inspections of emission control devices. The scheme is expected to commence in late 2006.

DEC issued 1123 defective vehicle notices for noisy vehicles in 2005–06. These notices are issued when DEC suspects that a vehicle is excessively noisy or has had its emission control device removed or tampered with. The notices are issued based on reports from authorised DEC officers, or officers from the NSW Police and Roads and Traffic Authority (RTA). During 2005–06, there were 13 joint operations involving officers from DEC, the Police and the RTA.

Sewer system regulation

DEC regulates most sewage treatment systems of state and local government. The largest operator is Sydney Water Corporation which has operations in Sydney, the Blue Mountains and the Illawarra. DEC’s role includes issuing licences to control pollutant discharges from the sewage treatment plants and reticulation systems, and setting pollution reduction programs for areas where performance improvement is required. DEC applies economic instruments to influence performance and, where required, undertakes compliance audits and prosecutions.

In 2005–06, DEC focused on Sydney Water’s delivery of sewer overflow performance targets by 2010, and on environmental monitoring to detect areas where major problems are still occurring. DEC varied the sewage treatment system licences to require sewer overflow abatement actions in dry and wet weather in 2005–10.

The following graphs present the total PLIs for air and water pollutants from premises licensed under load-based licensing. The pollution load indicator (PLI) represents the total pollutant load emitted by all LBL activities for the reporting year, adjusted to reflect the relative harm of the pollutants and the sensitivity of the environment into which they are emitted.

Interpretation for air pollution emissions: Overall, the trend indicates an improvement in controlling the levels of harm from air pollutants emitted by licensed activities. The PLI for total air pollutant emissions decreased from the previous year by 5% to 546,607 in 2004–05, including decreases in the three major individual pollutants; nitrogen oxides, sulfur oxides and fine particulates. Although not shown (see definition above), this is consistent with the 8% decline for total air pollutant emissions between 2001 and 2003.

Interpretation for water pollution emissions: The trend indicates continued improvement in controlling the levels of harm from water pollutants emitted by licensed activities, with a 25% improvement in the PLI between 2001–02 and 2004–05. Note that the PLIs for individual water pollutants may fluctuate within the total PLI trend.

### Pollutant load indicator for total assessable air and water pollutants from premises licensed under load-based licensing

**Definition:** The pollutant load indicator (PLI) represents the total pollutant load emitted by all LBL activities for the reporting year, adjusted to reflect the relative harm of the pollutants and the sensitivity of the environment into which they are emitted. A pollutant emitted in large quantities can have a lower impact than another pollutant with relatively small emissions because of differing levels of toxicity and the sensitivity of the environment. Fluorides, for example, have a higher pollutant impact than volatile organic compounds, even though their actual pollutant load is lower. The higher the PLI, the greater the environmental harm.

Under the LBL scheme, 12 types of air pollutants and 17 categories of water pollutants were reported by licensees and assessed by DEC. Air pollutants were arsenic, lead, fine particles, fluorides, nitrogen oxides, mercury, sulfur oxides, volatile organic compounds, hydrogen sulfide, coarse particles, benzene and benzo(a)pyrene. Water pollutants were total polycyclic aromatic hydrocarbons, total phenolics, pesticides and polychlorinated biphenyls, mercury, arsenic, chromium, salt, phosphorus, selenium, biochemical oxygen demand, total suspended solids, nitrogen, oil and grease, zinc, lead, copper and cadmium.

The following graphs present the total PLIs for air and water pollutants over the most recent years of the LBL scheme for which DEC has received complete load data. DEC has yet received data from all licensees for the 2005–06 period so this data will be updated in 2007. In addition, data for 2003–04 and 2004–05 is considered provisional (shown with a dotted line), as quality assurance systems can lead to some restatement for up to two years following reporting. Such restatements are usually minor but substantially improve the integrity of the scheme and any decision-making based on LBL information.

In June 2004, recognising growing international concern about the impacts of air pollutants, DEC reformed the LBL scheme by increasing the weighting for many air pollutants, and effectively increasing the total air PLI by around 50%. As a result, air data received before 2003–04 is not readily comparable with subsequent years and is not shown.
This will be achieved through pollution reduction programs which are estimated to cost more than $158 million.

Forestry regulation

DEC regulates forestry activities on public land in NSW to ensure threatened species and water quality are protected. Protection is achieved through setting best practice conditions in licences issued under the Threatened Species Conservation Act 1995 and the POEO Act. DEC also sets approval conditions for some native forestry operations on private land on request.

During 2005–06, DEC licensed or set approval conditions for forestry operations in native forests and plantations – 352 for threatened species protection and 256 for water quality protection. These operations were in the upper north-east, lower north-east, southern, Eden, Pilliga (Western) and Riverina forestry regions.

To ensure compliance with these conditions, DEC conducted eight audits in 2005–06. Four additional audits were conducted in response to community complaints.

As a result of the auditing program, Forests NSW was issued with seven warning letters and undertook remediation action on 27 separate issues. Three clean-up notices and one penalty notice were also issued. The range of non-compliances included not retaining adequate hollow-bearing trees or young trees which will develop hollows in future; incorrect marking of, and incursions into, harvesting exclusion zones; not draining forest roads on the approaches to stream crossings; exceeding the required distances between drainage structures on roads and snig tracks; and not retaining streamside vegetation.

In the Eden area, species management plans will be developed for three threatened species: Pseudomys fumeus (smoky mouse), Isoodon obesulus (southern brown bandicoot) and Heleioporus australiacus (giant burrowing frog), as an improved way of managing threatened species in forestry operations.

Prosecutions

DEC can commence prosecutions for environment protection offences under the authority of the EPA. DEC can also commence prosecutions for offences under threatened species, parks, wildlife and Aboriginal heritage legislation.

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**Prosecutions completed under EPA legislation**

**Definition:** This indicator measures the number of prosecutions completed by DEC under EPA legislation, the proportion that were successful and the resulting value of fines awarded by the Land and Environment or local courts. “Successful” refers to prosecution cases that DEC won. These include cases where the defendant was convicted and a penalty was imposed, and those where DEC’s case was proved but no conviction or penalty was imposed.

**Percentage of successful prosecutions under EPA legislation**

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**Value of fines**

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**Interpretation:** DEC maintained its consistently high success rate in 2005–06, winning 96% of prosecutions completed under EPA legislation. DEC continued to focus its efforts on complex and serious breaches of EPA legislation, while improving its skills in enforcing parks, threatened species, wildlife and Aboriginal heritage legislation. During the year, DEC commenced 91 prosecutions under EPA legislation. Total fines imposed for completed EPA prosecutions rose by $26,225 to $616,000 in 2005–06. The number of completed EPA prosecutions declined to 75 in 2005–06, partly due to fewer court-elected infringement notices (see performance indicator on page 22), and DEC’s pursuit of breaches of threatened species, parks, wildlife and Aboriginal heritage matters (see performance indicator on page 21).

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In total, DEC commenced 180 prosecutions during the year, similar to last year. The number of completed prosecutions, 113, was fewer than last year but the value of fines increased. The 113 prosecutions resulted in:

- 101 convictions
- 7 matters where the offence was proven but a conviction was not recorded
- 5 acquittals.

See Appendix 8 for more information on all prosecutions. Significant prosecutions under various legislation completed during 2005–06 are outlined below.

**EPA v Australian Waste Recyclers 1 Pty Ltd**

The company was fined $225,000 for breaching its environment protection licence when it unlawfully received about 6400 tonnes of hazardous coal tar waste at its St Marys facility. The waste contained polycyclic aromatic hydrocarbons which are known carcinogens and seriously threaten human health if they are inappropriately disposed of. The defendant company did not have the expertise or the facilities to deal with hazardous waste of this type. The Land and Environment Court found that the company’s conduct was deliberate, calculated and undertaken for financial gain, with complete disregard for public safety.

**EPA v Tyco Water Pty Ltd**

Tyco Water Pty Ltd was fined $50,000 by the Land and Environment Court for polluting Prospect Creek in Fairfield with between 0.24 and 2.36 megalitres of raw human sewage. Although Tyco had put in place a bypass system to enable it to conduct repairs on a sewerage system, the bypass system failed and raw sewage entered the creek through an overflow point that Tyco had not checked. Although there were immediate pollution impacts on the creek and risks of exposure, there were no long-term effects on the environment.

**EPA v Caltex Refineries (NSW) Pty Ltd**

Caltex Refineries was fined $45,000 by the Land and Environment Court after pleading guilty to polluting waters at Kurnell, when a mixture of creosote and oil was discharged from an underground pipeline after a valve corroded. The incident resulted in over 14,000 litres of creosote and oil leaking into the surrounding soils and escaping into a nearby drain. About 400 metres of a watercourse, adjacent wetlands and groundwater were polluted. Caltex had not inspected or developed a proper maintenance program for the underground pipeline, but reported the incident to DEC in accordance with the terms of its environment protection licence and spent about $4 million on the clean-up operation.
EPA v Ballina Shire Council

Ballina Shire Council was fined $35,000 by the Land and Environment Court for failing to comply with a condition of its environment protection licence that required it to carry out environmental monitoring at its Ballina landfill. The council should have monitored the site for three years, while regularly sending the results to DEC so DEC could better gauge the impact of the landfill on the environment. The Land and Environment Court said that the fact that the breach continued for three years increased the seriousness of the offence. The court also said that by not drawing the breach to DEC’s attention in its annual returns, the council had evaded its responsibilities under the law.

DEC prosecutions of Cody Wade Angland, Mitchell John Cotterill and Jed Wayne Stockton

The defendants were respectively fined $700, $1600 and $1500 by the local court for offences concerning illegal ‘pig-dogging’ in Woomargama National Park. The three men were charged for using dogs to illegally hunt pigs in the park. Two dead pigs were found in the men’s car and one dog was wearing a breastplate. Illegal pig hunting interferes with DEC’s program to control feral pigs in national parks and can result in flora and other fauna being damaged.

DEC prosecution of Hugh Charles Gordon and BGP Properties Pty Ltd

The Land and Environment Court fined Newcastle businessman, Hugh Charles Gordon, $30,000 and BGP Properties Pty Ltd $40,000 after DEC brought prosecution proceedings against them for destroying or injuring about 2000 plants of the threatened species plant *Tetratheca juncea* at a Lake Macquarie property.

The fine is the highest ever awarded against an individual under the *National Parks and Wildlife Act 1974*. The cleared land contained the largest recorded sub-population of *Tetratheca juncea* plants in the world. There are believed to be less than 10,000 plants of this type worldwide, so the population of *Tetratheca juncea* in the Lake Macquarie area is of state and national significance.

2.1.3 Waste

DEC regulates the waste industry, provides policy advice and guidance to waste generators and the public, and manages the waste avoidance and resource recovery programs covered in chapter 4. This section covers DEC’s waste regulation activities.

DEC’s waste compliance and enforcement program uses a broad range of compliance tools such as targeted inspections, sector compliance programs, enforcement actions, education and cleaner industry programs. By ensuring compliance with NSW environmental laws, DEC gives certainty to the waste industry and provides better environment protection.
Under the POEO Act, authorised officers from DEC, other state agencies and councils can issue penalty notices for littering offences and members of the community can provide reports to DEC. During 2005–06, 6670 penalty notices for littering were issued.

In the past year, DEC conducted 10 waste compliance campaigns that targeted disposal of contaminated soil, roadside litter, companies generating liquid wastes, and improving the environmental performance of the composting sector.

During 2005, DEC inspected 16 licensed landfills to assess compliance with the use and application of daily cover. The daily covering of waste limits infiltration of water, controls and minimises risk of fire, minimises emission of landfill gas, suppresses site odour, reduces the numbers of flies and rodents, and decreases litter generation. Seven fines and three written warnings were issued to landfill operators for breaching licence conditions.

Controlling illegal dumping
DEC works with councils and other agencies such as the Sydney Catchment Authority to fund two Regional Illegal Dumping Squads (RID Squads): the Western Sydney RID Squad and the Southern RID Squad which extends from the Illawarra to Shoalhaven. The participating councils investigate illegal dumping and landfilling on a regional basis, allowing for a more strategic and focused response. During 2005–06:
- the Western Sydney RID Squad commenced 804 investigations, and issued 5 clean-up notices and 233 penalty notices
- the Southern RID Squad commenced 965 investigations, and issued 17 clean-up notices and 160 penalty notices.

Funding for the RID Squads for the next three years has been approved by the Environmental Trust. This year a new agreement with participating councils was signed to continue the Western Sydney RID Squad to 2009.

In May 2006, DEC embarked on a new phase of remote surveillance to catch illegal waste dumpers by conducting covert surveillance from light aeroplanes and helicopters. The Eyes in the Sky Program has identified over 50 potential illegal dumping sites across Wollongong, western Sydney and Newcastle. DEC officers have commenced on-ground investigations and enforcement actions.

Liquid waste handling
If handled inappropriately, liquid wastes can harm the environment. In October 2005, DEC distributed five Liquid Waste Fact Sheets to licensed premises that generate liquid waste and to NSW councils. The topics covered by the fact sheets, which are available on www.environment.nsw.gov.au/publications/liquidwastefs.htm, are:
- storing liquid waste
- handling liquid waste
- preventing spills

2.1.4 Air quality

Action for Air
Tackling air pollution involves ensuring performance is improved across all sectors – the transport, domestic, commercial and industrial sectors. The NSW strategy to improve air quality in the Greater Metropolitan Region (GMR) (Sydney, the lower Hunter and the Illawarra) over 25 years, Action for Air, was released in 1998. During 2005–06 DEC reviewed progress in improving air quality, and updated Action for Air. DEC will release Action for Air: 2006 update in August 2006. Issues addressed include climate change (see NSW Greenhouse Plan on page 25), health and liveability, the health costs of air pollution and transport-related air pollution.
In April 2006, DEC released a study that estimates the health cost of ambient air pollution in the GMR. The information was prepared to assist decision-making on proposals that affect the GMR’s air quality. The study has conservatively estimated the health cost of ambient pollution in the GMR to be between $1 billion and $8.4 billion each year. A reduction in air pollution will therefore deliver long-term benefits by improving the population’s health. Estimates of the cost of air pollution will change over time due to population growth, changes to vehicles and fuel standards, and changes in production processes.

During 2005–06, DEC continued developing innovative programs to tackle emissions from smaller sources through the Clean Air Fund which was established with funding from the Environmental Trust. Programs included local air improvement projects, the new air emissions inventory, the air quality toolkit and training for local council officers.

DEC completed the technical aspects of the air emissions inventory which assesses the contribution different sources of air pollution make to overall air quality. Over 90 air pollutants from mobile, industrial, commercial, domestic and biogenic sources in the GMR were measured. The inventory will help determine future policy priorities and whether there is a need to add to existing ways of managing air pollution.

DEC developed a web-based ‘Local government air quality toolkit’ to enable councils to better assess and control potential air pollution sources. The toolkit helps councils to identify air pollution sources and understand the impact these may be having on the local environment. Local industries such as construction sites, auto repair shops, small food outlets, small-scale sawmills and intensive agricultural activities can all contribute to air pollution. Training workshops for local government officers based on the toolkit were held around NSW from March to June 2006. The toolkit will be available online in 2006–07.

DEC was represented on a working group for the National Environment Protection Council’s 10-year review of national air quality standards which prepared an Issues Scoping Paper (released in October 2005) and reviewed the Ambient Air Quality National Environment Protection Measure (NEPM). DEC also chaired a national working group on ground level ozone standards that provided findings to the review. DEC was represented on the Air Toxics NEPM working group to develop an air toxics prioritisation methodology, undertaking consultation with environment and health professionals, industry and the community.

Monitoring and reporting

DEC’s air quality monitoring network continues to be the largest in Australia, with 20 stations in the GMR. All sites measure ozone, nitrogen dioxide and particles as well as visibility. Some sites also monitor carbon monoxide and sulphur dioxide. Additional monitoring stations that measure particles only are in Albury, Bathurst, Tamworth and Wagga Wagga.

Sydney’s air quality has generally improved in recent years. Levels of many pollutants that harm human health have fallen. The two classes of pollutants that are still of concern are summertime smog, caused primarily by motor vehicle emissions, and wintertime brown haze, caused primarily by emissions from wood heaters and diesel vehicles.

DEC informs the public about air quality by updating a regional pollutant index (RPI) twice daily on the website, providing 24-hour summaries and issuing quarterly air quality monitoring reports. Currently, the data management system is being upgraded to provide the community with improved access to ambient air quality monitoring data. DEC and NSW Health continue to inform the public about days of high air pollution in the GMR and the possible health impacts.

Health alert messages are tailored for the particular pollutant and forecast levels:

<table>
<thead>
<tr>
<th>Alert level</th>
<th>Regional pollutant index</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>≥ 50 for all pollutants</td>
</tr>
<tr>
<td>Hazardous</td>
<td>≥ 75 for ozone and NO₂</td>
</tr>
<tr>
<td></td>
<td>≥ 200 for fine particles</td>
</tr>
</tbody>
</table>

During the 2005–06 summer period, three high alerts were issued, one of which was an exceedence of the ozone standard. No hazardous alerts were issued.
Transport emissions

A one-year trial of technology to reduce emissions from older diesel vehicles was completed in June 2006. The project, funded by the Environmental Trust, was a partnership project between DEC and the Roads and Traffic Authority. The purpose of the project was to establish the feasibility and benefits of implementing a diesel retrofit program. The project investigated technical, operational and other issues associated with retrofitting after-treatment devices to the exhausts of diesel vehicles to capture harmful pollutants, establish the cost and benefits of fitting these devices, and expose operators to the new technology. The study concluded that catalysts and filters are practical and effective devices for reducing emissions from diesel vehicles with the most appropriate device depending on where and how vehicles are operated. The catalysts reduced particulates by 30%, the filters by 90%.

Greenhouse initiatives

The NSW Greenhouse Plan was released on 29 November 2005. The plan includes medium and long-term targets to reduce greenhouse gas emissions in NSW by 60% by 2050. As well as researching the impacts of climate change on biodiversity and conservation (see page 43), DEC is leading the following initiatives to reduce greenhouse emissions:

- developing an environmental rating scheme for trucks and buses, to implement new technologies that reduce emissions and promote transport energy efficiency
- reviewing policies relating to waste, landfill and recovery of energy from waste to incorporate the impact of greenhouse gas emissions
- facilitating sustainability compacts between government and industry that include energy efficiency measures (see pages 77–78).

2.1.5 Waters and catchments

Metropolitan Water Plan

In May 2006, the NSW Government released a revised Metropolitan Water Plan following an independent review. The plan presents policies and actions to supply the demand for water in the Sydney region over the next 25 years, and to improve the health of the Hawkesbury–Nepean River. DEC participated in the development of the plan, and is an environmental regulator of some projects.

Under the plan, DEC worked on a new recycled water strategy for western Sydney. The Western Sydney Recycled Water Initiative includes plans for recycled water to be used for residential, industrial and agricultural purposes; local water recycling projects; and a Replacement Flows Project which relates to recycled water which has been treated at a purpose-built plant being released into the Hawkesbury–Nepean River to replace the current environmental flows released from Warragamba Dam.

DEC assisted the Department of Natural Resources to explore options for improving environmental flow releases to the Shoalhaven River from Tallowa Dam. This work has involved assessing the water needs of the river’s complete ecosystem, including its main river channel, river banks, estuary, and important ecological features such as rare and endangered species. Environmental flow rules will be incorporated into the draft Water Sharing Plan for the GMR.

During 2005–06 DEC also led the development of an inter-agency environmental monitoring project for the Hawkesbury–Nepean River, and contributed to:

- the assessment process for the desalination plant
- reforms to encourage the involvement of the private sector in water services in Sydney
- a water education plan to maintain and increase awareness of water conservation.
Water management

DEC’s Director General continues to chair the Water CEOs Committee. This committee facilitates cross-agency collaboration in progressing the state’s water reform agenda, including considering implementation issues associated with the National Water Initiative. This year Water CEOs developed its future strategic agenda to focus on agreed priorities for specific rural water management issues, including floodplain management, water sharing plans, water monitoring, diffuse source pollution, and wetland plans.

NSW RiverBank is a $105 million major initiative to protect and restore the health of our inland rivers and wetlands, implemented by DEC (see page 51). To maximise the environmental outcomes that NSW RiverBank can achieve, DEC developed a submission to seek matching funding from the Australian Government Water Fund to create a $203 million NSW Rivers Environmental Restoration Program.

To help NSW progress towards meeting its Living Murray First Step water recovery target of 249 gigalitres by 2009, in May 2006 the Premier announced that the NSW strategy for recovering this volume of water would focus on infrastructure and market-based measures, and would include purchasing 80 to 125 gigalitres of water from willing sellers. DEC will continue to work collaboratively with other NSW agencies to implement this strategy.

Maintaining and improving water quality

The release of the NSW marine water quality objectives in May 2006 completes the suite of water quality objectives for all NSW surface waters (fresh, estuarine and marine). DEC coordinated the development of the objectives as long-term goals for improving water quality in NSW waters.

The marine water quality objectives, which were endorsed by the NSW Government following consultation with peak community groups and councils, streamline local and state policies for coastal planning and management. They are a useful tool for councils, catchment management authorities (CMAs), government agencies and community groups to use in strategic planning and development assessment.

DEC has developed three guidance booklets to support organisations using the water quality objectives:

- **Local planning for healthy waterways using the NSW water quality objectives** suggests ways in which strategic local planning can contribute to the health of waterways
- **Investing in our catchments: Water quality and its role in river health** outlines policy and technical tools that can support CMAs’ planning for and investment in waterways
- **Using the Australia and New Zealand Environment Conservation Council (ANZECC) guidelines and water quality objectives in NSW** provides a simplified user’s guide to the national guidelines, the water quality objectives and the environmental values of water.

To access these booklets or find out more about water quality objectives, visit www.environment.nsw.gov.au/ieo.

Monitoring

From July to October 2005, DEC undertook the fourth Audit of the Sydney Drinking Water Catchment as required by the Sydney Water Catchment Management Act 1998. The report provides a benchmark for stakeholders who are interested in the supply of raw drinking water and the health of the catchment. The report used a core set of environmental indicators to provide a valuable baseline for future audits, and made recommendations relating to raw water quality, managing water resources, land condition and ecosystem health. The report is available on www.environment.nsw.gov.au/water/sdwca2005.htm.

DEC has participated in the Sustainable Rivers Audit, a comprehensive river health monitoring program in the Murray–Darling Basin. Under the program, in 2004–06 DEC conducted macroinvertebrate sampling at 336 sites, collecting and identifying over 80,000 taxa. A full report on the status of the Basin will be made in late 2007, when all data is available.

DEC also manages the Beachwatch and Harbourwatch programs which provide important recreational water quality information to the community. DEC supports the Beachwatch Advisory Committee which oversees the program.

Urban stormwater program

The Urban Stormwater Program and the Stormwater Trust finished their work on 30 June 2006. The program provided seed funding to improve stormwater quality and enable the stormwater industry to develop new ways of better managing stormwater quality. Under the program, more than 24,000 tonnes of pollution, the equivalent of 2400 garbage truck loads, have been prevented from entering waterways.

The main programs undertaken by the Trust included grants to councils and other managers to fund stormwater projects; grants to help fund councils’ preparation of stormwater management plans (which were required for all population centres with more than 1000 people); the Urban Stormwater Education Program; and the Stormwater Extension Officer Program, which funded officers based around the state.

The Trust’s later work, with active DEC involvement, included ensuring that funding was available to assist local government with stormwater management into the future. In late 2005, the NSW Government amended the Local Government Act 1993 to allow councils to levy a stormwater management service charge. This option gives councils access to more sustainable long-term funding.

During the year, DEC negotiated a transitional program with catchment management authorities which will now support councils’ stormwater management activities. This will help ensure that water quality, stormwater harvesting and flooding are managed in an integrated manner by natural resources managers. In addition, the Government has initiated the Urban Sustainability Grants Program under the Environmental Trust with a key focus on stormwater.
Water quality market-based instruments

The Hunter River Salinity Trading Scheme (HRSTS) is Australia’s most sophisticated and successful emissions trading scheme. Established in 1995, it has significantly reduced salt levels in the Hunter River, which used to have saline peaks that could damage crops and make the water unfit for irrigation. DEC worked with mining companies, power stations and irrigators to design a scheme that protected water quality and provided a powerful incentive for companies to find alternatives to discharging saline emissions into the river. As a result, the river, which drains the largest coastal catchment in NSW covering 22,000 square kilometres, is now less salty than an average bottle of mineral water.

In April 2006, 200 salinity credits were sold by auction. The eleven bidders included nine mines and two power stations. The average price paid was $564 per credit, and the proceeds from the auction fund the cost of running the scheme, including an extensive network of river monitoring gauges.

Credits enable companies to include saline discharges to the Hunter River as part of their operations, but only in a way that ensures that the river is not polluted. The total discharge is determined on a day-to-day basis, with reference to the salinity targets set out in the Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002. The more credits the licence holder has, the more salt water they can discharge. However, the timing of any discharge is subject to specific rules set out in the Regulation.

An offset is one or more actions put in place in an appropriate location to counterbalance (offset) an impact on the environment. The Green Offsets for Sustainable Regional Development Program investigated ways of managing salt loads in stressed rivers in the Murray–Darling Basin as part of the National Market Based Instruments Pilot Program. Under the pilot, DEC has put in place an offset program with Ulan Salt Mine in Macquarie–Castlereagh to achieve reduced salt loads at a cost-saving to the company of approximately $91 million over the next 20 years. DEC has also developed the basis for salinity offset programs with the Norse Skog Paper Mill in the Murray Catchment and the Moree Spa Baths in the Gwydir Catchment.

In August 2005, DEC released a final report, Green offsets for sustainable regional development, which describes findings from offset trials undertaken as a part of the National Action Plan for Salinity and Water Quality. The trials have shown that offsets can provide cost-effective options for DEC-licensed premises to meet environmental requirements after all cost-effective on-site mitigation measures have been implemented. The application of offsets will depend on the presence of effective drivers, such as requirements for no net impact for new developments and expansions to existing developments. The report also contains an institutional framework for implementing salinity offsets in the current planning, regulatory and policy framework.

Percentage of Beachwatch and Harbourwatch sites that comply with Beachwatch swimming water quality guidelines more than 90% of the time

Definition: DEC’s Beachwatch and Harbourwatch programs monitor water quality at 129 coastal sites in Sydney, the lower Hunter and the Illawarra, reporting on a daily, weekly, monthly and yearly basis to the community and stakeholders. Samples are tested for two indicator bacteria, faecal coliforms and enterococci, and sites must meet the criteria for both to meet the swimming guidelines. The winter season extends from May to September; summer covers October to April.

DEC continues to support local councils undertaking recreational water quality monitoring under the Beachwatch Partnership Program. The program provides technical advice, training, quality assurance and assistance with community reporting. During the 2005–06 summer season, DEC worked in partnership with nine councils to monitor and report on recreational water quality at more than 120 swimming locations.

The South Creek Nutrient Offset Pilot is trialling measures to reduce nutrient run-off from agricultural sources to South Creek in the Hawkesbury–Nepean Catchment. The pilot is examining measures needed to offset major nutrient discharges in the catchment, e.g. from sewage treatment plants. During 2005–06 the pilot supported, measured and monitored a range of works at seven properties to reduce nutrient run-off, including settlement ponds, constructed wetlands and recycling systems.

The recent amendments to the POEO Act mentioned on page 32 provide a stronger legislative basis for DEC to negotiate environmentally-friendly offset programs with industry.
2.1.6 Contaminated sites

DEC is responsible, through the Contaminated Land Management Act 1997 (CLM Act), for investigating and regulating the remediation of significantly contaminated sites to ensure the protection of ecological and human health. The clean-up of these sites can be complex and costly and take several years.

The Rhodes Remediation Project is one of Australia’s largest ever remediation projects. The Rhodes Peninsula, located on Parramatta River and bounded by Homebush Bay to the west and Brays Bay to the east, contains former industrial sites that are heavily contaminated with toxic chemicals including chemical wastes and dioxins. DEC has been regulating the remediation of three sites: the Lednez (Union Carbide) site, the (former) Allied Feeds site and the Statewide (former Glad) site. The contamination on all three sites was from Union Carbide which was a major producer of organochlorine pesticides. The sites contain many persistent organic pollutants including dioxin, an identified carcinogen that has been found in fish in Sydney Harbour.

DEC has:
- assessed environmental impact statements
- assessed the technologies that will be used to clean up the sites
- regulated licensing and enforcement under the POEO Act and the Environmentally Hazardous Chemicals Act 1985
- reviewed and approved environmental management plans and proof of performance programs.

Contaminated soil on the Allied Feeds site is being treated with thermal treatment technology. A directly-heated thermal desorption plant is undergoing an extensive program of proof-of-performance trials before being fully commissioned on the Allied Feeds site. An indirect thermal process has been approved for the Lednez site and Homebush Bay sediments.

DEC is continuing to regulate the investigation and remediation of Botany Bay groundwater contamination arising from activities undertaken decades ago. To comply with a clean-up notice issued by DEC, Orica completed construction of its Botany Bay Groundwater Treatment Plant (GTP) in October 2005 and began treating groundwater in January 2006. During the plant’s initial period of operation, DEC required Orica to shut down the

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**PERFORMANCE INDICATOR**

**Number of regulatory actions under the Contaminated Land Management Act**

**Definition:** This indicator outlines the number of regulatory actions DEC has taken under the Contaminated Land Management Act 1997. When contamination presents a significant risk of harm as defined under the Act, DEC may take one or more of these regulatory actions to clean up the site. Actions include assessing contamination under the Act, declaring investigation areas and remediation sites, and developing orders and agreements for voluntary proposals relating to investigation or clean-up tasks.

**Interpretation:** Activity and clean-ups of contaminated sites increased. The sharp increases in 2002–03 and 2003–04 reflected a policy change that meant all sites where contamination poses a significant risk of harm were declared earlier.

This year, DEC has:
- overseen completion of the remediation or investigation of 13 sites, which has allowed 25 regulatory notices to be withdrawn
- received 30 new site notifications
- assessed significant risk of harm to people and the environment on 23 sites.
GTP for 18 days in May, and again in June, when dioxins marginally above the permitted level were detected in an air emissions sample. Orica made modifications to inhibit dioxins forming during the treatment process and were able to resume operating the GTP in June 2006, treating approximately 2.5 megalitres of contaminated groundwater per day. The capacity of the plant is anticipated to increase to 7 megalitres per day once further modifications are made.

Due to the shutdowns of the GTP and its limited capacity, groundwater extraction has been intermittent. As a result, the groundwater extraction program focused on containing contaminated groundwater on Foreshore Road to prevent it from reaching Botany Bay. This combination of groundwater containment and treatment is an effective way of protecting Botany Bay from the legacy of poor practices in the past.

In September 2004, the Environmental Trust established a $2 million, two-year Council Gasworks Remediation Program, in response to councils’ concerns about the cost of remediating gasworks sites for which they are legally responsible under the CLM Act. DEC provides technical expertise to help inform the Trust decisions, and chairs the technical committee. The funding has assisted Armidale Council to remediate contaminated soil and groundwater from the former Armidale Gasworks. Funding allocated to Shoalhaven and Bathurst councils has kick-started the remediation of both Nowra and Bathurst gasworks sites.

In January 2006, DEC sought public comment on a Regulatory Impact Statement for the proposed Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation. The Regulation seeks to reduce the risks to human health and the environment from leaking underground petroleum storage systems, by making it compulsory to comply with the existing industry standard. This requires all underground petroleum storage system sites to have a leak detection system, an environmental management plan and groundwater monitoring, while new sites must also be designed to contain leaks. DEC has valued the quantified benefits from the Regulation at around $70–80 million over five years.

DEC has proposed amendments to the CLM Act, based on feedback from extensive public consultation and DEC’s day-to-day experience of working with the Act, that will:

- enable stronger application of the ‘polluter pays’ principle
- help remove the unwarranted stigma associated with some contaminated sites and avoid unnecessary alarm by replacing the term ‘significant risk of harm’ with a reference to ‘contamination which requires regulation under the Act’
- enable more timely regulatory action
- introduce more objective and clearer criteria for the duty to notify DEC of contamination that requires regulatory intervention.

2.1.7 Pesticides and chemicals

Following changes in 2005 to the Pesticide Regulation 1995, public authorities, including DEC and local councils, have been preparing plans to inform the general public before pesticides are used outdoors in public ovals, parks and playgrounds. The changes recognise that people have a right to know when pesticides are being used to treat public places so they can choose to avoid those sites. DEC’s notification plan is expected to be finalised by late 2006.

During 2005–06 DEC assisted other authorities and councils with, and helped them to develop, their plans. DEC developed print and web-based guidance, and held ten information seminars, including five in regional NSW, for staff required to prepare and implement plans.

From 1 February 2007, it will be compulsory for managers of multi-occupancy complexes to notify residents when pesticides are used in common areas. Printed guidelines will be widely distributed to the pest control industry and to property and strata managers.

During 2005–06, DEC worked with the Department of Primary Industries, the Department of Education and Training, and the Australian Pesticides and Veterinary Medicines Authority to ensure the success of the Bilingual Liaison Field Officer Program. This program provides practical on-farm advice and assistance to crop, fruit and vegetable growers from Arabic, Chinese and Khmer backgrounds. Under the program, three bilingual liaison field officers are working in the Sydney Basin to assist growers to undertake or renew their training in the safe use and handling of pesticides, and to help them implement their training and skills on their farms. The program has been well-received by growers.

Pesticide control orders

Under the national registration scheme the Australian Pesticides and Veterinary Medicines Authority (APVMA) evaluates and registers pesticides for use in Australia. DEC’s role is to control the use of restricted chemical products as determined by APVMA by specifying in pesticide control orders how they can be used and who is authorised to use them in NSW.

During 2005–06, DEC reviewed its pesticide control orders for sodium fluoroacetate (1080) which is used to control wild dogs, foxes, pigs and rabbits and has issued new and amended orders for the use of new products recently registered by the APVMA.

DEC also began developing a new pesticide control order for the use of copper chrome arsenate (CCA) pesticides by timber treatment facilities after APVMA announced they would declare CCA a restricted chemical product. APVMA released its final report on arsenic timber treatment products in July 2005 in which it recommended restrictions on future use of CCA, including the banning of use of treated timber in decking, hand rails, children’s play equipment and other structures frequently used by children. The new order providing for restricted use of CCA in NSW will be gazetted later in 2006.
National Chemicals Working Group

During 2005–06, the Environment Protection and Heritage Council’s National Chemicals Working Group, chaired by DEC, developed a discussion paper on proposals for developing a national framework, known as NchEM, to provide consistent management and to improve key environmental outcomes in chemicals management. There is a focus on industrial chemicals as 38,000 out of the approximately 40,000 industrial chemicals available for use in Australia were introduced before the National Chemicals Notification and Assessment Scheme was established in 1990. While most have been used for years without apparent adverse consequences, many have never been assessed for their environmental or health impacts.

As part of the discussion paper’s development, DEC consulted national, state and territory agencies in the health, occupational health and safety, primary industries and trade sectors, as well as key industry and environment stakeholders.

New online information resources have been delivered by the working group as part of the national reforms. The National chemical reference guide contains data on environmental standards and guidelines in Australia for over 600 chemicals, and includes environmental criteria for chemicals in the air, water, soil, sediment and biota.

Household chemicals

A prototype Household Chemicals Education Program known as Safer Solutions is being developed by the Total Environment Centre in partnership with DEC, and will be made available for use by other states and territories as well as NSW. The focus of the program is the safe use of chemicals in the home and garden, and in ‘do it yourself’ renovations. The development of the program follows social research that was undertaken at the end of 2005, and is being funded by an Environmental Trust grant as part of Our Environment – It’s a Living Thing: Integrated Sustainability Education Program.

2.1.8 Radiation and dangerous goods

The Radiation Control Act 1990, administered by DEC, aims to protect people and the environment from the harmful effects of radiation. This is achieved via legislation that:

- regulates radiation users, equipment and premises
- specifies safety requirements in workplaces where radiation is used
- provides powers for DEC to deal with dangerous situations.

Case Study

CleanOut encourages responsible disposal of chemicals

CleanOut is the NSW Government’s household chemical collection program. Run by DEC with local councils in the Illawarra, Hunter and Sydney, the program encourages households to hand over poisonous or potentially dangerous chemicals to DEC on collection days. CleanOut prevents chemicals being dumped in bushland and creeks or contaminating stormwater and sewerage systems, and aims to recycle as many of the materials collected as possible. For example, poisonous mercury is extracted from disused fluorescent tubes and returned to industry before the glass and metal casing is recycled.

During 2005–06 18,850 people surrendered 663 tonnes of material at 43 collection days in the Illawarra, Hunter and Sydney. In addition, collection days were held in local government areas across rural and regional NSW. Common materials collected included leftover paint, oils, batteries and gas bottles, with NSW households having handed over more than a million kilograms of household chemicals since 2003.

The CleanOut webpage at www.environment.nsw.gov.au/education/spd_chem_cleanout.htm provides a list of materials that will be accepted, drop off dates and venues, and information on how to safely transport chemicals.
DEC licences 11,719 individual radiation users, 760 companies, 7592 pieces of radiation equipment, and 290 radiation premises.

In 2005–06, DEC:

- conducted 45 site inspections and eight audits as part of its radiation compliance program
- issued five penalty infringement notices for minor radiation-related offences
- conducted a training exercise to test the ability of radiation operations officers and equipment to respond to radiological incidents
- responded to four radiological incidents, including one in Auburn in which chemicals, firearms, explosives and radioactive materials were found in a property after an explosion.

In response to the recommendations of the NSW parliamentary inquiry into the transportation and storage of nuclear waste, DEC negotiated a pollution reduction program with Sydney Water Corporation requiring a risk assessment of radioactivity emission levels in the effluent at the Cronulla sewerage outfall, to which the Australian Nuclear Science and Technology Organisation (ANSTO) discharges from its Lucas Heights facility. The assessment showed that the sewage treatment plant discharge had very low and safe levels of radioactivity.

DEC provides secretariat support to the NSW Radiation Advisory Council (RAC), which met nine times during 2005–06. A separate annual report for the RAC’s activities is available at www.environment.nsw.gov.au/radiation/radiationpubs.htm.

DEC administers the Road and Rail Transport (Dangerous Goods) Act 1997, which adopts uniform national requirements for the transport of dangerous goods including the requirements of the Australian Dangerous Goods Code. The Act and its Regulations ensure that dangerous goods, which present a significant risk to people, property and the environment if not handled appropriately, are properly classified, packaged, labelled and transported. To ensure that goods are transported safely, DEC and WorkCover NSW conduct enforcement campaigns, audits and education activities.

During 2005–06 DEC completed a successful prosecution of Patrick Distribution Ltd following a dangerous goods vehicle accident that closed the Great Western Highway at Mt Victoria for over two days (see Appendix 8).

2.1.9 Emergency preparedness

DEC maintains a 24-hour emergency response and hazardous materials advice service linked to its Environment Line and the regional after-hours incident response services. DEC staff attend many significant incidents, usually to oversee clean-up or to investigate potential breaches of environmental legislation. Significant incidents in 2005–06 included:

- a major fire in Bankstown, on 26 May 2006, at premises that manufacture soy-based food products. Chemicals stored on-site made the fire-water running off the site caustic enough to affect aquatic life in Salt Pan Creek and the Georges River. DEC worked with NSW Fire Brigades to minimise the amount of water used on the fire, and with the owner to collect over 415,000 litres of fire-water for proper disposal.
- a fire involving significant amounts of solvents, acids and flammable gases in an aerosol-making factory at Mulgrave near Windsor, on 19 June 2006. DEC worked with NSW Fire Brigades, the council and the owner to collect and dispose of contaminated fire-water to prevent potential damage to South Creek and the Hawkesbury River.

### PERFORMANCE INDICATOR

**Number of hazardous material incidents where DEC provided technical or clean-up advice**

**Definition:** This indicator measures pollution incidents where DEC assisted response agencies with technical advice on environmental clean-up both on-site and by telephone.

**Hazardous materials incidents where DEC provided on-site advice**

**Interpretation:** In 2005–06, DEC provided advice on 216 hazardous materials incidents. For 42 (19.4%) of these incidents, advice was provided on-site. The total number of notifications from the NSW Fire Brigades has been steadily declining over recent years. However, until this year the proportion of notified incidents requiring the attendance of DEC officers at incidents has consistently been at around 25%. This year there has been a decrease to 19.4%. DEC has been providing training to NSW Fire Brigades’ Hazmat Technicians. An increased awareness and knowledge of environmental protection issues may have resulted in a more effective response by the fire fighters and less need for DEC attendance.
The NSW Government uses exercise scenarios to test emergency management arrangements and preparedness for major emergencies. DEC is a member of the NSW Counter Terrorism CEO Cluster and the State Emergency Management Committee. DEC participated in eight state and federal exercises during 2005–06, including:

- Exercise Eleusis: testing arrangements to be used in the event of an outbreak of avian influenza
- Exercise Neptune’s Treasure: a major national counter-terrorism exercise based on a simulated terrorist attack on Sydney Harbour
- Exercise Clean Water: a simulated spill of hazardous materials into a major water supply
- Exercise Harbour View: a joint exercise with the navy looking at potential issues involved in a major fire on a ship at Garden Island.

During 2005–06, staff specialising in Hazmat and emergency response management ran training courses for approximately 60 operational staff to maintain and improve DEC’s responsiveness to potential emergencies.

2.1.10 Science planning

During 2005–06, DEC finalised its Science Investment Management Plan. This plan is based on five principles:

- relevance of the science
- excellence in science and research
- collaborative science
- timeliness
- effective communication.

The plan includes a framework for making economic assessments of environmental research, including building economic assessments into the experimental design of future research.

The plan encompasses all science carried out in DEC, including economic, social and cultural heritage research and ensures that DEC’s investment in science:

- supports current NSW Government priorities (including the coordination of research)
- addresses the issues raised by the NSW State of the environment report and targets DEC’s achievements
- supports the implementation of major strategies including the Biodiversity Strategy, the Reserve Establishment Plan, Action for Air, the Aboriginal Culture and Heritage Action Plan, and the Waste Avoidance and Resource Recovery Strategy.

This year DEC also participated in the Office for Science and Medical Research program review of the science programs of the Natural Resource and Environment Cluster agencies.

2.1.11 Regulatory reform for improved compliance

DEC’s regulatory reform program delivers better environment protection and more resource recovery by simplifying and clarifying regulatory requirements and strengthening the regulatory framework.

Protection of the Environment Operations Act and Regulations

Changes to the Protection of the Environment Operations Act 1997 (POEO Act) commenced on 1 May 2006. These changes constitute the biggest overhaul of pollution laws in almost 10 years. DEC now has greater powers to pursue polluters and the courts can issue a wider range of penalties.

The changes mean:

- authorised officers can order an excessively loud alarm in a building or car that has been making noise beyond a reasonable time to be turned off
- council officers can issue notices to stop chimneys from smoking excessively
- a new offence of land pollution has been created
- DEC can stop operators from obtaining an environment protection licence if they have been convicted of fraud, dishonest offences or insolvency
- industry can use environmentally-friendly offset programs to mitigate impacts from polluting activities
- DEC can refuse a request from a licensee to surrender a licence if there will be an environmental impact after the licensee has left the site
- if taken to court, directors and managers of corporations can no longer argue that they personally had no knowledge of an offence
- courts can issue a greater range of penalties, including requiring attendance at training programs, and ordering money to be paid to third parties such as the Environmental Trust to fund clean-up or restoration projects
- maximum fines for the most serious pollution offences have increased from $1 million to $5 million for companies, while maximum fines for individuals have increased four-fold to $1 million.

The changes also led to the repeal of the Clean Waters Regulation 1972 and the Classified Waters Scheme. These have been replaced by the requirement for authorities regulating licences (such as the EPA) or issuing prevention notices (councils, EPA and other regulatory authorities) to consider the environmental values of water affected by the activity, and the practical measures that could be taken to maintain or restore those environmental values.
DEC has updated or developed guidelines to help clients understand their rights and responsibilities under the amended legislation. Guidelines are all available online and include:

- **Considering the environmental values of water when issuing prevention notices** (www.environment.nsw.gov.au/mao/envwater.htm)

Significant amendments to the **Protection of the Environment Operations (Clean Air) Regulation 2002** commenced on 1 September 2005. These amendments included:

- Incorporating requirements from the now repealed Clean Air (Plant and Equipment) Regulation 1997 into the 2002 Regulation
- Introducing a framework to review old emission standards that still apply to existing industry, and performance requirements for equipment used to control toxic air
- Introducing new air emission standards for:
  - future industry
  - non-standard fuels
  - when equipment undergoes modification
  - when equipment is replaced in the Sydney Metropolitan Region, the Central Coast, the Lower Hunter and the Illawarra.

It is estimated that, due to this Regulation, over the next 20 years 26,727 tonnes of solid particles, 366,062 tonnes of nitrogen oxides (NO\textsubscript{x}) and 94,316 tonnes of sulphur oxides (SO\textsubscript{x}) emissions will be avoided.

**Approved methods for the modelling and assessment of air pollutants in NSW** and **Approved methods for the sampling and analysis of air pollutants** have also been updated to support the new amendments. Copies of these documents, and guidelines to assist industry in implementing the Regulation’s new requirements, are available on www.environment.nsw.gov.au/air.

The **Protection of the Environment Operations (Waste) Regulation 2005** commenced on 1 March 2006. Key features are:

- streamlined waste storage and transport provisions
- clear, practical and enforceable tracking requirements that mesh with DEC’s new online waste tracking system
- strengthening of the bonds between the national system for interstate tracking specified under the Controlled Waste National Environment Protection Measure and the NSW tracking system.

**DEC’s new online waste tracking system** provides DEC with real-time data on waste movements. This enables DEC to monitor trends in hazardous waste movements and analyse the data to identify illegal operators, including those engaged in illegal dumping. There has been strong industry support for the system as it reduces paperwork and reporting requirements, and protects legitimate businesses from unfair competition from illegal operators.

DEC and the NSW Department of Primary Industries collaborated on the **Protection of the Environment Operations (Waste) Amendment (Residue Waste) Regulation**, introduced in late 2005 to prevent potentially harmful wastes from being applied to land under the guise of ‘fertilisers’. The NSW Government encourages beneficial use of wastes rather than disposing of them, but only where such use would not harm the environment, human health or agriculture. The Regulation prohibits ‘residue wastes’ (industrial byproduct wastes) from being applied to land for the purpose of growing plants, unless they are exempted by DEC.

**CASE STUDY**

**Exemption of foundry sand from the Residue Waste Regulation**

In mid-2005, the foundry industry approached DEC for an exemption from the Residue Waste Regulation for foundry sands used in compost or artificial soils. Together, DEC and industry negotiated an exemption which facilitates the reuse of certain foundry sands which do not harm the environment. This exemption has enabled the industry to re-use the material and deliver good pollution prevention and resource recovery outcomes, and is an excellent example of the Government’s waste reuse commitments in practice.

**Foundry sand for recycling in compost or artificial soils.**

Provided courtesy of Centre for Organic & Resource Enterprises and Peats Soil and Garden Supplies.
DEC released a guidance note on assessment of residue wastes in July 2005 and provided a six-month lead time for industry to work with DEC before the changes commenced in December 2005. As at June 2006, DEC has issued six general and three specific exemptions under the Residue Waste Regulation.

The Government has acted to deliver the legislative tools for the NSW City and Country Environment Restoration Program reforms. On 15 May 2006, the *Protection of the Environment Operations Amendment (Waste Reduction) Act 2006* commenced. This Act enables:

- regulations to be made regarding performance payments to councils under City and Country Environment Restoration Program reforms (see page 6)
- changes to be made to waste and environment levy rates
- more effective management of levy paying facilities
- arrangements for paying the Local Government Performance Improvement Payment to be specified.

**Licence reviews**

With the establishment of the POEO Act in 1999, licences issued under pollution control and waste legislation were converted to ‘environment protection licences’. Section 78 of the POEO Act required that all environment protection licences be reviewed every three years. These reviews provided an excellent opportunity to assess whether the environment controls on each licence were consistent with contemporary standards and environmental conditions at each site. DEC completed the first round of reviews in December 2003 at a cost of approximately $2.9 million, significantly improving older licences that had not been subject to environmental impact assessment.

The frequency of this review cycle created a significant administrative burden while adding progressively less value with each subsequent review. To address this, the *POEO Amendment Act 2005* changed the review period to five years. This change took effect for most licences on 1 May 2006. However, some licence reviews still under the old provisions had not been completed within the original three-year period.

DEC had 789 licences due for review in 2005–06. Of these, 601 (76%) were completed on time, 114 (14%) were completed late, and 74 (9%) were not completed.

The reviews not completed related to low risk licences, as available resources were directed toward licences in the higher risk categories. DEC reported the results of the licence review process to the EPA Board, as required under section 78(3).
2.2 Improving community wellbeing

2.2.1 Corporate plan priorities 2004–06

Promoting ‘liveability’ concepts

Establish and promote new ‘liveability’ concepts, such as linking improvements in health and air quality and by promoting ‘healthy parks and healthy people’

During 2005–06, DEC continued to work with NSW Health to provide regular air quality information to the public, including health alerts on the three days over the summer that high air pollution was forecast in Sydney, the Central Coast, the Lower Hunter and the Illawarra. In April 2006 DEC released a study estimating that the health cost of ambient pollution in the GMR is between $1 billion and $8.4 billion each year (page 24).

DEC continued to support the NSW Healthy Parks, Healthy People program in 2005–06 to promote the mental and physical health benefits of visiting parks and gardens (page 37).

DEC also contributed to state and regional planning strategies promoting environment protection, sustainability, cultural heritage and conservation goals (page 75).

Aboriginal participation in conservation management

Increase the active participation of Aboriginal communities in conservation management, on and off reserved land

During 2005–06, DEC entered co-management agreements with traditional Aboriginal owners for the recently handed-back Gulaga and Biamanga national parks (page 39).

DEC led the development of a NSW Culture and Heritage Action Plan, under the 10-year NSW Aboriginal Affairs Plan, Two Ways Together, to increase Aboriginal community access to and control of Country, knowledge and cultural material, and cultural expression by Aboriginal communities and individuals (page 38).

DEC continued support for ‘culture camp’ programs which provide young Aboriginal people with an opportunity to connect with Country and learn about cultural issues (page 39).

Odour mitigation

Complete the development of a NSW odour mitigation policy

During 2005–06, DEC completed the Technical framework for the assessment and management of odour from stationary sources in NSW, which clarifies approaches for reducing odours and reducing land-use conflicts. Although not a regulation, the framework is guided by key odour-related provisions of the POEO Act.

The framework aims to provide industry, odour specialists, consent authorities and environmental regulators with up-to-date information and guidance for assessing and managing activities that emit odour.

Noise mitigation

Develop a noise mitigation policy framework to guide development within the state

During 2005–06, DEC continued extensive consultation regarding new construction noise guidelines and prepared for public consultation on a new POEO (Noise Control) Regulation. This work will continue in 2006–07 (page 37).

DEC continued to regulate construction noise at a number of major infrastructure projects, including focusing project managers on improved community communication and handling of complaints (page 37).
PERFORMANCE INDICATOR

Percentage of general terms of approval for integrated development assessment processes issued by DEC to consent authorities within statutory timeframes

Definition: As part of the integrated development assessment process, DEC approves development applications made under Part 4 of the Environmental Planning and Assessment Act 1979 when:

- the proposed development also requires an environment protection licence or a variation of a licence issued under the POEO Act
- DEC has responsibilities for species protection under the Threatened Species Conservation Act 1995
- the proposed development requires consent to knowingly destroy, deface or damage, or knowingly cause or permit the destruction or defacement of, or damage to, an object or Aboriginal place under the National Parks and Wildlife Act 1974.

Where the integrated development assessment requires an environment protection licence, DEC determines the necessary requirements called ‘general terms of approval’. DEC must inform consent authorities, such as the Department of Planning or local councils, of these general terms of approval within prescribed timeframes, generally 60 days. This may take longer if insufficient information is provided. Any subsequent planning approval and environment protection licence must not be inconsistent with these requirements.

Amendments to the planning legislation, especially the establishment of a new category for major projects (Part 3A), mean that in 2006–07 a new indicator of DEC’s timeliness will be presented.

Percentage of general terms of approval for integrated development assessment processes issued by DEC within statutory timeframes

Interpretation: DEC continued to perform well in issuing general terms of approval, reflecting efficient internal procedures. DEC issued 99 general terms of approval in 2005–06, compared to 96 in 2004–05, with a slight drop in the percentage issued on time (from 92% to 91%).

2.2.2 Protecting liveability

Environmental Planning and Assessment Act

On 1 August 2005, amendments to the Environmental Planning and Assessment Act 1979 (EP&A Act) commenced. The planning reforms have changed aspects of DEC’s operations, especially for major project assessments under Part 3A of the Act. Under these reforms, rather than directly approving development, DEC advises the Department of Planning on issues relating to environment protection licences, Aboriginal heritage permits, and consultation or concurrence requirements for development that will affect critical habitat or threatened species, populations or ecological communities.

DEC helped develop Part 3A guidelines for environmental assessment requirements for threatened species and Aboriginal heritage, and a protocol that outlines the consultation the Department of Planning will undertake with relevant public authorities (including DEC) for Part 3A project applications.

DEC continues to play an important role in the environmental assessment of Part 3A applications. Internal procedures have been developed to help ensure DEC provides appropriate and consistent advice to the Department of Planning and proponents within the timeframes established by the Part 3A process. DEC also assesses development approvals under other parts of the EP&A Act.

DEC provided extensive input into the drafting of the Standard Instrument (Local Environment Plans) Order 2006, gazetted on 31 March 2006. All councils are now required to use the standard instrument to prepare a new principal local environmental plan (LEP) for their local government area within the next five years. DEC will continue to work with the Department of Planning to ensure as far as is practical that all relevant environmental and conservation issues are addressed consistently through LEPs.

Metropolitan Strategy and coastal strategies

DEC has participated in developing the Metropolitan Strategy for Sydney and the new coastal strategies, which seek to plan for sustainable developments, balancing population growth, liveability, biodiversity and cultural heritage over the next 25 years (see page 75).
Noise control

During 2005–06, DEC continued to improve ways in which noise is controlled. DEC developed a new construction noise guideline, for which there has been extensive consultation to date, with further consultation to be carried out later in 2006. In addition, the automatic statutory repeal of the existing POEO (Noise Control) Regulation 2000 was postponed for a year to give the public enough time to consider the new draft POEO (Noise Control) Regulation. The draft Regulation, Regulatory Impact Statement and supporting documents and systems will be finalised for public consultation in 2007.

DEC also continues to regulate the construction of major and transport infrastructure to minimise the impact of construction noise through environment protection licence requirements. In relation to this, DEC is working to ensure that constructing authorities implement a communication and complaints procedure to respond to community concerns.

During 2005–06, a major construction company, Hochtief AG, was fined $44,000 for two offences relating to the emission of excessive noise during construction of underground railway tunnels between Epping and Chatswood. Hochtief’s environment protection licence limited the tunnelling methods that could be used on weekends and public holidays. Twice during a long weekend, a contractor used rock hammering, contrary to the licence. Nearby residents were kept awake or otherwise affected by the persistent hammering and vibrations for many hours. The Land and Environment Court ordered Hochtief to place a notice in the Sydney Morning Herald and the Financial Review publicising the offences.

During 2005–06, DEC also worked with the rail sector to develop new guidelines for managing rail noise from operation of the rail network.

In April 2006, DEC issued Assessing vibration: a technical guideline to provide updated vibration values, in keeping with Australian and international advances, for use in assessing human responses to vibration. The guide provides recommendations for measurement and evaluation. DEC has referred to the guideline in environmental assessment policies, and has used it to investigate the vibration impacts of a quarry and a new railway line. Acoustic consultants are now using the guideline for projects that could have vibration impacts.

### PERFORMANCE INDICATOR

**Percentage of Environment Line pollution incident reports about issues relating to air quality, odours or noise from regulated premises**

**Definition:** DEC’s Environment Line receives reports from the public and industry on pollution incidents (see Appendix 12). This indicator measures the percentage of those reports relating to dust, smoke or other airborne particulate emissions, odour and noise where DEC is the authority responsible for action or has an overarching responsibility to try to resolve the issue.

**Environment Line incident reports about issues relating to air quality odours or noise from regulated premises**

**Interpretation:** When combined, air and noise pollution incident reports show a small but steady downward trend, but still account for over 50% of total incident reports to Environment Line each year. The percentage of reports reflects the public’s concern about lifestyle and amenity. The decrease in reports over the years indicates improvements in the management of major sources of pollution on-site, including the implementation of stricter odour guidelines. In some cases weather conditions may also influence the level of reporting.

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### 2.2.3 Linking environmental and human health

**Healthy Parks Healthy People** was established in NSW in 2003 by the Sydney Urban Parks Education and Research Group (SUPER) to encourage people to visit Sydney’s parks and gardens by highlighting the mental and physical health benefits of visiting parks. DEC participates in SUPER with Centennial Parklands, the Botanic Gardens Trust, Parramatta Park Trust, Sydney Olympic Park Authority and the Sydney Harbour Federation Trust.

On Wednesday 5 April 2006 during **Seniors Week**, DEC, working with the Department of Ageing, Disability and Home Care, provided free entry for NSW seniors to all fee-charging parks and reserves other than the Sydney Harbour National Park islands.
DEC staff assisted the National Parks Association with their annual Great Australian Bushwalk. This national event fosters environmental awareness and protection, develops community spirit and encourages a healthy lifestyle. The event, held on 16 October 2005, consisted of numerous bushwalks in different locations across the state, many within national parks. Participants were offered free park entry with registration.

### 2.2.4 Improving Aboriginal community wellbeing

**Two Ways Together**

Two Ways Together is the NSW Government’s 10-year plan to improve the lives of Aboriginal people and their communities. DEC is contributing to Two Ways Together through participating in:

- the Chief Executive Officer Group on Aboriginal Affairs which is primarily responsible for leading Two Ways Together

In 2005, DEC developed an agency-wide plan to achieve Two Ways Together objectives (see pages 89–90). DEC is also represented by senior staff on groups to implement Two Ways Together regionally.

DEC is leading the development and implementation of a Culture and Heritage Action Plan 2005–07, which includes 13 joint NSW Government agency actions to achieve increased Aboriginal community access to and control of Country, knowledge and cultural material, and increased cultural expression by Aboriginal communities and individuals.

### CASE STUDY

**Completion of Harbour to Hawkesbury Walking Track**

The Harbour to Hawkesbury Walking Track was completed during 2005–06. This track combines pre-existing tracks with new sections of walkway to link Manly Wharf with Berowra Railway Station. The walk is approximately 47 km long, and includes existing walkways in bushland reserves and urban streets managed by Manly, Ku-ring-gai and Hornsby councils, and tracks in Garigal, Ku-ring-gai Chase and Sydney Harbour national parks, and Berowra Valley Regional Park. The track provides links to other regional trails in Sydney’s northern suburbs such as the Taronga to Balmoral Track and the Great North Walk.

The upgrade of a section of track at Bantry Bay in Garigal National Park marked the completion of the final link of the Harbour to Hawkesbury Walking Track. In 2004, DEC and Manly Council gained an $85,000 grant under the Sharing Sydney Harbour Access Program to improve the track’s amenities and the track itself. Funds were used to upgrade the Timber-getter’s Walking Track and install a shelter shed, bike racks, seating and an interpretive sign at the interface of the timber-getter’s track and Seaforth Oval.

Landscaping improvements were also made to the foreshores of Middle Harbour to make Bantry Bay more attractive. These improvements will also help to manage water runoff and weed invasion in the natural bushland around Seaforth Oval. An initiative of Manly Council, the project involved Manly, Ku-ring-gai, Hornsby and Warringah councils, DEC and the Department of Lands.

New stairs for the Timber-getter’s Walking Track
Significant achievements during 2005–06 included:

- the return to Aboriginal ownership of Gulaga and Biamanga national parks (see case study below)
- the development of a draft NSW whole-of-government cultural resource use framework
- increased recognition of Aboriginal rights in land and natural resource management through the negotiation of Indigenous Land Use Agreements
- commencement of an Environmental Trust-funded project to increase and build the capacity of two Aboriginal communities to engage in land, water and heritage management
- training of 50 Aboriginal people in joint management of national parks
- new memoranda of understanding for co-management of reserves negotiated between DEC and Aboriginal communities – Pilliga Nature Reserve, Goobang National Park and Snake Rock Aboriginal Area
- the declaration of seven Aboriginal Places under the National Parks and Wildlife Act 1974
- the establishment of a whole-of-government NSW Repatriation Program to coordinate the return of ancestral remains to NSW Aboriginal communities.

Helping Aboriginal peoples to re-establish their relationship with the landscape is one of DEC’s key areas of work. A major disadvantage for Aboriginal people has been the loss of a sense of place (Country) and spiritual connectedness (identity) that followed European settlement. The recognition, promotion and practice of culture and maintaining or renewing the links between people and Country are central to overcoming many issues facing Aboriginal communities in NSW.

In 2005–06, DEC began developing park management policies covering Aboriginal partnerships and access to parks (see also page 46). The objectives of this process included involving Aboriginal people in park management and enabling them to maintain their connection with Country through activities such as culture camps in parks. It is expected that the policies will be completed in 2007.

In January 2006, DEC commenced a three-year research project into Aboriginal wellbeing and its relationship with the protection and practice of cultural heritage. The research aims to investigate how cultural and heritage activities can be measures of wellbeing.

Culture camps

Culture camps enable young Aboriginal people to connect with Country and learn about cultural issues from Elders in their communities. In 2004, DEC established the Pilliga Nature Reserve Aboriginal Consultative Committee in partnership with Aboriginal Elders of the Narrabri, Coonabarabran, Gunnedah and Baradine communities of north-west NSW. Since then, annual culture camps have taken place in the nature reserve. The 2006 culture camp was held in April and May and was hosted by the Coonabarabran local Aboriginal community with assistance from DEC. At the camp, the community celebrated, shared and developed cultural knowledge and traditional language, and engaged in activities such as making boomerangs, story telling and learning about bush tucker.

A culture camp in Dubbo in October 2005 for Aboriginal children was managed by a newly established local Aboriginal consultancy company. The activities, undertaken over two weeks at Anarla, west of Dubbo, fostered leadership skills, capacity building and identity recognition through traditional tool making, dance and story telling, and were designed to raise self-esteem.

CASE STUDY

**Gulaga and Biamanga national parks handed back to the Yuin people**

On 6 May 2006, the Gulaga and Biamanga national parks were handed back to their traditional Aboriginal owners, the Yuin people. These parks include the Mumbulla and Gulaga mountains. The hand-back ceremony, held at Tilba Tilba, was a celebration of the spirit of the Yuin people and the strength of their attachment to these two mountains. It also recognised the hard work of generations of Aboriginal people to protect these lands for their children and future generations.
Three culture camps for the Ngiyampaa people were held at Yathong Nature Reserve. Participants were involved in site surveys and recordings, traditional art and story telling, and language and bush skills. They also prepared a Statement of Joint Intent, an agreement between DEC and the Ngiyampaa people for the future conduct of these culture camps.

DEC officers also held meetings with local Aboriginal custodian groups to reach agreement on the development of a culture camp at Limeburners Creek Nature Reserve south of Crescent Head.

In May 2006, DEC hosted a Traditional Indigenous Games (TIGs) Day at Talbragar Mission, Dubbo, in conjunction with NSW Sport and Recreation. Aboriginal education assistants from various schools around Dubbo were trained in teaching students about TIGs. TIGs are games that were played by Aboriginal children on reserves and missions, and those researched by the Australian Sports Commission in 2000. The day was attended by prominent Aboriginal Elders and Aboriginal and non-Aboriginal students from schools in the Dubbo area.

Increasing Aboriginal participation in conservation management

Co-management arrangements enable Aboriginal people to manage parks or advise DEC on its management of parks. Formal co-management options include:

- DEC returning a protected area to its Aboriginal owners and leasing it back to be jointly managed under Part 4A of the National Parks and Wildlife Act 1974
- Indigenous Land Use Agreements with native title holders under the Native Title Act 1993
- memoranda of understanding between DEC and Aboriginal communities.

At June 2006, there were nine co-management arrangements in place with Aboriginal communities across NSW: for the Mutawintji, Kinchega, Arakwal, Mungo, Biamanga and Gulaga national parks; the Mount Grenfell Historic Site; the Pilliga Nature Reserve; and a memorandum of understanding covering both Goobang National Park and Snake Rock Aboriginal Area.

Negotiations are being undertaken for Indigenous Land Use Agreements with the Githabul people in northern NSW, the Gundungurra people in the Blue Mountains and the Arakwal people in Byron Bay.

During 2005–06, DEC continued negotiations with the Stockton Bight Aboriginal Negotiating Panel and Worimi Local Aboriginal Land Council for the creation of a new Aboriginal-owned reserve at Stockton Bight. Projects during the year to support the negotiations included an Aboriginal and Historic Cultural Heritage Significance Assessment, Stages 1 and 2 of a Business Planning Project, and the Worimi community employment skills project. Three newsletters were distributed to inform stakeholders and the wider community about the negotiations.

In April 2006, the second statewide Aboriginal co-management conference was held at Mungo National Park. Over 140 people, including representatives from 19 Aboriginal communities and staff of DEC, Department of Lands, Department of Aboriginal Affairs and Parks Victoria participated in the event. The conference was hosted by the three traditional tribal groups – the Mutthi Mutthi, Ngiyampaa and Barkindji people – and the Mungo National Park Joint Management Advisory Committee. It included a field trip to Mungo National Park and a Discovery tour led by the three groups.

The gathering enabled people from NSW and Victoria to share their experiences, and identify issues that would improve joint management arrangements in NSW.

Workshops were held on:

- the transition from negotiation to co-management
- support for co-management boards and committees
- plans of management for co-managed parks
- the connection to land and cultural heritage
- cultural practice – development of DEC policy on culture camps and cultural resource use in parks
- employment and training and business development.